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# Butte Area One Parrot Performance Monitoring Program Data Summary Report 2023

Butte, Montana



Prepared For:

**Montana Natural Resource Damage Program**

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### REVISION HISTORY

Revision#:	Author:	Version:	Description:	Issue Date:
Draft	WET	0	Issued for NRDP Review	April 2024



## ACRONYMS

AMC	Anaconda Mining Company
ARCO	Atlantic Richfield Company
BAO	Butte Area One
BPSOU	Butte Priority Soil Operable Unit
BSB	Butte Silver-Bow
DOJ	Department of Justice
DQO	Data Quality Objectives
DSR	Data Summary Report
DTW	Depth to Water
MGMG	Montana Bureau of Mines & Geology
MR	Montana Resources
MS/MSD	Matrix Spike / Matrix Spike Duplicate
NRDP	Natural Resource Damage Program
PMP	Performance Monitoring Program
QAPP	Quality Assurance Project Plan
QC	Quality Control
RPD	Relative Percent Difference
WET	Water & Environmental Technologies



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## 1.0 INTRODUCTION

This Data Summary Report (DSR) presents the results of groundwater sampling and analysis completed during the four quarterly events of 2023. These sampling events are part of the Parrot Monitoring Program (PMP), which is being conducted within the Butte Priority Soils Operable Unit (BPSOU) along Silver-Bow Creek in Butte, Montana.

This DSR was prepared for the Montana Natural Resource Damage Program (NRDP), by Water and Environmental Technologies (WET). Samples collected during the sampling events were shipped to Energy Laboratories in Helena, Montana for analysis. The data acquired as part of the investigation was gathered in accordance with the protocols outlined in the *Parrot Tailings Waste Removal Performance Monitoring Work Plan, Appendix C – Quality Assurance Project Plan (QAPP), NRDP 2017*. This DSR provides discussion on the following topics.

- Data Quality Objectives (DQOs).
- Measurement Quality Objectives and Metrics.
- Project Data Quality and Usability.
- Quarterly Monitoring Results.

### 1.1 Background

The majority of mine waste (tailings and slag) concentrated in the area surrounding the former Butte-Silver Bow (BSB) County Shops, resulted from mineral processing and refining operations associated with the Parrot Smelter. The approximate smelter location was centered within the footprint of the former baseball field, north of Civic Center Road. At its peak, the Parrot Smelter was processing ore at the rate of approximately 350 tons/day, producing 12.5 tons/day of copper, and discharging 110 tons/day of tailings. The Parrot Smelter also had a concentrating plant that treated second-class ore prior to smelting, which produced significant quantities of tailings. The Anaconda Mining Company (AMC) purchased the Parrot Smelter and closed the smelting operations in 1899. Between 1899 and 1904, AMC operated an acid precipitation plant at the site that leached copper from tailings and waste rock. During World War II, AMC reprocessed the tailings for copper through active leaching.

### 1.2 Purpose and Objectives

As part of the PMP planning, significant data gaps were identified. To fill these gaps and support comprehensive monitoring, the PMP incorporated existing monitoring wells, and installed new wells in areas where insufficient well densities were identified. The wells are grouped in transects throughout the project area and designed to establish baseline conditions prior to the removal of the Parrot Tailings (2018) and to evaluate remedy efficacy post excavation. Baseline data is compared to the subsequent performance monitoring following the tailings removal.





Specifically, the monitoring network was designed to characterize groundwater quality and flow conditions along five transects. **Figure 1** provides well locations along the linear transects developed to measure groundwater hydraulic and quality parameters as it moves down the Blacktail and Silver Bow Creek corridors. The transects are identified as A-A', B-B', C-C', D-D', and E-E'. The transects generally align perpendicular to both groundwater flow and the known or anticipated extent of groundwater impacts resulting from the Parrot Smelter. The PMP monitoring network currently consists of 66 groundwater samples and five surface water samples. Sampling locations are shown in **Figure 1**. Monitoring wells that were abandoned during the Phase 2 Excavation are also shown on **Figure 1**.

## 2.0 DATA AND MEASUREMENT QUALITY OBJECTIVES

The data quality objectives for the PMP are fully defined in the QAPP. The specific objectives for the monitoring program include the following:

- Install upgradient, source area, and downgradient monitoring points.
- Establish current/baseline conditions for the corridor prior to and following tailings removal efforts.
- Assess water levels and water quality throughout the impacted areas.
- Assess groundwater and surface gradients through the Butte Area One tailings.
- Develop accurate groundwater potentiometric surface maps.
- Establish hydraulic controls for three hydraulic features:
  - Blacktail Creek.
  - Silver-Bow Creek.
  - BPSOU Groundwater Collection.

### 2.1 Data Validation Summary

Results from groundwater and surface water samples collected during the four quarters of 2023 have undergone validation in accordance with the *EPA National Functional Guidelines for Inorganic Superfund Methods Data Review, November 2020* and the project-specific provisions outlined in the QAPP. The validation reports, compiled field forms, and laboratory analytical results for each quarterly event are included as attachments to this report. The following provides a discussion of the data quality for the four sampling events. **Table 1** provides the groundwater and surface water monthly and quarterly levels, as well as field parameters collected prior to sample collection at each well. **Table 2** provides the monthly and quarterly water levels collected during 2023. **Tables 3, 4, and 5** provide the analytical results and corresponding data qualifications. Finally, **Table 6**, provides the Relative Percent Differences between the parent samples and quality control (QC) duplicates.



### 2.1.1 First Quarter 2023 Summary

Sixty of the total 66 groundwater monitoring wells, four of five surface water sampling points, and three manholes into the sub-drain system underwent water level monitoring, sampling, and laboratory analysis as part of this event. Monitoring well AMW-01A was dry and was not sampled. Monitoring wells AMW-20 and PT14-1 were inaccessible due to poor road conditions and were not sampled. The flush mount lids on monitoring wells PMP-02A and PMP-02B were frozen and they could not be sampled. Monitoring well PMP-10B had a frozen water column and was unable to be sampled. Surface water site PMP-12 was frozen over and could not be sampled. Five duplicates, five equipment blanks, and five field blanks were also collected as Quality Assurance and Quality Control (QAQC) samples.

The samples were analyzed in accordance with the suite of analytes outlined in the *Parrot Tailings Waste Removal Performance Monitoring Work Plan, Appendix C – Quality Assurance Project Plan (QAPP), NRDP 2017*, resulting in a total of 4,768 individual data points. Of this total, 156 data points (3.27%) were qualified due to problems meeting the prescribed quality control objectives and are considered screening quality under the *Clark Fork Data Management/Data Validation Plan*. The remaining 4,612 (96.73%) of the data points are considered enforcement quality with no restrictions or qualifications. No data points were rejected; therefore, all values can be used to support decision-making.

**Attachment A** provides a detailed summary of the individual laboratory reports and the associated validation.

### 2.1.2 Second Quarter 2023 Summary

All 66 groundwater monitoring wells, all five surface water sampling points, and three manholes into the sub-drain system underwent water level monitoring, sampling, and laboratory analysis as part of this event. Five duplicates, three equipment blanks, and five field blanks were also collected as QAQC samples.

The samples were analyzed in accordance with the suite of analytes outlined in the QAPP, resulting in a total of 5,052 individual data points. Of this total, 179 data points (3.54%) were qualified due to problems meeting the prescribed quality control objectives and are considered screening quality under the *Clark Fork Data Management/Data Validation Plan*. The remaining 4,873 (96.46%) of the data points are considered enforcement quality with no restrictions or qualifications. No data points were rejected; therefore, all values can be used to support decision-making.

**Attachment B** provides a detailed summary of the individual laboratory reports and the associated data validation.



### 2.1.3 Third Quarter 2023 Summary

Sixty-five of the total 66 groundwater monitoring wells, all five surface water sampling points, and three manholes into the sub-drain system underwent water level monitoring, sampling, and laboratory analysis as part of this event. Monitoring well PT14-1 was inaccessible due to construction activities and was not sampled. The Survey123 field form for PMP-05BR was lost during the submittal process. Five duplicates, three equipment blanks, and five field blanks were also collected as QAQC samples.

The samples were analyzed in accordance with the suite of analytes outlined in the QAPP, resulting in a total of 4,996 individual data points. Of this total, 220 data points (4.40%) were qualified due to problems meeting the prescribed quality control objectives and are considered screening quality under the *Clark Fork Data Management/Data Validation Plan*. The remaining 4,776 (95.60%) of the data points are considered enforcement quality with no restrictions or qualifications. No data points were rejected; therefore, all values can be used to support decision-making.

**Attachment C** provides a detailed summary of the individual laboratory reports and associated validation.

### 2.1.4 Fourth Quarter 2023 Summary

All 66 groundwater monitoring wells, all five surface water sampling points, and three manholes into the sub-drain system underwent water level monitoring, sampling, and laboratory analysis as part of this event. Five duplicates, three equipment blanks, and five field blanks were also collected as QAQC samples.

The samples were analyzed in accordance with the suite of analytes outlined in the QAPP, resulting in a total of 5,054 individual data points. Of this total, 361 data points (7.14%) were qualified due to problems meeting the prescribed quality control objectives and are considered screening quality under the *Clark Fork Data Management/Data Validation Plan*. One data point was rejected; therefore, all values except carbonate in AMW-13B can be used to support decision-making. The remaining 4,692 (92.44%) of the data points are considered enforcement quality with no restrictions or qualifications.

**Attachment D** provides a detailed summary of the individual laboratory reports and the associated validation.

## 2.2 Overall Assessment

As part of the four quarters of groundwater monitoring summarized in this DSR, 276 groundwater samples, 19 surface water samples, and 12 sub-drain water samples were collected, or a total of 307 samples, resulting in 19,870 individual data points. Field quality control





included 20 field duplicates, 14 equipment blanks, and 20 field blanks. Of this total, 916 (4.61%) were qualified due to parameters outside of quality control objectives and are considered screening quality under the *Clark Fork Data Management/Data Validation Plan*. In addition, one data point was rejected (carbonate in AMW-13B during the fourth quarter) and is unusable. The remaining 18,953 data points (95.39%) are considered enforcement quality, exceeding the 90% goal set in the QAPP.

Assigned qualifications (J, J-, J+, U, or UJ) indicate some uncertainty in reported results due to accuracy and/or precision issues. One sample result was rejected during validation. The following provides a summary of assigned qualifications:

- Results qualified J: 399 (43.6% of qualified, 2.01% of total)
- Results qualified J-: 116 (12.7% of qualified, 0.58% of total)
- Results qualified J+: 266 (29.0% of qualified, 1.34% of total)
- Results qualified UJ: 135 (14.7% of qualified, 0.68% of total)
- Results qualified R: 1 (0.10% of qualified, <0.01% of total)

The attachments associated with each individual quarter provide further details regarding the type and quantity of qualifications given for each quarterly monitoring event. The noted qualifications, with the exception of the one rejected data point, do not limit the use of the results for purposes of decision-making in terms of risk assessment or remediation decisions, as noted in the *EPA Risk Assessment Guidance, Part A, Sec. 5.4.1, pg. 5-15 Data Usability* (EPA, 1989), which states the following with respect to use of ‘J’ or ‘UJ’ qualified results:

*"The guidance here is to use J-qualified concentrations the same way as positive data that do not have this qualifier. If possible, note potential uncertainties associated with the qualifier, so that if data qualified with a J contribute significantly to the risk, the appropriate caveats can be attached."*

## 2.3 Measurement Quality Objectives

Measurement quality objectives define the performance criteria for precision, accuracy, representativeness, comparability, and completeness for project data. The QAPP defines the acceptance criteria and performance indicators for all samples collected for the PMP project. A summary of the performance metrics for the PMP is provided below.

### 2.3.1 Precision

Precision is the measure of agreement between duplicate or replicate samples. The level of agreement between field and laboratory duplicates was measured as relative percent difference (RPD), as defined by the following equation:



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$$\text{RPD} = \frac{\text{absolute value( initial measurement – duplicate measurement )}}{\text{Average of the two measurements}}$$

RPD calculations for all original and field duplicate samples are provided in **Table 6**. For the PMP, two types of duplicate/replicate measurements were collected, to support an examination of project precision: a) laboratory duplicates and b) blind field duplicates.

Field duplicates were submitted at a minimum frequency of 5% or one duplicate for every 20 natural samples collected, resulting in 20 blind duplicates from the four sampling events of 2023. The precision goal for field duplicates, as stated in the QAPP, is +/- 20% RPD for sample and duplicate results that are greater than five times the detection limit. In the case of a detected result paired with a non-detect result, the non-detect result is replaced with the half reporting limit value.

The first quarter exhibited six analyte RPD exceedances; however no qualification was required. The second quarter exhibited six analyte RPD exceedances, of which only one analyte required qualification, resulting in 10 estimated data points. The third quarter exhibited six analyte RPD exceedances, of which four analytes required qualification, resulting in 41 estimated data points. The fourth quarter exhibited six analyte RPD exceedances, of which two analytes required qualification, resulting in 40 estimated data points. The exceedances are provided in **Table 6**. Detailed descriptions of RPD exceedances can be found in the quarterly data summary reports included as **Attachments A through D**.

### 2.3.2 Accuracy

Accuracy is the measure of agreement between a laboratory measurement and a known or standard value. It is measured through a variety of QC samples that undergo analysis at the laboratory. Key indicators include:

- Calibration verification samples.
- Laboratory fortified blanks.
- Laboratory control samples.
- Matrix spike and matrix spike duplicates (MS/MSD).

Field QC samples also provide a measure of accuracy, specifically blind blanks and equipment blanks or rinsates. They provide a measure of any potential cross-contamination occurring during sampling and analysis and any bias introduced during the analytical process.

As noted in Section 2.2, 96.65% of the data acquired for the four quarterly events summarized herein met all accuracy criteria. This exceeds the 90% goal established in the QAPP. The qualified data included 3.33% of the data points and while qualified, they were not rejected and may also be used to evaluate site conditions. Finally, four individual data points (0.02%) were



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rejected due to evaluation outside of the quality control limits. The full evaluation of accuracy is detailed in the individual data validation reports, included for each quarter in **Attachments A through D**.

### 2.3.3 Completeness

Completeness is the measure of the number of planned samples versus collected samples, planned analyses versus completed analyses, and valid data points acquired during a given sampling event versus the total number of data points acquired. All data collected for the four quarterly events of 2023 underwent data verification and validation in accordance with the *Clark Fork River Superfund Site Data Management / Data Validation Plan*. Out of 338 planned samples (284 natural, 54 QA/QC), 330 samples were collected (276 natural, 54 QA/QC), resulting in a 97.6% complete sampling events. Out of 3,300 analyses planned (330 samples multiplied by 10 methods), all 3,300 analyses were completed, resulting in 100% complete work orders. Out of 19,870 data points, only one data point was rejected, resulting in 99.99% valid and usable data for decision-making.

### 2.3.4 Representativeness

Representativeness is defined as the degree to which sample data represents the population being examined, in this case, the degree groundwater samples represent the full distribution of contaminants along the Blacktail and Silver Bow Creek corridors. The monitoring network relies on five monitoring well transects placed perpendicular to surface and groundwater flow (**Figure 1**). The transects were placed to allow for sampling at intervals along the creek corridor, which will support a full examination of water quality from Shields Avenue to Montana Street. The examination will also rely on historical groundwater and sediment data, which will be used to expand the performance monitoring window and allow for an examination of seasonal and temporal variations in surface and groundwater flow and quality. Water levels are being collected at over 80 locations to support the development of accurate potentiometric maps defining groundwater flow patterns. Field parameters and water levels are included in **Tables 1 and 2**.

### 2.3.5 Comparability

Comparability is the measure of confidence that can be assigned, when two data sets are compared or combined with one another. To evaluate comparability, the sampling techniques, laboratory methods, data distributions, and data quality must be considered for each data set, before a direct comparison or blending of data can be performed.

As noted, the PMP utilizes some existing groundwater and sediment data, to supplement the examination of baseline water quality, and future site conditions. Most of the historical data was generated by either Atlantic Richfield (ARCO) or the Montana Bureau of Mines and Geology (MBMG) programs. With few exceptions, historical data was acquired using industry-standard





sampling and analytical methods ranging from the collection of water levels, to well purging, and sampling techniques, and the laboratory methods employed to quantify constituent concentrations. These methods are comparable to the methods employed under the PMP. In most cases, the underlying data quality of these data sets has also been verified prior to its use in examining site conditions. As a result, the historical data can be blended with the PMP data, to provide a longer time period on which to base groundwater quality and flow trends.

Two areas where there are differences between historical and PMP data sets are: 1) differences in the constituents undergoing analysis and 2) the use of low flow purge/sampling methods for low-producing wells installed as part of the PMP. The majority of the constituents between data sets is generally comparable (major cations, metals of concern, etc.). However, the PMP is also monitoring some constituents (e.g., rare earth/trace metals) that have not undergone long-term analysis as part of ongoing monitoring. The new constituents will provide a much shorter time window in which to evaluate groundwater trends, because comparative historical data does not exist. The remainder of the constituents can be used as a blended data set when needed, to develop these trends.

Low flow sampling techniques are being employed for a subset of the wells installed under the PMP. These methods utilize similar protocols to higher volume well purge and sample techniques, in terms of monitoring for field parameter stabilization, prior to sampling, etc. The difference lies in the purge rate and equipment used. While there are differences in the methods, the goal of both methods is to evacuate stagnant water from the well column prior to collecting samples. Both methods introduce some error into the sampling regime, but both are accepted as industry-standard practices for well purging. As a result, unless specific biases are noted between the two data sets, the historical and PMP data should be acceptable for use when blended in evaluating long term groundwater trends at the site.

### 2.3.6 Data Quality / Data Usability

As the preceding discussions demonstrate, the surface and groundwater data acquired from the four 2023 PMP events satisfy all project quality goals. The results also meet the overriding DQOs by providing water level and analytical data that will support decision-making along the Silver Bow Creek corridor.

## 3.0 SAMPLING AND ANALYSIS SUMMARY

The QAPP defines the sampling and analysis objectives, policies, and procedures used to acquire data for the PMP. Level A/B review of the QAPP, field notes, and related sampling documentation reveals all the samples were collected, handled, and documented properly. Level A/B Reviews for each quarter are included in **Attachments A through D**.



#### **4.0 REFERENCES**

ARCO, 1992. *Clark Fork River Superfund Site Investigation (CFRSSI) Data Management/Data Validation Plan (DM/DV) Plan*, June.

USEPA 2017. *National Functional Guidelines for Inorganic Superfund Methods Data Review*, EPA-540-R-201 7-001, January.

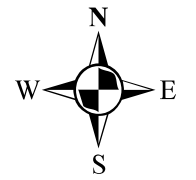
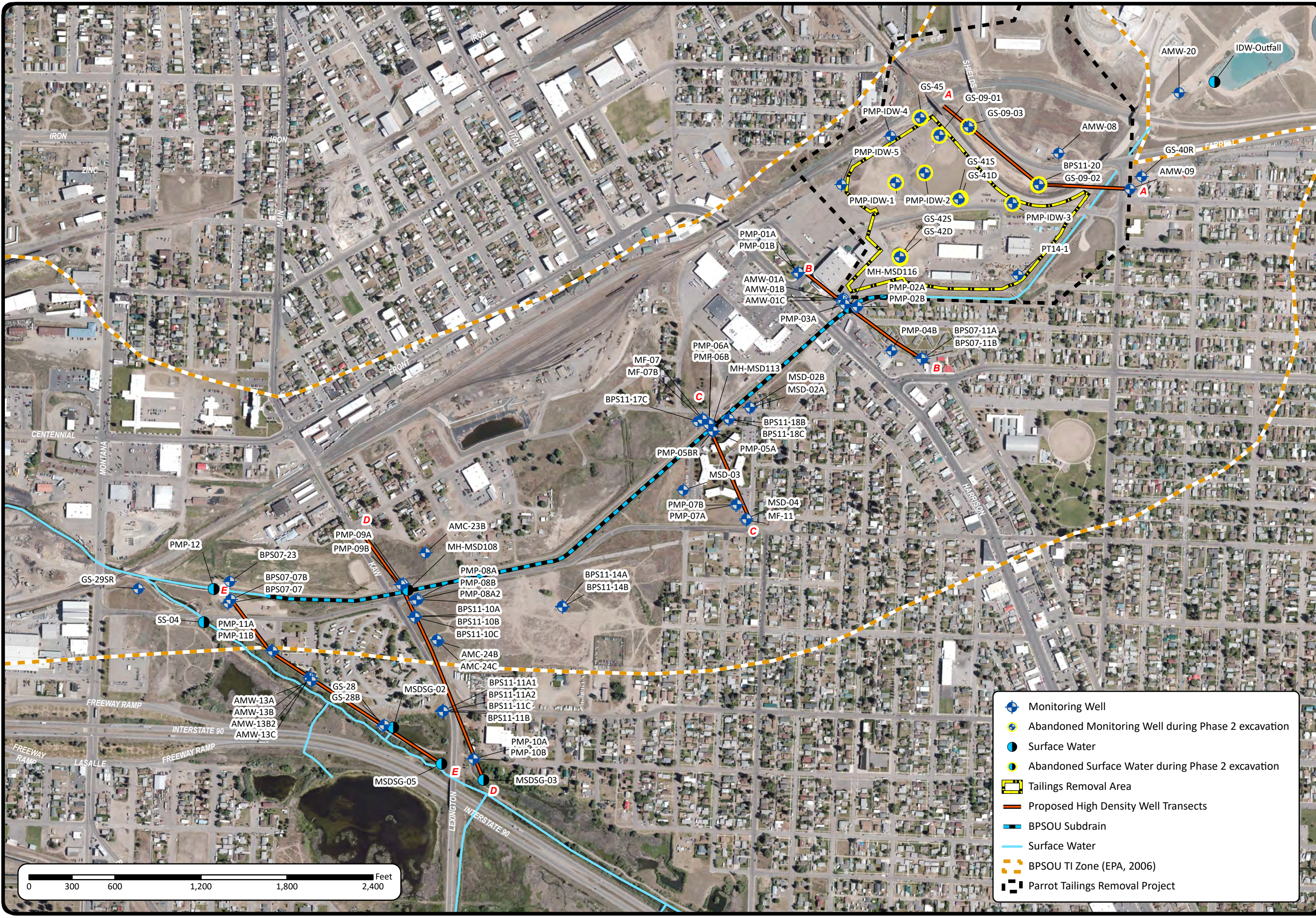
USEPA 1989. *Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual, Part A*, EPA/540/1-89/002 December.

NRDP 2017. *Parrot Tailings Waste Removal Performance Monitoring Work Plan, Appendix C - Quality Assurance Project Plan*, Water & Environmental Technologies, October.



## FIGURES





NO.	DATE	DESCRIPTION	REVIEW
1			
2			
3			
4			
5			

NOTES

**PARROT TAILINGS PERFORMANCE MONITORING PROGRAM**

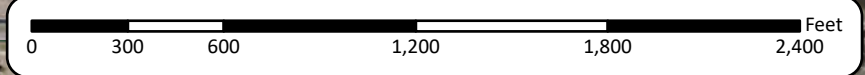
SAMPLE LOCATION & MONITORING NETWORK  
 BUTTE-SILVER BOW COUNTY MT

**FIGURE 1**

JOB#: NRDP0219  
 DATE: 2/2/2023

Path: M:\NRD\NRDP0219\2021\Monitoring Network\Network.aprx, Author: jleprosse

- Monitoring Well
- Abandoned Monitoring Well during Phase 2 excavation
- Surface Water
- Abandoned Surface Water during Phase 2 excavation
- Tailings Removal Area
- Proposed High Density Well Transects
- BPSOU Subdrain
- Surface Water
- BPSOU TI Zone (EPA, 2006)
- Parrot Tailings Removal Project







## **TABLES**

**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
AMC-06	1/17/2023	13:02									Frozen.	Monthly
AMC-06	2/24/2023	11:25	34.05									Monthly
AMC-06	3/14/2023	11:15									Inaccessible/frozen.	Monthly
AMC-06	4/10/2023	14:20									Inaccessible/frozen.	Monthly
AMC-06	5/17/2023	16:04	25.46									Monthly
AMC-06	6/20/2023	15:32									Buried/stuck.	Monthly
AMC-06	7/25/2023	13:57	33.16									Monthly
AMC-06	8/16/2023	13:10	24.09									Monthly
AMC-06	9/28/2023	14:57	32.72									Monthly
AMC-06	10/19/2023	13:36	32.20									Monthly
AMC-06	11/9/2023	14:32	32.07									Monthly
AMC-06	12/5/2023	10:30	32.15									Monthly
AMC-12	1/16/2023	16:00	24.48									Monthly
AMC-12	2/21/2023	09:43	24.51									Monthly
AMC-12	3/14/2023	10:46	24.58									Monthly
AMC-12	4/10/2023	14:50	24.5									Monthly
AMC-12	5/17/2023	15:54	34.87									Monthly
AMC-12	6/20/2023	15:43	23.51									Monthly
AMC-12	7/25/2023	13:18	23.11									Monthly
AMC-12	8/16/2023	13:35	22.86									Monthly
AMC-12	9/28/2023	14:33	22.23									Monthly
AMC-12	10/19/2023	13:21	22.22									Monthly
AMC-12	11/9/2023	15:06	22.23									Monthly
AMC-12	12/5/2023	09:57	22.42									Monthly
AMC-23	1/16/2023	17:05	8.22									Monthly
AMC-23	2/21/2023	15:04	8.21									Monthly
AMC-23	3/13/2023	23:58	8.08									Monthly
AMC-23	4/10/2023	11:14	7.23									Monthly
AMC-23	5/17/2023	12:08	8.63									Monthly
AMC-23	6/20/2023	10:40	8.14									Monthly
AMC-23	7/25/2023	10:29	8.52									Monthly
AMC-23	8/16/2023	10:18	8.49									Monthly
AMC-23	9/28/2023	09:47	8.01									Monthly
AMC-23	10/19/2023	12:17	7.99									Monthly
AMC-23	11/8/2023	15:40	8.78									Monthly
AMC-23	12/5/2023	12:46	8.92									Monthly
AMC-23B	1/16/2023	17:07	7.21									Monthly
AMC-23B	1/18/2023	12:30	7.24	10.92	4.71	7.1	1079	6.86	75.5	1.35	Pump start at 1217, stop at 1234.	Quarterly

**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
AMC-23B	2/21/2023	15:05	7.22									Monthly
AMC-23B	3/13/2023	23:59	7.21									Monthly
AMC-23B	4/10/2023	11:15	6.74									Monthly
AMC-23B	5/16/2023	13:46	7.12	23.8	2.32	9.2	1053	6.71	145	4.17		Quarterly
AMC-23B	5/17/2023	12:09	7.14									Monthly
AMC-23B	6/20/2023	10:41	6.58									Monthly
AMC-23B	7/25/2023	10:30	6.99									Monthly
AMC-23B	8/16/2023	10:19	7.02									Monthly
AMC-23B	8/21/2023	13:25	6.75	20.85	2.10	9.4	1113	6.82	99.7	1.56		Quarterly
AMC-23B	9/28/2023	09:45	6.6									Monthly
AMC-23B	10/19/2023	12:18	6.64									Monthly
AMC-23B	11/8/2023	15:41	7.04									Monthly
AMC-23B	11/15/2023	12:27	7.07	18.52	2.84	7.2	1076	6.65	273	1.77		Quarterly
AMC-23B	12/5/2023	12:47	7.23									Monthly
AMC-24	1/16/2023	16:41	10.71									Monthly
AMC-24	2/21/2023	14:45	10.76									Monthly
AMC-24	3/13/2023	12:19	10.73									Monthly
AMC-24	4/10/2023	11:39	10.39									Monthly
AMC-24	5/17/2023	13:30	10.90									Monthly
AMC-24	6/20/2023	11:21	10.46									Monthly
AMC-24	7/25/2023	11:02	10.83									Monthly
AMC-24	8/16/2023	10:47	10.82									Monthly
AMC-24	9/28/2023	10:09	10.69									Monthly
AMC-24	10/19/2023	11:23	10.58									Monthly
AMC-24	11/8/2023	15:31	10.95									Monthly
AMC-24	12/5/2023	13:07	11.12									Monthly
AMC-24B	1/16/2023	16:42	10.33									Monthly
AMC-24B	1/18/2023	13:05	10.24	10.39	7.95	9.6	974	7.25	108	0.02	Pump start at 1252, stop at 1309.	Quarterly
AMC-24B	2/21/2023	14:44	10.33									Monthly
AMC-24B	3/13/2023	12:20	10.24									Monthly
AMC-24B	4/10/2023	11:40	9.68									Monthly
AMC-24B	5/16/2023	12:42	10.59	10.65	2.59	9.6	914	6.36	219	0.97		Quarterly
AMC-24B	5/17/2023	13:31	10.61									Monthly
AMC-24B	6/20/2023	11:22	10.17									Monthly
AMC-24B	7/25/2023	11:03	10.59									Monthly
AMC-24B	8/16/2023	10:46	10.52									Monthly
AMC-24B	8/22/2023	12:27	10.20	10.22	2.51	9.6	1153	6.37	146	1.35		Quarterly
AMC-24B	9/28/2023	10:10	10.21									Monthly

**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
AMC-24B	10/19/2023	11:24	10.21									Monthly
AMC-24B	11/8/2023	15:32	10.67									Monthly
AMC-24B	11/16/2023	10:46	10.72	10.78	0.95	7.6	1565	6.22	224	3.59		Quarterly
AMC-24B	12/5/2023	13:08	10.73									Monthly
AMC-24C	1/16/2023	16:39	9.01									Monthly
AMC-24C	1/19/2023	17:00	9.05		1.57	9.4	992	6.46	166	2.20		Quarterly
AMC-24C	2/21/2023	14:43	9.02									Monthly
AMC-24C	3/13/2023	12:21	9.01									Monthly
AMC-24C	4/10/2023	11:41	8.58									Monthly
AMC-24C	5/10/2023	11:35	8.98	11.55	1.19	9.9	936	6.28	232	1.61	Transducer removed/replaced 1113/1142.	Quarterly
AMC-24C	5/17/2023	13:32	9.02									Monthly
AMC-24C	6/20/2023	11:22	8.55									Monthly
AMC-24C	7/25/2023	11:03	8.97									Monthly
AMC-24C	8/16/2023	10:44	8.94									Monthly
AMC-24C	8/18/2023	14:33	8.92	10.73	1.56	10.2	1066	6.65	229	0.61		Quarterly
AMC-24C	9/28/2023	10:08	8.61									Monthly
AMC-24C	10/19/2023	11:25	5.61									Monthly
AMC-24C	11/8/2023	15:33	8.96									Monthly
AMC-24C	11/15/2023	11:03	8.99	11.16	1.63	8.8	971	6.53	223	0.58		Quarterly
AMC-24C	12/5/2023	13:09	9.05									Monthly
AMW-01A	1/17/2023	12:10	12.77									Monthly
AMW-01A	2/20/2023	14:26	12.85									Monthly
AMW-01A	3/13/2023	15:48	12.88									Monthly
AMW-01A	4/10/2023	12:28	11.98									Monthly
AMW-01A	5/17/2023	10:45	12.12		1.86	10.5	2655	5.93	209	1.97	Pump start/stop times are from 5/16. Well ran dry - returned to sample on 5/17.	Quarterly
AMW-01A	5/17/2023	15:28	12.51									Monthly
AMW-01A	6/20/2023	14:29	11.28									Monthly
AMW-01A	7/25/2023	12:12	11.25									Monthly
AMW-01A	8/16/2023	14:40	12.69									Monthly
AMW-01A	8/16/2023	14:20	11.14									Monthly
AMW-01A	8/23/2023	09:58	10.33		1.28	10.8	3141	5.76	249	13.3	Start pump 8/22 at 1444. Well ran dry - stop pump 8/22 at 1509. Readings 1-5 from 8/22. Reading 6 from 8/23. DTW on 8/23 = 11.10 ft.	Quarterly
AMW-01A	9/28/2023	13:27	10.93									Monthly
AMW-01A	10/19/2023	13:01	11.00									Monthly
AMW-01A	11/9/2023	15:26	11.36									Monthly
AMW-01A	11/16/2023	09:41	11.35	12.2	2.39	10.2	2325	5.6	148	3.98		Quarterly

**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
AMW-01A	12/5/2023	09:23	11.50									Monthly
AMW-01B	1/17/2023	12:10	12.67									Monthly
AMW-01B	1/25/2023	15:26	12.72	12.83	0.21	11.3	3639	4.13	338	0.44		Quarterly
AMW-01B	2/20/2023	14:24	12.80									Monthly
AMW-01B	3/13/2023	15:55										Monthly
AMW-01B	4/10/2023	15:26	12.61									Monthly
AMW-01B	5/11/2023	15:00	12.18	12.45	2.28	11.6	3419	4	266	0.25		Quarterly
AMW-01B	5/17/2023	15:30	12.07									Monthly
AMW-01B	6/20/2023	14:29	11.43									Monthly
AMW-01B	7/25/2023	12:09	11.30									Monthly
AMW-01B	8/16/2023	14:45	11.09									Monthly
AMW-01B	8/22/2023	15:53	10.92	11.27	0.71	11.9	3741	4.04	273	1.00		Quarterly
AMW-01B	9/28/2023	13:29	10.73									Monthly
AMW-01B	10/19/2023	12:59	10.82									Monthly
AMW-01B	11/9/2023	15:24	10.97									Monthly
AMW-01B	11/15/2023	10:47	10.97	11.18	0.01	11.6	3320	4.05	237	0.88		Quarterly
AMW-01B	12/5/2023	09:25	11.15									Monthly
AMW-01C	1/17/2023	12:10	12.25									Monthly
AMW-01C	1/26/2023	11:41	12.32	13.71	0.20	10.6	2548	5.55	104	0.02		Quarterly
AMW-01C	2/20/2023	14:22	12.41									Monthly
AMW-01C	3/13/2023	15:50	12.54									Monthly
AMW-01C	4/10/2023	15:27									Frozen.	Monthly
AMW-01C	5/12/2023	11:51	11.85	16.5	0.00	11.4	2667	5.13	242	1.28		Quarterly
AMW-01C	5/17/2023	15:31	11.76									Monthly
AMW-01C	6/20/2023	14:30	11.19									Monthly
AMW-01C	7/25/2023	12:08	11.02									Monthly
AMW-01C	8/16/2023	12:10	10.80									Monthly
AMW-01C	8/22/2023	13:17	10.70	15.51	0.00	11.7	2790	5.34	214	3.93		Quarterly
AMW-01C	9/28/2023	13:30	10.73									Monthly
AMW-01C	10/19/2023	13:00	10.38									Monthly
AMW-01C	11/9/2023	15:25	10.45									Monthly
AMW-01C	11/15/2023	00:56	10.47	15.72	0.00	11.4	2448	5.44	222	0.56		Quarterly
AMW-01C	12/5/2023	09:26	10.64									Monthly
AMW-08	1/17/2023	14:05	44.44									Monthly
AMW-08	1/24/2023	13:00	44.44		1.55	8.4	4611	3.24	327	4.60		Quarterly
AMW-08	2/24/2023	15:10	44.36									Monthly
AMW-08	3/14/2023	11:43	44.42									Monthly
AMW-08	4/10/2023	14:36	44.42									Monthly

**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
AMW-08	5/12/2023	13:52	44.15	46.6	1.22	10.3	2356	3.13	401	3.67		Quarterly
AMW-08	5/17/2023	16:13	44.09									Monthly
AMW-08	6/20/2023	15:44	43.78									Monthly
AMW-08	7/25/2023	14:16	43.30									Monthly
AMW-08	8/16/2023	12:00									Gate locked, couldn't access for DTW measurement	Monthly
AMW-08	8/22/2023	10:00	43.04	47.8	1.20	10.7	4149	3.95	245	2.09		Quarterly
AMW-08	9/28/2023	15:22	42.44									Monthly
AMW-08	10/19/2023	13:42	42.30									Monthly
AMW-08	11/9/2023	14:08	42.24									Monthly
AMW-08	11/15/2023	15:46	42.16	44.35	0.45	9.3	4822	3.37	369	2.10		Quarterly
AMW-08	12/5/2023	10:44	42.28									Monthly
AMW-09	1/16/2023	16:10	26.98									Monthly
AMW-09	1/20/2023	15:00	26.99		1.09	9.6	1258	4	276	2.10		Quarterly
AMW-09	2/21/2023	10:05	26.22									Monthly
AMW-09	3/14/2023	10:51	26.80								Recorded DTW TOSC. TPVC DTW = 26.42 ft.	Monthly
AMW-09	4/10/2023	10:37	26.46									Monthly
AMW-09	5/12/2023	13:13	26.35	27.79	0.00	9.4	1105	4.15	274	3.06		Quarterly
AMW-09	5/17/2023	15:59	26.29									Monthly
AMW-09	6/20/2023	15:52	25.50									Monthly
AMW-09	7/25/2023	13:32	25.10									Monthly
AMW-09	8/16/2023	13:30	25.28									Monthly
AMW-09	8/21/2023	14:26	24.81	25.95	0.05	10.0	1045	3.99	247	0.68		Quarterly
AMW-09	9/28/2023	14:42	24.63									Monthly
AMW-09	10/19/2023	13:19	24.57									Monthly
AMW-09	11/9/2023	16:05	24.61									Monthly
AMW-09	11/15/2023	15:14	24.56	25.5	0.16	8.6	1099	4.11	230	0.95		Quarterly
AMW-09	12/5/2023	10:03	24.74									Monthly
AMW-11	1/16/2023	14:30	5.73									Quarterly
AMW-11	5/17/2023	11:47	5.62									Quarterly
AMW-11	8/16/2023	09:31	5.92									Quarterly
AMW-11	11/8/2023	13:23	5.73									Quarterly
AMW-12	1/16/2023	15:10	13.98									Quarterly
AMW-12	5/17/2023	14:02	13.13									Quarterly
AMW-12	8/16/2023	11:43	12.80									Quarterly
AMW-12	11/8/2023	14:45	13.00									Quarterly
AMW-13A	1/16/2023	15:11	10.71									Monthly
AMW-13A	1/17/2023	15:23	10.72	11.61	0.99	9.3	987	6.71	125	1.06	Pump start at 1511, pump off at 1329	Quarterly
AMW-13A	2/23/2023	14:14	10.77									Monthly



**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
AMW-13A	3/14/2023	15:50	10.76									Monthly
AMW-13A	4/10/2023	10:23	9.23									Monthly
AMW-13A	5/11/2023	11:41	10.37	13.01	1.13	6.6	1163	6.61	75.3	2.27		Quarterly
AMW-13A	5/17/2023	11:44	10.40									Monthly
AMW-13A	6/20/2023	11:07	10.17									Monthly
AMW-13A	7/25/2023	09:55	10.54									Monthly
AMW-13A	8/16/2023	09:30	10.55									Monthly
AMW-13A	8/17/2023	17:11	10.56	13.95	0.05	12.5	1021	6.56	98.8	0.02		Quarterly
AMW-13A	9/28/2023	10:32	9.98									Monthly
AMW-13A	10/20/2023	16:42	10.62									Monthly
AMW-13A	11/9/2023	11:55	10.82									Monthly
AMW-13A	11/14/2023	12:25	10.82		1.36	9.2	1022	6.7	86	1.80		Quarterly
AMW-13A	12/5/2023	11:37	11.00									Monthly
AMW-13B	1/16/2023	15:09	10.22									Monthly
AMW-13B	1/19/2023	16:00	10.25		2.79	9.5	257.9	7.1	132	0.02		Quarterly
AMW-13B	2/23/2023	13:15	10.27									Monthly
AMW-13B	3/13/2023	10:48	10.19									Monthly
AMW-13B	4/10/2023	10:27	9.75									Monthly
AMW-13B	5/8/2023	15:23	10.38	10.59	2.53	9.8	240.9	7.1	189	2.48		Quarterly
AMW-13B	5/17/2023	12:01	10.50									Monthly
AMW-13B	6/20/2023	10:17	10.05									Monthly
AMW-13B	7/25/2023	10:13	10.51									Monthly
AMW-13B	8/16/2023	10:01	10.51									Monthly
AMW-13B	8/17/2023	13:45	10.49	10.62	3.56	9.9	267.8	7.59	147	0.16		Quarterly
AMW-13B	9/28/2023	09:22	10.21									Monthly
AMW-13B	10/19/2023	11:02	10.21									Monthly
AMW-13B	11/8/2023	14:25	10.58									Monthly
AMW-13B	11/13/2023	13:26	10.82	10.82	3.37	8.7	266.3	6.89	126	0.62		Quarterly
AMW-13B	12/5/2023	12:36	10.65									Monthly
AMW-13B2	1/16/2023	15:15	11.39									Monthly
AMW-13B2	1/19/2023	16:20	11.43		2.98	9.6	266	7.07	132	2.80		Quarterly
AMW-13B2	2/23/2023	14:17	11.43									Monthly
AMW-13B2	3/13/2023	10:50	11.34									Monthly
AMW-13B2	4/10/2023	10:24	10.90									Monthly
AMW-13B2	5/8/2023	15:51	11.52	11.9	2.45	9.9	248.8	7.11	189	0.59		Quarterly
AMW-13B2	5/17/2023	12:02	11.65									Monthly
AMW-13B2	6/20/2023	10:18	11.19									Monthly
AMW-13B2	7/25/2023	10:14	11.65									Monthly

**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
AMW-13B2	8/16/2023	10:00	11.64									Monthly
AMW-13B2	8/17/2023	14:18	11.64	11.91	3.32	10.6	304.6	7.55	178	0.22		Quarterly
AMW-13B2	9/28/2023	09:22	11.33									Monthly
AMW-13B2	10/19/2023	11:03	11.35									Monthly
AMW-13B2	11/8/2023	14:26	11.72									Monthly
AMW-13B2	11/13/2023	13:47	11.73	12.04	3.11	8.8	324.3	6.82	132	0.38		Quarterly
AMW-13B2	12/5/2023	12:37	11.82									Monthly
AMW-13C	1/16/2023	15:07	9.59									Monthly
AMW-13C	1/19/2023	16:40	9.64		0.85	10.0	572.7	6.67	143	0.02		Quarterly
AMW-13C	2/23/2023	14:19	9.66									Monthly
AMW-13C	3/14/2023	15:46	9.50									Monthly
AMW-13C	4/10/2023	10:28	10.58									Monthly
AMW-13C	5/8/2023	16:19	9.43	11.6	0.75	10.2	530	6.67	192	1.52		Quarterly
AMW-13C	5/17/2023	11:43	9.53									Monthly
AMW-13C	6/20/2023	11:04	9.03									Monthly
AMW-13C	7/25/2023	09:54	9.52									Monthly
AMW-13C	8/16/2023	09:25	9.54									Monthly
AMW-13C	8/17/2023	14:49	9.55	11.32	1.34	10.7	593	6.96	205	0.32		Quarterly
AMW-13C	9/28/2023	10:32	9.19									Monthly
AMW-13C	10/20/2023	16:43	9.22									Monthly
AMW-13C	11/9/2023	11:56	9.53									Monthly
AMW-13C	11/13/2023	14:23	9.51		0.89	9.2	606.2	6.56	126	2.01		Quarterly
AMW-13C	12/5/2023	11:39	9.63									Monthly
AMW-20	1/17/2023	13:40	29.25									Monthly
AMW-20	1/24/2023	14:00									Inaccessible. No sample.	Quarterly
AMW-20	2/24/2023	13:44	28.44									Monthly
AMW-20	3/14/2023	13:17	29.00									Monthly
AMW-20	4/11/2023	09:34	28.32									Monthly
AMW-20	5/15/2023	11:50	28.18		5.40	9.5	1862	5.33	267	1.50		Quarterly
AMW-20	5/17/2023	16:32	28.25									Monthly
AMW-20	6/20/2023	16:30	28.08									Monthly
AMW-20	7/25/2023	13:17	27.97									Monthly
AMW-20	8/16/2023	13:00	27.64									Monthly
AMW-20	8/22/2023	14:30	27.61	39.13	2.77	9.4	2081	4.96	221	4.18		Quarterly
AMW-20	9/28/2023	16:03	27.55									Monthly
AMW-20	10/20/2023	15:20	27.65									Monthly
AMW-20	11/9/2023	14:07	27.78									Monthly
AMW-20	11/16/2023	11:02	27.94	32.21	1.32	9.2	1819	5.37	218	0.75		Quarterly

**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
AMW-20	12/5/2023	13:41	27.93									Monthly
AMW-22	1/16/2023	16:00									Broken, no DTW	Monthly
AMW-22	2/21/2023	09:55	49.67									Monthly
AMW-22	3/14/2023	11:33	49.75									Monthly
AMW-22	4/10/2023	14:24	49.76									Monthly
AMW-22	5/17/2023	16:12	49.69									Monthly
AMW-22	6/20/2023	15:15	49.46									Monthly
AMW-22	7/25/2023	14:03	49.08									Monthly
AMW-22	8/16/2023	13:20	48.80									Monthly
AMW-22	9/28/2023	15:08	48.15									Monthly
AMW-22	10/19/2023	13:29	47.79									Monthly
AMW-22	11/9/2023	14:38	47.75									Monthly
AMW-22	12/5/2023	10:36	47.65									Monthly
BMF-05-01	1/17/2023	13:30	25.98									Monthly
BMF-05-01	2/21/2023	10:45	25.06									Monthly
BMF-05-01	3/14/2023	11:10	25.93								Recorded DTW TOSC. TPVC DTW = 25.30 ft.	Monthly
BMF-05-01	4/11/2023	09:47	25.85									Monthly
BMF-05-01	5/17/2023	16:08	33.87									Monthly
BMF-05-01	6/20/2023	15:21	24.46									Monthly
BMF-05-01	7/25/2023	13:37	24.73									Monthly
BMF-05-01	8/16/2023	13:15	32.91									Monthly
BMF-05-01	9/28/2023	15:02	23.99									Monthly
BMF-05-01	10/19/2023	13:33	23.88									Monthly
BMF-05-01	11/9/2023	14:28	23.81									Monthly
BMF-05-01	12/5/2023	10:22	24.01									Monthly
BPS07-01A	1/16/2023	15:35	20.08									Quarterly
BPS07-01A	5/17/2023	15:15	19.96									Quarterly
BPS07-01A	8/16/2023	14:10	18.42									Quarterly
BPS07-01A	11/8/2023	16:53	18.05									Quarterly
BPS07-01B	1/16/2023	15:35	19.99									Quarterly
BPS07-01B	5/17/2023	15:16	19.84									Quarterly
BPS07-01B	8/16/2023	14:05	18.33									Quarterly
BPS07-01B	11/8/2023	16:55	17.95									Quarterly
BPS07-05A	1/17/2023	11:10	10.92									Quarterly
BPS07-05A	5/17/2023	13:49	9.44									Quarterly
BPS07-05A	8/16/2023	11:20	9.11									Quarterly
BPS07-05A	11/8/2023	14:39	9.68									Quarterly
BPS07-05B	1/17/2023	11:10	9.92									Quarterly

**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
BPS07-05B	5/17/2023	13:50	9.44									Quarterly
BPS07-05B	8/16/2023	11:21	9.21									Quarterly
BPS07-05B	11/8/2023	14:41	8.98									Quarterly
BPS07-07	1/16/2023	14:33	5.50									Monthly
BPS07-07	1/18/2023	10:38	5.53	5.62	0.55	9.2	249.8	6.37	75.7	1.07	Pump start at 1026.	Quarterly
BPS07-07	2/23/2023	13:45	7.12									Monthly
BPS07-07	3/13/2023	10:29	5.40									Monthly
BPS07-07	4/10/2023	10:03	5.08									Monthly
BPS07-07	5/9/2023	14:37	4.98		0.99	8.1	277.1	6.52	43.1	0.98		Quarterly
BPS07-07	5/17/2023	11:29	7.10									Monthly
BPS07-07	6/20/2023	09:51	4.58									Monthly
BPS07-07	7/25/2023	09:53	7.24									Monthly
BPS07-07	8/16/2023	09:09	5.42									Monthly
BPS07-07	8/17/2023	12:16	5.49	5.5	0.00	9.7	258.6	6.79	44.2	0.02		Quarterly
BPS07-07	9/28/2023	09:01	8.13									Monthly
BPS07-07	10/19/2023	10:54	5.01									Monthly
BPS07-07	11/8/2023	13:29	5.15									Monthly
BPS07-07	11/13/2023	11:54	5.27	5.27	0.46	7.9	243.3	6.58	67.1	2.37	Unable to fit water tape in riser with sample line	Quarterly
BPS07-07	12/5/2023	12:28	5.35									Monthly
BPS07-07B	1/16/2023	14:28	6.58									Monthly
BPS07-07B	1/17/2023	16:51	6.82		8.95	8.7	731	7.32	124	1.12	Pump start at 1639, off at 1656.	Quarterly
BPS07-07B	2/21/2023	15:44	6.55									Monthly
BPS07-07B	3/14/2023	14:36	6.45									Monthly
BPS07-07B	4/10/2023	09:45	6.14									Monthly
BPS07-07B	5/9/2023	16:24	6.17	6.17	2.70	8.8	626.7	6.7	122	2.26		Quarterly
BPS07-07B	5/17/2023	11:17	6.19									Monthly
BPS07-07B	6/20/2023	10:12	5.69									Monthly
BPS07-07B	7/25/2023	09:32	6.37									Monthly
BPS07-07B	8/16/2023	09:08	6.52									Monthly
BPS07-07B	8/17/2023	11:40	6.52	6.52	1.91	9.9	625.7	6.62	128	0.02		Quarterly
BPS07-07B	9/28/2023	10:00	6.05									Monthly
BPS07-07B	10/20/2023	16:22	6.12									Monthly
BPS07-07B	11/9/2023	11:40	6.33									Monthly
BPS07-07B	11/13/2023	11:26	6.45	6.82	2.02	7.8	573.6	6.78	244	0.35		Quarterly
BPS07-07B	12/5/2023	11:20	6.50									Monthly
BPS07-11A	1/17/2023	14:55	15.43									Monthly
BPS07-11A	1/25/2023	12:39	15.44	15.88	0.93	10.5	900	5.19	284	1.94		Quarterly
BPS07-11A	2/20/2023	13:57	15.53									Monthly

**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
BPS07-11A	3/13/2023	15:35	15.60								Needs one bolt.	Monthly
BPS07-11A	4/10/2023	12:19	15.39									Monthly
BPS07-11A	5/11/2023	12:21	14.72	15.67	0.11	10.0	444.8	4.82	200	0.37	Transducer removed/replaced 1159/1227.	Quarterly
BPS07-11A	5/17/2023	15:24	14.57									Monthly
BPS07-11A	6/20/2023	14:14	13.85									Monthly
BPS07-11A	7/25/2023	13:33	13.65									Monthly
BPS07-11A	8/16/2023	13:45	13.14									Monthly
BPS07-11A	8/21/2023	09:47	13.40	13.94	2.03	9.8	393.9	4.47	199	0.33		Quarterly
BPS07-11A	9/28/2023	13:02	12.83									Monthly
BPS07-11A	10/19/2023	12:54	13.18									Monthly
BPS07-11A	11/8/2023	17:09	13.26									Monthly
BPS07-11A	11/15/2023	09:28	13.42	14	2.57	10.4	433.8	5.56	179	0.62		Quarterly
BPS07-11A	12/5/2023	09:16	13.64									Monthly
BPS07-11B	1/17/2023	14:55	15.12									Monthly
BPS07-11B	1/25/2023	12:59	15.16	15.32	0.38	9.7	1379	4.93	205	2.25		Quarterly
BPS07-11B	2/20/2023	13:59	15.23									Monthly
BPS07-11B	3/13/2023	15:33	15.30									Monthly
BPS07-11B	4/10/2023	12:21	29.96									Monthly
BPS07-11B	5/11/2023	11:46	14.65	14.94	0.00	10.0	1310	4.72	194	1.73	Transducer removed/replaced at approximately 1120/1150.	Quarterly
BPS07-11B	5/17/2023	15:26	14.58									Monthly
BPS07-11B	6/20/2023	14:15	13.92									Monthly
BPS07-11B	7/25/2023	13:33	13.71									Monthly
BPS07-11B	8/16/2023	14:05	18.33									Monthly
BPS07-11B	8/16/2023	13:40	13.48									Monthly
BPS07-11B	8/21/2023	10:12	13.39	13.65	0.00	10.1	1267	4.65	180	0.94		Quarterly
BPS07-11B	9/28/2023	13:04	12.99									Monthly
BPS07-11B	10/19/2023	12:56	13.11									Monthly
BPS07-11B	11/8/2023	17:11	13.40									Monthly
BPS07-11B	11/15/2023	09:51	13.25	13.4	0.18	9.9	1276	5.02	171	1.49		Quarterly
BPS07-11B	12/5/2023	09:18	13.40									Monthly
BPS07-16A	1/17/2023	11:00	7.74									Quarterly
BPS07-16A	5/17/2023	13:54	7.50									Quarterly
BPS07-16A	8/16/2023	11:26	7.41									Quarterly
BPS07-16A	11/8/2023	14:34	7.43									Quarterly
BPS07-16B	1/17/2023	11:00	7.68									Quarterly
BPS07-16B	5/17/2023	13:55	7.31									Quarterly
BPS07-16B	8/16/2023	11:27	7.35									Quarterly
BPS07-16B	11/8/2023	14:35	7.28									Quarterly

**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
BPS07-21	1/16/2023	14:09									Under snow pile, inaccessible.	Quarterly
BPS07-21	5/17/2023	11:54	13.80									Quarterly
BPS07-21	8/16/2023	09:52	14.45									Quarterly
BPS07-21	11/8/2023	14:18	13.67									Quarterly
BPS07-21B	1/16/2023	14:09									Under snow pile, inaccessible.	Quarterly
BPS07-21B	5/17/2023	11:56	13.55									Quarterly
BPS07-21B	8/16/2023	09:46	13.52									Quarterly
BPS07-21B	11/8/2023	14:19	14.09									Quarterly
BPS07-21C	1/16/2023	14:10									Under snow pile, inaccessible.	Quarterly
BPS07-21C	5/17/2023	11:57	12.54									Quarterly
BPS07-21C	8/16/2023	09:47	12.53									Quarterly
BPS07-21C	11/8/2023	14:20	12.52									Quarterly
BPS07-22B	1/16/2023	14:40	8.24									Quarterly
BPS07-22B	5/17/2023	11:33	8.38									Quarterly
BPS07-22B	8/16/2023	09:17	8.47									Quarterly
BPS07-22B	11/8/2023	13:36	8.55									Quarterly
BPS07-22C	1/16/2023	14:40	7.18									Quarterly
BPS07-22C	5/17/2023	11:34	6.84									Quarterly
BPS07-22C	8/16/2023	09:16	6.96									Quarterly
BPS07-22C	11/8/2023	13:37	6.90									Quarterly
BPS07-22R	1/16/2023	14:40	9.25									Quarterly
BPS07-22R	5/17/2023	11:34	7.53									Quarterly
BPS07-22R	8/16/2023	09:17	9.34									Quarterly
BPS07-22R	11/8/2023	13:38	8.81									Quarterly
BPS07-23	1/16/2023	14:38	8.81									Monthly
BPS07-23	1/18/2023	11:15	9.89	9.89	0.40	6.9	970	6.86	-14.8	10.5	Pump start at 1103, could not collect DTW during purging due to size of casing, pump stop at 1120.	Quarterly
BPS07-23	2/23/2023	13:40	8.85									Monthly
BPS07-23	3/13/2023	11:13	8.55									Monthly
BPS07-23	4/10/2023	10:11	8.06									Monthly
BPS07-23	5/9/2023	11:31	7.52	7.57	3.20	4.7	1271	6.89	-37.9	22.1		Quarterly
BPS07-23	5/17/2023	11:36	7.91									Monthly
BPS07-23	6/20/2023	09:56	7.32									Monthly
BPS07-23	7/25/2023	09:59	8.47									Monthly
BPS07-23	8/16/2023	09:21	8.72									Monthly
BPS07-23	8/17/2023	13:37	8.77	8.77	0.00	9.5	1525	7.43	-70.4	19.9		Quarterly
BPS07-23	9/28/2023	09:07	7.92									Monthly
BPS07-23	10/19/2023	10:57	8.00									Monthly

**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
BPS07-23	11/8/2023	13:32	7.82									Monthly
BPS07-23	11/13/2023	12:34	7.95	7.98	0.46	7.1	1206	7.99	-47.7	184		Quarterly
BPS07-23	12/5/2023	12:31	8.10									Monthly
BPS07-24	1/16/2023	14:55	9.07									Quarterly
BPS07-24	5/17/2023	14:14	8.76									Quarterly
BPS07-24	8/16/2023	11:46	7.76									Quarterly
BPS07-24	11/8/2023	16:05	7.80									Quarterly
BPS11-04	1/16/2023	14:35	8.38									Quarterly
BPS11-04	5/17/2023	11:45	7.99									Quarterly
BPS11-04	8/16/2023	09:28	8.22									Quarterly
BPS11-04	11/8/2023	13:21	8.08									Quarterly
BPS11-09	1/16/2023	14:35	5.35									Quarterly
BPS11-09	5/17/2023	11:43	4.77									Quarterly
BPS11-09	8/16/2023	09:28	5.06									Quarterly
BPS11-09	11/8/2023	13:18	4.86									Quarterly
BPS11-10A	1/16/2023	16:33	11.39									Monthly
BPS11-10A	1/19/2023	17:30	11.42		0.81	9.1	1341	6.37	15.3	4.20		Quarterly
BPS11-10A	2/21/2023	14:49	11.34									Monthly
BPS11-10A	3/13/2023	12:13	11.23									Monthly
BPS11-10A	4/10/2023	11:29	10.52									Monthly
BPS11-10A	5/9/2023	14:29	11.92	15	0.46	7.0	1331	6.34	-28.2	102	Transducer removed/replaced at 1343/14. DO, turbidity, and water level fluctuated throughout purge. Well may need redeveloping?	Quarterly
BPS11-10A	5/17/2023	13:25	12.00									Monthly
BPS11-10A	6/20/2023	11:14	11.55									Monthly
BPS11-10A	7/25/2023	10:53	11.92									Monthly
BPS11-10A	8/16/2023	10:37	11.84									Monthly
BPS11-10A	8/18/2023	12:43	11.85	13.41	0.65	9.4	1390	6.76	68.8	2.28		Quarterly
BPS11-10A	9/28/2023	10:02	11.49									Monthly
BPS11-10A	10/19/2023	11:28	11.46									Monthly
BPS11-10A	11/8/2023	15:35	12.18									Monthly
BPS11-10A	11/14/2023	11:03	12.21		0.66	8.6	1368	6.65	-13	3.90	Reduced pump rate from 2 to 1 gpm at 5 min.	Quarterly
BPS11-10A	12/5/2023	13:03	12.21									Monthly
BPS11-10B	1/16/2023	16:34	11.40									Monthly
BPS11-10B	1/19/2023	17:50	11.41		3.12	9.1	1120	6.39	87.5	4.90		Quarterly
BPS11-10B	2/21/2023	14:51	11.34									Monthly
BPS11-10B	3/13/2023	12:15	11.23									Monthly
BPS11-10B	4/10/2023	11:30	10.53									Monthly



**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
BPS11-10B	5/9/2023	15:25	12.06	12.5	1.75	9.2	1166	6.21	119	0.32	Transducer removed/replaced at 1450/1535.	Quarterly
BPS11-10B	5/17/2023	13:26	12.15									Monthly
BPS11-10B	6/20/2023	11:15	11.62									Monthly
BPS11-10B	7/25/2023	10:54	11.98									Monthly
BPS11-10B	8/16/2023	10:44	9.42									Monthly
BPS11-10B	8/18/2023	13:15	11.91	12.15	2.22	10.7	1168	6.43	166	2.69		Quarterly
BPS11-10B	9/28/2023	10:03	11.53									Monthly
BPS11-10B	10/19/2023	11:29	11.52									Monthly
BPS11-10B	11/8/2023	15:36	12.23									Monthly
BPS11-10B	11/14/2023	11:30	12.26	12.71	2.47	8.3	1082	6.41	115	0.88		Quarterly
BPS11-10B	12/5/2023	13:04	12.26									Monthly
BPS11-10C	1/16/2023	16:31	9.58									Monthly
BPS11-10C	1/19/2023	18:10	9.62		2.00	9.6	912	6.57	114	0.02		Quarterly
BPS11-10C	2/21/2023	14:53	9.58									Monthly
BPS11-10C	3/13/2023	12:16	9.56									Monthly
BPS11-10C	4/10/2023	11:31	9.16									Monthly
BPS11-10C	5/9/2023	16:17	9.45	14.85	1.91	9.9	963	6.46	147	0.22	Transducer removed/replaced at 1545/1621.	Quarterly
BPS11-10C	5/17/2023	13:27	9.51									Monthly
BPS11-10C	6/20/2023	11:15	8.99									Monthly
BPS11-10C	7/25/2023	10:55	9.43									Monthly
BPS11-10C	8/16/2023	10:39	11.89									Monthly
BPS11-10C	8/18/2023	13:52	9.43	13.23	2.30	10.3	972	6.78	191	0.10		Quarterly
BPS11-10C	9/28/2023	10:05	9.06									Monthly
BPS11-10C	10/19/2023	11:30	9.11									Monthly
BPS11-10C	11/8/2023	15:37	9.44									Monthly
BPS11-10C	11/14/2023	12:08	9.46	13.42	2.59	8.9	958	6.71	116	0.19		Quarterly
BPS11-10C	12/5/2023	13:05	9.56									Monthly
BPS11-11A1	1/16/2023	16:50	5.72									Monthly
BPS11-11A1	1/19/2023	14:00	5.72		1.77	10.9	247.8	6.55	161	0.02		Quarterly
BPS11-11A1	2/21/2023	15:21	5.76									Monthly
BPS11-11A1	3/13/2023	12:34	5.75									Monthly
BPS11-11A1	4/10/2023	11:58	5.33									Monthly
BPS11-11A1	5/8/2023	14:20	5.56	5.86	1.16	9.0	352.8	6.37	156	0.23	Transducer removed/replaced at approximately 1355/1435.	Quarterly
BPS11-11A1	5/17/2023	13:38	5.72									Monthly
BPS11-11A1	6/20/2023	11:31	5.44									Monthly
BPS11-11A1	7/25/2023	11:15	5.86									Monthly
BPS11-11A1	8/16/2023	11:01	5.82									Monthly
BPS11-11A1	8/21/2023	09:53	5.53	5.66	1.45	10.6	384.5	6.8	135	0.37		Quarterly

**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
BPS11-11A1	9/28/2023	10:21	5.65									Monthly
BPS11-11A1	10/19/2023	11:15	5.69									Monthly
BPS11-11A1	11/8/2023	15:16	5.82									Monthly
BPS11-11A1	11/14/2023	14:32	5.86	6	1.58	10.9	318.2	6.65	137	0.48	Reduced pump rate from 2 to 1 gpm at 5 min.	Quarterly
BPS11-11A1	12/5/2023	13:10	5.89									Monthly
BPS11-11A2	1/16/2023	16:53	5.70									Monthly
BPS11-11A2	1/19/2023	14:30	5.68		2.18	10.1	294.2	6.85	154	2.00		Quarterly
BPS11-11A2	2/21/2023	15:23	5.72									Monthly
BPS11-11A2	3/13/2023	12:35	5.71									Monthly
BPS11-11A2	4/10/2023	11:58	5.32									Monthly
BPS11-11A2	5/8/2023	15:25	5.50	5.65	1.95	10.2	277	6.8	148	0.46		Quarterly
BPS11-11A2	5/17/2023	13:39	5.67									Monthly
BPS11-11A2	6/20/2023	11:31	5.37									Monthly
BPS11-11A2	7/25/2023	11:15	5.80									Monthly
BPS11-11A2	8/16/2023	11:02	5.77									Monthly
BPS11-11A2	8/21/2023	10:15	5.49	5.65	2.13	10.3	308.4	7.2	135	0.49		Quarterly
BPS11-11A2	9/28/2023	10:24	4.60									Monthly
BPS11-11A2	10/19/2023	11:16	5.65									Monthly
BPS11-11A2	11/8/2023	15:17	5.77									Monthly
BPS11-11A2	11/14/2023	14:51	5.79	5.95	2.19	9.1	308.4	7.05	128	0.76		Quarterly
BPS11-11A2	12/5/2023	13:11	5.82									Monthly
BPS11-11B	1/16/2023	16:54	4.43									Monthly
BPS11-11B	1/19/2023	15:00	4.45		2.73	10.5	817	6.44	160	0.02		Quarterly
BPS11-11B	2/21/2023	15:22	4.44									Monthly
BPS11-11B	3/13/2023	12:36	4.44									Monthly
BPS11-11B	4/10/2023	12:00	4.08									Monthly
BPS11-11B	5/8/2023	16:12	4.19	6.68	2.44	10.6	803	6.27	173	0.25		Quarterly
BPS11-11B	5/17/2023	13:39	4.29									Monthly
BPS11-11B	6/20/2023	11:32	3.83									Monthly
BPS11-11B	7/25/2023	11:16	4.30									Monthly
BPS11-11B	8/16/2023	11:00	4.24									Monthly
BPS11-11B	8/21/2023	10:52	4.01	6.55	3.14	10.6	876	6.52	163	0.43	Obstruction at ~35 ft. Cannot lower pump past that depth.	Quarterly
BPS11-11B	9/28/2023	10:20	3.98									Monthly
BPS11-11B	10/19/2023	11:17	4.00									Monthly
BPS11-11B	11/8/2023	15:18	4.14									Monthly
BPS11-11B	11/14/2023	15:18	4.22		2.74	9.6	859	6.58	167	0.32		Quarterly
BPS11-11B	12/5/2023	13:12	4.28									Monthly
BPS11-11C	1/16/2023	16:52	4.20									Monthly

**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
BPS11-11C	1/19/2023	15:30	4.23		0.37	11.1	780	6.65	132	0.02		Quarterly
BPS11-11C	2/21/2023	15:24	4.24									Monthly
BPS11-11C	3/13/2023	12:37	4.27									Monthly
BPS11-11C	4/10/2023	12:00	3.90									Monthly
BPS11-11C	5/9/2023	11:32	3.92	17.27	0.02	11.3	816	6.49	130	0.65		Quarterly
BPS11-11C	5/17/2023	13:40	3.99									Monthly
BPS11-11C	6/20/2023	11:32	3.47									Monthly
BPS11-11C	7/25/2023	11:16	3.91									Monthly
BPS11-11C	8/16/2023	11:01	3.89									Monthly
BPS11-11C	8/21/2023	11:40	3.74	11.7	0.43	11.5	834	6.84	120	0.65		Quarterly
BPS11-11C	9/28/2023	10:23	3.58									Monthly
BPS11-11C	10/19/2023	11:17	3.58									Monthly
BPS11-11C	11/8/2023	15:19	3.82									Monthly
BPS11-11C	11/14/2023	16:13	3.84	12.4	0.13	10.2	822	6.89	113	0.40		Quarterly
BPS11-11C	12/5/2023	13:13	3.96									Monthly
BPS11-13B	1/16/2023	14:45	13.15									Quarterly
BPS11-13B	5/17/2023	13:36	13.08									Quarterly
BPS11-13B	8/16/2023	10:52	13.06									Quarterly
BPS11-13B	11/8/2023	15:27	13.11									Quarterly
BPS11-14A	1/17/2023	14:15	9.38									Monthly
BPS11-14A	1/20/2023	12:30	9.39		0.68	9.5	517.5	6.44	157	4.00		Quarterly
BPS11-14A	2/21/2023	14:36	9.39									Monthly
BPS11-14A	3/13/2023	14:13	9.33									Monthly
BPS11-14A	4/10/2023	10:53	8.89									Monthly
BPS11-14A	5/10/2023	11:16	8.99	9.33	0.44	8.4	558.1	6.31	208	1.36		Quarterly
BPS11-14A	5/17/2023	14:18	9.05									Monthly
BPS11-14A	6/20/2023	11:59	8.57									Monthly
BPS11-14A	7/25/2023	11:45	9.02									Monthly
BPS11-14A	8/16/2023	11:52	8.95									Monthly
BPS11-14A	8/21/2023	15:07	8.69	8.83	1.19	9.6	514	6.6	97	0.56		Quarterly
BPS11-14A	9/28/2023	11:01	8.71									Monthly
BPS11-14A	10/19/2023	12:28	5.74									Monthly
BPS11-14A	11/8/2023	15:59	9.07									Monthly
BPS11-14A	11/15/2023	11:52	9.09	9.39	0.84	8.8	491.8	6.5	219	0.38		Quarterly
BPS11-14A	12/5/2023	08:40	9.15									Monthly
BPS11-14B	1/17/2023	14:15	9.02									Monthly
BPS11-14B	1/20/2023	13:00	9.04		0.30	9.5	1794	6.09	184	2.00		Quarterly
BPS11-14B	2/21/2023	14:35	9.04									Monthly

**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
BPS11-14B	3/13/2023	14:13	8.98									Monthly
BPS11-14B	4/10/2023	10:54	8.59									Monthly
BPS11-14B	5/10/2023	11:52	8.66	14.01	0.09	9.3	1953	5.97	252	0.52		Quarterly
BPS11-14B	5/17/2023	14:19	8.71									Monthly
BPS11-14B	6/20/2023	12:00	8.24									Monthly
BPS11-14B	7/25/2023	11:45	8.68									Monthly
BPS11-14B	8/16/2023	11:53	8.62									Monthly
BPS11-14B	8/21/2023	15:44	8.36	11.8	0.41	10.2	1926	6.13	146	0.40		Quarterly
BPS11-14B	9/28/2023	11:01	8.35									Monthly
BPS11-14B	10/19/2023	12:29	8.40									Monthly
BPS11-14B	11/8/2023	16:01	8.68									Monthly
BPS11-14B	11/15/2023	12:16	8.90	13.23	0.25	8.7	1771	6.31	234	0.29		Quarterly
BPS11-14B	12/5/2023	08:41	8.72									Monthly
BPS11-17C	1/17/2023	11:58	8.50									Monthly
BPS11-17C	1/24/2023	10:30	8.53		1.30	9.4	1765	6.25	207	2.00		Quarterly
BPS11-17C	3/13/2023	15:12	8.63									Monthly
BPS11-17C	4/10/2023	11:39	8.33									Monthly
BPS11-17C	5/10/2023	12:59	7.78	11.1	0.00	9.9	1715	6.16	359	0.27		Quarterly
BPS11-17C	5/18/2023	14:47	7.74									Monthly
BPS11-17C	6/20/2023	13:54	7.21									Monthly
BPS11-17C	7/25/2023	12:09	7.46									Monthly
BPS11-17C	8/16/2023	13:21	7.39									Monthly
BPS11-17C	8/18/2023	12:00	7.43	10.15	0.05	10.2	2033	6.19	174	1.50		Quarterly
BPS11-17C	9/28/2023	12:49	7.01									Monthly
BPS11-17C	10/19/2023	12:48	7.05									Monthly
BPS11-17C	11/8/2023	16:31	7.18									Monthly
BPS11-17C	11/14/2023	13:39	7.16	10.1	0.13	9.8	1781	6.48	240	0.24		Quarterly
BPS11-17C	12/5/2023	09:06	7.31									Monthly
BPS11-18B	1/17/2023	14:40	10.38									Monthly
BPS11-18B	1/24/2023	14:23	10.41	11.01	0.34	10.4	3316	4.09	215	0.02		Quarterly
BPS11-18B	2/20/2023	16:10	10.41								Ice in monument.	Monthly
BPS11-18B	3/13/2023	15:03	10.51									Monthly
BPS11-18B	4/10/2023	11:33	10.18									Monthly
BPS11-18B	5/11/2023	13:08	9.70	10.6	0.00	10.2	3142	4.29	255	0.89		Quarterly
BPS11-18B	5/17/2023	14:43	9.68									Monthly
BPS11-18B	6/20/2023	13:48	9.17									Monthly
BPS11-18B	7/25/2023	12:03	9.44									Monthly
BPS11-18B	8/16/2023	13:16	9.34									Monthly

**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
BPS11-18B	8/17/2023	14:12	9.35	10.14	0.24	10.9	3161	4.17	202	0.02		Quarterly
BPS11-18B	9/28/2023	12:29	9.03									Monthly
BPS11-18B	10/19/2023	12:43	9.08									Monthly
BPS11-18B	11/8/2023	16:28	9.24									Monthly
BPS11-18B	11/14/2023	09:41	9.24	10.06	0.18	10.2	3189	4.34	180	0.84		Quarterly
BPS11-18B	12/5/2023	09:02	9.40									Monthly
BPS11-18C	1/17/2023	14:40	10.38									Monthly
BPS11-18C	1/24/2023	14:46	10.42	10.7	0.23	10.3	1874	5.67	223	0.02		Quarterly
BPS11-18C	2/20/2023	16:15	10.51								Ice in monument.	Monthly
BPS11-18C	3/13/2023	15:02	10.54									Monthly
BPS11-18C	4/10/2023	11:32	10.20									Monthly
BPS11-18C	5/11/2023	13:33	9.71	10.12	0.00	10.2	1731	5.61	253	1.14		Quarterly
BPS11-18C	5/17/2023	14:45	9.68									Monthly
BPS11-18C	6/20/2023	13:49	9.15									Monthly
BPS11-18C	7/25/2023	12:03	9.40									Monthly
BPS11-18C	8/16/2023	13:14	9.31									Monthly
BPS11-18C	8/17/2023	15:06	9.29	9.69	0.17	11.1	1684	5.55	255	0.02		Quarterly
BPS11-18C	9/28/2023	12:26	8.98									Monthly
BPS11-18C	10/19/2023	12:44	9.03									Monthly
BPS11-18C	11/8/2023	16:29	9.15									Monthly
BPS11-18C	11/14/2023	10:22	9.14	9.5	0.00	10.6	1614	5.79	222	0.55		Quarterly
BPS11-18C	12/5/2023	09:03	6.29									Monthly
BPS11-19A2	1/16/2023	13:30									Frozen.	Monthly
BPS11-19A2	2/20/2023	14:40	4.09								Ice in monument.	Monthly
BPS11-19A2	3/13/2023	12:54	4.03									Monthly
BPS11-19A2	4/10/2023	12:05									Inaccessible, puddle over well and ice block in monument.	Monthly
BPS11-19A2	5/17/2023	13:42	4.19									Monthly
BPS11-19A2	6/20/2023	11:38	3.83									Monthly
BPS11-19A2	7/25/2023	11:27	4.25									Monthly
BPS11-19A2	8/16/2023	11:06	4.19									Monthly
BPS11-19A2	9/28/2023	10:51	2.26									Monthly
BPS11-19A2	10/19/2023	11:20	3.98									Monthly
BPS11-19A2	11/8/2023	15:21	4.28									Monthly
BPS11-19A2	12/5/2023	13:16	4.34									Monthly
BPS11-19B	1/16/2023	13:30									Frozen.	Monthly
BPS11-19B	2/20/2023	14:44	2.73								Ice in monument.	Monthly
BPS11-19B	3/13/2023	12:59	2.70									Monthly
BPS11-19B	4/10/2023	12:05									Inaccessible, puddle over well and ice block in monument.	Monthly

**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
BPS11-19B	5/17/2023	13:43	2.61									Monthly
BPS11-19B	6/20/2023	11:38	2.15									Monthly
BPS11-19B	7/25/2023	11:27	2.58									Monthly
BPS11-19B	8/16/2023	11:06	2.55									Monthly
BPS11-19B	9/28/2023	10:51	3.96									Monthly
BPS11-19B	10/19/2023	11:21	2.28									Monthly
BPS11-19B	11/8/2023	15:22	2.53									Monthly
BPS11-19B	12/5/2023	13:17	2.64									Monthly
BT-98-02	1/16/2023	15:15	11.75									Quarterly
BT-98-02	5/17/2023	13:59	10.27									Quarterly
BT-98-02	8/16/2023	11:33	11.25									Quarterly
BT-98-02	11/8/2023	15:10	11.26									Quarterly
BT-98-02B	1/16/2023	15:15									Inaccessible.	Quarterly
BT-98-02B	5/17/2023	13:57	9.69									Quarterly
BT-98-02B	8/16/2023	11:35	9.66									Quarterly
BT-98-02B	11/8/2023	15:12	9.65									Quarterly
GS-08R	1/16/2023	15:00	13.53									Quarterly
GS-08R	5/17/2023	14:21	13.24									Quarterly
GS-08R	8/16/2023	12:53	13.01									Quarterly
GS-08R	11/8/2023	16:12	12.80									Quarterly
GS-09R	1/16/2023	15:00	13.61									Quarterly
GS-09R	5/17/2023	14:22	13.07									Quarterly
GS-09R	8/16/2023	12:51	12.92									Quarterly
GS-09R	11/8/2023	16:14	12.90									Quarterly
GS-11R	1/16/2023	15:00	13.90									Quarterly
GS-11R	5/17/2023	14:23	12.87									Quarterly
GS-11R	8/16/2023	12:52	12.22									Quarterly
GS-11R	11/8/2023	16:15	12.58									Quarterly
GS-28	1/16/2023	15:20	4.93									Monthly
GS-28	1/17/2023	11:04	4.98	10.65	0.46	7.1	341.6	6.61	-54.2	5.20	Pump start at 1043, decreased flow rate @ 1050 to lowest possible due to drawdown, pump stop at 1118.	Quarterly
GS-28	2/23/2023	14:31	5.06									Monthly
GS-28	3/14/2023	16:12	5.01									Monthly
GS-28	4/10/2023	10:40	4.15									Monthly
GS-28	5/12/2023	09:45	4.48	9.46	0.92	6.3	969	7.04	31	11.7	Well dry at 1532 on 5-11-23, returned morning of 5-12-23 to collect sample, DTW on 5/12 is 4.54, start timing at 940, pump for 5 min then collect sample.	Quarterly
GS-28	5/17/2023	13:18	4.54									Monthly

**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
GS-28	6/20/2023	11:21	4.27									Monthly
GS-28	7/25/2023	10:05	5.12									Monthly
GS-28	8/16/2023	09:33	5.22									Monthly
GS-28	8/18/2023	09:40	5.21		0.00	9.8	464.8	6.78	-61.1	8.60	Original flow rate was 0.158 gal/min but turned pump down at 908, well dry at 940, going to allow to recover.	Quarterly
GS-28	8/21/2023	16:35	5.21	9.85	0.13	11.6	346.5	7.13	-3.6	3.23	Purged well dry on 8/18/23, came back to sample on 8/21/23, first 6 readings are from 8/18/23, 7th reading is from 8/21/23.	Quarterly
GS-28	9/28/2023	10:48	4.84									Monthly
GS-28	10/20/2023	16:49	4.94									Monthly
GS-28	11/9/2023	12:09	4.95									Monthly
GS-28	11/14/2023	13:00	4.93	11.98	0.58	8.9	404.4	6.72	-43.5	3.33		Quarterly
GS-28	12/5/2023	11:47	5.15									Monthly
GS-28B	1/16/2023	15:21	4.16									Monthly
GS-28B	1/17/2023	14:26	4.25	4.26	2.32	8.3	274.6	7.07	101	0.89	Pump start at 1411, DUP-1 at 1430, pump off at 1442.	Quarterly
GS-28B	2/23/2023	14:34	4.28									Monthly
GS-28B	3/14/2023	16:05	4.12								Recorded DTW TPVC. TOSC DTW = 4.80 ft.	Monthly
GS-28B	4/10/2023	10:41	3.86									Monthly
GS-28B	5/12/2023	10:50	4.18		1.96	9.9	275.4	7.15	184	1.45		Quarterly
GS-28B	5/17/2023	13:20	4.22									Monthly
GS-28B	6/20/2023	11:24	3.88									Monthly
GS-28B	7/25/2023	10:07	4.31									Monthly
GS-28B	8/16/2023	09:36	4.30									Monthly
GS-28B	8/18/2023	11:00	4.35	4.38	1.70	10.4	301.2	7.32	12.5	2.26		Quarterly
GS-28B	9/28/2023	10:47	4.02									Monthly
GS-28B	10/20/2023	16:50	4.09									Monthly
GS-28B	11/9/2023	12:10	4.27									Monthly
GS-28B	11/14/2023	15:13	4.32	4.35	2.22	8.0	271.8	7.09	102	3.83		Quarterly
GS-28B	12/5/2023	11:48	4.37									Monthly
GS-29D	1/16/2023	14:53	5.82									Monthly
GS-29D	2/21/2023	15:54	5.70									Monthly
GS-29D	3/13/2023	10:36	5.73									Monthly
GS-29D	4/10/2023	09:47	5.65									Monthly
GS-29D	5/17/2023	11:20	5.49									Monthly
GS-29D	6/20/2023	09:38	5.25									Monthly
GS-29D	7/25/2023	09:42	5.18									Monthly
GS-29D	8/16/2023	08:57	5.24									Monthly
GS-29D	9/28/2023	07:58	6.13									Monthly



**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
GS-29D	10/19/2023	22:46	5.23									Monthly
GS-29D	11/8/2023	13:10	5.22									Monthly
GS-29D	12/5/2023	12:19	5.28									Monthly
GS-29SR	1/16/2023	14:52	6.77									Monthly
GS-29SR	1/18/2023	13:45	6.77		2.63	8.8	372.5	6.77	165	0.02		Quarterly
GS-29SR	2/21/2023	15:53	6.71									Monthly
GS-29SR	3/13/2023	10:35	6.71									Monthly
GS-29SR	4/10/2023	09:45	6.36									Monthly
GS-29SR	5/8/2023	14:11	5.87	7.9	3.09	7.9	354.3	6.92	261	1.95		Quarterly
GS-29SR	5/17/2023	11:21	6.00									Monthly
GS-29SR	6/20/2023	09:39	5.52									Monthly
GS-29SR	7/25/2023	09:43	6.29									Monthly
GS-29SR	8/16/2023	08:56	6.52									Monthly
GS-29SR	8/17/2023	10:42	6.50	7.35	3.70	8.4	384.8	7.05	227	0.12	Lowered purge rate from 2 gpm to 1 gpm at first reading.	Quarterly
GS-29SR	9/28/2023	07:57	6.13									Monthly
GS-29SR	10/19/2023	10:45	6.11									Monthly
GS-29SR	11/8/2023	13:11	6.10									Monthly
GS-29SR	11/15/2023	09:29	6.16	7.95	3.63	8.0	362.9	6.57	227	0.55		Quarterly
GS-29SR	12/5/2023	12:20	6.31									Monthly
GS-30D	1/16/2023	15:05	10.86									Quarterly
GS-30D	5/17/2023	14:26	10.30									Quarterly
GS-30D	8/16/2023	12:57	10.16									Quarterly
GS-30D	11/8/2023	16:09	10.06									Quarterly
GS-30S	1/16/2023	15:05	11.32									Quarterly
GS-30S	5/17/2023	14:27	10.60									Quarterly
GS-30S	8/16/2023	12:55	9.74									Quarterly
GS-30S	11/8/2023	16:10	10.21									Quarterly
GS-40R	1/16/2023	16:05	25.56									Monthly
GS-40R	1/23/2023	13:00	25.53		1.53	9.2	1961	5.33	131	6.40		Quarterly
GS-40R	2/21/2023	10:22	25.10									Monthly
GS-40R	3/14/2023	10:55	25.53								Recorded DTW TOSC. TPVC DTW = 25.27 ft.	Monthly
GS-40R	4/10/2023	10:40	25.25									Monthly
GS-40R	5/12/2023	13:50	25.20	25.61	0.00	10.0	2174	5.18	162	1.15	Transducer removed/replaced 1330/1403.	Quarterly
GS-40R	5/17/2023	16:01	25.11									Monthly
GS-40R	6/20/2023	15:56	24.70									Monthly
GS-40R	7/25/2023	13:33	24.05									Monthly
GS-40R	8/16/2023	13:33	24.09									Monthly

**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
GS-40R	8/21/2023	13:19	24.00		0.17	10.4	2024	5.15	218	1.26	Well purged, stabilized prior to sample and sampled @ 1319. Before survey could be sent Survey123 crashed and the field form got deleted. Collecting parameters until stable again.	Quarterly
GS-40R	9/28/2023	14:45	23.52									Monthly
GS-40R	10/19/2023	13:17	23.42									Monthly
GS-40R	11/9/2023	16:02	23.43									Monthly
GS-40R	11/15/2023	14:44	23.39	23.53	0.45	8.7	2039	5.59	133	0.77		Quarterly
GS-40R	12/5/2023	10:06	23.55									Monthly
GS-44D	1/16/2023	15:40	24.24									Quarterly
GS-44D	5/17/2023	15:19	23.90									Quarterly
GS-44D	8/16/2023	13:58	22.68									Quarterly
GS-46D	11/8/2023	16:47	27.23									Quarterly
GS-44S	1/16/2023	15:40	23.58									Quarterly
GS-44S	5/17/2023	15:20	23.26									Quarterly
GS-44S	8/16/2023	13:53	21.77									Quarterly
GS-46S	11/8/2023	16:49	27.09									Quarterly
GS-46D	1/16/2023	15:50	29.31									Quarterly
GS-46D	5/18/2023	15:08	29.37									Quarterly
GS-46D	8/16/2023	13:41	27.98									Quarterly
GS-44D	11/8/2023	16:58	26.30									Quarterly
GS-46S	1/16/2023	15:50	29.29									Quarterly
GS-46S	5/17/2023	15:09	29.36									Quarterly
GS-46S	8/16/2023	13:41	27.83									Quarterly
GS-44S	11/8/2023	17:00	21.41									Quarterly
MF-01	1/17/2023	10:20	5.40									Monthly
MF-01	2/23/2023	13:24	5.44									Monthly
MF-01	3/13/2023	10:39	5.38									Monthly
MF-01	4/10/2023	09:52	4.97									Monthly
MF-01	5/17/2023	11:22	4.72									Monthly
MF-01	6/20/2023	09:42	4.16									Monthly
MF-01	7/25/2023	09:46	4.91									Monthly
MF-01	8/16/2023	09:00	5.12									Monthly
MF-01	9/28/2023	08:04	4.79									Monthly
MF-01	10/19/2023	10:48	4.79									Monthly
MF-01	11/8/2023	13:12	4.77									Monthly
MF-01	12/5/2023	12:21	4.62									Monthly
MF-03	1/16/2023	13:30									Blocked by fence. No DTW.	Monthly

**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
MF-03	2/24/2023	14:40	9.23									Monthly
MF-03	3/13/2023	11:28	9.13									Monthly
MF-03	4/10/2023	11:08	8.34									Monthly
MF-03	5/17/2023	12:11	9.17									Monthly
MF-03	6/20/2023	10:46	8.55									Monthly
MF-03	7/25/2023	10:36	9.09									Monthly
MF-03	8/16/2023	10:22	9.14									Monthly
MF-03	9/28/2023	09:52	8.66									Monthly
MF-03	10/19/2023	12:21	8.80									Monthly
MF-03	11/8/2023	15:46	9.40									Monthly
MF-03	12/5/2023	12:52	9.71									Monthly
MF-07	1/17/2023	12:00	10.98									Monthly
MF-07	1/24/2023	11:00	10.98		0.65	8.8	1634	6.2	202	1.80		Quarterly
MF-07	3/13/2023	15:14	10.93									Monthly
MF-07	4/10/2023	11:25	10.52									Monthly
MF-07	5/10/2023	14:11	10.15	11.03	0.00	7.2	1443	6.09	287	0.47		Quarterly
MF-07	5/17/2023	14:48	10.15									Monthly
MF-07	6/20/2023	13:56	9.67									Monthly
MF-07	7/25/2023	12:10	10.31									Monthly
MF-07	8/16/2023	13:22	10.20									Monthly
MF-07	8/18/2023	13:06	10.24	10.99	0.20	12.3	1731	6.19	180	0.02		Quarterly
MF-07	9/28/2023	12:47	9.91									Monthly
MF-07	10/19/2023	12:49	9.94									Monthly
MF-07	11/8/2023	16:33	10.16									Monthly
MF-07	11/14/2023	14:25	10.17	10.49	0.17	11.0	1387	6.46	216	0.45		Quarterly
MF-07	12/5/2023	09:07	10.29									Monthly
MF-07B	1/17/2023	12:00	10.64									Monthly
MF-07B	1/24/2023	11:30	10.68		0.40	9.4	1033	6.13	197	4.80		Quarterly
MF-07B	2/24/2023	12:30	10.65									Monthly
MF-07B	3/15/2023	12:55	10.70									Monthly
MF-07B	4/10/2023	15:35	10.41									Monthly
MF-07B	5/10/2023	13:43	9.93	12.85	0.00	9.5	1006	6.02	333	3.12		Quarterly
MF-07B	5/17/2023	15:08	9.91									Monthly
MF-07B	6/20/2023	14:02	9.39									Monthly
MF-07B	7/25/2023	11:39	9.70									Monthly
MF-07B	8/16/2023	11:25	9.66									Monthly
MF-07B	8/18/2023	13:39	9.62	12.36	0.00	10.1	1169	6.08	186	0.25		Quarterly
MF-07B	9/28/2023	14:31	9.26									Monthly

**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
MF-07B	10/20/2023	18:21	9.31									Monthly
MF-07B	11/9/2023	13:28	9.46									Monthly
MF-07B	11/14/2023	14:50	9.49	12.17	0.00	9.6	1005	6.37	217	1.54		Quarterly
MF-07B	12/5/2023	13:17	9.59									Monthly
MF-10	1/16/2023	14:50	9.51									Quarterly
MF-10	5/17/2023	14:16	9.11									Quarterly
MF-10	8/16/2023	11:49	8.85									Quarterly
MF-10	11/8/2023	15:56	9.10									Quarterly
MF-11	1/17/2023	14:30	10.04									Monthly
MF-11	1/23/2023	13:12	10.09	10.79	2.48	9.8	705	6.83	201	0.02	Start pump at 1257. Stop pump at 1315.	Quarterly
MF-11	2/24/2023	12:10	10.29									Monthly
MF-11	3/15/2023	13:04	10.26									Monthly
MF-11	4/10/2023	14:15	9.95									Monthly
MF-11	5/10/2023	14:08	9.31	10.3	2.30	7.0	1132	6.94	196	1.17		Quarterly
MF-11	5/17/2023	14:32	9.27									Monthly
MF-11	6/20/2023	13:26	8.66									Monthly
MF-11	7/25/2023	11:01	8.90									Monthly
MF-11	8/16/2023	10:50	8.97									Monthly
MF-11	8/17/2023	11:31	8.95	9.75	2.18	9.6	609.7	6.8	145	0.02		Quarterly
MF-11	9/28/2023	13:49	8.62									Monthly
MF-11	10/20/2023	17:53	8.74									Monthly
MF-11	11/9/2023	13:07	8.87									Monthly
MF-11	11/13/2023	13:42	8.70	9.65	2.96	11.1	680.9	7.13	105	2.13		Quarterly
MF-11	12/5/2023	12:59	9.06									Monthly
MSD-01A	1/17/2023	11:30	11.68									Quarterly
MSD-01A	5/17/2023	14:55	10.65									Quarterly
MSD-01A	8/16/2023	13:30	10.32									Quarterly
MSD-01A	11/8/2023	16:39	10.22									Quarterly
MSD-01B	1/17/2023	11:30	11.14									Quarterly
MSD-01B	5/17/2023	14:56	10.45									Quarterly
MSD-01B	8/16/2023	13:34	9.72									Quarterly
MSD-01B	11/8/2023	16:41	9.59									Quarterly
MSD-01C	1/17/2023	11:30	11.65									Quarterly
MSD-01C	5/17/2023	14:58	11.10									Quarterly
MSD-01C	8/16/2023	13:33	10.41									Quarterly
MSD-01C	11/8/2023	16:43	10.11									Quarterly
MSD-02A	1/17/2023	14:45	9.25									Monthly
MSD-02A	1/19/2023	10:40	9.27	9.55	0.49	9.2	560	5.15	262	0.02	Pump start at 1027, pump stop at 1045.	Quarterly

**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
MSD-02A	2/21/2023	14:16	9.46									Monthly
MSD-02A	3/13/2023	14:55	9.43									Monthly
MSD-02A	4/10/2023	11:13	9.18									Monthly
MSD-02A	5/16/2023	14:46	8.83		0.24	8.1	604.4	5.09	219	0.53		Quarterly
MSD-02A	5/17/2023	14:40	8.83									Monthly
MSD-02A	6/20/2023	13:37	8.33									Monthly
MSD-02A	7/25/2023	11:59	8.44									Monthly
MSD-02A	8/16/2023	13:11	8.24									Monthly
MSD-02A	8/22/2023	15:08	8.16	9.32	0.00	10.2	899	5.15	190	1.23		Quarterly
MSD-02A	9/28/2023	12:21	7.96									Monthly
MSD-02A	10/19/2023	12:39	7.96									Monthly
MSD-02A	11/8/2023	16:24	8.50									Monthly
MSD-02A	11/16/2023	10:19	8.57	9.53	0.43	10.4	748	5.03	178	1.13		Quarterly
MSD-02A	12/5/2023	08:57	8.68									Monthly
MSD-02B	1/17/2023	14:45	11.56									Monthly
MSD-02B	1/24/2023	15:37	11.62	12	0.24	9.9	4122	4.28	211	0.02		Quarterly
MSD-02B	2/21/2023	14:15	11.73									Monthly
MSD-02B	3/13/2023	14:54	11.73									Monthly
MSD-02B	4/10/2023	11:14	11.48									Monthly
MSD-02B	5/10/2023	16:39	10.89	11.45	0.00	10.0	4299	4.03	281	1.24		Quarterly
MSD-02B	5/17/2023	14:41	10.84									Monthly
MSD-02B	6/20/2023	13:37	10.30									Monthly
MSD-02B	7/25/2023	11:59	10.53									Monthly
MSD-02B	8/16/2023	13:10	10.41									Monthly
MSD-02B	8/17/2023	12:38	10.42	10.94	0.24	10.6	3854	4.19	203	0.02		Quarterly
MSD-02B	9/28/2023	12:20	10.07									Monthly
MSD-02B	10/19/2023	12:40	10.35									Monthly
MSD-02B	11/8/2023	16:25	10.23									Monthly
MSD-02B	11/13/2023	16:16	10.29	10.5	0.10	10.2	4421	4.35	158	0.77		Quarterly
MSD-02B	12/5/2023	08:58	10.45									Monthly
MSD-03	1/17/2023	14:20	9.22									Monthly
MSD-03	1/23/2023	16:25	9.24	9.82	1.22	10.4	2490	5.62	366	0.02	Start pump at 1510. Stop pump at 1727.	Quarterly
MSD-03	2/20/2023	14:58	9.31									Monthly
MSD-03	3/13/2023	14:39	9.32									Monthly
MSD-03	4/10/2023	14:25	9.02									Monthly
MSD-03	5/10/2023	13:08	8.60	9.36	0.00	10.3	2570	5.54	270	0.94		Quarterly
MSD-03	5/17/2023	14:30	8.60									Monthly
MSD-03	6/20/2023	13:22	8.05									Monthly

**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
MSD-03	7/25/2023	13:45	8.37									Monthly
MSD-03	8/16/2023	13:03	8.30									Monthly
MSD-03	8/17/2023	09:53	8.47	9.07	0.11	10.6	2274	5.49	178	0.02		Quarterly
MSD-03	9/28/2023	12:08	8.03									Monthly
MSD-03	10/19/2023	12:33	8.07									Monthly
MSD-03	11/8/2023	16:18	8.22									Monthly
MSD-03	11/13/2023	12:55	8.22	8.45	0.35	10.5	2570	5.82	129	0.35		Quarterly
MSD-03	12/5/2023	08:48	8.34									Monthly
MSD-04	1/23/2023	14:17	10.58	11.07	1.59	8.9	917	6.18	253	0.02	Start pump at 1405. Stop pump at 1419.	Quarterly
MSD-04	2/21/2023	14:20	10.70									Monthly
MSD-04	2/23/2023	14:30	10.54									Monthly
MSD-04	3/13/2023	14:49	10.71									Monthly
MSD-04	4/10/2023	11:07	10.46									Monthly
MSD-04	5/10/2023	14:33	9.95	10.56	0.00	8.8	930	6.24	194	0.93		Quarterly
MSD-04	5/17/2023	14:38	9.92									Monthly
MSD-04	6/20/2023	13:29	9.35									Monthly
MSD-04	7/25/2023	11:53	9.63									Monthly
MSD-04	8/16/2023	13:06	9.56									Monthly
MSD-04	8/17/2023	12:05	9.56	10.13	0.05	9.5	828	6.1	154	0.02		Quarterly
MSD-04	9/28/2023	12:14	9.25									Monthly
MSD-04	10/19/2023	12:36	9.35									Monthly
MSD-04	11/8/2023	16:22	9.47									Monthly
MSD-04	11/13/2023	14:10	9.45	9.97	0.10	9.1	879	6.45	123	0.68		Quarterly
MSD-04	12/5/2023	08:53	9.92									Monthly
MSD-05	1/16/2023	15:05	11.09									Quarterly
MSD-05	5/17/2023	14:28	10.55									Quarterly
MSD-05	8/16/2023	12:54	10.36									Quarterly
MSD-05	11/8/2023	16:11	10.31									Quarterly
PMP-01A	1/17/2023	15:15	14.85									Monthly
PMP-01A	1/23/2023	13:40	14.91		0.99	8.8	944	4.76	211	0.20		Quarterly
PMP-01A	2/21/2023	11:02	15.11									Monthly
PMP-01A	3/15/2023	14:44	15.21									Monthly
PMP-01A	4/10/2023	16:20	14.92									Monthly
PMP-01A	5/16/2023	17:10	14.41	14.41	0.00	8.8	918	4.79	248	2.98		Quarterly
PMP-01A	5/17/2023	15:56	14.21									Monthly
PMP-01A	6/20/2023	14:58	13.63									Monthly
PMP-01A	7/25/2023	12:19	13.17									Monthly
PMP-01A	8/16/2023	12:10	12.69									Monthly

**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
PMP-01A	8/22/2023	11:26	12.47	12.8	0.45	9.3	965	4.83	208	1.38		Quarterly
PMP-01A	9/28/2023	15:20	12.02									Monthly
PMP-01A	10/20/2023	19:06	12.51									Monthly
PMP-01A	11/9/2023	15:41	13.64									Monthly
PMP-01A	11/16/2023	13:21	12.74	13.02	0.40	9.0	1258	4.82	255	0.76		Quarterly
PMP-01A	12/5/2023	13:46	12.92									Monthly
PMP-01B	1/17/2023	15:15	15.58									Monthly
PMP-01B	1/23/2023	14:10	15.63		0.50	9.6	1489	5.51	210	0.02		Quarterly
PMP-01B	2/21/2023	11:04	15.83									Monthly
PMP-01B	3/15/2023	14:38	15.89									Monthly
PMP-01B	4/10/2023	16:22	15.63									Monthly
PMP-01B	5/11/2023	14:39	15.03	20.46	0.00	9.5	1403	5.6	250	4.18		Quarterly
PMP-01B	5/17/2023	15:57	14.95									Monthly
PMP-01B	6/20/2023	15:01	14.36									Monthly
PMP-01B	7/25/2023	12:18	14.17									Monthly
PMP-01B	8/16/2023	12:13	13.94									Monthly
PMP-01B	8/21/2023	11:59	13.86	17.71	0.00	10.3	1428	5.46	296	2.08		Quarterly
PMP-01B	9/28/2023	15:21	15.38									Monthly
PMP-01B	10/20/2023	19:07	13.52									Monthly
PMP-01B	11/9/2023	15:42	12.70									Monthly
PMP-01B	11/15/2023	15:02	13.65	18.3	0.00	10.0	1334	5.75	165	1.89		Quarterly
PMP-01B	12/5/2023	13:47	13.82									Monthly
PMP-02A	1/17/2023	15:05									Frozen.	Monthly
PMP-02A	2/22/2023	14:08	13.33								Frozen.	Monthly
PMP-02A	3/15/2023	14:26	12.91									Monthly
PMP-02A	4/10/2023	15:53	13.32									Monthly
PMP-02A	5/16/2023	17:00	12.97	14.05	0.00	10.4	2300	4.3	208	4.02	Slowed rate from ~0.5 gpm to ~0.25 gpm between 2nd and 3rd readings due to drawdown, then began to recover.	Quarterly
PMP-02A	5/17/2023	15:34	12.97									Monthly
PMP-02A	6/20/2023	14:37	11.91									Monthly
PMP-02A	7/25/2023	11:57	11.79									Monthly
PMP-02A	8/16/2023	11:55	11.79									Monthly
PMP-02A	8/23/2023	09:35	11.81		1.59	11.3	2800	3.25	218	5.93	Start pump 8/22 at 1404. Reduced purge rate from 0.25 to 0.15 gpm at reading 4. Well ran dry - stop pump 8/22 at 1420. Readings 1-5 from 8/22. Reading 6 from 8/23. DTW on 8/23 = 11.72 ft.	Quarterly
PMP-02A	9/28/2023	14:58	11.59									Monthly
PMP-02A	10/20/2023	18:35	11.60									Monthly



**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
PMP-02A	11/9/2023	15:13	12.13									Monthly
PMP-02A	11/16/2023	11:50	12.02	12.86	0.39	10.7	2054	3.88	220	13.7		Quarterly
PMP-02A	12/5/2023	13:31	12.14									Monthly
PMP-02B	1/17/2023	15:05									Frozen.	Monthly
PMP-02B	2/22/2023	14:06	12.45								Frozen.	Monthly
PMP-02B	3/15/2023	14:12	12.41								Chipped out ice and as much water as possible. Pried j-plug off, some water went down well. Level taken after transducer removed.	Monthly
PMP-02B	4/10/2023	15:57	12.23								Transducer and/or cord frozen in well. Transducer cord attached to j-plug. Could only lift plug enough to get water level probe in.	Monthly
PMP-02B	5/16/2023	16:38	11.72	11.82	0.03	10.4	5110	4.22	160	4.25		Quarterly
PMP-02B	5/17/2023	15:33	11.72									Monthly
PMP-02B	6/20/2023	14:41	11.09									Monthly
PMP-02B	7/25/2023	11:55	10.95									Monthly
PMP-02B	8/16/2023	11:50	10.79									Monthly
PMP-02B	8/22/2023	13:55	10.62	10.74	0.30	10.3	5814	4.36	155	3.14		Quarterly
PMP-02B	9/28/2023	14:58	10.32									Monthly
PMP-02B	10/20/2023	18:36	10.44									Monthly
PMP-02B	11/9/2023	15:14	10.58									Monthly
PMP-02B	11/16/2023	11:29	10.61	10.68	1.01	8.9	5163	4.32	162	3.84		Quarterly
PMP-02B	12/5/2023	13:32	10.78									Monthly
PMP-03A	1/17/2023	12:15	15.94									Monthly
PMP-03A	1/26/2023	12:50	15.99	17.49	0.85	7.0	3587	5.33	60	0.02		Quarterly
PMP-03A	3/15/2023	13:36	15.76									Monthly
PMP-03A	4/10/2023	16:09	15.69									Monthly
PMP-03A	5/11/2023	13:53	15.55		0.00	7.8	3234	5.04	98.3	3.64	Water level below top of pump by 3rd reading.	Quarterly
PMP-03A	5/17/2023	15:47	15.47									Monthly
PMP-03A	6/20/2023	14:49	14.50									Monthly
PMP-03A	7/25/2023	12:05	14.42									Monthly
PMP-03A	8/16/2023	12:05	14.40									Monthly
PMP-03A	8/23/2023	10:23	14.34		2.04	16.8	3397	4.86	159	3.98	DTW: top of pump	Quarterly
PMP-03A	9/28/2023	15:09	14.26									Monthly
PMP-03A	10/20/2023	18:44	14.26									Monthly
PMP-03A	11/9/2023	15:30	14.24									Monthly
PMP-03A	11/15/2023	14:26	14.31		0.02	11.2	3217	5.18	95.7	3.10	DTW at top of pump for all readings and for final.	Quarterly
PMP-03A	12/5/2023	13:42	14.76									Monthly
PMP-04B	1/17/2023	15:05	16.09									Monthly

**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
PMP-04B	1/19/2023	16:31	18.11	18.29	0.50	10.6	1486	4.8	244	0.02	Pump start at 1613, off at 1634.	Quarterly
PMP-04B	3/15/2023	13:13	16.20									Monthly
PMP-04B	4/10/2023	15:47	16.04									Monthly
PMP-04B	5/16/2023	15:49	15.48	15.67	0.00	10.4	1286	4.95	180	3.75		Quarterly
PMP-04B	5/17/2023	15:26	15.49									Monthly
PMP-04B	6/20/2023	14:30	14.86									Monthly
PMP-04B	7/25/2023	11:48	14.71									Monthly
PMP-04B	8/16/2023	11:45	14.47									Monthly
PMP-04B	8/22/2023	10:47	14.36	14.52	0.38	10.7	1487	5.12	175	3.31		Quarterly
PMP-04B	9/28/2023	14:50	14.03									Monthly
PMP-04B	10/20/2023	14:01	14.14									Monthly
PMP-04B	11/9/2023	15:10	14.27									Monthly
PMP-04B	11/16/2023	15:42	14.32	14.49	0.30	8.5	1975	4.89	145	2.65		Quarterly
PMP-04B	12/5/2023	13:27	14.46									Monthly
PMP-05A	1/17/2023	14:35	12.95									Monthly
PMP-05A	1/18/2023	15:45	12.95		0.48	10.8	1460	5.81	141	3.60		Quarterly
PMP-05A	2/24/2023	11:50	13.02									Monthly
PMP-05A	3/15/2023	12:40	12.99									Monthly
PMP-05A	4/10/2023	15:10	12.80									Monthly
PMP-05A	5/11/2023	10:49	12.68		0.55	10.4	1873	5.82	214	0.98	Water level was top of pump after first reading.	Quarterly
PMP-05A	5/17/2023	14:51	12.66									Monthly
PMP-05A	6/20/2023	13:51	12.25									Monthly
PMP-05A	7/25/2023	11:20	12.45								Transducer not connecting. Replaced 0121072934 with 018-1078449.	Monthly
PMP-05A	8/16/2023	11:35	12.38									Monthly
PMP-05A	8/17/2023	16:05	12.35	22.4	1.02	11.0	1649	5.87	155	14.9		Quarterly
PMP-05A	9/28/2023	14:11	12.11									Monthly
PMP-05A	10/20/2023	18:59	12.13									Monthly
PMP-05A	11/9/2023	13:15	12.41									Monthly
PMP-05A	11/14/2023	11:07	12.44	15.2	0.21	11.0	1720	6.09	144	1.53		Quarterly
PMP-05A	12/5/2023	13:03	12.51									Monthly
PMP-05BR	1/17/2023	14:35	12.12									Monthly
PMP-05BR	1/18/2023	16:15	12.12		0.55	10.3	3300	4.13	219	4.00		Quarterly
PMP-05BR	2/24/2023	23:52	12.23									Monthly
PMP-05BR	3/15/2023	12:33	12.20									Monthly
PMP-05BR	4/10/2023	15:10	11.93								No transducer. Replaced with 2165902.	Monthly
PMP-05BR	5/11/2023	11:18	11.49	14.34	0.00	10.4	3353	4.33	282	2.39		Quarterly
PMP-05BR	5/17/2023	14:52	11.45									Monthly

**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
PMP-05BR	6/20/2023	13:53	10.94									Monthly
PMP-05BR	7/25/2023	11:16	11.23									Monthly
PMP-05BR	8/16/2023	11:30	11.18									Monthly
PMP-05BR	9/28/2023	14:12	10.81									Monthly
PMP-05BR	10/20/2023	18:00	10.86									Monthly
PMP-05BR	11/9/2023	13:16	11.00									Monthly
PMP-05BR	11/14/2023	11:33	11.05	13.75	0.03	10.4	3112	4.28	204	0.18		Quarterly
PMP-05BR	12/5/2023	13:04	11.14									Monthly
PMP-06A	1/17/2023	11:50	13.09									Monthly
PMP-06A	1/18/2023	14:45	13.08		0.99	10.0	1344	6.09	167	4.00		Quarterly
PMP-06A	2/24/2023	11:33	13.04									Monthly
PMP-06A	3/15/2023	12:21	12.99									Monthly
PMP-06A	4/10/2023	15:29	12.75									Monthly
PMP-06A	5/10/2023	16:08	12.88	16.4	0.00	9.3	1296	6.09	211	1.55		Quarterly
PMP-06A	5/17/2023	15:13	12.87									Monthly
PMP-06A	6/20/2023	14:06	12.51									Monthly
PMP-06A	7/25/2023	11:35	12.85									Monthly
PMP-06A	8/16/2023	11:15	11.75									Monthly
PMP-06A	8/18/2023	14:10	12.78	15.35	0.02	9.9	1562	6.13	179	0.65		Quarterly
PMP-06A	9/28/2023	14:36	12.52									Monthly
PMP-06A	10/20/2023	18:13	12.50									Monthly
PMP-06A	11/9/2023	13:24	12.81									Monthly
PMP-06A	11/14/2023	15:19	12.85	13.86	0.07	10.5	1325	6.43	201	1.09		Quarterly
PMP-06A	12/5/2023	13:14	12.85									Monthly
PMP-06B	1/17/2023	11:50	11.65									Monthly
PMP-06B	1/18/2023	15:15	11.65		0.85	9.6	1018	5.82	180	2.60		Quarterly
PMP-06B	2/24/2023	11:36	11.79									Monthly
PMP-06B	3/15/2023	12:15	11.75									Monthly
PMP-06B	4/10/2023	15:29	11.48									Monthly
PMP-06B	5/10/2023	15:44	11.02		0.87	10.3	1133	5.69	558	11.9	Water level drew down to top of pump within 3 min. Flow fluctuated due to drawdown and recovery. Suggest a flow controller at 1 gpm.	Quarterly
PMP-06B	5/17/2023	15:14	10.99									Monthly
PMP-06B	6/20/2023	14:09	10.46									Monthly
PMP-06B	7/25/2023	11:36	10.74									Monthly
PMP-06B	8/16/2023	11:20	11.71									Monthly
PMP-06B	8/18/2023	14:42	10.66	31.57	0.00	10.6	1176	5.76	198	0.44		Quarterly
PMP-06B	9/28/2023	14:36	10.33									Monthly

**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
PMP-06B	10/20/2023	18:14	10.35									Monthly
PMP-06B	11/9/2023	13:23	10.50									Monthly
PMP-06B	11/14/2023	15:50	10.58	26.49	0.05	10.2	968	6.04	193	0.85		Quarterly
PMP-06B	12/5/2023	13:15	10.62									Monthly
PMP-07A	1/17/2023	14:25	9.82									Monthly
PMP-07A	1/23/2023	15:21	9.90	11.08	0.27	9.6	644	6.65	333	0.02	Start pump at 1509. Stop pump at 1523.	Quarterly
PMP-07A	2/24/2023	12:12	10.11									Monthly
PMP-07A	3/15/2023	11:54	10.09									Monthly
PMP-07A	4/10/2023	13:57	9.76								Downloaded at 1440. Replaced in well at 1450.	Monthly
PMP-07A	5/10/2023	16:02	9.11	10.51	0.00	7.5	690.4	6.8	185	1.02		Quarterly
PMP-07A	5/17/2023	14:37	9.08									Monthly
PMP-07A	6/20/2023	13:32	8.47									Monthly
PMP-07A	7/25/2023	11:07	8.73									Monthly
PMP-07A	8/16/2023	10:58	8.74									Monthly
PMP-07A	8/17/2023	10:29	8.77	10.03	0.08	9.1	671.6	6.57	156	0.02		Quarterly
PMP-07A	9/28/2023	13:55	8.44									Monthly
PMP-07A	10/20/2023	17:45	8.59									Monthly
PMP-07A	11/9/2023	13:03	8.67									Monthly
PMP-07A	11/13/2023	15:07	8.69	9.93	0.64	10.5	791	6.91	123	0.38		Quarterly
PMP-07A	12/5/2023	12:53	8.90									Monthly
PMP-07B	1/17/2023	14:25	10.40									Monthly
PMP-07B	1/19/2023	15:20	10.45	10.5	6.55	9.1	2511	5.9	119	0.02	Pump start at 1505, fine sediment in purge water, pump stop at 1525	Quarterly
PMP-07B	3/15/2023	11:59	10.50									Monthly
PMP-07B	4/10/2023	13:57	10.27								Downloaded at 1448. Replaced in well at 1450.	Monthly
PMP-07B	5/16/2023	14:15	9.74	10.71	0.05	9.6	2350	6.04	180	1.25		Quarterly
PMP-07B	5/17/2023	14:38	9.74									Monthly
PMP-07B	6/20/2023	13:35	9.21									Monthly
PMP-07B	7/25/2023	11:05	9.54									Monthly
PMP-07B	8/16/2023	10:55	9.45									Monthly
PMP-07B	8/22/2023	14:42	9.22	9.27	0.00	9.5	2787	6.1	132	2.45		Quarterly
PMP-07B	9/28/2023	13:55	9.08									Monthly
PMP-07B	10/20/2023	17:46	9.15									Monthly
PMP-07B	11/9/2023	13:04	9.29									Monthly
PMP-07B	11/16/2023	13:14	9.34		0.33	7.5	3682	5.96	200	1.49		Quarterly
PMP-07B	12/5/2023	12:54	9.43									Monthly
PMP-08A	1/16/2023	16:14	10.99									Monthly
PMP-08A	1/19/2023	14:35	11.01	11.05	0.44	7.8	901	6.4	20.9	0.02	Pump start at 1417, off at 1437	Quarterly

**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
PMP-08A	2/23/2023	15:18	11.00									Monthly
PMP-08A	3/15/2023	10:55	10.52									Monthly
PMP-08A	4/10/2023	11:19	10.19									Monthly
PMP-08A	5/12/2023	11:19	11.05	11.05	0.30	5.9	1013	6.49	13.7	2.07		Quarterly
PMP-08A	5/17/2023	13:59	11.10									Monthly
PMP-08A	6/20/2023	11:47	10.66									Monthly
PMP-08A	7/25/2023	10:37	11.02									Monthly
PMP-08A	8/16/2023	10:34	11.09									Monthly
PMP-08A	8/22/2023	09:48	10.73	10.79	0.00	10.6	1257	6.35	-23	1.23		Quarterly
PMP-08A	9/28/2023	13:32	10.87									Monthly
PMP-08A	10/20/2023	17:16	10.83									Monthly
PMP-08A	11/9/2023	12:51	11.41									Monthly
PMP-08A	11/14/2023	15:43	11.42	12.94	0.36	8.7	1220	6.4	-6.8	1.95		Quarterly
PMP-08A	12/5/2023	12:38	11.54									Monthly
PMP-08A2	1/16/2023	16:16	11.18									Monthly
PMP-08A2	1/20/2023	10:30	11.08		2.00	9.4	768	6.22	169	2.00		Quarterly
PMP-08A2	2/23/2023	15:21	11.07									Monthly
PMP-08A2	3/15/2023	10:36	10.16									Monthly
PMP-08A2	4/10/2023	11:21	10.05									Monthly
PMP-08A2	5/9/2023	11:56	11.76	12.23	0.87	8.9	745	6.43	132	1.12		Quarterly
PMP-08A2	5/17/2023	14:00	11.83									Monthly
PMP-08A2	6/20/2023	11:50	11.35									Monthly
PMP-08A2	7/25/2023	10:38	11.83								Collar falling - bolts broken	Monthly
PMP-08A2	7/25/2023	10:38	11.83									Monthly
PMP-08A2	8/16/2023	10:38	11.58									Monthly
PMP-08A2	8/18/2023	11:10	11.59	11.76	1.58	9.4	703	6.44	210	0.41		Quarterly
PMP-08A2	9/28/2023	13:31	11.09									Monthly
PMP-08A2	10/20/2023	17:17	11.07									Monthly
PMP-08A2	11/9/2023	12:52	11.92									Monthly
PMP-08A2	11/14/2023	10:02	11.96		0.68	8.4	585.7	6.34	201	0.38		Quarterly
PMP-08A2	12/5/2023	12:39	11.97									Monthly
PMP-08B	1/16/2023	16:15	11.21									Monthly
PMP-08B	1/20/2023	11:30	11.22		1.47	9.1	1372	6.16	180	0.02		Quarterly
PMP-08B	2/23/2023	15:23	11.21									Monthly
PMP-08B	3/15/2023	10:52	10.33								Transducer would not connect. Tried it again later and it worked. Replaced at approximately 1138, out about 46 min.	Monthly

**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
PMP-08B	4/10/2023	11:27	10.20								2081052 would not connect to all three Bluetooth devices. Had trouble connecting last month too. Replaced with 2146416 - set to read every 15 min.	Monthly
PMP-08B	5/9/2023	14:47	12.51	13.19	1.29	9.2	1526	6.29	173	1.32		Quarterly
PMP-08B	5/17/2023	14:01	12.07									Monthly
PMP-08B	6/20/2023	11:53	11.55									Monthly
PMP-08B	7/25/2023	10:39	11.84									Monthly
PMP-08B	8/16/2023	10:40	11.79									Monthly
PMP-08B	8/18/2023	10:45	11.74		1.95	9.7	1496	6.35	220	0.31		Quarterly
PMP-08B	9/28/2023	13:32	11.28									Monthly
PMP-08B	10/20/2023	17:18	11.22									Monthly
PMP-08B	11/9/2023	12:53	12.15									Monthly
PMP-08B	11/14/2023	09:42	12.19	13.18	2.04	8.1	1350	6.3	210	0.486		Quarterly
PMP-08B	12/5/2023	12:40	12.19									Monthly
PMP-09A	1/16/2023	16:24	9.82									Monthly
PMP-09A	1/20/2023	12:00	9.85									Quarterly
PMP-09A	2/23/2023	15:47	9.83									Monthly
PMP-09A	3/15/2023	11:12	8.83									Monthly
PMP-09A	4/10/2023	11:02	8.72									Monthly
PMP-09A	5/9/2023	11:21	10.82	11.53	1.02	8.4	1405	6.73	135	1.94		Quarterly
PMP-09A	5/17/2023	14:22	10.89									Monthly
PMP-09A	6/20/2023	11:35	10.31									Monthly
PMP-09A	7/25/2023	10:31	10.56									Monthly
PMP-09A	8/16/2023	10:25	10.52									Monthly
PMP-09A	8/17/2023	15:40	10.48	10.76	1.72	8.8	1282	6.93	227	0.25		Quarterly
PMP-09A	9/28/2023	13:18	9.92									Monthly
PMP-09A	10/20/2023	17:10	9.89									Monthly
PMP-09A	11/9/2023	12:44	10.93									Monthly
PMP-09A	11/13/2023	15:02	10.97	11.48	0.73	7.8	1260	6.59	148	1.13		Quarterly
PMP-09A	12/5/2023	12:30	10.97									Monthly
PMP-09B	1/16/2023	16:23	8.55									Monthly
PMP-09B	1/19/2023	09:52	8.64		8.47	8.4	919	7.02	224	0.15	Pump start at 940, stop at 957.	Quarterly
PMP-09B	2/23/2023	15:50	8.64									Monthly
PMP-09B	3/15/2023	11:20	7.90									Monthly
PMP-09B	4/10/2023	11:05	7.73									Monthly
PMP-09B	5/16/2023	11:41	8.98	12.55	1.96	8.8	1152	6.71	212	0.55		Quarterly
PMP-09B	5/17/2023	14:17	9.02									Monthly
PMP-09B	6/20/2023	11:39	8.46									Monthly

**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
PMP-09B	7/25/2023	10:29	8.86									Monthly
PMP-09B	8/16/2023	10:28	8.83									Monthly
PMP-09B	8/21/2023	16:10	8.22	9.22	1.81	8.9	1259	6.8	116	0.65		Quarterly
PMP-09B	9/28/2023	13:18	8.33									Monthly
PMP-09B	10/20/2023	17:11	8.33									Monthly
PMP-09B	11/9/2023	12:45	9.06									Monthly
PMP-09B	11/15/2023	15:37	9.12	11.66	2.20	7.1	1231	6.63	320	1.14		Quarterly
PMP-09B	12/5/2023	12:31	9.16									Monthly
PMP-10A	1/16/2023	15:37	3.88									Monthly
PMP-10A	1/18/2023	14:15	3.87		1.86	9.2	276.2	6.82	130	4.80		Quarterly
PMP-10A	2/23/2023	14:51	3.95									Monthly
PMP-10A	3/15/2023	10:12	3.90									Monthly
PMP-10A	4/10/2023	11:59	3.69									Monthly
PMP-10A	5/9/2023	16:20	3.48	3.85	1.89	7.2	315.2	6.81	127	1.78		Quarterly
PMP-10A	5/17/2023	13:42	3.66									Monthly
PMP-10A	6/20/2023	12:03	3.27									Monthly
PMP-10A	7/25/2023	10:19	3.88									Monthly
PMP-10A	8/16/2023	08:51	3.91									Monthly
PMP-10A	8/16/2023	10:18	3.91									Monthly
PMP-10A	8/21/2023	14:33	3.56	3.67	2.27	11.4	326.1	6.94	105	2.26		Quarterly
PMP-10A	9/28/2023	11:05	3.66									Monthly
PMP-10A	10/20/2023	16:59	3.68									Monthly
PMP-10A	11/9/2023	12:21	3.76									Monthly
PMP-10A	11/15/2023	10:03	3.72	4.09	2.14	10.8	282	6.56	201	1.79		Quarterly
PMP-10A	12/5/2023	12:18	3.82									Monthly
PMP-10B	1/16/2023	15:40									Frozen.	Monthly
PMP-10B	2/23/2023	14:54	2.18								Frozen.	Monthly
PMP-10B	3/15/2023	10:20									Ice at 2.16 ft. No transducer. Plan to reinstall in April.	Monthly
PMP-10B	4/10/2023	12:03	2.73								No transducer. Replaced with 2146586.	Monthly
PMP-10B	5/9/2023	16:48	1.80	4.25	2.06	10.1	532.5	6.87	128	0.85		Quarterly
PMP-10B	5/17/2023	13:43	1.94									Monthly
PMP-10B	6/20/2023	12:07	1.52									Monthly
PMP-10B	7/25/2023	22:19	2.06									Monthly
PMP-10B	8/16/2023	10:15	2.06									Monthly
PMP-10B	8/21/2023	14:10	1.72	3.08	2.86	10.7	531	6.85	104	4.72		Quarterly
PMP-10B	9/28/2023	11:05	1.81									Monthly
PMP-10B	10/20/2023	17:00	1.82									Monthly
PMP-10B	11/9/2023	12:23	1.91									Monthly

**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
PMP-10B	11/15/2023	10:26	1.93	3.75	2.56	9.2	490.2	6.72	194	0.86		Quarterly
PMP-10B	12/5/2023	12:19	1.96									Monthly
PMP-11A	1/16/2023	14:18	13.35									Monthly
PMP-11A	1/18/2023	13:15	13.39		3.00	3.0	275	6.32	180	2.40		Quarterly
PMP-11A	2/23/2023	14:01	13.43									Monthly
PMP-11A	3/14/2023	15:22	13.14									Monthly
PMP-11A	4/10/2023	10:10	12.89									Monthly
PMP-11A	5/8/2023	14:48	13.48	14.19	2.50	8.5	250.8	6.93	204	2.46		Quarterly
PMP-11A	5/17/2023	11:29	13.62									Monthly
PMP-11A	6/20/2023	10:44	13.14									Monthly
PMP-11A	7/25/2023	09:46	13.64									Monthly
PMP-11A	8/16/2023	09:15	13.66									Monthly
PMP-11A	8/17/2023	11:45	13.66	13.88	3.34	8.3	272.3	7.31	146	0.35		Quarterly
PMP-11A	8/18/2023	08:24	13.66									Monthly
PMP-11A	9/28/2023	10:19	13.28									Monthly
PMP-11A	10/20/2023	16:37	13.31									Monthly
PMP-11A	11/9/2023	11:48	13.72									Monthly
PMP-11A	11/13/2023	11:13	13.73	14.38	2.81	7.0	280.1	6.67	128	0.46		Quarterly
PMP-11A	12/5/2023	11:25	13.82									Monthly
PMP-11B	1/16/2023	14:20	13.52									Monthly
PMP-11B	1/17/2023	16:16	13.58	13.6	2.60	8.9	255.2	7.09	103	0.48	Pump start at 1602.	Quarterly
PMP-11B	2/23/2023	14:03	13.60									Monthly
PMP-11B	3/14/2023	15:29	13.35									Monthly
PMP-11B	4/10/2023	10:10	13.07									Monthly
PMP-11B	5/11/2023	10:43	13.69		4.47	8.4	239.9	7.19	198	0.97		Quarterly
PMP-11B	5/17/2023	11:30	13.71									Monthly
PMP-11B	6/20/2023	10:47	13.24									Monthly
PMP-11B	7/25/2023	09:47	13.73									Monthly
PMP-11B	8/16/2023	09:20	13.77									Monthly
PMP-11B	8/17/2023	15:26	13.78	13.88	5.83	9.1	266.4	7.16	43.7	0.02		Quarterly
PMP-11B	9/28/2023	10:19	13.39									Monthly
PMP-11B	10/20/2023	16:38	13.41									Monthly
PMP-11B	11/9/2023	11:49	13.82									Monthly
PMP-11B	11/14/2023	10:45	13.84	13.95	5.79	6.3	255.2	7.19	280	2.22		Quarterly
PMP-11B	12/5/2023	11:26	13.91									Monthly
PMP-IDW-4	1/17/2023	14:00	37.74									Monthly
PMP-IDW-4	2/21/2023	16:29	38.05									Monthly
PMP-IDW-4	3/14/2023	10:32	38.19									Monthly



**Table 1. Groundwater Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Final Depth to Water (ft)	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
PMP-IDW-4	4/10/2023	12:46	38.05									Monthly
PMP-IDW-4	5/17/2023	15:44	37.85									Monthly
PMP-IDW-4	6/20/2023	15:20	37.43									Monthly
PMP-IDW-4	7/25/2023	12:56	36.80									Monthly
PMP-IDW-4	8/16/2023	13:52	36.46									Monthly
PMP-IDW-4	9/28/2023	13:54	35.70									Monthly
PMP-IDW-4	10/19/2023	13:09	35.49									Monthly
PMP-IDW-4	11/9/2023	15:52	35.48									Monthly
PMP-IDW-4	12/5/2023	09:49	35.90									Monthly
PMP-IDW-5	1/17/2023	15:20	18.45									Monthly
PMP-IDW-5	2/21/2023	10:56	19.38									Monthly
PMP-IDW-5	3/14/2023	10:39	19.65									Monthly
PMP-IDW-5	4/10/2023	15:09	19.32									Monthly
PMP-IDW-5	5/17/2023	15:54	19.07									Monthly
PMP-IDW-5	6/20/2023	15:00	18.47									Monthly
PMP-IDW-5	7/25/2023	12:35	18.00									Monthly
PMP-IDW-5	8/16/2023	13:56	17.78									Monthly
PMP-IDW-5	9/28/2023	13:46	17.07									Monthly
PMP-IDW-5	10/19/2023	13:05	17.00									Monthly
PMP-IDW-5	11/9/2023	15:48	17.04									Monthly
PMP-IDW-5	12/5/2023	09:51	17.21									Monthly
PT14-1	1/17/2023	13:50	35.37									Monthly
PT14-1	2/21/2023	16:37	34.87									Monthly
PT14-1	3/13/2023	16:30	35.42								Recorded DTW from TOSC. TPVC DTW = 34.86 ft.	Monthly
PT14-1	4/10/2023	12:54	34.80									Monthly
PT14-1	5/12/2023	12:26	34.19	37.18	0.02	3.3	2559	3.87	268	3.30		Quarterly
PT14-1	5/17/2023	15:48	24.15									Monthly
PT14-1	6/20/2023	15:32	33.60									Monthly
PT14-1	7/25/2023	13:11	33.30									Monthly
PT14-1	8/16/2023	14:05	33.52									Monthly
PT14-1	9/28/2023	14:11	32.40									Monthly
PT14-1	10/20/2023	19:00	32.36									Monthly
PT14-1	11/9/2023	15:59	32.93									Monthly
PT14-1	11/16/2023	09:38	32.45	33.54	0.21	8.0	1976	4.17	212	1.24		Quarterly
PT14-1	12/5/2023	09:35	33.20									Monthly

Table 2. Surface Water Field Parameters and Water Levels

Site ID	Date	Time	Initial Depth to Water (ft)	Stage	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
MH-MSD108	1/17/2023	10:15	3.34									Monthly
MH-MSD108	2/24/2023	14:50									Frozen.	Monthly
MH-MSD108	3/13/2023	14:00	3.00									Monthly
MH-MSD108	4/10/2023	15:47	1.86									Monthly
MH-MSD108	5/17/2023	13:23	5.79									Monthly
MH-MSD108	6/20/2023	10:58	5.27									Monthly
MH-MSD108	7/25/2023	10:44	5.27									Monthly
MH-MSD108	8/16/2023	10:32	5.02									Monthly
MH-MSD108	9/28/2023	09:33	4.24									Monthly
MH-MSD108	10/20/2023	17:08	4.07									Monthly
MH-MSD108	11/8/2023	15:50	5.87									Monthly
MH-MSD108	12/5/2023	13:01	5.69									Monthly
MH-MSD113	1/17/2023										Inadvertently unlisted on sheet, no measurement.	Monthly
MH-MSD113	2/24/2023										Inadvertently unlisted on sheet, no measurement.	Monthly
MH-MSD113	3/15/2023	12:30	5.60								Submerged on 3/13/25 at 1525.	Monthly
MH-MSD113	4/10/2023	11:48	5.70									Monthly
MH-MSD113	5/17/2023	14:50	5.75									Monthly
MH-MSD113	6/20/2023	14:07	5.70									Monthly
MH-MSD113	7/25/2023	12:13	5.74									Monthly
MH-MSD113	8/16/2023	13:24	5.69									Monthly
MH-MSD113	9/28/2023	12:35	5.64									Monthly
MH-MSD113	10/20/2023	18:10	5.63									Monthly
MH-MSD113	11/9/2023	13:26	5.75									Monthly
MH-MSD113	12/5/2023	09:12	5.68									Monthly
MH-MSD116	1/17/2023										Inadvertently unlisted on sheet, no measurement.	Monthly
MH-MSD116	2/24/2023										Inadvertently unlisted on sheet, no measurement.	Monthly
MH-MSD116	3/14/2023	10:20									Submerged.	Monthly
MH-MSD116	4/10/2023	12:34	4.55									Monthly
MH-MSD116	5/17/2023	15:33	4.20									Monthly
MH-MSD116	6/20/2023	14:51	2.99									Monthly
MH-MSD116	7/25/2023	12:28	2.78									Monthly
MH-MSD116	8/16/2023	14:15	2.78									Monthly
MH-MSD116	9/28/2023	13:18	2.89									Monthly
MH-MSD116	10/20/2023	18:42	10.82									Monthly
MH-MSD116	11/9/2023	15:34	3.38									Monthly
MH-MSD116	12/5/2023	09:27	3.50									Monthly
MSDSG-02	1/16/2023	15:24		2.55								Monthly

Table 2. Surface Water Field Parameters and Water Levels

Site ID	Date	Time	Initial Depth to Water (ft)	Stage	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
MSDSG-02	1/25/2023	13:25		2.14	2.44	0.2	287	6.62	17.9	28	Ice at gauge, little flow at culvert.	Quarterly
MSDSG-02	2/23/2023	14:37		2.16								Monthly
MSDSG-02	3/13/2023	10:55									Ice at 2.13 ft.	Monthly
MSDSG-02	4/10/2023	10:42		1.95							Ice near stage.	Monthly
MSDSG-02	5/15/2023	14:05			7.01	20.9	349.5	8.21	9.4	1.8		Quarterly
MSDSG-02	5/17/2023	12:05		1.98								Monthly
MSDSG-02	6/20/2023	10:25		1.88								Monthly
MSDSG-02	7/25/2023	10:20		1.69								Monthly
MSDSG-02	8/16/2023	11:11		1.65								Monthly
MSDSG-02	8/16/2023	11:11		1.65								Monthly
MSDSG-02	8/23/2023	11:35			4.97	19.3	303.7	8.26	137.1	27.5		Quarterly
MSDSG-02	9/28/2023	10:31		1.65								Monthly
MSDSG-02	10/19/2023	11:06		1.64								Monthly
MSDSG-02	11/8/2023	14:29		1.66								Monthly
MSDSG-02	11/16/2023	14:19		1.63	7.85	5.9	287.9	7.77	215	81.5		Quarterly
MSDSG-02	12/5/2023	12:42		1.69								Monthly
MSDSG-03	1/16/2023	15:44		1.12								Monthly
MSDSG-03	1/25/2023	12:45		1.14	9.66	0.8	296	6.29	141.3	2	Ice at gauge, good flow at culvert (0.5 CFS).	Quarterly
MSDSG-03	2/23/2023	14:47		1.14								Monthly
MSDSG-03	3/13/2023	13:10		1.13								Monthly
MSDSG-03	4/10/2023	12:15		1.21								Monthly
MSDSG-03	5/15/2023	14:40		1.14	0.79	21	297.8	7.45	31.4	10.3		Quarterly
MSDSG-03	5/17/2023	13:38		1.14								Monthly
MSDSG-03	6/20/2023	11:45		2.05								Monthly
MSDSG-03	7/25/2023	11:32		0.91								Monthly
MSDSG-03	8/23/2023	12:10			3.7	22.4	317.7	7.15	150.4	12.4	Sheen on water.	Quarterly
MSDSG-03	9/28/2023	10:43		0.92								Monthly
MSDSG-03	10/19/2023	11:09		1.16								Monthly
MSDSG-03	11/8/2023	14:32		1.38								Monthly
MSDSG-03	11/16/2023	15:20		1.61	7.714	5.9	294.8	7.72	203.6	6.79		Quarterly
MSDSG-03	12/5/2023	13:23		1.78								Monthly
MSDSG-05	1/16/2023	15:30	0.89	2.58								Monthly
MSDSG-05	1/25/2023	13:15		2.58	12.5	4.7	321.6	6.97	146.8	16	Elevated stage due to culvert blockage at SS-04, not good point for stage-discharge relationship.	Quarterly
MSDSG-05	2/23/2023	14:44		2.58							Creek frozen so transducer couldnt be pulled and no DTW taken.	Monthly
MSDSG-05	3/15/2023	09:58	0.90	2.56								Monthly

Table 2. Surface Water Field Parameters and Water Levels

Site ID	Date	Time	Initial Depth to Water (ft)	Stage	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
MSDSG-05	4/10/2023	12:23	0.94	2.50								Monthly
MSDSG-05	5/15/2023	14:20		3.40	6.04	13	36	7.35	31.7	7.56	Water just above staff gauge.	Quarterly
MSDSG-05	5/17/2023	13:29		3.28							DTW <0.80 ft (where tape measurements start at probe connection).	Monthly
MSDSG-05	6/20/2023	10:30		3.85							Stage approximate: 3.30 ft (top of staff gage) + 0.55 ft (measured from top of staff gage to water surface with water level tape).	Monthly
MSDSG-05	7/25/2023	10:12	0.90	2.56								Monthly
MSDSG-05	8/16/2023	09:42	1.09									Monthly
MSDSG-05	8/23/2023	11:50			6.71	15	277.9	7.57	142.3	4.53		Quarterly
MSDSG-05	9/28/2023	11:00		2.99							DTW at probe.	Monthly
MSDSG-05	10/20/2023	16:55	0.50	1.88								Monthly
MSDSG-05	11/9/2023	12:15	0.70	2.76								Monthly
MSDSG-05	11/16/2023	14:41		2.77	12.08	6.1	260	7.72	178.7	3.97		Quarterly
MSDSG-05	12/5/2023	11:58	0.91	2.50								Monthly
PMP-12	1/16/2023	14:00									Frozen, no DTW.	Monthly
PMP-12	1/25/2023	13:35									No sample, channel iced over.	Quarterly
PMP-12	2/23/2023	13:42									Frozen, no DTW and couldn't pull out transducer.	Monthly
PMP-12	3/14/2023	15:05									Frozen at 4.15 ft.	Monthly
PMP-12	4/10/2023	09:40	4.00								Would not connect to 273278. Connected to 539389. Out of water between approximately 0940 and 1005 (25 min). 22,073 logs - August 23, 2022 11:30:00 AM.	Monthly
PMP-12	5/15/2023	13:40	3.16		9.69	9.7	2415	7.16	155.8	6.89		Quarterly
PMP-12	5/17/2023	10:56	3.26									Monthly
PMP-12	6/20/2023	10:07	2.86								T-post and PVC were leaned over upon arrival. Placed upright, but is loose in ground.	Monthly
PMP-12	7/25/2023	09:28	3.85									Monthly
PMP-12	8/16/2023	09:00	4.20									Monthly
PMP-12	8/23/2023	10:45	3.91		4.92	16.9	402.5	7.35	206.4	15.1		Quarterly
PMP-12	9/28/2023	09:49	3.30									Monthly
PMP-12	10/20/2023	16:28	3.32									Monthly
PMP-12	11/9/2023	11:35	3.29									Monthly
PMP-12	11/16/2023	13:15	3.29		10.82	7.6	1896	7.46	222	8.54		Quarterly
PMP-12	12/5/2023	10:30	3.50									Monthly
SS-04	1/17/2023	10:25		2.52								Monthly
SS-04	1/25/2023	13:45		2.50	12	2.9	331	7.09	96.7	36	No SWL, elevated stage due to blockage at culvert.	Quarterly
SS-04	2/23/2023	13:32		2.48							Creek frozen, couldn't get a DTW.	Monthly

**Table 2. Surface Water Field Parameters and Water Levels**

Site ID	Date	Time	Initial Depth to Water (ft)	Stage	DO (mg/L)	Temperature (C)	SPC (uS/cm)	pH (s.u.)	ORP (mV)	Turbidity (NTU)	Comments	Water Level or Sample Interval
SS-04	3/14/2023	14:00	0.49	2.40								Monthly
SS-04	4/10/2023	09:30	1.91	0.98								Monthly
SS-04	4/10/2023	09:30	1.91	0.98								Monthly
SS-04	5/15/2023	13:15	0.46	1.86	11.98	12.6	185.8	7.28	195.6	15.7		Quarterly
SS-04	5/17/2023	10:49	1.16	1.72								Monthly
SS-04	6/20/2023	09:55		2.34								Monthly
SS-04	7/25/2023	09:22	1.54	1.38								Monthly
SS-04	8/16/2023	08:50	1.77	1.16 ft								Monthly
SS-04	8/23/2023	11:10	1.52	1.36	9.95	14.3	289.9	7.68	128.5	4.14		Quarterly
SS-04	9/28/2023	01:05	1.27	1.65								Monthly
SS-04	10/20/2023	13:06	1.28	1.64								Monthly
SS-04	11/9/2023	11:28	1.29	1.64								Monthly
SS-04	11/16/2023	13:45		1.63	14.01	5.9	268.7	8	182.8	4.3		Quarterly
SS-04	12/5/2023	10:25	1.43	1.48								Monthly

Table 3a. Laboratory Analytical Data - Dissolved Metals (1 of 2)

Year/ Quarter	Site ID	Date	Aluminum		Antimony		Arsenic		Barium		Beryllium		Boron		Cadmium		Calcium		Cesium		Chromium		Cobalt		Copper		Gallium		Iron		Lanthanum		Lead		Lithium		Magnesium		Manganese		Molybdenum			
			mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q
2023 Q1	AMC-23B	1/18/2023	<0.009		<0.0005		0.007		0.019		<0.0008		0.14		0.0101		128		<0.01		<0.005		<0.005		<0.005		<0.002		<0.01		<0.02		<0.01		<0.0003		0.4		27		<0.001		0.003	
2023 Q2	AMC-23B	5/16/2023	<0.009		<0.0005		0.009		0.022		<0.0008		0.14		0.0105		140		<0.01		<0.005		<0.005		<0.005		<0.002		<0.01		<0.02		<0.01		<0.0003		0.4		29		0.004		0.002	
2023 Q3	AMC-23B	8/21/2023	<0.009		<0.0005		0.009		0.022		<0.0008		0.13		0.0102		129		<0.01		<0.005		<0.005		<0.005	J+	<0.01		<0.02		<0.01		<0.0003		0.4		27		0.003		0.003			
2023 Q4	AMC-23B	11/15/2023	<0.009		<0.0005		0.009		0.020		<0.0008		0.14		0.0102		141		<0.01		<0.005		<0.005		0.004	J	<0.01		<0.02		<0.01		<0.0003		0.4		28		0.086	J	0.003			
2023 Q1	AMC-24B	1/18/2023	<0.009		0.0063		0.003		0.019		<0.0008		0.09		0.00471		118		<0.01		<0.005		<0.005		0.073		<0.01		<0.02		<0.01		<0.0003		0.2		27		0.016		0.003			
2023 Q2	AMC-24B	5/16/2023	<0.009		<0.0005		0.004		0.017		<0.0008		0.09		0.00551		145		<0.01		<0.005		<0.005		0.122		<0.01		<0.02		<0.01		<0.0003		0.2		35		<0.001		0.002			
2023 Q3	AMC-24B	8/22/2023	<0.009		<0.0005		0.004		0.016		<0.0008		0.08		0.00551		146		<0.01		<0.005		<0.005		0.125		<0.01		<0.02		<0.01		<0.0003		0.2		32		<0.001		0.002			
2023 Q4	AMC-24B	11/16/2023	<0.009		<0.0005		0.004		0.018		<0.0008		0.09		0.00602		157	J-	<0.01		<0.005		<0.005		0.142	J	<0.01		<0.02		<0.01		<0.0003		0.2		37		<0.001	UJ	0.002			
2023 Q1	AMC-24C	1/19/2023	<0.009		<0.0005		0.007		0.014		<0.0008		0.10		0.00412		124		<0.01		<0.005		<0.005		0.056		<0.01		<0.02		<0.01		<0.0003		0.2		25		0.017		0.004			
2023 Q2	AMC-24C	5/10/2023	<0.009		<0.0005		0.007		0.015		<0.0008		0.10		0.00404		118		<0.01		<0.005		<0.005		0.055		<0.01		<0.02		<0.01		<0.0003		0.2		26		0.002		0.003			
2023 Q3	AMC-24C	8/18/2023	<0.009		<0.0005		0.008		0.014		<0.0008		0.10		0.00398		126		<0.01		<0.005		<0.005		0.055		<0.01		<0.02		<0.01		<0.0003		0.3		23		<0.001		0.003			
2023 Q4	AMC-24C	11/15/2023	<0.009		<0.0005		0.008		0.013		<0.0008		0.10		0.00414		123		<0.01		<0.005		<0.005		0.056		<0.01		<0.02		<0.01		<0.0003		0.2		23		0.027	J+	0.003			
2023 Q2	AMW-01A	5/17/2023	0.119		0.0013		0.006		0.206		<0.0008		1.08		0.0974		215		<0.01		<0.005		0.021		0.303		<0.01		0.89		<0.01		0.0015		0.9		120		3.53		0.004			
2023 Q3	AMW-01A	8/23/2023	0.218		0.0007		0.012		0.154		<0.0008		1.22		0.172		242		<0.01		<0.005		0.028		0.290		<0.01		1.71		<0.01		0.0008		0.7		114		5.34		0.003			
2023 Q4	AMW-01A	11/16/2023	0.322		0.0009		0.006		0.115		<0.0008		1.26		0.218		289		<0.01		<0.005		0.025		0.580	J	<0.01		1.43		<0.01		0.0022		0.6		97		6.40	J	0.002			
2023 Q1	AMW-01B	1/25/2023	9.79		<0.0005		0.002		0.011		0.0075		0.19		1.16		456		<0.01		<0.005		0.398		80.7		<0.01		0.26		0.09		0.0050		0.7		133		250		<0.001			
2023 Q2	AMW-01B	5/11/2023	10.1		<0.0005		0.002		0.011		0.0095		0.19		1.14		432		<0.01		<0.005		0.324		83.1		<0.01		0.28		0.10		0.0052		0.7		137		244		<0.001			
2023 Q3	AMW-01B	8/22/2023	10.3		<0.0005		0.002		0.011		0.0108		0.20		1.10		479		<0.01		<0.005		0.290		79.1		<0.01		0.34		0.09		0.0062		0.7		145		252		<0.001			
2023 Q4	AMW-01B	11/15/2023	9.01		<0.0005		0.002		0.011		0.0080		0.20		1.15		461		<0.01		<0.005		0.288		74.2		0.01		0.31	J+	0.10		0.0043		0.7		133		236		0.001			
2023 Q1	AMW-01C	1/26/2023	0.298		<0.0005		0.004		0.004		<0.0008		0.24		0.136		391		<0.01		<0.005		<0.005		4.74		<0.01		0.79		<0.01		0.0030		0.8		91		20.0		<0.001			
2023 Q2	AMW-01C	5/12/2023	0.260		<0.0005		0.006		<0.003		<0.0008		0.24		0.120		372		<0.01		<0.005		<0.005		5.04		<0.01		0.03		<0.01		<0.0003		0.8		97		19.0		<0.001			
2023 Q3	AMW-01C	8/22/2023	0.307		<0.0005		0.005		<0.003		0.0009		0.24		0.129		373		<0.01		<0.005		<0.005		5.55		<0.01		0.03		<0.01		<0.0003		0.8		104		22.3		<0.001			
2023 Q4	AMW-01C	11/15/2023	0.244		<0.0005		0.006		<0.003		<0.0008		0.25		0.128		375		<0.01		<0.005		<0.005		5.34		<0.01		0.05	J+	<0.01		<0.0003		0.8		91		19.8		<0.001			
2023 Q1	AMW-08	1/24/2023	40.4		<0.0005		0.007		<0.003		0.0273		0.05		0.184		415		<0.01		<0.005		0.467		15.4		0.02		250		0.18		0.0054		0.8		253		393		<0.001			
2023 Q2	AMW-08	5/12/2023	39.3		<0.0005		0.012		<0.003		0.0224		0.08		0.149		421		<0.01		<0.005		0.398		13.2		0.01		300		0.19		0.0008		0.7		225		345		<0.001			
2023 Q3	AMW-08	8/22/2023	12.5		<0.0005		0.037		0.006		0.0126		0.11		0.229		440		<0.01		<0.005		0.419		11.2		<0.01		517		0.10		0.0014		0.4		154		171		<0.001			
2023 Q4	AMW-08	11/15/2023	40.8		<0.0005		0.006		<0.003		0.0398		0.07		0.400		456		<0.01		<0.005		0.846		25.1		<0.01		197		0.25		0.0014		0.9		276		443		<0.001			
2023 Q1	AMW-09	1/20/2023	4.81		<0.0005		<0.001		0.008		0.0110		0.14		0.111		177		<0.01		<0.005		0.210		10.6		<0.01		0.21		0.05		0.0032		0.3		41		31.8		<0.001			
2023 Q2	AMW-09	5/11/2023	4.30		<0.0005		<0.001		0.008		0.0104		0.14		0.0892		152		<0.01		<0.005		0.174		9.76		<0.01		0.23		0.04		0.0027		0.3		35		25.3		<0.001			
2023 Q3	AMW-09	8/21/2023	3.83		<0.0005		<0.001		0.008		0.0101		0.12		0.0804		140		<0.01		<0.005		0.159		8.92		<0.01		0.11		0.03		0.0026		0.2		34		25.4		<0.001			
2023 Q4	AMW-09	11/15/2023	4.20		<0.0005		<0.001		0.009		0.0104		0.14		0.0908		166		<0.01		<0.005		0.180		9.18		<0.01		0.07	J+	0.04		0.0025		0.2		34		23.5		<0.001			
2023 Q1	AMW-13A	1/17/2023	<0.009		0.0006		<0.001		0.052		<0.0008		0.56		0.00130		178		<0.01		<0.005		<0.005		0.015		<0.01		1.01		<0.01		<0.0003		<0.1		26		0.452		0.001			
2023 Q2	AMW-13A	5/11/2023	<0.009		<0.0005		<0.001		0.047		<0.0008		0.44		0.00064		255		<0.01		<0.005		<0.005		0.011		<0.01		5.58		<0.01		<0.0003		<0.1		23		0.455		<0.001			
2023 Q3	AMW-13A	8/17/2023	<0.009		0.0006		<0.001		0.141		<0.0008		0.48		0.00257		193		<0.01		<0.005		<0.005		0.027	J+	<0.01		<0.02		<0.01		<0.0003		<0.1		18		0.218		<0.001			
2023 Q4	AMW-13A	11/14/2023	<0.009		0.0011		0.003		0.102		<0.0008		0.51		0.00399		233		<0.01		<0.005		<0.005		0.021	J	<0.01		2.13		<0.01		<0.0003		<0.1		23		0.667	J	0.002			
2023 Q1	AMW-13B	1/19/2023	<0.009		<0.0005		0.004		0.032		<0.0008																																	

Table 3a. Laboratory Analytical Data - Dissolved Metals (1 of 2)

Year/ Quarter	Site ID	Date	Aluminum		Antimony		Arsenic		Barium		Beryllium		Boron		Cadmium		Calcium		Cesium		Chromium		Cobalt		Copper		Gallium		Iron		Lanthanum		Lead		Lithium		Magnesium		Manganese		Molybdenum			
			mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q
2023 Q1	BPS07-23	1/18/2023	<0.009		<0.0005		0.119		0.053		<0.0008		0.36		<0.00003		128		<0.01		<0.005		<0.005		<0.005		<0.002		<0.01		6.56		<0.01		<0.0003		0.1		35		1.92		0.020	
2023 Q2	BPS07-23	5/9/2023	<0.009		<0.0005		0.216		0.061		<0.0008		0.22		<0.00003		150		<0.01		<0.005		<0.005		<0.005		<0.002		<0.01		10.6		<0.01		<0.0003		<0.1		40		3.20		0.012	
2023 Q3	BPS07-23	8/17/2023	<0.009		<0.0005		0.212		0.078		<0.0008		0.30		<0.00003		175		<0.01		<0.005		<0.005		<0.005		<0.002		<0.01		12.0		<0.01		<0.0003		0.1		53		3.78		0.017	
2023 Q4	BPS07-23	11/13/2023	<0.009		<0.0005		0.177		0.067		<0.0008		0.35		0.00004		165		<0.01		<0.005		<0.005		<0.005		<0.002	UJ	<0.01		10.6		<0.01		<0.0003		<0.1		42		3.14	J	0.015	
2023 Q1	BPS11-10A	1/19/2023	0.044		<0.0005		0.980		0.023		<0.0008		0.27		0.00016		138		<0.01		<0.005		0.010		<0.002		<0.01		51.1		<0.01		0.0053		<0.1		43		11.7		0.010			
2023 Q2	BPS11-10A	5/9/2023	0.063		<0.0005		0.956		0.019		<0.0008		0.43		0.00017		105		<0.01		<0.005		0.010		<0.002		<0.01		56.1		<0.01		0.0044		<0.1		32		11.2		0.014			
2023 Q3	BPS11-10A	8/18/2023	0.057		<0.0005		1.25		0.022		<0.0008		0.33		0.00012	J+	123		<0.01		<0.005		0.010		<0.002		<0.01		50.9		<0.01		0.0078		<0.1		44		10.5		0.013			
2023 Q4	BPS11-10A	11/14/2023	0.045		<0.0005		1.21		0.024		<0.0008		0.31		0.00015	J+	137		<0.01		<0.005		0.011		<0.002		<0.01		53.4		<0.01		0.0064		<0.1		42		12.7		0.010			
2023 Q1	BPS11-10B	1/19/2023	<0.009		<0.0005		0.007		0.013		<0.0008		0.09		0.00762		152		<0.01		<0.005		<0.005		0.170		<0.01		<0.02		<0.01		<0.0003		0.2		34		<0.001		0.002			
2023 Q2	BPS11-10B	5/9/2023	<0.009		<0.0005		0.007		0.013		<0.0008		0.09		0.00752		145		<0.01		<0.005		<0.005		0.170		<0.01		<0.02		<0.01		<0.0003		0.2		32		<0.001		0.002			
2023 Q3	BPS11-10B	8/18/2023	<0.009		<0.0005		0.007		0.012		<0.0008		0.10		0.00721		148		<0.01		<0.005		<0.005		0.157		<0.01		<0.02		<0.01		<0.0003		0.3		34		0.003		0.002			
2023 Q4	BPS11-10B	11/14/2023	<0.009		<0.0005		0.006		0.011		<0.0008		0.09		0.00664		129		<0.01		<0.005		<0.005		0.155		<0.01		<0.02		<0.01		<0.0003		0.2		28		<0.001		0.002			
2023 Q1	BPS11-10C	1/19/2023	<0.009		<0.0005		0.003		0.012		<0.0008		0.08		0.00210		118		<0.01		<0.005		<0.005		<0.002		<0.01		<0.02		<0.01		<0.0003		0.2		26		<0.001		0.011			
2023 Q2	BPS11-10C	5/9/2023	<0.009		<0.0005		0.003		0.011		<0.0008		0.07		0.00202		120		<0.01		<0.005		<0.005		<0.002		<0.01		<0.02		<0.01		<0.0003		0.2		26		<0.001		0.011			
2023 Q3	BPS11-10C	8/18/2023	<0.009		<0.0005		0.003		0.011		<0.0008		0.08		0.00200		123		<0.01		<0.005		<0.005		<0.002		<0.01		<0.02		<0.01		<0.0003		0.2		26		0.001		0.010			
2023 Q4	BPS11-10C	11/14/2023	<0.009		<0.0005		0.003		0.011		<0.0008		0.08		0.00208		117		<0.01		<0.005		<0.005		0.005		<0.01		<0.02		<0.01		<0.0003		0.2		25		<0.001		0.010			
2023 Q1	BPS11-11A1	1/19/2023	<0.009		<0.0005		0.003		0.014		<0.0008		<0.05		0.00063		29		<0.01		<0.005		<0.005		0.002		<0.01		<0.02		<0.01		<0.0003		<0.1		7		0.122		0.019			
2023 Q2	BPS11-11A1	5/8/2023	<0.009		<0.0005		0.002		0.021		<0.0008		0.05		0.00088		46		<0.01		<0.005		<0.005		<0.002		<0.01		<0.02		<0.01		<0.0003		<0.1		10		0.134		0.014			
2023 Q3	BPS11-11A1	8/21/2023	<0.009		<0.0005		0.002		0.022		<0.0008		0.07		0.00053		46		<0.01		<0.005		<0.005		0.006		<0.01		<0.02		<0.01		<0.0003		<0.1		10		0.051		0.013			
2023 Q4	BPS11-11A1	11/14/2023	<0.009		<0.0005		0.003		0.019		<0.0008		0.06		0.00041		33		<0.01		<0.005		<0.005		0.005		<0.01		<0.02		<0.01		<0.0003		<0.1		7		0.029	J+	0.017			
2023 Q1	BPS11-11A2	1/19/2023	<0.009		<0.0005		0.002		0.014		<0.0008		<0.05		0.00039		36		<0.01		<0.005		<0.005		<0.002		<0.01		<0.02		<0.01		<0.0003		<0.1		8		0.001		0.025			
2023 Q2	BPS11-11A2	5/8/2023	<0.009		<0.0005		0.002		0.012		<0.0008		<0.05		0.00036		36		<0.01		<0.005		<0.005		<0.002		<0.01		<0.02		<0.01		<0.0003		<0.1		8		<0.001		0.024			
2023 Q3	BPS11-11A2	8/21/2023	<0.009		<0.0005		0.002		0.014		<0.0008		<0.05		0.00039	J+	36		<0.01		<0.005		<0.005		<0.002		<0.01		<0.02		<0.01		<0.0003		<0.1		8		<0.001		0.023			
2023 Q4	BPS11-11A2	11/14/2023	<0.009		<0.0005		0.002		0.014		<0.0008		<0.05		0.00041		34		<0.01		<0.005		<0.005		<0.002		<0.01		<0.02		<0.01		<0.0003		<0.1		8		0.005	J+	0.021			
2023 Q1	BPS11-11B	1/19/2023	<0.009		<0.0005		0.003		0.012		<0.0008		<0.05		0.00242		110		<0.01		<0.005		<0.005		0.010		<0.01		<0.02		<0.01		<0.0003		<0.1		26		<0.001		0.055			
2023 Q2	BPS11-11B	5/8/2023	<0.009		<0.0005		0.003		0.012		<0.0008		<0.05		0.00245		112		<0.01		<0.005		<0.005		0.022		<0.01		<0.02		<0.01		<0.0003		<0.1		25		<0.001		0.054			
2023 Q3	BPS11-11B	8/21/2023	<0.009		<0.0005		0.003		0.012		<0.0008		<0.05		0.00238		108		<0.01		<0.005		<0.005		0.010		<0.01		<0.02		<0.01		<0.0003		<0.1		25		<0.001		0.053			
2023 Q4	BPS11-11B	11/14/2023	<0.009		<0.0005		0.003		0.012		<0.0008		<0.05		0.00248		115		<0.01		<0.005		<0.005		0.010		<0.01		<0.02		<0.01		<0.0003		<0.1		25		<0.001		0.053			
2023 Q1	BPS11-11C	1/19/2023	<0.009		<0.0005		0.003		0.012		<0.0008		0.09		0.00041		70		<0.01		<0.005		<0.005		<0.002		<0.01		0.04		<0.01		<0.0003		0.1		17		0.071		0.159			
2023 Q2	BPS11-11C	5/9/2023	<0.009		<0.0005		0.003		0.011		<0.0008		0.08		0.00042		71		<0.01		<0.005		<0.005		<0.002		<0.01		0.03		<0.01		<0.0003		0.1		17		0.058		0.157			
2023 Q3	BPS11-11C	8/21/2023	<0.009		<0.0005		0.003		0.011		<0.0008		0.08		0.00046		69		<0.01		<0.005		<0.005		<0.002		<0.01		0.05		<0.01		<0.0003		0.1		17		0.057		0.160			
2023 Q4	BPS11-11C	11/14/2023	<0.009		<0.0005		0.003		0.011		<0.0008		0.08		0.00041		67		<0.01		<0.005		<0.005		<0.002		<0.01		0.06		<0.01		<0.0003		0.1		16		0.059	J+	0.152			
2023 Q1	BPS11-14A	1/20/2023	<0.009		<0.0005		0.001		0.029		<0.0008		0.11		0.00023		63		<0.01		<0.005		<0.005		0.002		<0.01		<0.02		<0.01		<0.0003		<0.1		19		0.003	J+	0.005			
2023 Q2	BPS11-14A	5/10/2023	<0.009		<0.0005		0.001		0.030		<0.0008		0.11		0.00025		62		<0.01		<0.005		<0.005		0.002		<0.01		<0.02		<0.01		<0.0003		<0.1		17		0.010		0.004			
2023 Q3	BPS11-14A	8/21/2023	<0.009		<0.0005		0.001		0.028		<0.0008																																	

Table 3a. Laboratory Analytical Data - Dissolved Metals (1 of 2)

Year/ Quarter	Site ID	Date	Aluminum		Antimony		Arsenic		Barium		Beryllium		Boron		Cadmium		Calcium		Cesium		Chromium		Cobalt		Copper		Gallium		Iron		Lanthanum		Lead		Lithium		Magnesium		Manganese		Molybdenum	
			mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q
2023 Q1	GS-40R	1/23/2023	0.433		<0.0005		<0.001		0.007		<0.0008		0.08		0.106		309		<0.01		<0.005		0.314		0.161		<0.01		82.9		<0.01		0.0010		0.3		74		78.2		0.001	
2023 Q2	GS-40R	5/12/2023	0.371		<0.0005		<0.001		0.007		<0.0008		0.08		0.0966		302		<0.01		<0.005		0.326		0.155		<0.01		84.3		0.01		0.0010		0.3		74		79.7		0.001	
2023 Q3	GS-40R	8/21/2023	0.495		<0.0005		<0.001		0.007		0.0011		0.08		0.097		307		<0.01		<0.005		0.329		0.170		<0.01		90.2		0.01		0.0013		0.3		73		76.6		0.001	
2023 Q4	GS-40R	11/15/2023	0.422		<0.0005		<0.001		0.007		<0.0008		0.09		0.120		314		<0.01		<0.005		0.362		0.192	J+	<0.01		103		0.01		0.0011		0.3		76		79.7		0.001	
2023 Q1	MF-07	1/24/2023	<0.009		<0.0005		0.004		0.036		<0.0008		0.57		0.0289		174	J-	<0.01		<0.005		0.011		0.063		<0.01		<0.02		<0.01		<0.0003		0.2		52		37.3		0.020	
2023 Q2	MF-07	5/10/2023	0.012		<0.0005		0.003		0.031		<0.0008		0.51		0.0230		176		<0.01		<0.005		0.009		0.062		<0.01		<0.02		<0.01		<0.0003		0.1		47		29.9		0.017	
2023 Q3	MF-07	8/18/2023	0.010		<0.0005		0.004		0.035		<0.0008		0.67		0.0266		191		<0.01		<0.005		0.010		0.098		<0.01		0.02		<0.01		<0.0003		0.2		59		34.6		0.019	
2023 Q4	MF-07	11/14/2023	<0.009		<0.0005		0.004		0.032		<0.0008		0.65		0.0243		175		<0.01		<0.005		0.009		0.087	J+	<0.01		0.03	J+	<0.01		<0.0003		0.1		48		33.8		0.020	
2023 Q1	MF-07B	1/24/2023	<0.009		<0.0005		0.003		0.022		<0.0008		0.31		0.0241		111		<0.01		<0.005		<0.005		0.209		<0.01		<0.02		<0.01		0.0007		0.2		37		9.47		0.002	
2023 Q2	MF-07B	5/10/2023	0.011		<0.0005		0.003		0.020		<0.0008		0.29		0.0344		117		<0.01		<0.005		0.009		0.397		<0.01		<0.02		<0.01		0.0007		0.2		38		17.5		0.002	
2023 Q3	MF-07B	8/18/2023	<0.009		<0.0005		0.003		0.020		<0.0008		0.31		0.0318		120		<0.01		<0.005		0.007		0.397		<0.01		<0.02		<0.01		0.0005		0.2		40		15.9		0.002	
2023 Q4	MF-07B	11/14/2023	<0.009		<0.0005		0.003		0.020		<0.0008		0.30		0.0285		118		<0.01		<0.005		0.006		0.338		<0.01		<0.02		<0.01		0.0005		0.2		34		13.9		0.002	
2023 Q1	MF-11	1/23/2023	<0.009		<0.0005		0.005		0.052		<0.0008		0.27		0.00044		75	J-	<0.01		<0.005		<0.005		0.005		<0.01		<0.02		<0.01		<0.0003		<0.1		23		0.781		0.026	
2023 Q2	MF-11	5/10/2023	<0.009		0.0006		0.005		0.041		<0.0008		1.31		0.00604		86		<0.01		<0.005		<0.005		0.011		<0.01		<0.02		<0.01		<0.0003		<0.1		39		0.557		0.024	
2023 Q3	MF-11	8/17/2023	<0.009		<0.0005		0.007		0.027		<0.0008		0.27		0.00352		70		<0.01		<0.005		<0.005		0.013		<0.01		<0.02		<0.01		<0.0003		<0.1		23		0.576		0.026	
2023 Q4	MF-11	11/13/2023	<0.009		<0.0005		0.006		0.033		<0.0008		0.28		0.00221	J+	76		<0.01		<0.005		<0.005		0.010	J+	<0.01		0.04	J+	<0.01		<0.0003		<0.1		20		0.699	J+	0.026	
2023 Q1	MH-MSD108	1/17/2023	0.250		<0.0005		0.003		0.035		<0.0008		0.29		0.0513		178		<0.01		<0.005		0.063		2.75		<0.01		12.1		<0.01		0.0005		0.2		61		12.9		0.004	
2023 Q2	MH-MSD108	5/16/2023	0.494	J	<0.0005		0.008		0.028		<0.0008		0.37		0.0556		169		<0.01		<0.005		0.056		4.64		<0.01		14.3		<0.01		0.0041		0.3		51		13.2		0.004	
2023 Q3	MH-MSD108	9/28/2023	0.582		<0.0005		0.005		0.026		<0.0008		0.41		0.0952		174		<0.01		<0.005		0.078		9.66		<0.01		15.6		<0.01		0.0143		0.2		45		15.1		0.004	
2023 Q4	MH-MSD108	11/14/2023	0.410		<0.0005		0.012		0.022		<0.0008		0.39		0.0684		183		<0.01		<0.005		0.074		6.28		<0.01		19.3		<0.01		0.0046		0.2		46		16.1		0.004	
2023 Q1	MH-MSD113	1/17/2023	2.08		<0.0005		0.018		0.085		0.0019		0.59		0.195		262		<0.01		<0.005		0.278		13.0		<0.01		72.8		0.02		0.0143		0.6		109		47.9		0.004	
2023 Q2	MH-MSD113	5/16/2023	1.93	J	<0.0005		0.018		0.033		0.0019		0.54		0.178		233		<0.01		<0.005		0.242		12.3		<0.01		63.3		0.02		0.0187		0.5		81		42.9		0.005	
2023 Q3	MH-MSD113	9/28/2023	2.44		<0.0005		0.017		0.027		0.0020		0.52		0.212		249		<0.01		<0.005		0.263		16.1		<0.01		62.5		0.03		0.0228		0.4		61		42.6		0.005	
2023 Q4	MH-MSD113	11/14/2023	2.56		<0.0005		0.020		0.022		0.0018		0.48		0.186		241		<0.01		<0.005		0.271		15.6		<0.01		72.1		0.03		0.0195		0.3		61		46.3		0.005	
2023 Q1	MH-MSD116	1/17/2023	4.01		<0.0005		0.026		0.022		0.0045		0.43		0.797		398		<0.01		<0.005		0.846		40.0		<0.01		312		0.05		0.0327		0.6		133		140		<0.001	
2023 Q2	MH-MSD116	5/16/2023	3.75	J	<0.0005		0.021		0.014		0.0044		0.23		0.851		438		<0.01		<0.005		0.96		44.5		<0.01		311		0.05		0.0393		0.7		134		140		<0.001	
2023 Q3	MH-MSD116	9/28/2023	6.52		<0.0005		0.015		0.014		0.0054		0.36		0.641		373		<0.01		<0.005		0.616		38.9		<0.01		247		0.07		0.0432		0.5		107		85.5		<0.001	
2023 Q4	MH-MSD116	11/14/2023	16.9		<0.0005		0.016		0.010		0.0099		0.60		0.744		426		<0.01		<0.005		0.674		70.7		<0.01		274		0.13		0.0894		0.5		106		110		<0.001	
2023 Q1	MSD-02A	1/19/2023	0.298		<0.0005		0.001		0.027		<0.0008		0.23		0.0499		56	J-	<0.01		<0.005		0.066		0.174		<0.01		<0.02		<0.01		0.0009		<0.1		15		11.5		<0.001	
2023 Q2	MSD-02A	5/16/2023	0.560		<0.0005		0.002		0.030		<0.0008		0.23		0.0580		75		<0.01		<0.005		0.075		0.310		<0.01		0.08		<0.01		0.0011		<0.1		19		14.7		<0.001	
2023 Q3	MSD-02A	8/22/2023	0.411		<0.0005		0.002		0.025		0.0009		0.27		0.0693		89		<0.01		<0.005		0.094		0.289		<0.01		0.14		<0.01		0.0015		<0.1		22		17.0		<0.001	
2023 Q4	MSD-02A	11/16/2023	0.383		<0.0005		0.001		0.025		<0.0008		0.35		0.0708		103		<0.01		<0.005		0.096		0.328	J	<0.01		0.03		<0.01		0.0014		<0.1		23		16.6	J	<0.001	
2023 Q1	MSD-02B	1/24/2023	3.19		<0.0005		0.002		0.014		0.0078		0.12		0.881		477		<0.01		<0.005		1.27		27.3		0.01		317		0.12		0.0110		0.6		155		197		<0.001	
2023 Q2	MSD-02B	5/10/2023	3.6		<0.0005		0.002		0.015		0.0091		0.14		0.921		462		<0.01		<0.005		1.34		30.0		<0.01		347		0.13		0.0114		0.7		170		217		<0.001	
2023 Q3	MSD-02B	8/17/2023	3.30		<0.0005		0.002		0.014		0.0097		0.13		0.948		463		<0.01		<0.005		1.31		33.9		<0.01		309		0.12		0.0112		0.8		172		198		<0.001	
2023 Q4	MSD-02B	11/13/2023	3.7		<0.0005		0.002		0.014		0.0086		0.15		1.02		485		<0.01		<0.005		1.32		32.8		0.01		334		0.14		0.0114		0.7		160					



Table 3a. Laboratory Analytical Data - Dissolved Metals (1 of 2)

Year/ Quarter	Site ID	Date	Aluminum		Antimony		Arsenic		Barium		Beryllium		Boron		Cadmium		Calcium		Cesium		Chromium		Cobalt		Copper		Gallium		Iron		Lanthanum		Lead		Lithium		Magnesium		Manganese		Molybdenum	
			mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q
2023 Q2	PMP-02B	5/16/2023	17.4		<0.0005		0.003		0.014		0.0193		0.14		1.86		559		<0.01		<0.005		1.59		174		0.02		364		0.27		0.0065		1.0		210		284		<0.001	
2023 Q3	PMP-02B	8/22/2023	18.1		<0.0005		0.003		0.013		0.0242		0.15		1.70		519		<0.01		<0.005		1.41		155		<0.01		368		0.28		0.0067		0.9		201		262		<0.001	
2023 Q4	PMP-02B	11/16/2023	17.2		<0.0005		0.001		0.014		0.0240		0.16		1.91		565	J-	<0.01		<0.005		1.48		152	J	<0.01		400		0.29		0.0062		0.9		207		258	J	<0.001	
2023 Q1	PMP-03A	1/26/2023	1.00		<0.0005		0.054		0.017		0.0049		0.41		1.11		362		<0.01		<0.005		1.01		6.17		<0.01		417		<0.01		0.0009		0.7		116		144		<0.001	
2023 Q2	PMP-03A	5/11/2023	1.09		<0.0005		0.066		0.016		0.0048		0.61		0.935		312		<0.01		<0.005		0.843		7.18		<0.01		352		<0.01		0.0087		0.7		107		116		<0.001	
2023 Q3	PMP-03A	8/23/2023	0.885		<0.0005		0.060		0.017		0.0052		0.69		0.876		326		<0.01		<0.005		0.777		6.52		<0.01		336		<0.01		0.0063		0.7		102		115		<0.001	
2023 Q4	PMP-03A	11/15/2023	1.03		<0.0005		0.076		0.018		0.0059		0.64		1.16		335	J-	<0.01		<0.005		0.939		6.67		<0.01		326		<0.01		0.0092		0.7		118		133		<0.001	
2023 Q1	PMP-04B	1/19/2023	0.055		<0.0005		<0.001		0.015		<0.0008		0.08		0.120		195		<0.01		<0.005		0.511		0.435		<0.01		35.6		<0.01		0.0036		0.3		61		44.5		<0.001	
2023 Q2	PMP-04B	5/16/2023	0.049		<0.0005		0.001		0.015		<0.0008		0.09		0.0959		178		<0.01		<0.005		0.407		0.351		<0.01		31.0		<0.01		0.0031		0.3		53		39.4		<0.001	
2023 Q3	PMP-04B	8/22/2023	0.074		<0.0005		0.001		0.014		<0.0008		0.08		0.0957		167		<0.01		<0.005		0.436		0.378		<0.01		29.2		<0.01		0.0033		0.3		55		37.2		<0.001	
2023 Q4	PMP-04B	11/16/2023	0.052		<0.0005		<0.001		0.015		<0.0008		0.09		0.108		177		<0.01		<0.005		0.458		0.470	J	<0.01		32.3		<0.01		0.0032		0.3		54		36.9	J	<0.001	
2023 Q1	PMP-05A	1/18/2023	0.143		0.0021		0.015		0.022		<0.0008		0.13		0.131		216		<0.01		<0.005		0.364		0.790		<0.01		3.56		<0.01		0.0028		0.3		69		58.2		0.009	
2023 Q2	PMP-05A	5/11/2023	0.149		0.0031		0.015		0.022		0.0009		0.12		0.246		270		<0.01		<0.005		0.411		0.719		<0.01		4.18		<0.01		0.0024		0.3		87		72.3		0.008	
2023 Q3	PMP-05A	8/17/2023	0.135		0.0024		0.013		0.021		<0.0008		0.12		0.208		286		<0.01		<0.005		0.428		0.897		<0.01		3.70		<0.01		0.0066		0.3		80		68.0		0.009	
2023 Q4	PMP-05A	11/14/2023	0.124		0.0050		0.012		0.024		<0.0008		0.12		0.210		264		<0.01		<0.005		0.396		0.840		<0.01		3.49	J+	<0.01		0.131		0.3		73		64.5		0.010	
2023 Q1	PMP-05BR	1/18/2023	2.90		<0.0005		0.001		0.018		0.0088		0.14		0.727		395		<0.01		<0.005		1.62		31.9		<0.01		47.9		0.04		0.0120		0.7		149		211		<0.001	
2023 Q2	PMP-05BR	5/11/2023	3.67		<0.0005		<0.001		0.019		0.0103		0.12		0.702		400		<0.01		<0.005		1.71		35.7		<0.01		65.3		0.03		0.0089		0.7		155		209		<0.001	
2023 Q3	PMP-05BR	8/18/2023	3.45		<0.0005		<0.001		0.020		0.0087		0.13		0.724		401		<0.01		<0.005		1.66		31.6		<0.01		56.6		0.03		0.0100		0.5		134		198		<0.001	
2023 Q4	PMP-05BR	11/14/2023	3.37		<0.0005		0.001		0.018		0.0102		0.14		0.706		389		<0.01		<0.005		1.64		28.4		<0.01		55.8		0.03		0.0100		0.6		133		193		<0.001	
2023 Q1	PMP-06A	1/18/2023	<0.009		0.0029		0.006		0.030		<0.0008		0.41		0.0448		150		<0.01		<0.005		0.017		0.219		<0.01		0.07		<0.01		0.0645		0.2		44		21.2		0.016	
2023 Q2	PMP-06A	5/10/2023	<0.009		0.0030		0.006		0.028		<0.0008		0.40		0.0480		171		<0.01		<0.005		0.016		0.211		<0.01		0.06		<0.01		0.0631		0.2		45		21.0		0.014	
2023 Q3	PMP-06A	8/18/2023	<0.009		0.0019		0.007		0.028		<0.0008		0.48		0.0468		175		<0.01		<0.005		0.016		0.206		<0.01		0.06		<0.01		0.0682		0.2		43		22.0		0.015	
2023 Q4	PMP-06A	11/14/2023	<0.009		0.0018		0.007		0.028		<0.0008		0.46		0.0386		166		<0.01		<0.005		0.015		0.211	J+	<0.01		0.05	J+	<0.01		0.0659		0.2		50		22.0		0.016	
2023 Q1	PMP-06B	1/18/2023	<0.009		<0.0005		0.003		0.027		<0.0008		0.29		0.0307		137		<0.01		<0.005		0.020		0.597		<0.01		<0.02		<0.01		0.0031		0.3		45		12.2		<0.001	
2023 Q2	PMP-06B	5/10/2023	0.015		<0.0005		0.003		0.028		<0.0008		0.27		0.0350		164		<0.01		<0.005		0.028		0.663		<0.01		<0.02		<0.01		0.0006		0.3		47		16.6		<0.001	
2023 Q3	PMP-06B	8/18/2023	<0.009		<0.0005		0.003		0.023		<0.0008		0.28		0.0242		142		<0.01		<0.005		0.014		0.529		<0.01		<0.02		<0.01		0.0006		0.3		37		11.1		<0.001	
2023 Q4	PMP-06B	11/14/2023	<0.009		<0.0005		0.003		0.023		<0.0008		0.24		0.0196		115		<0.01		<0.005		0.009		0.498		<0.01		0.02	J+	<0.01		0.0006		0.2		43		7.23		<0.001	
2023 Q1	PMP-07A	1/23/2023	<0.009		<0.0005		0.003		0.049		<0.0008		0.38		0.00130		82	J-	<0.01		<0.005		<0.005		0.007		<0.01		<0.02		<0.01		<0.0003		<0.1		24		2.86		0.025	
2023 Q2	PMP-07A	5/10/2023	<0.009		<0.0005		0.003		0.038		<0.0008		0.51		0.00100		78		<0.01		<0.005		<0.005		0.007		<0.01		<0.02		<0.01		<0.0003		<0.1		24		2.14		0.021	
2023 Q3	PMP-07A	8/17/2023	<0.009		<0.0005		0.003		0.051		<0.0008		0.30		0.00132		97		<0.01		<0.005		<0.005		0.008		<0.01		<0.02		<0.01		<0.0003		<0.1		27		3.07		0.022	
2023 Q4	PMP-07A	11/13/2023	<0.009		<0.0005		0.003		0.054		<0.0008		0.33		0.00141	J+	102		<0.01		<0.005		<0.005		0.009	J+	<0.01		<0.02		<0.01		<0.0003		<0.1		27		3.22		0.022	
2023 Q1	PMP-07B	1/19/2023	<0.009		<0.0005		<0.001		0.011		<0.0008		0.07		0.0432		477		<0.01		<0.005		<0.005		0.004		<0.01		<0.02		<0.01		<0.0003		0.2		130		8.44		<0.001	
2023 Q2	PMP-07B	5/16/2023	<0.009		<0.0005		0.001		0.018		<0.0008		0.08		0.0196		480		<0.01		<0.005		0.020		<0.002		<0.01		0.17		<0.01		<0.0003		0.2		129		19.0		0.003	
2023 Q3	PMP-07B	8/22/2023	0.014		<0.0005		<0.001		0.016		<0.0008		0.06		0.0262		495		<0.01		<0.005		0.021		0.004	J+	<0.01		0.09		<0.01		<0.0003		0.2		126		18.5		0.002	
2023 Q4	PMP-07B	11/16/2023	<0.009		<0.0005		<0.001		0.018		<0.0008		0.07		0.0283		511	J-	<0.01		<0.005		0.023		0.005	J	<0.01		0.18		<0.01		<0.0003		0.2		132		17.0	J	0.003	
2023 Q1	PMP-08A	1/19/2023	0.052		<0.0005		0.886		0.021		<0.0008		0.36		0.00025		108		<0.01		<0.005		0.011		0.003		<0.01		65.1		<0.01		0.0006		<0.1</							

Table 3a. Laboratory Analytical Data - Dissolved Metals (1 of 2)

Year/ Quarter	Site ID	Date	Aluminum		Antimony		Arsenic		Barium		Beryllium		Boron		Cadmium		Calcium		Cesium		Chromium		Cobalt		Copper		Gallium		Iron		Lanthanum		Lead		Lithium		Magnesium		Manganese		Molybdenum	
			mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q
2023 Q1	PMP-11B	1/17/2023	<0.009		<0.0005		0.005		0.031		<0.0008		<0.05		0.00037		25		<0.01		<0.005		<0.005		0.003		<0.01		<0.02		<0.01		<0.0003		<0.1		6		<0.001		0.019	
2023 Q2	PMP-11B	5/11/2023	<0.009		<0.0005		0.004		0.030		<0.0008		<0.05		0.00040		25		<0.01		<0.005		<0.005		<0.002		<0.01		<0.02		<0.01		<0.0003		<0.1		7		<0.001		0.019	
2023 Q3	PMP-11B	8/17/2023	<0.009		<0.0005		0.004		0.029		<0.0008		<0.05		0.00038		23		<0.01		<0.005		<0.005		0.002	J+	<0.01		<0.02		<0.01		<0.0003		<0.1		6		<0.001		0.019	
2023 Q4	PMP-11B	11/14/2023	<0.009		<0.0005		0.004		0.031		<0.0008		<0.05		0.00048		27		<0.01		<0.005		<0.005		0.003	J	<0.01		<0.02		<0.01		<0.0003		<0.1		7		<0.001	UJ	0.016	
2023 Q2	PMP-12	5/15/2023	0.018	J	<0.0005		0.003		0.050		<0.0008		<0.05		0.00031		554		<0.01		<0.005		<0.005		0.004		<0.01		0.08		<0.01		<0.0003		<0.1		10		0.317		0.741	
2023 Q3	PMP-12	8/23/2023	<0.009		0.0008		0.005		0.032		<0.0008		0.08		0.00014		43		<0.01		<0.005		<0.005		0.011	J	<0.01		0.05	J	<0.01		<0.0003		<0.1		8		0.100		0.020	
2023 Q4	PMP-12	11/16/2023	<0.009		<0.0005		0.003		0.044		<0.0008		0.06		0.00032		473	J-	<0.01		<0.005		<0.005		0.006		<0.01		0.05		<0.01		<0.0003		<0.1		8		0.501		0.663	
2023 Q2	PT14-1	5/11/2023	24.5		<0.0005		0.003		0.014		0.0120		0.09		0.432		337		<0.01		<0.005		0.226		46.6		<0.01		124		0.16		0.0129		0.3		66		17.3		<0.001	
2023 Q4	PT14-1	11/16/2023	11.4		<0.0005		0.001		0.016		0.0082		0.16		0.329		312		<0.01		<0.005		0.167		25.9		<0.01		73.9		0.06		0.0080		0.3		46		12.4		<0.001	
2023 Q1	SS-04	1/25/2023	<0.009		<0.0005		0.002		0.066		<0.0008		<0.05		<0.00003		41		<0.01		<0.005		<0.005		<0.002		<0.01		<0.02		<0.01		<0.0003		<0.1		10		0.054		0.006	
2023 Q2	SS-04	5/15/2023	0.152	J	0.0005		0.006		0.030		<0.0008		<0.05		<0.00003		22		<0.01		<0.005		<0.005		0.012		<0.01		0.27		<0.01		0.0004		<0.1		6		0.044		0.005	
2023 Q3	SS-04	8/23/2023	<0.009		<0.0005		0.005		0.043		<0.0008		<0.05		<0.00003		32		<0.01		<0.005		<0.005		0.007	J	<0.01		0.10	J	<0.01		<0.0003		<0.1		8		0.042		0.005	
2023 Q4	SS-04	11/16/2023	<0.009		<0.0005		0.002		0.046		<0.0008		<0.05		<0.00003		38	J-	<0.01		<0.005		<0.005		0.003		<0.01		0.03		<0.01		<0.0003		<0.1		10		0.036		0.006	
Quality Control Samples																																										
2023 Q1	DUP-1	1/17/2023	<0.009		<0.0005		0.002		0.031		<0.0008		<0.05		0.00021		28		<0.01		<0.005		<0.005		<0.002		<0.01		<0.02		<0.01		<0.0003		<0.1		7		<0.001		0.014	
2023 Q2	DUP-1	5/9/2023	<0.009		<0.0005		0.007		0.026		<0.0008		0.06		0.00004		24		<0.01		<0.005		<0.005		0.003		<0.01		0.67		<0.01		<0.0003		<0.1		6		0.301		0.010	
2023 Q3	DUP-1	8/17/2023	<0.009		<0.0005		0.218		0.079		<0.0008		0.31		<0.00003		174		<0.01		<0.005		<0.005		<0.002		<0.01		11.9		<0.01		<0.0003		<0.1		55		3.78		0.017	
2023 Q4	DUP-1	11/14/2023	<0.009		<0.0005		0.003		0.012		<0.0008		<0.05		0.00237		113		<0.01		<0.005		<0.005		0.010		<0.01		<0.02		<0.01		<0.0003		<0.1		25		<0.001		0.052	
2023 Q1	DUP-2	1/20/2023	<0.009		<0.0005		0.003		0.019		<0.0008		0.13		0.00540		182		<0.01		<0.005		<0.005		0.050		<0.01		<0.02		<0.01		<0.0003		0.2		42		<0.001		0.006	
2023 Q2	DUP-2	5/8/2023	<0.009		<0.0005		0.002		0.021		<0.0008		0.06		0.00096		45		<0.01		<0.005		<0.005		<0.002		<0.01		<0.02		<0.01		<0.0003		<0.1		10		0.151		0.014	
2023 Q3	DUP-2	8/21/2023	<0.009		<0.0005		0.003		0.012		<0.0008		<0.05		0.00248		111		<0.01		<0.005		<0.005		0.010		<0.01		<0.02		<0.01		<0.0003		<0.1		26		<0.001		0.055	
2023 Q4	DUP-2	11/13/2023	3.19		<0.0005		0.002		0.014		0.0089		0.13		0.998		462		<0.01		<0.005		1.32		32.1		0.01		314		0.14		0.0112		0.7		163		220		<0.001	
2023 Q1	DUP-3	1/23/2023	<0.009		<0.0005		0.007		0.013		<0.0008		0.35		0.198		158		<0.01		<0.005		<0.005		2.56		<0.01		<0.02		<0.01		<0.0003		0.2		46		38.9		<0.001	
2023 Q2	DUP-3	5/10/2023	<0.009		<0.0005		0.001		0.016		<0.0008		0.09		0.00386		106		<0.01		<0.005		<0.005		0.003		<0.01		<0.02		<0.01		<0.0003		0.1		32		4.81		0.003	
2023 Q3	DUP-3	8/17/2023	<0.009		<0.0005		0.003		0.053		<0.0008		0.35		0.00136		95		<0.01		<0.005		<0.005		0.008		<0.01		<0.02		<0.01		<0.0003		<0.1		25		3.15		0.022	
2023 Q4	DUP-3	11/15/2023	<0.009		<0.0005		0.006		0.013		<0.0008		0.35		0.176		168		<0.01		<0.005		<0.005		2.17		<0.01		<0.02		<0.01		<0.0003		0.2		42		34.5		<0.001	
2023 Q1	DUP-4	1/25/2023	9.85		<0.0005		0.002		0.011		0.0078		0.18		1.14		454		<0.01		<0.005		0.384		81.4		0.01		0.25		0.09		0.0050		0.7		133		256		<0.001	
2023 Q2	DUP-4	5/12/2023	0.256		<0.0005		0.006		<0.003		0.0008		0.24		0.120		359		<0.01		<0.005		<0.005		5.16		<0.01		0.02		<0.01		<0.0003		0.9		94		19.8		<0.001	
2023 Q3	DUP-4	8/22/2023	9.2		<0.0005		0.002		0.011		0.0100		0.17		1.10		481		<0.01		<0.005		0.285		76.6		<0.01		0.31		0.10		0.0063		0.7		139		241		<0.001	
2023 Q4	DUP-4	11/14/2023	<0.009		<0.0005		0.004		0.030		<0.0008		<0.05		0.00043		27		<0.01		<0.005		<0.005		0.017	J	<0.01		<0.02		<0.01		<0.0003		<0.1		6		0.004	J	0.016	
2023 Q1	DUP-5	1/25/2023	<0.009		<0.0005		0.002		0.067		<0.0008		<0.05		<0.00003		43		<0.01		<0.005		<0.005		<0.002		<0.01		<0.02		<0.01		<0.0003		<0.1		10		0.054		0.006	
2023 Q2	DUP-5	5/15/2023	0.117	J	0.0005		0.007		0.029		<0.0008		<0.05		<0.00003		22		<0.01		<0.005		<0.005		0.011		<0.01		0.25		<0.01		0.0004		<0.1		6		0.043		0.005	
2023 Q3	DUP-5	8/23/2023	<0.009		<0.0005		0.005		0.044		<0.0008		<0.05		<0.00003		33		<0.01		<0.005		<0.005		0.004	J	<0.01		0.14	J	<0.01		<0.0003		<0.1		8		0.039		0.005	
2023 Q4	DUP-5	11/16/2023	<0.009		<0.0005		0.002		0.047		<0.0008		<0.05		<0.00003		40	J-	<0.01		<0.005		<0.005		<0.002		<0.01		0.03		<0.01		<0.0003		<0.1		10		0.036		0.005	
2023 Q1	EB-1	1/17/2023	<0.009		<0.0005		<0.001		<0.003		<0.0008		<0.05		<0.00003		<1		<0.01		<0.005		<0.005		<0.002		<0.01		<0.02		<0.01		<0.0003		<0.1		<1		<0.001		<0.001	
2023 Q4	EB-1	11/14/2023	<0.009		<0.0005		<0.001		<0.003		<0.0008		<0.05		0.00004		<1		<0.01		<0.005		<0.005		<0.002		<0.01		<0.02		<0.01		<0.0003		<0.1		<1		0.006		<0.001	

Table 3a. Laboratory Analytical Data - Dissolved Metals (1 of 2)

Year/ Quarter	Site ID	Date	Aluminum		Antimony		Arsenic		Barium		Beryllium		Boron		Cadmium		Calcium		Cesium		Chromium		Cobalt		Copper		Gallium		Iron		Lanthanum		Lead		Lithium		Magnesium		Manganese		Molybdenum	
			mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q
2023 Q1	FB-5	1/25/2023	<0.009		<0.0005		<0.001		<0.003		<0.0008		<0.05		<0.00003		<1		<0.01		<0.005		<0.005		<0.002		<0.01		<0.02		<0.01		<0.0003		<0.1		<1		<0.001		<0.001	
2023 Q2	FB-5	5/15/2023	<0.009	UJ	<0.0005		<0.001		<0.003		<0.0008		<0.05		<0.00003		<1		<0.01		<0.005		<0.005		<0.002		<0.01		<0.02		<0.01		<0.0003		<0.1		<1		<0.001		0.004	
2023 Q3	FB-5	8/23/2023	<0.009		<0.0005		<0.001		<0.003		<0.0008		<0.05		<0.00003		<1		<0.01		<0.005		<0.005		<0.002	UJ	<0.01		<0.02	J	<0.01		<0.0003		<0.1		<1		<0.001		<0.001	
2023 Q4	FB-5	11/16/2023	<0.009		<0.0005		<0.001		<0.003		<0.0008		<0.05		<0.00003		<1		<0.01		<0.005		<0.005		<0.002		<0.01		<0.02		<0.01		<0.0003		<0.1		<1		<0.001		<0.001	

**Notes**  
 < indicates below detection  
 mg/L indicates milligrams per liter  
 Q - Data validation qualifier  
     J Estimated  
     J+ Overestimated  
     UJ Estimated Non-detect  
     J- Underestimated  
     R Rejected

Table 3b. Laboratory Analytical Data - Dissolved Metals (2 of 2)

Year/ Quarter	Site ID	Date	Neodymium		Nickel		Niobium		Palladium		Potassium		Praseodymium		Rubidium		Selenium		Silver		Sodium		Strontium		Thallium		Thorium		Tin		Titanium		Tungsten		Uranium		Vanadium		Zinc		Zirconium	
			mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q
2023 Q1	AMC-23B	1/18/2023	<0.005		0.003		<0.01		<0.01		12		<0.01		0.01		<0.001		<0.0002		93		1.80		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0041		<0.01		0.794		<0.005	
2023 Q2	AMC-23B	5/16/2023	<0.005		0.003		<0.01		<0.01		13		<0.01		0.01		<0.001		<0.0002		97		2.07		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0052		<0.01		0.817		<0.005	
2023 Q3	AMC-23B	8/21/2023	<0.005		0.003		<0.01		<0.01		12		<0.01		0.01		<0.001		<0.0002		95		1.93		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0047		<0.01		0.808		<0.005	
2023 Q4	AMC-23B	11/15/2023	<0.005		0.003		<0.01		<0.01		12		<0.01		0.01		<0.001		<0.0002		87		2.01		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0043		<0.01		0.913		<0.005	
2023 Q1	AMC-24B	1/18/2023	<0.005		0.004		<0.01		<0.01		11		<0.01		0.01		<0.001		<0.0002		80		1.35		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0016		<0.01		0.820		<0.005	
2023 Q2	AMC-24B	5/16/2023	<0.005		0.004		<0.01		<0.01		13		<0.01		0.02		<0.001		<0.0002		79		1.73		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0014		<0.01		1.01		<0.005	
2023 Q3	AMC-24B	8/22/2023	<0.005		0.004		<0.01		<0.01		12		<0.01		0.01		<0.001		<0.0002		72		1.52		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0013		<0.01		1.07		<0.005	
2023 Q4	AMC-24B	11/16/2023	<0.005		0.005		<0.01		<0.01		13		<0.01		0.01		<0.001		<0.0002		79		1.90		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0012		<0.01		1.19		<0.005	
2023 Q1	AMC-24C	1/19/2023	<0.005		<0.002		<0.01		<0.01		11		<0.01		0.01		<0.001		<0.0002		82		1.49		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0026		<0.01		0.441		<0.005	
2023 Q2	AMC-24C	5/10/2023	<0.005		<0.002		<0.01		<0.01		11		<0.01		0.01		<0.001		<0.0002	UJ	74		1.50		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0026		<0.01		0.431		<0.005	
2023 Q3	AMC-24C	8/18/2023	<0.005		<0.002		<0.01		<0.01		13		<0.01		0.01		<0.001		<0.0002		82		1.53		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0026		<0.01		0.436		<0.005	
2023 Q4	AMC-24C	11/15/2023	<0.005		<0.002		<0.01		<0.01		11		<0.01		0.01		<0.001		<0.0002		77		1.44		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0024		<0.01		0.464		<0.005	
2023 Q2	AMW-01A	5/17/2023	<0.005		0.051		<0.01		<0.01		14		<0.01		<0.01		<0.001		<0.0002		254		1.41		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0018		<0.01		8.83		<0.005	
2023 Q3	AMW-01A	8/23/2023	<0.005		0.074		<0.01		<0.01		13		<0.01		<0.01		<0.001		<0.0002		214		1.47		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0015		<0.01		16.4		<0.005	
2023 Q4	AMW-01A	11/16/2023	<0.005		0.075		<0.01		<0.01		15		<0.01		<0.01		<0.001		<0.0002		154		1.69		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0006		<0.01		17.8		<0.005	
2023 Q1	AMW-01B	1/25/2023	0.059		0.541		<0.01		<0.01		29		0.02		0.03		<0.001		0.0093		68		4.06		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0317		<0.01		204		<0.005	
2023 Q2	AMW-01B	5/11/2023	0.063		0.533		<0.01		<0.01		29		0.02		0.04		<0.001		0.0097	UJ	68		4.05		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0332		<0.01		167		<0.005	
2023 Q3	AMW-01B	8/22/2023	0.062		0.517		<0.01		<0.01		28		0.02		0.03		0.001		0.0081		70		4.08		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0330		<0.01		191		<0.005	
2023 Q4	AMW-01B	11/15/2023	0.067		0.530		<0.01		<0.01		27		0.02		0.04		0.001		0.0099		68		4.06		0.0002		<0.005		<0.05		<0.005		<0.1		0.0314		<0.01		186		<0.005	
2023 Q1	AMW-01C	1/26/2023	<0.005		0.151		<0.01		<0.01		31		<0.01		0.07		<0.001		<0.0002		183		8.56		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0009		<0.01		29.5		<0.005	
2023 Q2	AMW-01C	5/12/2023	<0.005		0.135		<0.01		<0.01		30		<0.01		0.07		<0.001		UJ	<0.0002	180		8.25		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0017		<0.01		26.7		<0.005	
2023 Q3	AMW-01C	8/22/2023	<0.005		0.142		<0.01		<0.01		35		<0.01		0.06		<0.001		<0.0002		203		7.98		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0016		<0.01		31.2		<0.005	
2023 Q4	AMW-01C	11/15/2023	<0.005		0.142		<0.01		<0.01		32		<0.01		0.07		<0.001		<0.0002		172		9.31		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0016		<0.01		29.2		<0.005	
2023 Q1	AMW-08	1/24/2023	0.142		0.238		<0.01		<0.01		9		0.04		<0.01		<0.001		<0.0002		76		3.19		<0.0002		0.011		<0.05		<0.005		<0.1		0.556		<0.01		371		<0.005	
2023 Q2	AMW-08	5/12/2023	0.151		0.208		<0.01		<0.01		8		0.04		<0.01		<0.001		UJ	<0.0002	73		3.05		<0.0002		0.016		<0.05		<0.005		<0.1		0.458		<0.01		327		<0.005	
2023 Q3	AMW-08	8/22/2023	0.067		0.200		<0.01		<0.01		12		0.02		<0.01		<0.001		0.0002		65		2.56		<0.0002		<0.005		<0.05		<0.005		<0.1		0.143		<0.01		214		<0.005	
2023 Q4	AMW-08	11/15/2023	0.198		0.539		<0.01		<0.01		10		0.05		<0.01		<0.001		0.0004		81		3.16		<0.0002		0.007		<0.05		<0.005		<0.1		0.522		<0.01		533		<0.005	
2023 Q1	AMW-09	1/20/2023	0.028		0.099		<0.01		<0.01		12		<0.01		0.03		<0.001		<0.0002		36		0.91		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0207		<0.01		33.6		<0.005	
2023 Q2	AMW-09	5/11/2023	0.024		0.087		<0.01		<0.01		11		<0.01		0.03		<0.001		UJ	<0.0002	34		0.83		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0184		<0.01		28.4		<0.005	
2023 Q3	AMW-09	8/21/2023	0.019		0.079		<0.01		<0.01		11		<0.01		0.02		<0.001		<0.0002		35		0.77		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0131		<0.01		26.5		<0.005	
2023 Q4	AMW-09	11/15/2023	0.021		0.089		<0.01		<0.01		12		<0.01		0.03		<0.001		<0.0002		33		0.86		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0156		<0.01		28.6		<0.005	
2023 Q1	AMW-13A	1/17/2023	<0.005		0.002		<0.01		<0.01		19		<0.01		<0.01		<0.001		<0.0002		29		1.31		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0008		<0.01		0.288		<0.005	
2023 Q2	AMW-13A	5/11/2023	<0.005		0.004		<0.01		<0.01		15		<0.01		<0.01		<0.001		<0.0002	UJ	23		1.36		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0024		<0.01		0.324		<0.005	
2023 Q3	AMW-13A	8/17/2023	<0.005		0.008		<0.01		<0.01		17		<0.01		<0.01		<0.001		<0.0002		22		1.12		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0013		<0.01		1.33		<0.005	
2023 Q4	AMW-13A	11/14/2023	<0.005		0.005		<0.01		<0.01		16		<0.01		<0.01		<0.001		<0.0002		24		1.32		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0027		<0.01					

Table 3b. Laboratory Analytical Data - Dissolved Metals (2 of 2)

Year/ Quarter	Site ID	Date	Neodymium		Nickel		Niobium		Palladium		Potassium		Praseodymium		Rubidium		Selenium		Silver		Sodium		Strontium		Thallium		Thorium		Tin		Titanium		Tungsten		Uranium		Vanadium		Zinc		Zirconium	
			mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q
2023 Q1	BPS07-23	1/18/2023	<0.005		<0.002		<0.01		<0.01		12		<0.01		<0.01		<0.001		<0.0002		74		1.29		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0136		<0.01		0.023		<0.005	
2023 Q2	BPS07-23	5/9/2023	<0.005		<0.002		<0.01		<0.01		11		<0.01		<0.01		<0.001		<0.0002		71		1.26		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0160		<0.01		0.088		<0.005	
2023 Q3	BPS07-23	8/17/2023	<0.005		<0.002		<0.01		<0.01		13		<0.01		<0.01		<0.001		<0.0002		102		1.67		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0431		<0.01		0.095		<0.005	
2023 Q4	BPS07-23	11/13/2023	<0.005		<0.002		<0.01		<0.01		12		<0.01		<0.01		<0.001		<0.0002		89		1.46		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0273		<0.01		0.084		<0.005	
2023 Q1	BPS11-10A	1/19/2023	<0.005		0.004		<0.01		<0.01		13		<0.01		<0.01		<0.001		<0.0002		75		0.69		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0096		<0.01		4.13		<0.005	
2023 Q2	BPS11-10A	5/9/2023	<0.005		0.004		<0.01		<0.01		13		<0.01		<0.01		<0.001		<0.0002		51		0.43		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0099		<0.01		4.26		<0.005	
2023 Q3	BPS11-10A	8/18/2023	<0.005		0.004		<0.01		<0.01		15		<0.01		<0.01		<0.001		<0.0002		67		0.62		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0115		<0.01		3.13		<0.005	
2023 Q4	BPS11-10A	11/14/2023	<0.005		0.004		<0.01		<0.01		15		<0.01		<0.01		<0.001		<0.0002		68		0.66		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0105		<0.01		3.84		<0.005	
2023 Q1	BPS11-10B	1/19/2023	<0.005		0.005		<0.01		<0.01		12		<0.01		0.02		<0.001		<0.0002		82		1.72		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0014		<0.01		1.21		<0.005	
2023 Q2	BPS11-10B	5/9/2023	<0.005		0.005		<0.01		<0.01		12		<0.01		0.02		<0.001		<0.0002		77		1.70		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0014		<0.01		1.15		<0.005	
2023 Q3	BPS11-10B	8/18/2023	<0.005		0.005		<0.01		<0.01		13		<0.01		0.02		<0.001		<0.0002		79		1.73		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0014		<0.01		1.26		<0.005	
2023 Q4	BPS11-10B	11/14/2023	<0.005		0.004		<0.01		<0.01		11		<0.01		0.02		<0.001		<0.0002		75		1.50		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0013		<0.01		1.07		<0.005	
2023 Q1	BPS11-10C	1/19/2023	<0.005		<0.002		<0.01		<0.01		10		<0.01		<0.01		<0.001		<0.0002		67		1.25		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0026		<0.01		0.165		<0.005	
2023 Q2	BPS11-10C	5/9/2023	<0.005		<0.002		<0.01		<0.01		10		<0.01		<0.01		<0.001		<0.0002		65		1.26		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0025		<0.01		0.153		<0.005	
2023 Q3	BPS11-10C	8/18/2023	<0.005		<0.002		<0.01		<0.01		11		<0.01		<0.01		<0.001		<0.0002		67		1.32		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0025		<0.01		0.154		<0.005	
2023 Q4	BPS11-10C	11/14/2023	<0.005		<0.002		<0.01		<0.01		9		<0.01		<0.01		<0.001		<0.0002		63		1.22		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0024		<0.01		0.175		<0.005	
2023 Q1	BPS11-11A1	1/19/2023	<0.005		<0.002		<0.01		<0.01		4		<0.01		<0.01		<0.001		<0.0002		17		0.18		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0027		<0.01		0.060		<0.005	
2023 Q2	BPS11-11A1	5/8/2023	<0.005		<0.002		<0.01		<0.01		4		<0.01		<0.01		<0.001		<0.0002		19		0.27		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0041		<0.01		0.079		<0.005	
2023 Q3	BPS11-11A1	8/21/2023	<0.005		<0.002		<0.01		<0.01		5		<0.01		<0.01		<0.001		<0.0002		20		0.27		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0043		<0.01		0.057		<0.005	
2023 Q4	BPS11-11A1	11/14/2023	<0.005		<0.002		<0.01		<0.01		4		<0.01		<0.01		<0.001		<0.0002		22		0.21		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0031		<0.01		0.048		<0.005	
2023 Q1	BPS11-11A2	1/19/2023	<0.005		<0.002		<0.01		<0.01		3		<0.01		<0.01		<0.001		<0.0002		19		0.24		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0066		<0.01		0.017		<0.005	
2023 Q2	BPS11-11A2	5/8/2023	<0.005		<0.002		<0.01		<0.01		3		<0.01		<0.01		<0.001		<0.0002		18		0.23		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0062		<0.01		0.017		<0.005	
2023 Q3	BPS11-11A2	8/21/2023	<0.005		<0.002		<0.01		<0.01		3		<0.01		<0.01		<0.001		<0.0002		18		0.23		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0055		<0.01		0.017		<0.005	
2023 Q4	BPS11-11A2	11/14/2023	<0.005		<0.002		<0.01		<0.01		3		<0.01		<0.01		<0.001		<0.0002		21		0.23		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0055		<0.01		0.019		<0.005	
2023 Q1	BPS11-11B	1/19/2023	<0.005		<0.002		<0.01		<0.01		9		<0.01		<0.01		<0.001		<0.0002		48		0.74		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0015		<0.01		0.193		<0.005	
2023 Q2	BPS11-11B	5/8/2023	<0.005		<0.002		<0.01		<0.01		9		<0.01		<0.01		<0.001		<0.0002		46		0.77		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0015		<0.01		0.197		<0.005	
2023 Q3	BPS11-11B	8/21/2023	<0.005		<0.002		<0.01		<0.01		9		<0.01		<0.01		<0.001		<0.0002		45		0.75		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0014		<0.01		0.188		<0.005	
2023 Q4	BPS11-11B	11/14/2023	<0.005		<0.002		<0.01		<0.01		8		<0.01		<0.01		<0.001		<0.0002		43		0.71		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0014		<0.01		0.188		<0.005	
2023 Q1	BPS11-11C	1/19/2023	<0.005		<0.002		<0.01		<0.01		10		<0.01		<0.01		<0.001		<0.0002		89		0.68		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0017		<0.01		0.014		<0.005	
2023 Q2	BPS11-11C	5/9/2023	<0.005		<0.002		<0.01		<0.01		10		<0.01		<0.01		<0.001		<0.0002		84		0.66		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0017		<0.01		0.014		<0.005	
2023 Q3	BPS11-11C	8/21/2023	<0.005		<0.002		<0.01		<0.01		11		<0.01		<0.01		<0.001		<0.0002		88		0.71		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0017		<0.01		0.014		<0.005	
2023 Q4	BPS11-11C	11/14/2023	<0.005		<0.002		<0.01		<0.01		9		<0.01		<0.01		<0.001		<0.0002		86		0.64		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0017		<0.01		0.014		<0.005	
2023 Q1	BPS11-14A	1/20/2023	<0.005		<0.002		<0.01		<0.01		5		<0.01		<0.01		<0.001		<0.0002		26		0.38		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0073		<0.01		0.022		<0.005	
2023 Q2	BPS11-14A	5/10/2023	<0.005		<0.002		<0.01		<0.01		5		<0.01		<0.01		<0.001		<0.0002	UJ	24		0.39		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0081		<0.01		0.020		<0.005	
2023 Q3	BPS11-14A	8/21/2023	<0.005		<0.002		<0.01		<0.01		6																															

Table 3b. Laboratory Analytical Data - Dissolved Metals (2 of 2)

Year/ Quarter	Site ID	Date	Neodymium		Nickel		Niobium		Palladium		Potassium		Praseodymium		Rubidium		Selenium		Silver		Sodium		Strontium		Thallium		Thorium		Tin		Titanium		Tungsten		Uranium		Vanadium		Zinc		Zirconium	
			mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q
2023 Q1	GS-40R	1/23/2023	<0.005		0.179		<0.01		<0.01		19		<0.01		0.08		<0.001		<0.0002		38		1.93		0.0006		<0.005		<0.05		<0.005		<0.1		0.0010		<0.01		35.5		<0.005	
2023 Q2	GS-40R	5/12/2023	<0.005		0.192		<0.01		<0.01		19		<0.01		0.08		<0.001	UJ	<0.0002		37		1.95		0.0006		<0.005		<0.05		<0.005		<0.1		0.0010		<0.01		34.6		<0.005	
2023 Q3	GS-40R	8/21/2023	<0.005		0.192		<0.01		<0.01		19		<0.01		0.08		<0.001		<0.0002		41		2.01		0.0007		<0.005		<0.05		<0.005		<0.1		0.0012		<0.01		40.2		<0.005	
2023 Q4	GS-40R	11/15/2023	<0.005		0.211		<0.01		<0.01		20		<0.01		0.08		<0.001		<0.0002		41		2.33		0.0007		<0.005		<0.05		<0.005		<0.1		0.0010		<0.01		42.9		<0.005	
2023 Q1	MF-07	1/24/2023	<0.005		0.057		<0.01		<0.01		11		<0.01		<0.01		<0.001		<0.0002		91		1.42		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0389		<0.01		10.3		<0.005	
2023 Q2	MF-07	5/10/2023	<0.005		0.049		<0.01		<0.01		9		<0.01		<0.01		<0.001	UJ	<0.0002		81		1.38		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0326		<0.01		7.69		<0.005	
2023 Q3	MF-07	8/18/2023	<0.005		0.057		<0.01		<0.01		12		<0.01		<0.01		<0.001		<0.0002		89		1.49		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0328		<0.01		10.5		<0.005	
2023 Q4	MF-07	11/14/2023	<0.005		0.052		<0.01		<0.01		11		<0.01		<0.01		<0.001		<0.0002		82		1.34		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0329		<0.01		8.72		<0.005	
2023 Q1	MF-07B	1/24/2023	<0.005		0.028		<0.01		<0.01		11		<0.01		<0.01		<0.001		0.0003		65		1.24		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0031		<0.01		5.02		<0.005	
2023 Q2	MF-07B	5/10/2023	<0.005		0.035		<0.01		<0.01		10		<0.01		0.01		<0.001	UJ	0.0003		60		1.15		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0031		<0.01		6.22		<0.005	
2023 Q3	MF-07B	8/18/2023	<0.005		0.032		<0.01		<0.01		12		<0.01		0.01		<0.001		0.0003		67		1.19		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0032		<0.01		6.35		<0.005	
2023 Q4	MF-07B	11/14/2023	<0.005		0.030		<0.01		<0.01		10		<0.01		0.01		<0.001		<0.0002		62		1.11		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0031		<0.01		5.48		<0.005	
2023 Q1	MF-11	1/23/2023	<0.005		<0.002		<0.01		<0.01		5		<0.01		<0.01		<0.001		<0.0002		40		0.49		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0278		<0.01		0.047		<0.005	
2023 Q2	MF-11	5/10/2023	<0.005		0.003		<0.01		<0.01		7		<0.01		<0.01		0.001		<0.0002	UJ	78		0.74		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0247		<0.01		2.30		<0.005	
2023 Q3	MF-11	8/17/2023	<0.005		<0.002		<0.01		<0.01		6		<0.01		<0.01		<0.001		<0.0002		38		0.49		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0252		<0.01		0.891		<0.005	
2023 Q4	MF-11	11/13/2023	<0.005		<0.002		<0.01		<0.01		5		<0.01		<0.01		<0.001		<0.0002		37		0.44		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0194		<0.01		0.386	J+	<0.005	
2023 Q1	MH-MSD108	1/17/2023	<0.005		0.033		<0.01		<0.01		10		<0.01		<0.01		<0.001		<0.0002		84		1.39		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0057		<0.01		11.0		<0.005	
2023 Q2	MH-MSD108	5/16/2023	<0.005		0.029		<0.01		<0.01		9		<0.01		<0.01		<0.001		<0.0002		65		1.29		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0102		<0.01		12.1		<0.005	
2023 Q3	MH-MSD108	9/28/2023	<0.005		0.040		<0.01		<0.01		10		<0.01		<0.01		<0.001		<0.0002		57		1.22		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0102		<0.01		17.6		<0.005	
2023 Q4	MH-MSD108	11/14/2023	<0.005		0.037		<0.01		<0.01		9		<0.01		<0.01		<0.001		<0.0002		51		1.32		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0082		<0.01		16.8		<0.005	
2023 Q1	MH-MSD113	1/17/2023	0.014		0.108		<0.01		<0.01		12		<0.01		<0.01		<0.001		<0.0002		209		1.59		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0153		<0.01		41.5		<0.005	
2023 Q2	MH-MSD113	5/16/2023	0.014		0.097		<0.01		<0.01		11		<0.01		<0.01		<0.001		0.0003		132		1.52		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0159		<0.01		33.9		<0.005	
2023 Q3	MH-MSD113	9/28/2023	0.016		0.107		<0.01		<0.01		11		<0.01		<0.01		<0.001		0.0003		80		1.35		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0176		<0.01		40.4		<0.005	
2023 Q4	MH-MSD113	11/14/2023	0.018		0.109		<0.01		<0.01		11		<0.01		<0.01		<0.001		0.0003		79		1.42		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0158		<0.01		39.0		<0.005	
2023 Q1	MH-MSD116	1/17/2023	0.026		0.348		<0.01		<0.01		15		<0.01		<0.01		<0.001		<0.0002		122		2.43		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0138		<0.01		166		<0.005	
2023 Q2	MH-MSD116	5/16/2023	0.024		0.376		<0.01		<0.01		15		<0.01		<0.01		<0.001		0.0003		121		2.66		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0100		<0.01		144		<0.005	
2023 Q3	MH-MSD116	9/28/2023	0.039		0.265		<0.01		<0.01		13		0.01		<0.01		<0.001		0.0008		105		1.82		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0274		<0.01		103		<0.005	
2023 Q4	MH-MSD116	11/14/2023	0.086		0.309		<0.01		<0.01		15		0.02		<0.01		0.001		0.0018		112		2.18		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0496		0.02		128		<0.005	
2023 Q1	MSD-02A	1/19/2023	<0.005		0.030		<0.01		<0.01		6		<0.01		<0.01		<0.001		<0.0002		30		0.40		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0005		<0.01		7.09		<0.005	
2023 Q2	MSD-02A	5/16/2023	<0.005		0.035		<0.01		<0.01		7		<0.01		<0.01		<0.001		<0.0002		33		0.50		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0009		<0.01		9.28		<0.005	
2023 Q3	MSD-02A	8/22/2023	<0.005		0.044		<0.01		<0.01		7		<0.01		<0.01		<0.001		<0.0002		34		0.57		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0006		<0.01		10.3		<0.005	
2023 Q4	MSD-02A	11/16/2023	<0.005		0.046		<0.01		<0.01		8		<0.01		<0.01		<0.001		<0.0002		33		0.63		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0005		<0.01		11.3		<0.005	
2023 Q1	MSD-02B	1/24/2023	0.061		0.441		<0.01		<0.01		17		0.02		0.02		<0.001		0.0054		97		2.91		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0175		<0.01		207		<0.005	
2023 Q2	MSD-02B	5/10/2023	0.066		0.471		<0.01		<0.01		18		0.02		0.02		<0.001	UJ	0.0061		100		3.09		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0188		<0.01		200		<0.005	
2023 Q3	MSD-02B	8/17/2023	0.064		0.481		<0.01		<0.01		20		0.02		0.02		<0.001		0.0065		106		3.30		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0185							

Table 3b. Laboratory Analytical Data - Dissolved Metals (2 of 2)

Year/ Quarter	Site ID	Date	Neodymium		Nickel		Niobium		Palladium		Potassium		Praseodymium		Rubidium		Selenium		Silver		Sodium		Strontium		Thallium		Thorium		Tin		Titanium		Tungsten		Uranium		Vanadium		Zinc		Zirconium	
			mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q
2023 Q3	PMP-02B	8/22/2023	0.100		0.598		<0.01		<0.01		22		0.03		0.02		<0.001		0.0196		190		3.94		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0368		<0.01		280		<0.005	
2023 Q4	PMP-02B	11/16/2023	0.105		0.660		<0.01		<0.01		25		0.04		0.02		0.001		0.0225		209		4.61		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0348		<0.01		279		<0.005	
2023 Q1	PMP-03A	1/26/2023	<0.005		0.402		<0.01		<0.01		17		<0.01		<0.01		<0.001		<0.0002		104		2.50		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0012		<0.01		157		<0.005	
2023 Q2	PMP-03A	5/11/2023	<0.005		0.342		<0.01		<0.01		16		<0.01		<0.01		<0.001	UJ	<0.0002		99		2.16		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0017		<0.01		133		<0.005	
2023 Q3	PMP-03A	8/23/2023	<0.005		0.308		<0.01		<0.01		17		<0.01		<0.01		<0.001		0.0028		96		2.08		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0018		<0.01		133		<0.005	
2023 Q4	PMP-03A	11/15/2023	<0.005		0.388		<0.01		<0.01		19		<0.01		<0.01		<0.001		<0.0002		106		2.28		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0015		<0.01		148		<0.005	
2023 Q1	PMP-04B	1/19/2023	<0.005		0.140		<0.01		<0.01		12		<0.01		<0.01		<0.001		<0.0002		45		1.25		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0007		<0.01		34.8		<0.005	
2023 Q2	PMP-04B	5/16/2023	<0.005		0.109		<0.01		<0.01		12		<0.01		<0.01		<0.001		<0.0002		42		1.10		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0006		<0.01		31.3		<0.005	
2023 Q3	PMP-04B	8/22/2023	<0.005		0.111		<0.01		<0.01		11		<0.01		<0.01		<0.001		<0.0002		38		1.00		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0006		<0.01		30.3		<0.005	
2023 Q4	PMP-04B	11/16/2023	<0.005		0.122		<0.01		<0.01		11		<0.01		<0.01		<0.001		<0.0002		41		1.19		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0006		<0.01		30.1		<0.005	
2023 Q1	PMP-05A	1/18/2023	<0.005		0.113		<0.01		<0.01		11		<0.01		<0.01		<0.001		<0.0002		55		1.33		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0041		<0.01		25.4		<0.005	
2023 Q2	PMP-05A	5/11/2023	<0.005		0.128		<0.01		<0.01		12		<0.01		<0.01		<0.001	UJ	<0.0002		62		1.54		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0035		<0.01		29.5		<0.005	
2023 Q3	PMP-05A	8/17/2023	<0.005		0.136		<0.01		<0.01		12		<0.01		<0.01		<0.001		<0.0002		58		1.55		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0052		<0.01		32.2		<0.005	
2023 Q4	PMP-05A	11/14/2023	<0.005		0.130		<0.01		<0.01		10		<0.01		<0.01		<0.001		<0.0002		54		1.44		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0075		<0.01		28.7		<0.005	
2023 Q1	PMP-05BR	1/18/2023	0.039		0.449		<0.01		<0.01		22		0.01		0.01		<0.001		<0.0002		96		3.67		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0063		<0.01		152		<0.005	
2023 Q2	PMP-05BR	5/11/2023	0.029		0.446		<0.01		<0.01		23		<0.01		0.01		<0.001		<0.0002		99		3.42		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0076		<0.01		178		<0.005	
2023 Q3	PMP-05BR	8/18/2023	0.031		0.447		<0.01		<0.01		21		<0.01		0.01		<0.001		<0.0002		89		3.32		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0092		<0.01		149		<0.005	
2023 Q4	PMP-05BR	11/14/2023	0.033		0.434		<0.01		<0.01		21		<0.01		0.01		<0.001		<0.0002		90		3.15		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0093		<0.01		155		<0.005	
2023 Q1	PMP-06A	1/18/2023	<0.005		0.027		<0.01		<0.01		11		<0.01		<0.01		<0.001		<0.0002		81		1.31		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0230		0.01		4.92		<0.005	
2023 Q2	PMP-06A	5/10/2023	<0.005		0.025		<0.01		<0.01		10		<0.01		<0.01		<0.001	UJ	<0.0002		80		1.30		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0239		0.01		4.68		<0.005	
2023 Q3	PMP-06A	8/18/2023	<0.005		0.026		<0.01		<0.01		11		<0.01		<0.01		<0.001		<0.0002		83		1.36		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0254		0.01		4.54		<0.005	
2023 Q4	PMP-06A	11/14/2023	<0.005		0.027		<0.01		<0.01		10		<0.01		<0.01		<0.001		<0.0002		82		1.27		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0229		0.02		4.37		<0.005	
2023 Q1	PMP-06B	1/18/2023	<0.005		0.043		<0.01		<0.01		12		<0.01		0.01		<0.001		0.0003		52		1.53		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0009		<0.01		8.38		<0.005	
2023 Q2	PMP-06B	5/10/2023	<0.005		0.049		<0.01		<0.01		12		<0.01		0.01		<0.001	UJ	0.0004		54		1.68		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0009		<0.01		10.4		<0.005	
2023 Q3	PMP-06B	8/18/2023	<0.005		0.036		<0.01		<0.01		13		<0.01		0.01		<0.001		0.0004		54		1.46		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0009		<0.01		7.25		<0.005	
2023 Q4	PMP-06B	11/14/2023	<0.005		0.030		<0.01		<0.01		10		<0.01		0.01		<0.001		0.0003		50		1.17		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0008		<0.01		5.85		<0.005	
2023 Q1	PMP-07A	1/23/2023	<0.005		0.005		<0.01		<0.01		7		<0.01		<0.01		<0.001		<0.0002		27		0.58		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0352		<0.01		0.310		<0.005	
2023 Q2	PMP-07A	5/10/2023	<0.005		0.005		<0.01		<0.01		6		<0.01		<0.01		<0.001		<0.0002	UJ	29		0.58		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0254		<0.01		0.288		<0.005	
2023 Q3	PMP-07A	8/17/2023	<0.005		0.005		<0.01		<0.01		8		<0.01		<0.01		<0.001		<0.0002		31		0.66		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0538		<0.01		0.314		<0.005	
2023 Q4	PMP-07A	11/13/2023	<0.005		0.006		<0.01		<0.01		8		<0.01		<0.01		<0.001		<0.0002		32		0.68		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0626		<0.01	J+	0.333		<0.005	
2023 Q1	PMP-07B	1/19/2023	<0.005		0.035		<0.01		<0.01		15		<0.01		<0.01		<0.001		<0.0002		118		3.11		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0005		<0.01		2.15		<0.005	
2023 Q2	PMP-07B	5/16/2023	<0.005		0.034		<0.01		<0.01		15		<0.01		<0.01		<0.001		<0.0002		116		3.12		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0010		<0.01		1.51		<0.005	
2023 Q3	PMP-07B	8/22/2023	<0.005		0.031		<0.01		<0.01		14		<0.01		<0.01		<0.001		<0.0002		112		2.74		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0009		<0.01		1.31		<0.005	
2023 Q4	PMP-07B	11/16/2023	<0.005		0.035		<0.01		<0.01		14		<0.01		<0.01		<0.001		<0.0002		115		3.20		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0008		<0.01		1.59		<0.005	
2023 Q1	PMP-08A	1/19/2023	<0.005		0.006		<0.01		<0.01		11		<0.01		<0.01		<0.001		<0.0002		33		0.43		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0035							

Table 3b. Laboratory Analytical Data - Dissolved Metals (2 of 2)

Year/ Quarter	Site ID	Date	Neodymium		Nickel		Niobium		Palladium		Potassium		Praseodymium		Rubidium		Selenium		Silver		Sodium		Strontium		Thallium		Thorium		Tin		Titanium		Tungsten		Uranium		Vanadium		Zinc		Zirconium	
			mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q
2023 Q1	PMP-11B	1/17/2023	<0.005		<0.002		<0.01		<0.01		3		<0.01		<0.01		<0.001		<0.0002		22		0.20		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0037		<0.01		0.050		<0.005	
2023 Q2	PMP-11B	5/11/2023	<0.005		<0.002		<0.01		<0.01		3		<0.01		<0.01		<0.001		<0.0002	UJ	23		0.18		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0037		<0.01		0.048		<0.005	
2023 Q3	PMP-11B	8/17/2023	<0.005		<0.002		<0.01		<0.01		3		<0.01		<0.01		<0.001		<0.0002		21		0.18		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0036		<0.01		0.047		<0.005	
2023 Q4	PMP-11B	11/14/2023	<0.005		<0.002		<0.01		<0.01		3		<0.01		<0.01		<0.001		<0.0002		20		0.19		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0036		<0.01		0.052		<0.005	
2023 Q2	PMP-12	5/15/2023	<0.005		<0.002		<0.01		<0.01		34		<0.01		0.05		0.003		<0.0002		103		2.21		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0027		<0.01		0.066		<0.005	
2023 Q3	PMP-12	8/23/2023	<0.005		<0.002		<0.01		<0.01		4		<0.01		<0.01		<0.001		<0.0002		7		0.28		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0012		<0.01		0.065		<0.005	
2023 Q4	PMP-12	11/16/2023	<0.005		<0.002		<0.01		<0.01		31		<0.01		0.04		0.002		<0.0002		92		1.98		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0030		<0.01		0.097		<0.005	
2023 Q2	PT14-1	5/11/2023	0.100		0.132		<0.01		<0.01		12		0.03		<0.01		0.001	J	0.0003		87		1.24		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0881		0.04		60.4		<0.005	
2023 Q4	PT14-1	11/16/2023	0.042		0.098		<0.01		<0.01		12		0.01		<0.01		<0.001		0.0004		76		1.08		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0440		0.02		47.1		<0.005	
2023 Q1	SS-04	1/25/2023	<0.005		<0.002		<0.01		<0.01		3		<0.01		<0.01		<0.001		<0.0002		16		0.26		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0054		<0.01		<0.008		<0.005	
2023 Q2	SS-04	5/15/2023	<0.005		<0.002		<0.01		<0.01		3		<0.01		<0.01		<0.001		<0.0002		10		0.14		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0017		<0.01		<0.008		<0.005	
2023 Q3	SS-04	8/23/2023	<0.005		<0.002		<0.01		<0.01		3		<0.01		<0.01		<0.001		<0.0002		12		0.19		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0030		<0.01		<0.008		<0.005	
2023 Q4	SS-04	11/16/2023	<0.005		<0.002		<0.01		<0.01		3		<0.01		<0.01		<0.001		<0.0002		15		0.24		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0036		<0.01		<0.008		<0.005	
Quality Control Samples																																										
2023 Q1	DUP-1	1/17/2023	<0.005		<0.002		<0.01		<0.01		3		<0.01		<0.01		<0.001		<0.0002		22		0.21		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0033		<0.01		0.010		<0.005	
2023 Q2	DUP-1	5/9/2023	<0.005		<0.002		<0.01		<0.01		4		<0.01		<0.01		<0.001		<0.0002		23		0.20		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0006		<0.01		0.023		<0.005	
2023 Q3	DUP-1	8/17/2023	<0.005		<0.002		<0.01		<0.01		13		<0.01		<0.01		<0.001		<0.0002		104		1.69		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0434		<0.01		0.094		<0.005	
2023 Q4	DUP-1	11/14/2023	<0.005		<0.002		<0.01		<0.01		9		<0.01		<0.01		<0.001		<0.0002		44		0.71		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0014		<0.01		0.187		<0.005	
2023 Q1	DUP-2	1/20/2023	<0.005		0.003		<0.01		<0.01		12		<0.01		0.01		<0.001		<0.0002		81		1.94		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0511		<0.01		0.729		<0.005	
2023 Q2	DUP-2	5/8/2023	<0.005		<0.002		<0.01		<0.01		4		<0.01		<0.01		<0.001		<0.0002		19		0.27		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0040		<0.01		0.084		<0.005	
2023 Q3	DUP-2	8/21/2023	<0.005		<0.002		<0.01		<0.01		9		<0.01		<0.01		<0.001		<0.0002		46		0.76		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0015		<0.01		0.188		<0.005	
2023 Q4	DUP-2	11/13/2023	0.072		0.496		<0.01		<0.01		18		0.02		0.02		<0.001		0.0062		106		2.95		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0189		<0.01		211		<0.005	
2023 Q1	DUP-3	1/23/2023	<0.005		0.107		<0.01		<0.01		12		<0.01		0.02		0.001		0.0005		98		1.27		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0016		<0.01		29.6		<0.005	
2023 Q2	DUP-3	5/10/2023	<0.005		0.006		<0.01		<0.01		7		<0.01		<0.01		<0.001		<0.0002	UJ	35		0.55		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0011		<0.01		0.200		<0.005	
2023 Q3	DUP-3	8/17/2023	<0.005		0.006		<0.01		<0.01		8		<0.01		<0.01		<0.001		<0.0002		33		0.68		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0499		<0.01		0.314		<0.005	
2023 Q4	DUP-3	11/15/2023	<0.005		0.100		<0.01		<0.01		12		<0.01		0.02		<0.001		0.0004		87		1.17		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0013		<0.01		26.2		<0.005	
2023 Q1	DUP-4	1/25/2023	0.059		0.522		<0.01		<0.01		29		0.02		0.04		0.001		0.0090		69		4.15		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0320		<0.01		207		<0.005	
2023 Q2	DUP-4	5/12/2023	<0.005		0.136		<0.01		<0.01		32		<0.01		0.07		<0.001	UJ	<0.0002		185		8.44		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0016		<0.01		27.6		<0.005	
2023 Q3	DUP-4	8/22/2023	0.063		0.510		<0.01		<0.01		28		0.02		0.03		<0.001		0.0081		68		3.94		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0326		<0.01		194		<0.005	
2023 Q4	DUP-4	11/14/2023	<0.005		<0.002		<0.01		<0.01		3		<0.01		<0.01		<0.001		<0.0002		23		0.19		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0036		<0.01		0.056		<0.005	
2023 Q1	DUP-5	1/25/2023	<0.005		<0.002		<0.01		<0.01		3		<0.01		<0.01		<0.001		<0.0002		16		0.26		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0054		<0.01		<0.008		<0.005	
2023 Q2	DUP-5	5/15/2023	<0.005		<0.002		<0.01		<0.01		3		<0.01		<0.01		<0.001		<0.0002		10		0.13		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0016		<0.01		<0.008		<0.005	
2023 Q3	DUP-5	8/23/2023	<0.005		<0.002		<0.01		<0.01		3		<0.01		<0.01		<0.001		<0.0002		12		0.20		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0029		<0.01		<0.008		<0.005	
2023 Q4	DUP-5	11/16/2023	<0.005		<0.002		<0.01		<0.01		3		<0.01		<0.01		<0.001		<0.0002		14		0.23		<0.0002		<0.005		<0.05		<0.005		<0.1		0.0036		<0.01		<0.008		<0.005	
2023 Q1	EB-1	1/17/2023	<0.005		<0.002		<0.01		<0.01		<1		<0.01		<0.01		<0.001		<0.0002		<1		<0.01		<0.0002		<0.005		<0.05		<0.005		<0.1		<0.0002		<0.01		<0.008		<0.005	
2023 Q4	EB-1	11/14/2023	<0.005		<0.002		<0.01		<0.01		<1		<0.01		<0.01		<0.001		<0.0002		<1		<0.01		<0.0002		<0.005		<0.05		<0.005											



Table 3b. Laboratory Analytical Data - Dissolved Metals (2 of 2)

Year/ Quarter	Site ID	Date	Neodymium		Nickel		Niobium		Palladium		Potassium		Praseodymium		Rubidium		Selenium		Silver		Sodium		Strontium		Thallium		Thorium		Tin		Titanium		Tungsten		Uranium		Vanadium		Zinc		Zirconium	
			mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q
2023 Q1	FB-5	1/25/2023	<0.005		<0.002		<0.01		<0.01		<1		<0.01		<0.01		<0.001		<0.0002		<1		<0.01		<0.0002		<0.005		<0.05		<0.005		<0.1		<0.0002		<0.01		<0.008		<0.005	
2023 Q2	FB-5	5/15/2023	<0.005		<0.002		<0.01		<0.01		<1		<0.01		<0.01		<0.001		<0.0002		<1		<0.01		<0.0002		<0.005		<0.05		<0.005		<0.1		<0.0002		<0.01		<0.008		<0.005	
2023 Q3	FB-5	8/23/2023	<0.005		<0.002		<0.01		<0.01		<1		<0.01		<0.01		<0.001		<0.0002		<1		<0.01		<0.0002		<0.005		<0.05		<0.005		<0.1		<0.0002		<0.01		<0.008		<0.005	
2023 Q4	FB-5	11/16/2023	<0.005		<0.002		<0.01		<0.01		<1		<0.01		<0.01		<0.001		<0.0002		<1		<0.01		<0.0002		<0.005		<0.05		<0.005		<0.1		<0.0002		<0.01		<0.008		<0.005	

**Notes** < indicates below detection  
 mg/L indicates milligrams per liter  
 Q - Data validation qualifier  
 J Estimated  
 J+ Overestimated  
 UJ Estimated Non-detect  
 J- Underestimated  
 R Rejected

















Table 5. Laboratory Analytical Data - Nonmetals

Year/ Quarter	Sample Name	Date	A/C Balance		Alkalinity, Total as CaCO3		Bicarbonate as HCO3		Bromide		Carbonate as CO3		Chloride		Conductivity @ 25 C		Fluoride		Hardness as CaCO3		Nitrogen, Nitrate+Nitrite as N		Organic Carbon, Dissolved (DOC)		Organic Carbon, Total (TOC)		pH		Solids, Total Dissolved TDS @ 180 C		Sulfate	
			%	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	umhos/cm	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q
2023 Q4	PMP-10A	11/15/2023	-3.22		94		110		<0.5	UJ	<4		14	J+	332	J+	0.5		117		1.45		0.8	J+	0.8		6.9	J	232	J+	48	
2023 Q2	PMP-10B	5/9/2023	-2.51		78		94		<0.5		<4		13		583		0.5		209		0.30		<0.5		<0.5		7.0	J	404		188	
2023 Q3	PMP-10B	8/21/2023	-3.94		77		94		<0.5		<4		13		594		0.4		202		0.35		<0.5		<0.5		7.0	J	406		192	J+
2023 Q4	PMP-10B	11/15/2023	-3.21		77		93		<0.5	UJ	<4		13	J+	568	J+	0.4		214		0.31		<0.5		<0.5		6.9	J	406		194	
2023 Q1	PMP-11A	1/18/2023	-1.57		98		120		<0.5		<4		14		312		1.2		101		1.03		<0.5		<0.5		7.2	J	195		37	
2023 Q2	PMP-11A	5/8/2023	-0.94		96		120		<0.5		<4		13		322		1.2		98		0.85		<0.5		<0.5		7.1	J	197		35	
2023 Q3	PMP-11A	8/17/2023	0.05		96		120		<0.5		<4		12		302		1.1		98		0.76		0.5		<0.5	UJ	7.2	J	192		33	
2023 Q4	PMP-11A	11/13/2023	-2.58		97		120		<0.5		<4		13	J+	309	J+	1.1		99		0.70	J-	0.5	J+	0.5		7.1	J	212	J+	33	
2023 Q1	PMP-11B	1/17/2023	-1.95		87		110		<0.5		<4		8		287		1.1		88		0.94	J-	0.6		<0.5		7.4	J	185		39	
2023 Q2	PMP-11B	5/11/2023	0.02		87		110		<0.5		<4		8		296		1.2		91		0.84	J-	<0.5		<0.5		7.5	J	180		38	
2023 Q3	PMP-11B	8/17/2023	-2.92		90		110		<0.5		<4		9		284		1.0		82		1.24		0.7		<0.5	UJ	7.4	J	196		34	
2023 Q4	PMP-11B	11/14/2023	-3.25		86		100		<0.5		<4		10		305		1		98		1.24	J-	0.5		<0.5		7.3	J	207		44	
2023 Q2	PMP-12	5/15/2023	-4.64		56		67		<0.5		<4		24		2860		1.4		1420		0.14	J+	3.5		3.3		7.1	J	2500		1690	
2023 Q3	PMP-12	8/23/2023	-3.62		59		71		<0.5		<4		39		365		0.9		139		0.41		10.2		9.4	J-	7.4	J	267		52	
2023 Q4	PMP-12	11/16/2023	-0.76		86		100		<0.5	UJ	<4		27		2250		1.3		1210		0.10	J-	2.4		2.2		7.2	J	1980		1290	
2023 Q2	PT14-1	5/11/2023	-7.42		<4		<4		0.7	J-	<4		261		3210		5.1		1110		<0.01		2.9		2.9		4.2	J	2950		1600	
2023 Q4	PT14-1	11/16/2023	-4.58		<4		<4		0.9	J-	<4		266		2440		3.2		967		<0.01	UJ	2.0	J+	2.1	J+	4.2	J	2080		1100	
<b>Quality Control Samples</b>																																
2023 Q1	SS-04	1/25/2023	-0.98		110		140		<0.5		<4		24		374		0.3	J+	144		1.35		1.3		1.3		7.6	J	233		38	
2023 Q2	SS-04	5/15/2023	2.86		51		61		<0.5		<4		14		223		0.2		78		0.21		10.5		10.6	J+	7.6	J	150		25	
2023 Q3	SS-04	8/23/2023	-3.58		95		110		<0.5		<4		20		308		0.3		112		0.72		5.6		4.8	J-	7.6	J	204		27	
2023 Q4	SS-04	11/16/2023	1.28		96		120		<0.5	UJ	<4		21		334		0.2		135		0.89	J-	2.7		2.7		7.7	J	214		36	
2023 Q1	DUP-1	1/17/2023	-1.48		90		110		<0.5		<4		7		308		0.5		100		0.43	J-	<0.5		<0.5		7.3	J	189		53	
2023 Q2	DUP-1	5/9/2023	-0.51		84		100		<0.5		<4		12		301		1.9		87		0.03		1.1		1.0		6.8	J	188		37	
2023 Q3	DUP-1	8/17/2023	-1.57		440		530		<0.5		<4		124		1620		1.7		660		<0.01		6.9		6.6	J	7.0	J	1090		305	
2023 Q4	DUP-1	11/14/2023	-2.89		54		65		<0.5		<4		12	J+	930		0.5		385		0.23		<0.5		<0.5		6.7	J	715		430	
2023 Q1	DUP-2	1/20/2023	-0.38		190		240		<0.5		<4		69		1370		1.0		627		5.78		1.4		1.3		6.8	J	1060		491	
2023 Q2	DUP-2	5/8/2023	0.46		94		110		<0.5		<4		24		436		0.5		156		1.56		1.1	J+	1.1		7.1	J	268		68	
2023 Q3	DUP-2	8/21/2023	-2.79		55		67		<0.5		<4		12	J+	951		0.5		382		0.21		<0.5		<0.5		6.6	J	716		430	J+
2023 Q4	DUP-2	11/13/2023	-7.30		<4		<4		<0.5		<4		183		4630		1.2		1830		<0.01	UJ	1.6		1.6		4.3	J	5350		3320	
2023 Q1	DUP-3	1/23/2023	-3.92		53		64		<0.5		<4		76		1540		0.2		584		5.80		1.7		1.8		5.8	J	1360		765	
2023 Q2	DUP-3	5/10/2023	-4.42		57		68		<0.5		<4		42		1020		0.3		395		3.18		1.0		1.0		6.5	J	719		391	
2023 Q3	DUP-3	8/17/2023	NA		240		290		<0.5		<4		60		812		0.5		339		1.28		3.0		3.0		6.8	J	525		91	
2023 Q4	DUP-3	11/15/2023	-4.86		52		63		<0.5	UJ	<4		72	J+	1610		0.2	J+	593		6.24	J-	1.6	J+	1.6	J+	5.8	J	1300		740	
2023 Q1	DUP-4	1/25/2023	-12.0		<4		<4		<0.5		<4		181		3790		7.1	J+	1680		6.12		0.8		0.9		4.2	J	4240		2640	J+
2023 Q2	DUP-4	5/12/2023	-4.18		19		22		<0.5		<4		11		3050		1.1		1280		0.24		0.6		0.6		5.6	J	2700		1760	
2023 Q3	DUP-4	8/22/2023	-11.6		<4		<4		<0.5		<4		181		3880		5.8		1770		8.04		0.7		0.6	J+	4.3	J	4340		2680	
2023 Q4	DUP-4	11/14/2023	-1.94		86		100		<0.5		<4		10		305		1		93		1.33	J-	<0.5		<0.5		7.4	J	205		43	
2023 Q1	DUP-5	1/25/2023	-0.04		110		140		<0.5		<4		24		372		0.3	J+	149		1.35		1.3		1.3		7.6	J	234		38	J+
2023 Q2	DUP-5	5/15/2023	3.78		49		60		<0.5		<4		14		222		0.2		78		0.21		10.7		10.9		7.6	J	157		25	
2023 Q3	DUP-5	8/23/2023	-2.46		95		120		<0.5		<4		20		308		0.3		116		0.72		5.4		4.8	J-	7.6	J	206		27	
2023 Q4	DUP-5	11/16/2023	3.11		96		120		<0.5	UJ	<4		21		335		0.2		143		0.89	J-	2.7		2.7		7.8	J	215		36	
2023 Q1	EB-1	1/17/2023	--		<4		<4		<0.5		<4		<1		5	J+	<0.1		<1		<0.01		<0.5		<0.5		5.5	J	<20		<1	
2023 Q4	EB-1	11/14/2023	-84.3		<4		<4		<0.5		<4		6		77		<0.1		<1		<0.01		0.8		<0.5		3.8	J	40		<1	
2023 Q1	EB-2	1/20/2023	-100		<4		<4		<0.5		<4		<1		7	J+	<0.1		<1		<0.01		<0.5		<0.5		5.5	J	<20		<1	
2023 Q2	EB-2	5/8/2023	-94.3		<4		<4		<0.5		<4		1		18	J+	<0.1		<1		<0.01		0.6		<0.5		4.6	J	<20		<1	
2023 Q3	EB-2	8/21/2023	-47.6		<4		<4		<0.5		<4		3		36		<0.1		<1		<0.01		0.6		0.6		4.2	J	<100		<1	
2023 Q4	EB-2	11/13/2023	-15.5		<4		<4		<0.5		<4		2		24		<0.1		2		<0.01		<0.5		<0.5		4.4	J	36		<1	
2023 Q1	EB-3	1/23/2023	-100		<4		<4		<0.5		<4		<1		6	J+	<0.1		<1		<0.01		<0.5		<0.5		5.5	J	<20		<1	
2023 Q2	EB-3	5/10/2023	-24.9		<4		<4		<0.5		<4		<1		6		<0.1		<1		<0.01		<0.5		<0.5		5.8	J	<20		<1	
2023 Q3	EB-3	8/17/2023	-85.8		<4		<4		<0.5		<4		<1		12		<0.1		<1		<0.01		<0.5		<0.5		4.8	J	<20		<1	

Table 5. Laboratory Analytical Data - Nonmetals

Year/ Quarter	Sample Name	Date	A/C Balance		Alkalinity, Total as CaCO3		Bicarbonate as HCO3		Bromide		Carbonate as CO3		Chloride		Conductivity @ 25 C		Fluoride		Hardness as CaCO3		Nitrogen, Nitrate+Nitrite as N		Organic Carbon, Dissolved (DOC)		Organic Carbon, Total (TOC)		pH		Solids, Total Dissolved TDS @ 180 C		Sulfate		
			%	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	umhos/cm	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	mg/L	Q	s.u.	Q	mg/L
2023 Q4	EB-3	11/15/2023	-79.6		<4		<4		<0.5		<4		12		157		0.2		1		<0.01		0.7		1.2		3.5	J	<20		<1		
2023 Q1	EB-4	1/25/2023	--		<4		<4		<0.5		<4		<1		6	J+	<0.1		<1		<0.01		NA		<0.5		5.6	J	<20		<1		
2023 Q2	EB-4	5/12/2023	-50.4		<4		<4		<0.5		<4		<1		15	J+	<0.1		<1		<0.01		<0.5		<0.5		4.8	J	<20		<1		
2023 Q3	EB-4	8/22/2023	-42.4		<4		<4		<0.5		<4		<1		10		<0.1		<1		<0.01		<0.5		<0.5		5.0	J	<20		<1		
2023 Q1	EB-5	1/25/2023	--		<4		<4		<0.5		<4		<1		10	J+	<0.1		<1		<0.01		<0.5		<0.5		5.6	J	<20		<1		
2023 Q1	FB-1	1/17/2023	--		<4		<4		<0.5		<4		<1		6	J+	<0.1		<1		<0.01		<0.5		<0.5		5.6	J	<20		<1		
2023 Q2	FB-1	5/9/2023	--		<4		<4		<0.5		<4		<1		<5		<0.1		<1		<0.01		<0.5		<0.5		5.8	J	<20		<1		
2023 Q3	FB-1	8/21/2023	-94.3		<4		<4		<0.5		<4		<1		5		<0.1		<1		0.03		<0.5		<0.5	UJ	5.7	J	<20		<1		
2023 Q4	FB-1	11/14/2023	61.1		<4		<4		<0.5		<4		<1		<5		<0.1		<1		<0.01		<0.5		<0.5		5.8	J	<20		<1		
2023 Q1	FB-2	1/20/2023	-100		<4		<4		<0.5		<4		<1		7	J+	<0.1		<1		<0.01		<0.5		<0.5		5.7	J	<20		<1		
2023 Q2	FB-2	5/8/2023	--		<4		<4		<0.5		<4		<1		8	J+	<0.1		<1		<0.01		<0.5		<0.5		5.6	J	<20		<1		
2023 Q3	FB-2	8/21/2023	-100		<4		<4		<0.5		<4		<1		<5		<0.1		<1		<0.01		<0.5		<0.5		5.8	J	<20		<1		
2023 Q4	FB-2	11/13/2023	100		<4		<4		<0.5		<4		<1		<5		<0.1		<1		<0.01		<0.5		<0.5		6.0	J	<20		<1		
2023 Q1	FB-3	1/23/2023	-100		<4		<4		<0.5		<4		<1		7	J+	<0.1		<1		<0.01		<0.5		<0.5		5.5	J	<20		<1		
2023 Q2	FB-3	5/10/2023	--		<4		<4		<0.5		<4		<1		<5		<0.1		<1		<0.01		<0.5		<0.5		5.7	J	<20		<1		
2023 Q3	FB-3	8/17/2023	--		<4		<4		<0.5		<4		<1		<5		<0.1		<1		<0.01		<0.5		<0.5		6.3	J	<20		<1		
2023 Q4	FB-3	11/15/2023	100		<4		<4		<0.5		<4		<1		<5		<0.1		<1		<0.01		<0.5		<0.5		5.6	J	<20		<1		
2023 Q1	FB-4	1/25/2023	--		<4		<4		<0.5		<4		<1		7	J+	<0.1		<1		<0.01		NA		NA		5.5	J	<20		<1		
2023 Q2	FB-4	5/12/2023	--		<4		<4		<0.5		<4		<1		6	J+	<0.1		<1		<0.01		<0.5		<0.5		6.1	J	<20		<1		
2023 Q3	FB-4	8/22/2023	-90.0		<4		<4		<0.5		<4		<1		<5		<0.1		<1		<0.01		<0.5		<0.5		5.7	J	<20		<1		
2023 Q4	FB-4	11/14/2023	100		<4		<4		<0.5		<4		<1		<5		<0.1		<1		<0.01		<0.5		<0.5		5.6	J	<20		<1		
2023 Q1	FB-5	1/25/2023	--		<4		<4		<0.5		<4		<1		6	J+	<0.1		<1		<0.01		NA		NA		5.7	J	<20		<1		
2023 Q2	FB-5	5/15/2023	-100		<4		<4		<0.5		<4		<1		7		<0.1		<1		<0.01		<0.5		<0.5		6.5	J	<20		<1		
2023 Q3	FB-5	8/23/2023	100		<4		<4		<0.5		<4		<1		<5		<0.1		<1		<0.01		<0.5		<0.5		6.4	J	<20		<1		
2023 Q4	FB-5	11/16/2023	100		<4		<4		<0.5		<4		<1		<5		<0.1		<1		<0.01		<0.5		<0.5		6.5	J	<20		<1		

< indicates below detection  
mg/L indicates milligrams per liter  
NA indicates not analyzed  
Q - Data validation qualifier  
J Estimated  
J+ Overestimated  
UJ Estimated Non-detect  
J- Underestimated  
R Rejected

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**Table 6. Relative Percent Differences (RPD)**

Year/ Quarter	Sample IDs Original (Duplicate)	Analyte	Original Sample Result (mg/L)	Duplicate Sample Result (mg/L)	RPD (%)
2023 Q1	PMP-09A (DUP-2)	Silver	0.0002	<0.0002	NA
2023 Q1	PMP-01B (DUP-3)	Aluminum	0.01	<0.009	NA
2023 Q1	PMP-01B (DUP-3)	Lithium	0.3	0.2	40.0
2023 Q1	AMW-01B (DUP-4)	Gallium	<0.01	0.01	NA
2023 Q1	AMW-01B (DUP-4)	Rubidium	0.03	0.04	28.6
2023 Q1	AMW-01B (DUP-4)	Selenium	<0.001	0.001	NA
2023 Q2	BPS07-07 (DUP-1)	Cadmium	0.00005	0.00004	22.2
2023 Q2	BPS07-07 (DUP-1)	Copper	<0.002	0.003	NA
2023 Q2	BPS07-07 (DUP-1)	Nitrate+Nitrite	0.02	0.03	40.0
2023 Q2	AMW-01C (DUP-4)	Beryllium	<0.0008	0.0008	NA
2023 Q2	AMW-01C (DUP-4)	Iron	0.03	0.02	40.0
2023 Q2	SS-04 (DUP-5)	Dissolved Aluminum	0.152	0.117	26.0
2023 Q3	BPS07-23 (DUP-1)	TOC	1.5	6.6	126
2023 Q3	AMW-01B (DUP-4)	DOC	0.9	0.7	25.0
2023 Q3	AMW-01B (DUP-4)	TOC	0.9	0.6	40.0
2023 Q3	AMW-01B (DUP-4)	Selenium	0.001	<0.001	NA
2023 Q3	SS-04 (DUP-5)	Dissolved Copper	0.007	0.004	54.5
2023 Q3	SS-04 (DUP-5)	Dissolved Iron	0.1	0.14	33.3
2023 Q3	SS-04 (DUP-5)	Total Manganese	0.075	0.055	30.8
2023 Q4	MSD-02B (DUP-2)	Selenium	0.001	<0.001	NA
2023 Q4	PMP-11B (DUP-4)	DOC	0.5	<0.5	NA
2023 Q4	PMP-11B (DUP-4)	Copper	0.003	0.002	40.0
2023 Q4	PMP-11B (DUP-4)	Manganese	<0.001	0.004	NA
2023 Q4	SS-04 (DUP-5)	Dissolved Copper	0.003	<0.002	NA
2023 Q4	SS-04 (DUP-5)	Total Lead	0.0003	0.0005	50.0

NA -not applicable, one detected result and one non-detected result.



## **ATTACHMENT A**

### Data Quality Summary First Quarter 2023

## **Attachment A**

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### **Data Quality Summary First Quarter of 2023**

## **Quality Assurance (QA) and Quality Control (QC) Review of Inorganic Data**

Summaries of the samples collected for this investigation are included in the attached appendices. The sampling project analytical methods are listed below in Table A-1. The quality of the inorganic data is summarized in the paragraphs below and in the report attachments.

Table A-1 Parrot Performance Monitoring Analytical Requirement.

<b>Analysis Group</b>	<b>Analyses</b>	<b>Methods</b>
Metals	Total Recoverable (Surface Water and MH-MSD sites) Dissolved Rare Earth Elements	E200.7/8
Physical Properties	pH, pH Measurement Temp Conductivity Total Dissolved Solids (TDS)	A4500-H B A2510 B A2540 C
Inorganics	Alkalinity, Bicarbonate, Carbonate Chloride, Sulfate, Bromide, Fluoride Hardness	A2320 B E300.0 A2340 B
Aggregate Organics	Dissolved Organic Carbon (DOC) Total Organic Carbon (TOC)	A5310C
Nutrients	Nitrogen, Nitrate+Nitrite	E353.2
Data Quality	Anion/Cation (A/C) Balance	A1030 E

The following sample data groups (SDGs) have been validated and are included in NRD Parrot Tailings 2023 First Quarter Sampling Event:

- H23010433
- H23010535
- H23010553

### **Data Quality Executive Summary**

A total of 60 of the 66 total groundwater samples and four of the five surface water samples, as well as five field duplicates, five equipment blanks, and five field blanks were collected as part of Parrot Tailings Removal Performance Monitoring project. Monitoring wells AMW-01A, AMW-20, PT14-1, PMP-02A, PMP-02B, and PMP-10B, and surface water site PMP-12 were unable to be sampled. AMW-01A was dry, AMW-20 and PT14-1 were inaccessible due to road conditions, PMP-02A and PMP-02B flush mount lids were frozen over, PMP-10B water column was frozen, and PMP-12 was frozen over. A total of 4,768 individual data points were produced, and 100% of these data points may be used to support decision-making for the risk assessment, developing site-specific risk-based clean up goals, and support an evaluation of the scope of remedial action (if necessary).

Samples are submitted to Energy Laboratories in Helena, Montana. The Helena laboratory subs DOC and TOC analyses to the Energy Laboratories in Casper, Wyoming. DOC and TOC are collected in amber glass containers. Six containers were broken in transit from the Helena to

Casper laboratory. Out of 790 analyses planned (79 samples multiplied by 10 methods), 784 analyses (99.2%) were completed.

A total of 156 data points (3.27%) received qualification during validation due to results outside of QA/QC acceptance criteria, as defined in the *EPA National Functional Guidelines for Inorganic Data Review* (EPA, November 2020). These qualifications (J, J-, J+ , and UJ) indicate some uncertainty in reported results due to preservation, contamination, accuracy, and/or precision issues. The following provides a summary of qualified results suitable for use in further decision making regarding the NRD Parrot Tailings.

- Results qualified J: 79 (50.6% of qualified, 1.66% of total)
- Results qualified J-: 26 (16.7% of qualified, 0.55% of total)
- Results qualified J+: 43 (27.6% of qualified, 0.90% of total)
- Results qualified UJ: 8 (5.13% of qualified, 0.17% of total)

These qualifications, once assigned, do not limit the use of the results for purposes of decision making. The *EPA Risk Assessment Guidance, Part A, Sec. 5.4.1, pg. 5-15 Data Usability* (EPA, 1989) states the following with respect to use of 'J' or 'UJ' qualified results:

*"The guidance here is to use J-qualified concentrations the same way as positive data that do not have this qualifier. If possible, note potential uncertainties associated with the qualifier, so that if data qualified with a J contribute significantly to the risk, the appropriate caveats can be attached."*

Results qualified as R are not enforcement or screening quality and should not be used to inform decisions. Zero results were qualified as R.

### **QA/QC Review of Inorganic Data**

Data validation summaries were completed using the data validation guidelines from *EPA National Functional Guidelines for Inorganic Data Review* (EPA, November 2020). The completed summaries are attached. Laboratory data flags and qualifiers are listed in **Tables 3, 4, 5 and 6**.

### **Field Data Quality**

A total of 89 data points (1.87% of total) were qualified as estimated due to field QA/QC deficiencies. Of these qualifications, 79 data points (88.8% of qualified, 1.66% of total) were due to hold time exceedances, five data points (5.62% of qualified, 0.10% of total) were due to equipment rinse blank cross-contamination, and five data points (5.62% of qualified, 0.10% of total) were due to field blank contamination.

### **Preservation and Hold Times**

Preservation includes proper field filtration, preservation, and acceptable pH and temperature upon receipt by the laboratory. Hold time is determined from the date of collection to the date of

analysis. Laboratory pH hold time is 15 minutes, which is impossible to meet, so all analytical pH results were qualified as estimated; refer to field pH for accurate results. These accounted for all 79 qualified data points.

### Blanks

Equipment blank results are used to provide a measure of effectiveness of field decontamination procedures between sampling wells. Five equipment blank samples were collected during this sampling effort. Each equipment blank had detections for conductivity. Five data points (all field blank conductivity results) were qualified as estimated high (J+).

Field blank results are used to provide a measure of contamination during field sampling and sample processing. Five field blank samples were collected during this sampling effort. Each field blank had detections for conductivity. Five data points (all equipment blank conductivity results) were qualified as estimated high (J+).

### Duplicates

Field duplicate samples assess the variance of the field sampling methods. Duplicates were collected at a minimum frequency of 1 per 20 primary samples, meeting the project QAPP specified frequency, resulting in five field duplicate sample pairs. Six analytes exhibited relative percent differences (RPDs) above the 20% criteria, but none required qualification. A summary of the RPD results is provided in **Table 6**.

### **Laboratory Data Quality**

A total of 67 data points (1.41%) were qualified as estimated due to laboratory QA/QC deficiencies. Of these qualifications, one data point (1.49% of qualified, <0.01% of total) was due to field blank contamination and 66 data points (98.5% of qualified, 1.38% of total) were due to due to poor laboratory accuracy.

### Laboratory Blank Results

Laboratory method blanks assess contamination introduced during sample laboratory preparation activities. There were three manganese and two tin detections, resulting in only one data point (manganese in BPS11-14A) qualified as estimated high (J+).

### Laboratory Precision

Laboratory duplicate samples assess the variance of the analytical methods. All laboratory duplicate RPDs were below criteria maximums; therefore, no qualification was required.

### Accuracy

Laboratory accuracy is measured with percent recoveries for calibration verifications, laboratory fortified blanks or control samples, and matrix spikes. There were 14 matrix spike recovery failures, resulting in four bromide, seven calcium, 21 fluoride, 27 nitrate+nitrite, and seven sulfate data points qualified as estimated (J+, J-, or UJ).



**Completeness**

Out of 86 planned samples (71 natural, 15 QA/QC), 79 samples were collected (64 natural, 15 QA/QC), resulting in a 91.9% complete sample delivery group. Out of 790 analyses planned, 784 analyses were completed, resulting in 99.2% complete work orders. Out of 4,768 data points, all 4,768 data points are usable, resulting in a 100% complete data package. The project QAPP data quality objectives (DQOs) have been met.

**Data Validation Summary**  
**First Quarter of 2023**



# Data Verification/Validation Checklist and Summary Report

PROJECT AND LABORATORY INFORMATION	
Project/Task/Sub-Task #:	NRDPM16 TO 2 / 001: Parrot Tailings Groundwater
Site & Location:	Butte, MT
Sample Collection Date(s):	January 17-26, 2023
Laboratory & Location:	Energy Laboratories – Helena, MT
Sample Delivery Group (SDG):	Q1
Work Order (WO):	H23010433, H23010535, H23010553
Extraction/Prep Date(s):	January 27, 2023
Analysis Date(s):	January 23 – February 21, 2023
Laboratory Report Date(s):	H23010433: February 21, 2023 H23010535: original – February 17, 2023; revised – April 10, 2023 H23010553: February 23, 2023
Data Validator:	Janelle Garza
Data Validation Date(s):	December 4-5, 2023
Data Validation Reviewer:	
Data Validation Review Date(s):	

SDG/WO (in order of sample date/time)					
Lab ID	Sample ID	Sample Date	Sample Time	Matrix	Notes
H23010433-037	MH-MSD108	1/17/2023	10:30	Aqueous: Surface Water (SW)	
H23010433-010	GS-28	1/17/2023	11:04	Aqueous: Groundwater (GW)	
H23010433-038	MH-MSD113	1/17/2023	11:40	Aqueous: SW	
H23010433-039	MH-MSD116	1/17/2023	12:10	Aqueous: SW	
H23010433-001	GS-28B	1/17/2023	14:26	Aqueous: GW	
H23010433-007	DUP-1	1/17/2023	14:30	Aqueous: GW	GW QA/QC Group 1 duplicate: GS-28B
H23010433-008	FB-1	1/17/2023	14:35	Deionized (DI) Water	GW QA/QC Group 1 field blank
H23010433-009	EB-1	1/17/2023	14:40	DI Water	GW QA/QC Group 1 equipment blank
H23010433-002	AMW-13A	1/17/2023	15:23	Aqueous: GW	
H23010433-003	PMP-11B	1/17/2023	16:16	Aqueous: GW	
H23010433-005	BPS07-07B	1/17/2023	16:51	Aqueous: GW	
H23010433-004	BSP07-07	1/18/2023	10:38	Aqueous: GW	
H23010433-006	BPS07-23	1/18/2023	11:15	Aqueous: GW	
H23010433-016	AMC-23B	1/18/2023	12:30	Aqueous: GW	
H23010433-018	AMC-24B	1/18/2023	13:05	Aqueous: GW	
H23010433-014	PMP-11A	1/18/2023	13:15	Aqueous: GW	
H23010433-015	GS-29SR	1/18/2023	13:45	Aqueous: GW	
H23010433-020	PMP-10A	1/18/2023	14:15	Aqueous: GW	
H23010535-015	PMP-06A	1/18/2023	14:45	Aqueous: GW	
H23010535-016	PMP-06B	1/18/2023	15:15	Aqueous: GW	
H23010535-013	PMP-05A	1/18/2023	15:45	Aqueous: GW	
H23010535-014	PMP-05BR	1/18/2023	16:15	Aqueous: GW	
H23010433-017	PMP-09B	1/19/2023	9:52	Aqueous: GW	
H23010535-001	MSD-02A	1/19/2023	10:40	Aqueous: GW	
H23010433-021	BPS11-11A1	1/19/2023	14:00	Aqueous: GW	
H23010433-022	BPS11-11A2	1/19/2023	14:30	Aqueous: GW	
H23010433-019	PMP-08A	1/19/2023	14:35	Aqueous: GW	

H23010433-023	BPS11-11B	1/19/2023	15:00	Aqueous: GW	
H23010535-002	PMP-07B	1/19/2023	15:20	Aqueous: GW	
H23010433-024	BPS11-11C	1/19/2023	15:30	Aqueous: GW	
H23010433-011	AMW-13B	1/19/2023	16:00	Aqueous: GW	
H23010433-012	AMW-13B2	1/19/2023	16:20	Aqueous: GW	
H23010535-020	PMP-04B	1/19/2023	16:31	Aqueous: GW	
H23010433-013	AMW-13C	1/19/2023	16:40	Aqueous: GW	
H23010433-025	AMC-24C	1/19/2023	17:00	Aqueous: GW	
H23010433-026	BPS11-10A	1/19/2023	17:30	Aqueous: GW	
H23010433-027	BPS11-10B	1/19/2023	17:50	Aqueous: GW	
H23010433-028	BPS11-10C	1/19/2023	18:10	Aqueous: GW	
H23010433-029	PMP-08A2	1/20/2023	10:30	Aqueous: GW	
H23010433-030	PMP-08B	1/20/2023	11:30	Aqueous: GW	
H23010433-031	PMP-09A	1/20/2023	12:00	Aqueous: GW	
H23010433-034	DUP-2	1/20/2023	12:05	Aqueous: GW	GW QA/QC Group 2 duplicate: PMP-09A
H23010433-035	FB-2	1/20/2023	12:10	DI Water	GW QA/QC Group 2 field blank
H23010433-036	EB-2	1/20/2023	12:15	DI Water	GW QA/QC Group 2 equipment blank
H23010433-032	BPS11-14A	1/20/2023	12:30	Aqueous: GW	
H23010433-033	BPS11-14B	1/20/2023	13:00	Aqueous: GW	
H23010535-024	AMW-09	1/20/2023	15:00	Aqueous: GW	
H23010535-023	GS-04R	1/23/2023	13:00	Aqueous: GW	
H23010535-003	MF-11	1/23/2023	13:12	Aqueous: GW	
H23010535-021	PMP-01A	1/23/2023	13:40	Aqueous: GW	
H23010535-022	PMP-01B	1/23/2023	14:10	Aqueous: GW	
H23010535-017	DUP-3	1/23/2023	14:15	Aqueous: GW	GW QA/QC Group 3 duplicate: PMP-01B
H23010535-004	MSD-04	1/23/2023	14:17	Aqueous: GW	
H23010535-018	FB-3	1/23/2023	14:20	DI Water	GW QA/QC Group 3 field blank
H23010535-019	EB-3	1/23/2023	14:25	DI Water	GW QA/QC Group 3 equipment blank
H23010535-005	PMP-07A	1/23/2023	15:21	Aqueous: GW	
H23010535-006	MSD-03	1/23/2023	16:25	Aqueous: GW	
H23010535-007	BPS11-17C	1/24/2023	10:30	Aqueous: GW	
H23010535-008	MF-07	1/24/2023	11:00	Aqueous: GW	
H23010535-009	MF-07B	1/24/2023	11:30	Aqueous: GW	
H23010535-025	AMW-08	1/24/2023	13:00	Aqueous: GW	
H23010535-010	BPS11-18B	1/24/2023	14:23	Aqueous: GW	
H23010535-011	BPS11-18C	1/24/2023	14:46	Aqueous: GW	
H23010535-012	MSD-02B	1/24/2023	15:37	Aqueous: GW	
H23010553-009	FB-4	1/25/2023	8:00	DI Water	GW QA/QC Group 4 field blank
H23010553-010	EB-4	1/25/2023	8:05	DI Water	GW QA/QC Group 4 equipment blank
H23010553-014	BPS07-11A	1/25/2023	12:39	Aqueous: GW	
H23010553-003	MSDSG-03	1/25/2023	12:45	Aqueous: SW	
H23010553-015	BPS07-11B	1/25/2023	12:58	Aqueous: GW	
H23010553-002	MSDSG-05	1/25/2023	13:15	Aqueous: SW	
H23010553-004	MSDSG-02	1/25/2023	13:25	Aqueous: SW	
H23010553-001	SS-04	1/25/2023	13:45	Aqueous: SW	
H23010553-005	DUP-5	1/25/2023	13:50	Aqueous: SW	SW QA/QC duplicate: SS-04

H23010553-006	FB-5	1/25/2023	13:55	DI Water	SW QA/QC field blank
H23010553-007	EB-5	1/25/2023	14:00	DI Water	SW QA/QC equipment blank
H23010553-013	AMW-01B	1/25/2023	15:26	Aqueous: GW	
H23010553-008	DUP-4	1/25/2023	15:27	Aqueous: GW	GW QA/QC Group 4 duplicate: AMW-01B
H23010553-012	AMW-01C	1/26/2023	11:41	Aqueous: GW	
H23010553-011	PMP-03A	1/26/2023	12:50	Aqueous: GW	

METHOD(S)/ANALYSES	
<b>Physical Properties</b>	A4500-H B: pH & pH Measurement Temp A2510 B: Conductivity A2540 C: Total Dissolved Solids (TDS)
<b>Inorganics</b>	A2320 B: Alkalinity, Bicarbonate, & Carbonate E300.0: Chloride, Sulfate, Bromide, Fluoride A2340B: Hardness
<b>Aggregate Organics: A5310 C</b>	Dissolved Organic Carbon (DOC) Total Organic Carbon (TOC)
<b>Nutrients: E353.2</b>	Nitrate+Nitrite (N+N)
<b>Dissolved and Total Recoverable (SW only) Metals: E200.7/8</b>	Aluminum (Al), Antimony (Sb), Arsenic (As), Barium (Ba), Beryllium (B), Boron (B), Cadmium (Cd), Cesium (Cs), Calcium (Ca), Chromium (Cr), Cobalt (Co), Copper (Cu), Gallium (Ga), Iron (Fe), Lead (Pb), Lanthanum (La), Lithium (Li), Magnesium (Mg), Neodymium (Nd), Niobium (Nb), Manganese (Mn), Molybdenum (Mo), Nickel (Ni), Palladium (Pd), Praseodymium (Pr), Rubidium (Rb), Potassium (K), Selenium (Se), Silver (Ag), Sodium (Na), Strontium (Sr), Thallium (Tl), Thorium (Th), Tin (Sn), Titanium (Ti), Tungsten (W), Uranium (U), Vanadium (V), Zinc (Zn), Zirconium (Zr)
<b>Data Quality: A1030 E</b>	Anion/Cation (A/C) Balance

QUALIFIER DEFINITIONS	
<b>U</b>	The analyte was analyzed for but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate.
<b>UJ</b>	The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
<b>J</b>	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
<b>J-</b>	The result is an estimated quantity, but the result may be biased low.
<b>J+</b>	The result is an estimated quantity, but the result may be biased high.
<b>R</b>	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

GUIDANCE DOCUMENTS	
<b>List any/all Environmental Protection Agency (EPA) or state Department of Environmental Quality (DEQ) guidance documents referenced/resourced.</b>	<b>N/A</b>
❖ EPA <ul style="list-style-type: none"> <li>➤ Butte Mine Flooding Operable Unit (BMFOU) Monitoring Program, Butte Priority Soils Operable Unit (BPSOU), Butte Area / Silver Bow Creek (SBC), Record of Decision   September 2006</li> <li>➤ BPSOU Explanation of Significant Differences   July 2011</li> <li>➤ BPSOU Revised Interim Groundwater Monitoring Plan, Butte Area / SBC National Priority List Site, Butte – Silver Bow County, Montana   July 2011</li> <li>➤ Guidance for Quality Assurance Project Plans, EPA QA/G-5   Document No. EPA/240/R-02/009   December 2002</li> <li>➤ Guidance on Systematic Planning Using the Data Quality Objectives Process   Document No. EPAQA/G-4   February 2006</li> </ul>	

<ul style="list-style-type: none"> <li>➤ Groundwater Sampling Guidelines for Superfund and Resource Conservation and Recovery Act Project Managers, EPA 542-S-02-001   May 2002</li> <li>❖ Montana DEQ: Circular DEQ-7 – Montana Numeric Water Quality Standards   October 2012</li> </ul>			
<b>List any/all project quality assurance plan (QAP), sampling and analysis plan (SAP), or work plan (WP) referenced/resourced.</b>			<b>N/A</b>
<ul style="list-style-type: none"> <li>❖ Parrot Tailings Waste Removal Performance Monitoring WP and Quality Assurance Project Plan (QAPP) <ul style="list-style-type: none"> <li>➤ Administrative Rules of the State of Montana   2017</li> <li>➤ Natural Resource Damage Program <ul style="list-style-type: none"> <li>▪ Butte Natural Resource Damage Restoration Council Butte Area One (BAO) Final Restoration Plan   December 2012</li> <li>▪ Draft Data Gaps Site Investigation Technical Memorandum, Parrot Tailings Area, BAO, Butte, Montana   November 24, 2015</li> <li>▪ Tech Memo, Data Gaps Investigation, Silver Bow Creek and Blacktail Creek Corridors   July 21, 2016</li> </ul> </li> </ul> </li> </ul>			
<b>List any/all data validation (DV) standard operating guideline (SOG) or procedure (SOP) referenced/resourced.</b>			<b>N/A</b>
Water & Environmental Technologies (WET)   Data Validation (DV): Standard Operating Guidelines (SOG)   Inorganic, Organic, Radioanalytical, & High Resolution Atlantic Richfield Company (ARCO)   Clark Fork River Superfund Site Investigations   SOPs   September 1992			
<b>Select the applicable United States Environmental Protection Agency (USEPA) National Functional Guidelines (NFGs) Superfund Methods Data Review (SMDR) referenced/resourced:</b>	<b>Inorganic</b>	<b>Organic</b>	<b>N/A</b>
	X		
<b>Select the applicable USEPA Guideline for Data Review referenced/resourced:</b>	<b>High Resolution</b>	<b>Asbestos</b>	<b>N/A</b>
			X
<b>Was the Idaho National Engineering and Environmental Laboratory (INEEL) Radioanalytical DV Guide referenced/resourced? If no, enter any/all radioanalytical DV SOG/SOP referenced/resourced:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
			X

❖ PMP-02A and PMP-02B due to the flush mounts being frozen over.

<b>CHECKLIST</b>			
<b>Field QA/QC</b>			
<b>Was field documentation provided and complete?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were calibration checks within project stabilization criteria (or other applicable range)?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Was chain-of-custody (COC) documentation accurate and complete?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were all planned samples able to be collected?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
		X	
The following samples were unable to be sampled:			
<ul style="list-style-type: none"> <li>❖ AMW-01A due to no water (dry).</li> <li>❖ AMW-20 and PT14-1 due to inaccessibility from road and weather conditions.</li> <li>❖ PMP-02A and PMP-02B due to the flush mounts being frozen over.</li> <li>❖ PMP-10B due to water frozen within the well.</li> <li>❖ PMP-12 (SW) due to frozen over.</li> </ul>			
<b>Were samples submitted within a reasonable time frame to meet extraction/prep and/or analytical hold times (HT)? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
		X	
pH (A4500-H B) analytical HT is 15 minutes. It is not feasible to submit the samples to the lab within this time frame. All analytical pH results are qualified as estimated (J).			
<b>Were samples submitted received by the laboratory in good condition?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Were samples received by the laboratory within temperature and pH requirements? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>

<b>Were volatile samples collected with zero headspace, or was enough volume available for analysis without using any containers with bubbles? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
			X
<b>Were field duplicate (FD) samples required?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were FD samples collected at the correct frequency? If no, all field data points are qualified as estimated (J/UJ) due to lack of field precision QA/QC (FDX).</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were FD relative percent difference (RPD) results at or below control limits (CLs)? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
		X	
<p>PMP-09A (original) &amp; DUP-2 (duplicate): representing PMP-11A, GS-29SR, PMP-10A, PMP-06A, PMP-06B, PMP-05A, PMP-05BR, BPS11-11A1, BPS11-11A2, BPS11-11B, BPS11-11C, AMW-13B, AMW-13B2, AMW-13C, AMC-24C, BPS11-10A, BPS11-10B, BPS11-10C, PMP-08A2, PMP-08B, PMP-09A, DUP-2, FB-2, and EB-2</p> <ul style="list-style-type: none"> <li>❖ Silver: The original sample result was detected (&lt;5xRL) while the duplicate sample result was ND and replaced with 0.0001 mg/L (half RL) to give a 66.7% RPD, &gt;20% CL. The absolute difference between the detected original result and half RL (ND duplicate result) was ≤RL. <ul style="list-style-type: none"> <li>➤ No qualification required.</li> </ul> </li> </ul> <p>PMP-01B (original) &amp; DUP-3 (duplicate): representing BPS11-14A, BPS11-14B, AMW-09, GS-40R, MF-11, PMP-01B, DUP-3, MSD-04, FB-3, EB-3, PMP-07A, MSD-03, BPS11-17C, MF-07, MF-07B, AMW-08, BPS11-18B, BPS11-18C, and MSD-02B</p> <ul style="list-style-type: none"> <li>❖ Aluminum: The original sample result was detected (&lt;5xRL) while the duplicate sample result was ND and replaced with 0.0045 (half RL) to give a 75.9% RPD, &gt;20% CL. The absolute difference between the detected original result and half RL (ND duplicate result) was ≤RL. <ul style="list-style-type: none"> <li>➤ No qualification required.</li> </ul> </li> <li>❖ Lithium RPD was 40.0%, &gt;20% CL. The original and duplicate sample results were &lt;5xRL. The absolute difference between the original and duplicate sample results was ≤RL. <ul style="list-style-type: none"> <li>➤ No qualification required.</li> </ul> </li> </ul> <p>AMW-01B (original) &amp; DUP-4 (duplicate): representing FB-4, EB-4, BPS07-11A, BPS07-11B, AMW-01B, DUP-4, AMW-01C, and PMP-03A</p> <ul style="list-style-type: none"> <li>❖ Gallium: The duplicate sample result was detected (&lt;5xRL) while the original sample result was ND and replaced with 0.005 mg/L (half RL) to give a 66.7% RPD, &gt;20% CL. The absolute difference between the detected duplicate result and half RL (ND original result) was ≤RL. <ul style="list-style-type: none"> <li>➤ No qualification required.</li> </ul> </li> <li>❖ Rubidium RPD was 28.6%, &gt;20% CL. The original and duplicate sample results were &lt;5xRL. The absolute difference between the original and duplicate sample results was ≤RL. <ul style="list-style-type: none"> <li>➤ No qualification required.</li> </ul> </li> <li>❖ Selenium: The duplicate sample result was detected (&lt;5xRL) while the original sample result was ND and replaced with 0.0005 mg/L (half RL) to give a 66.7% RPD, &gt;20% CL. The absolute difference between the detected duplicate result and half RL (ND original result) was ≤RL. <ul style="list-style-type: none"> <li>➤ No qualification required.</li> </ul> </li> </ul>			
<b>Was field decontamination of sampling equipment required?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were equipment rinse blank (ERB) samples required?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were ERB samples collected at the correct frequency? If no, all field data points are qualified (J/UJ) as estimated due to lack of field QA/QC (ERBX).</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were all ERB results non-detect (ND)? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
		X	
<p>EB-1: representing all low-flow GW samples (GS-28, GS-28B, DUP-1, FB-1, AMW-13A, PMP-11B, BPS07-07B, BPS07-07, BPS07-23, AMC-23B, AMC-24B, PMP-09B, MSD-02A, PMP-08A, PMP-07B, PMP-04B, PMP-01A)</p> <ul style="list-style-type: none"> <li>❖ Conductivity was detected at 5 umhos/cm, equal to the RL. <ul style="list-style-type: none"> <li>➤ FB-1 was qualified as estimated high (J+) due to a result ≥RL but &lt;10xEB and should be reported at the EB concentration.</li> <li>➤ All remaining samples did not require qualification due to results ≥10xEB.</li> </ul> </li> </ul>			



EB-2: representing PMP-11A, GS-29SR, PMP-10A, PMP-06A, PMP-06B, PMP-05A, PMP-05BR, BPS11-11A1, BPS11-11A2, BPS11-11B, BPS11-11C, AMW-13B, AMW-13B2, AMW-13C, AMC-24C, BPS11-10A, BPS11-10B, BPS11-10C, PMP-08A2, PMP-08B, PMP-09A, DUP-2, and FB-2

- ❖ Conductivity was detected at 7 umhos/cm, >RL of 5 umhos/cm.
  - FB-2 was qualified as estimated high (J+) due to a result  $\geq$ RL but <10xEB.
  - All remaining samples did not require qualification due to results  $\geq$ 10xEB.

EB-3: representing BPS11-14A, BPS11-14B, AMW-09, GS-40R, MF-11, PMP-01B, DUP-3, MSD-04, FB-3, PMP-07A, MSD-03, BPS11-17C, MF-07, MF-07B, AMW-08, BPS11-18B, BPS11-18C, and MSD-02B

- ❖ Conductivity was detected at 6 umhos/cm, >RL of 5 umhos/cm.
  - FB-3 was qualified as estimated high (J+) due to a result  $\geq$ RL but <10xEB and should be reported at the EB concentration.
  - All remaining samples did not require qualification due to results  $\geq$ 10xEB.

EB-4: representing FB-4, BPS07-11A, BPS07-11B, AMW-01B, DUP-4, AMW-01C, and PMP-03A

- ❖ Conductivity was detected at 6 umhos/cm, >RL of 5 umhos/cm.
  - FB-4 was qualified as estimated high (J+) due to a result  $\geq$ RL but <10xEB and should be reported at the EB concentration.
  - All remaining samples did not require qualification due to results  $\geq$ 10xEB.

EB-5: representing all SW samples (MH-MSD108, MH-MSD113, MH-MSD116, MSDSG-03, MSDSG-05, MSDSG-02, SS-04, DUP-5, FB-5)

- ❖ Conductivity was detected at 10 umhos/cm, >RL of 5 umhos/cm.
  - FB-5 was qualified as estimated high (J+) due to a result  $\geq$ RL but <10xEB.
  - All remaining samples did not require qualification due to results  $\geq$ 10xEB.

Were field blank (FB) samples required?	Yes	No	N/A
	X		
Were FB samples collected at the correct frequency? If no, all data is qualified as estimated due to lack of field QA/QC (FBX).	Yes	No	N/A
	X		
Were all FB results ND? If no, detail below.	Yes	No	N/A
		X	

FB-1: representing all low-flow GW samples (GS-28, GS-28B, DUP-1, FB-1, AMW-13A, PMP-11B, BPS07-07B, BPS07-07, BPS07-23, AMC-23B, AMC-24B, PMP-09B, MSD-02A, PMP-08A, PMP-07B, PMP-04B, PMP-01A)

- ❖ Conductivity was detected at 6 umhos/cm, >RL of 5 umhos/cm.
  - EB-1 was qualified as estimated high (J+) due to a result  $\geq$ RL but <10xFB.
  - All remaining samples did not require qualification due to results  $\geq$ 10xFB.

FB-2: representing PMP-11A, GS-29SR, PMP-10A, PMP-06A, PMP-06B, PMP-05A, PMP-05BR, BPS11-11A1, BPS11-11A2, BPS11-11B, BPS11-11C, AMW-13B, AMW-13B2, AMW-13C, AMC-24C, BPS11-10A, BPS11-10B, BPS11-10C, PMP-08A2, PMP-08B, PMP-09A, DUP-2, and FB-2

- ❖ Conductivity was detected at 7 umhos/cm, >RL of 5 umhos/cm.
  - EB-2 was qualified as estimated high (J+) due to a result  $\geq$ RL but <10xFB.
  - All remaining samples did not require qualification due to results  $\geq$ 10xFB.

FB-3: representing BPS11-14A, BPS11-14B, AMW-09, GS-40R, MF-11, PMP-01B, DUP-3, MSD-04, FB-3, PMP-07A, MSD-03, BPS11-17C, MF-07, MF-07B, AMW-08, BPS11-18B, BPS11-18C, and MSD-02B

- ❖ Conductivity was detected at 7 umhos/cm, >RL of 5 umhos/cm.
  - EB-3 was qualified as estimated high (J+) due to a result  $\geq$ RL but <10xFB.
  - All remaining samples did not require qualification due to results  $\geq$ 10xFB.

FB-4: representing FB-4, BPS07-11A, BPS07-11B, AMW-01B, DUP-4, AMW-01C, and PMP-03A

- ❖ Conductivity was detected at 6 umhos/cm, >RL of 5 umhos/cm.
  - EB-4 was qualified as estimated high (J+) due to a result  $\geq$ RL but <10xFB.
  - All remaining samples did not require qualification due to results  $\geq$ 10xFB.

FB-5: representing all SW samples (MH-MSD108, MH-MSD113, MH-MSD116, MSDSG-03, MSDSG-05, MSDSG-02, SS-04, DUP-5, FB-5)

- ❖ Conductivity was detected at 7 umhos/cm, >RL of 5 umhos/cm.
  - EB-5 was qualified as estimated high (J+) due to a result  $\geq$ RL but <10xFB and should be reported at the FB concentration.
  - All remaining samples did not require qualification due to results  $\geq$ 10xFB.

Were trip blank (TB) samples required (volatiles analyses)?	Yes	No	N/A
		X	
Were TB samples submitted as required (one per shipping container)? If no, all data is qualified as estimated due to lack of TB (TBX).	Yes	No	N/A
			X
Other issues? If yes, detail below.	Yes	No	N/A



<b>Field QA/QC Summary</b>			
Out of 4768 total data points: <ul style="list-style-type: none"> <li>• 4679 data points (98.1%) remain unqualified.</li> <li>• Out of 89 data points (1.9%) qualified as estimated:               <ul style="list-style-type: none"> <li>• 79 data points (73.1% of qualified, 1.7% of total) were due to HT exceedances.</li> <li>• No data points were due to preservation (temperature and/or pH) issues.</li> <li>• 10 data points (9.3% of qualified, 0.2% of total) were due to blank contamination.</li> <li>• No data points were due to poor replication.</li> </ul> </li> <li>• No data points were rejected.</li> </ul>			
<b>Laboratory QA/QC</b>			
<b>Did the laboratory use appropriate methods to extract/prepare and analyze all samples within HT?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were there any results reported below the RL or in exceedance of (E) or over (O) instrument calibration? If yes, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
		X	
<b>Other issues? If yes, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
Samples are submitted to the Helena, MT laboratory. The Helena laboratory subs DOC and TOC analysis to the Casper, WY laboratory. DOC and TOC are collected in amber glass containers. The following samples were broken in transit from the Helena to Casper laboratories: <ul style="list-style-type: none"> <li>❖ DOC: AMW-01C, EB-4, FB-4, FB-5</li> <li>❖ TOC: FB-4, FB-5</li> </ul>			
<b>Laboratory Blanks</b>			
<b>Were TB results ND? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
			X
<b>Were method blank (MB) samples analyzed at a frequency of one per 20 samples or one per batch?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were MB results ND? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
		X	
<ul style="list-style-type: none"> <li>❖ Method E200.7               <ul style="list-style-type: none"> <li>➢ Batch R181955: AMW-01B, DUP-4, PMP-03A                   <ul style="list-style-type: none"> <li>▪ Manganese was detected at 0.001 mg/L, &lt;RL of 0.01 mg/L.                       <ul style="list-style-type: none"> <li>• No qualification was required for any samples due to all results <math>\geq 10 \times \text{MB}</math>.</li> </ul> </li> </ul> </li> </ul> </li> <li>❖ Method E200.8               <ul style="list-style-type: none"> <li>➢ Batch R181895                   <ul style="list-style-type: none"> <li>▪ Manganese was detected at 0.0008 mg/L, &lt;RL of 0.001 mg/L.                       <ul style="list-style-type: none"> <li>• Batch samples: FB-1, PMP-09A, DUP-2, FB-2, EB-2, BPS11-14A, BPS11-14B, MF-11                           <ul style="list-style-type: none"> <li>◆ BPS11-14A was qualified as estimated high (J+) due to a result <math>\geq \text{RL}</math> but <math>&lt; 10 \times \text{MB}</math>.</li> <li>◆ BPS11-14B and MF-11 did not require qualification due to results <math>\geq 10 \times \text{MB}</math>.</li> <li>◆ All remaining samples did not require qualification due to ND results.</li> </ul> </li> </ul> </li> <li>▪ Tin was detected at 0.0005 mg/L, &lt;RL of 0.1 mg/L.                       <ul style="list-style-type: none"> <li>• Batch samples: FB-1, PMP-06A, PMP-06B, PMP-05A, PMP-05BR, MSD-02A, PMP-07B, PMP-04B, AMW-09, GS-40R, MF-11, PMP-01A, PMP-02B, DUP-3, MSD-04, FB-3, EB-3, PMP-07A, MSD-03, BPS11-17C, MF-07, MF-07B, AMW08, BPS11-18B, BPS11-18C, MSD-02B                           <ul style="list-style-type: none"> <li>◆ No qualification was required for any samples due to all ND results.</li> </ul> </li> </ul> </li> </ul> </li> </ul> </li></ul>			
<b>Laboratory Accuracy</b>			
<b>Were initial/continuing calibration verification (ICV/CCV) analyses performed for each batch?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were ICV/CCV percent recoveries within CLs? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were laboratory fortified blanks (LFB) / control samples (LCS) analyzed at a frequency of one per 20 samples or one per batch?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were LFB/LCS percent recoveries within CLs? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>

	X		
<b>Were matrix spike (MS) samples analyzed at a frequency of one per 20 samples or one per batch?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were MS percent recoveries within CLs? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
*Note: All EB/ERB and FB samples, consistent of deionized (DI) water, are excluded from evaluation due to the potential matrix interference between DI water and the aqueous matrices.		X	
<ul style="list-style-type: none"> <li>❖ Method E200.7 <ul style="list-style-type: none"> <li>➤ Batch R181835: PMP-06A, PMP-06B, PMP-05A, PMP-05BR, MSD-02A, PMP-04B, MF-11, PMP-01A, PMP-01B, DUP-3, MSD-04, FB-3, EB-3, PMP-07A, MSD-03, BPS11-17C, MF-07, MF-07B, AMW-08, BPS11-18C <ul style="list-style-type: none"> <li>▪ H23010535-008BMS2: MF-07 <ul style="list-style-type: none"> <li>• Representing samples analyzed between 1/25/2023 1644 and 1740: MSD-02A, MF-11, MSD-04, PMP-07A, MSD-03, BPS11-17C, MF-07 <ul style="list-style-type: none"> <li>◆ Calcium was recovered at 65% (MS), &lt;70% lower CL. <ul style="list-style-type: none"> <li>✓ All samples were qualified as estimated low (J-) due to detected results.</li> </ul> </li> </ul> </li> </ul> </li> </ul> </li> </ul> </li> <li>❖ Method E300.0 <ul style="list-style-type: none"> <li>➤ Batch R181878: MH-MSD108, GS-28, MH-MSD113, MH-MSD116, GS-28B, DUP-1, FB-1, EB-1, AMW-13A, PMP-11B, BPS07-07B, BPS07-07, BPS07-23, AMC-23B, AMC-24B, PMP-11A, GS-29SR, PMP-10A, PMP-09B, BPS11-11A1, BPS11-11A2, PMP-08A, BPS11-11B, BPS11-11C, AMW-13B, AMW-13B2, AMW-13C, AMC-24C, BPS11-10A, BPS11-10B, BPS11-10C, PMP-08A2, PMP-08B, PMP-09A, DUP-2, FB-2, EB-2, BPS11-14A, BPS11-14B <ul style="list-style-type: none"> <li>▪ H23010433-011AMSD: AMW-13B <ul style="list-style-type: none"> <li>• Representing samples analyzed between 1/26/2023 0425 and 0948: AMC-23B, AMC-24B, PMP-11A, GS-29SR, PMP-10A, PMP-09B, BPS11-11A1, PMP-08A, AMW-13B2, AMW-13C <ul style="list-style-type: none"> <li>◆ Fluoride was recovered at 111% (MSD), &gt;110% upper CL. <ul style="list-style-type: none"> <li>✓ All samples were qualified as estimated high (J+) due to detected results.</li> </ul> </li> </ul> </li> </ul> </li> <li>➤ Batch R181923: PMP-06A, PMP-06B, PMP-05A, PMP-05BR, MSD-02A, PMP-07B, PMP-04B, AMW-009, GS-40R, MF-11, PMP-01A, PMP-01B, DUP-3, MSD-04, FB-3, EB-3, PMP-07A, MSD-03, BPS11-17C, MF-07, MF-07B, AMW-08, BPS11-18B, BPS11-18C, MSD-02B, FB-4, EB-4, BPS07-11A, MSDSG-03, BPS07-11B, MSDSG-05, MSDSG-02, SS-04, DUP-5, FB-5, EB-5, AMW-01B, DUP-4, AMW-01C, PMP-03A <ul style="list-style-type: none"> <li>▪ H23010535-001AMS/D: MSD-02A <ul style="list-style-type: none"> <li>• Bromide was recovered at 115% (MS and MSD), &gt;110% upper CL. <ul style="list-style-type: none"> <li>◆ Representing samples analyzed up to 1/28/2023 0658: MSD-02A, PMP-07B, MF-11, MSD-04, PMP-07A, MSD-03, BPS11-17C, MF-07, MF-07B, BPS11-18B, BPS11-18C <ul style="list-style-type: none"> <li>✓ MF-07 was qualified as estimated high (J+) due to a detected result.</li> <li>✓ All remaining samples did not require qualification due to ND results.</li> </ul> </li> </ul> </li> <li>• Fluoride was recovered at 113% (MS) and 112% (MSD), &gt;110% upper CL. <ul style="list-style-type: none"> <li>◆ Representing samples analyzed up to 1/28/2023 0601: MSD-02A, PMP-07B, MF-11, MSD-04, PMP-07A, MSD-03, BPS11-17C, MF-07, MF-07B, BPS11-18B <ul style="list-style-type: none"> <li>✓ All samples were qualified as estimated high (J+) due to detected results.</li> </ul> </li> </ul> </li> </ul> </li> <li>▪ H23010535-011AMS: BPS11-18C <ul style="list-style-type: none"> <li>• Representing samples analyzed between 1/28/2023 0336 and 0713: PMP-07B, MF-11, MSD-04, PMP-07A, MSD-03, BPS11-17C, MF-07, MF-07B, BPS11-18B, BPS11-18C <ul style="list-style-type: none"> <li>◆ Bromide was recovered at 114% (MS), &gt;110% upper CL. <ul style="list-style-type: none"> <li>✓ PMP-06A was qualified as estimated high (J+) due to a detected result.</li> <li>✓ All remaining samples did not require qualification due to ND results.</li> </ul> </li> </ul> </li> </ul> </li> <li>▪ H23010535-021AMS/D: PMP-01A <ul style="list-style-type: none"> <li>• Representing GW samples analyzed after 1/28/2023 0713: PMP-06A, PMP-06B, PMP-05A, PMP-05BR, PMP-04B, AMW-09, GS-40R, PMP-01A, PMP-01B, DUP-3, AMW-08, MSD-02B, BPS07-11A, BPS07-11B, AMW-01B, DUP-4, AMW-01C, PMP-03A <ul style="list-style-type: none"> <li>◆ Bromide was recovered at 112% (MS and MSD), &gt;110% upper CL. <ul style="list-style-type: none"> <li>✓ PMP-06A, PMP-01A, and PMP-03A were qualified as estimated high (J+) due to detected results.</li> <li>✓ All remaining samples did not require qualification due to ND results.</li> </ul> </li> </ul> </li> </ul> </li> <li>▪ H23010553-004AMS/D: MSDSG-02 <ul style="list-style-type: none"> <li>• Representing SW samples analyzed before 1/28/2023 1748: MSDSG-03, MSDSG-05, MSDSG-02, SS-04, and DUP-5 <ul style="list-style-type: none"> <li>◆ Bromide was recovered at 115% (MS) and 118% (MSD), &gt;110% upper CL. <ul style="list-style-type: none"> <li>✓ No qualification was required for any samples due to all ND results.</li> </ul> </li> <li>◆ Fluoride was recovered at 113% (MS) and 112% (MSD), &gt;110% upper CL.</li> </ul> </li> </ul> </li> </ul> </li></ul></li></ul></li></ul>			



- No data points were due to poor precision ([list failure types]).
- No data points were rejected.

## OVERALL SUMMARY

### Data Quality

Out of 4768 total data points:

- 4612 data points (96.7%) remain unqualified and are considered quantitative.
- Out of 156 data points (3.3%) qualified as estimated and assigned as qualitative:
  - 89 data points (57.1% of qualified, 1.9% of total) were due to field QA/QC.
  - 67 data points (42.9% of qualified, 1.4% of total) were due to laboratory QA/QC.
- No data points were rejected.

### Completeness

Out of 86 samples planned (71 natural, 15 QA/QC), 79 (64 natural, 15 QA/QC) samples were completed. This SDG is 91.9% complete.

Out of 790 analyses planned, 784 analyses were completed. These WOs are 99.2% complete.

Out of 4768 data points produced, 4768 data points are useable. This data package is 100% complete.

**Level A/B Assessment Checklist  
First Quarter of 2023**

**I. General Information**

**Site:** Parrot  
**Project:** Parrot Performance Monitoring  
**Client:** NRD  
**Sample Matrix:** Aqueous  
**Lab Report #s:** H23010433, H23010535, H23010553

**II. Enforcement Results**

Data are:  
 1) Unusable   
 2) Level A   
 3) Level B

**III. Level A Screening**

Criteria – The following must be fully documented:	Yes/No	Comments
1. Sampling date	Yes	
2. Sampling team or leader	Yes	
3. Physical description of sampling location	Yes	
4. Sample depth (soils)	N/A	
5. Sample collection technique	Yes	
6. Field preparation technique	N/A	
7. Sample preservation technique	Yes	
8. Sample shipping records and laboratory analysis dates	Yes	
9. Companion sampling efforts	Yes	
10. Visual classification of samples	NA	Aqueous Samples

**IV. Level B Screening**

Criteria – The following must be fully documented:	Yes/No	Comments
1. Field/laboratory instrumentation, standardization and methods/procedures	Yes	
2. Proper sample containers and container preparation	Yes	
3. Collection of field replicates (1/20 minimum)	Yes	
4. Proper and decontaminated sampling equipment	N/A	
5. Identity of sample taker	Yes	
6. Field custody documentation	Yes	
7. Shipping custody documentation	Yes	
8. Traceable sample designation number	Yes	
9. Field notebooks, custody records in secure repository	Yes	
10. Properly prepared and complete field forms	Yes	
11. Physical data/observations date and time	Yes	
12. Physical data/observations recorder, team leader	Yes	
13. Physical data/observation location	Yes	



## **ATTACHMENT B**

### Data Quality Summary Second Quarter 2023

## **Attachment B**

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### **Data Quality Summary Second Quarter of 2023**



## **Quality Assurance (QA) and Quality Control (QC) Review of Inorganic Data**

Summaries of the samples collected for this investigation are included in the attached appendices. The sampling project analytical methods are listed below in Table A-1. The quality of the inorganic data is summarized in the paragraphs below and in the report attachments.

Table A-1 Parrot Performance Monitoring Analytical Requirement.

<b>Analysis Group</b>	<b>Analyses</b>	<b>Methods</b>
Metals	Total Recoverable (Surface Water and MH-MSD sites) Dissolved Rare Earth Elements	E200.7/8
Physical Properties	pH, pH Measurement Temp Conductivity Total Dissolved Solids (TDS)	A4500-H B A2510 B A2540 C
Inorganics	Alkalinity, Bicarbonate, Carbonate Chloride, Sulfate, Bromide, Fluoride Hardness	A2320 B E300.0 A2340 B
Aggregate Organics	Dissolved Organic Carbon (DOC) Total Organic Carbon (TOC)	A5310C
Nutrients	Nitrogen, Nitrate+Nitrite	E353.2
Data Quality	Anion/Cation (A/C) Balance	A1030 E

The following sample data groups (SDGs) have been validated and are included in NRD Parrot Tailings 2023 Second Quarter Sampling Event:

- H23050305
- H23050392
- H23050437
- H23050596
- H23050597

### **Data Quality Executive Summary**

All 66 groundwater samples and all five surface water samples, as well as five field duplicates, three equipment blanks, and five field blanks were collected as part of Parrot Tailings Removal Performance Monitoring project. A total of 5,052 individual data points were produced, and 100% of these data points may be used to support decision-making for the risk assessment, developing site-specific risk-based clean up goals, and support an evaluation of the scope of remedial action (if necessary).

Samples are submitted to Energy Laboratories in Helena, Montana. The Helena laboratory subs DOC and TOC analyses to the Energy Laboratories in Casper, Wyoming. DOC and TOC are collected in amber glass containers. Two containers were broken in transit from the Helena to Casper laboratory. Out of 840 analyses planned (84 samples multiplied by 10 methods), 838 analyses (99.8%) were completed.

A total of 179 data points (3.54%) received qualification during validation due to results outside of QA/QC acceptance criteria, as defined in the *EPA National Functional Guidelines for*

*Inorganic Data Review* (EPA, November 2020). These qualifications (J, J-, J+ , and UJ) indicate some uncertainty in reported results due to preservation, contamination, accuracy, and/or precision issues. The following provides a summary of qualified results suitable for use in further decision making regarding the NRD Parrot Tailings.

- Results qualified J: 93 (52.0% of qualified, 1.84% of total)
- Results qualified J-: 13 (7.26% of qualified, 0.26% of total)
- Results qualified J+: 24 (13.4% of qualified, 0.48% of total)
- Results qualified UJ: 49 (27.4% of qualified, 0.97% of total)

These qualifications, once assigned, do not limit the use of the results for purposes of decision making. The *EPA Risk Assessment Guidance, Part A, Sec. 5.4.1, pg. 5-15 Data Usability* (EPA, 1989) states the following with respect to use of ‘J’ or ‘UJ’ qualified results:

*"The guidance here is to use J-qualified concentrations the same way as positive data that do not have this qualifier. If possible, note potential uncertainties associated with the qualifier, so that if data qualified with a J contribute significantly to the risk, the appropriate caveats can be attached."*

Results qualified as R are not enforcement or screening quality and should not be used to inform decisions. Zero results were qualified as R.

### **QA/QC Review of Inorganic Data**

Data validation summaries were completed using the data validation guidelines from *EPA National Functional Guidelines for Inorganic Data Review* (EPA, November 2020). The completed summaries are attached. Laboratory data flags and qualifiers are listed in **Tables 3, 4, 5 and 6**.

### **Field Data Quality**

A total of 109 data points (2.16% of total) were qualified as estimated due to field QA/QC deficiencies. Of these qualifications, 84 data points (77.1% of qualified, 1.7% of total) were due to hold time exceedances, 15 data points (13.8% of qualified, 0.30% of total) were due to field blank contamination, and 10 data points (9.17% of qualified, 0.20% of total) were due to field duplicate relative percent difference (RPD) exceeding the 20% aqueous criteria specified by the EPA and project QAPP.

### **Preservation and Hold Times**

Preservation includes proper field filtration, preservation, and acceptable pH and temperature upon receipt by the laboratory. Hold time is determined from the date of collection to the date of analysis. Laboratory pH hold time is 15 minutes, which is impossible to meet, so all analytical pH results were qualified as estimated; refer to field pH for accurate results. These accounted for all 84 qualified data points.

## Blanks

Equipment blank results are used to provide a measure of effectiveness of field decontamination procedures between sampling wells. Three equipment blank samples were collected during this sampling effort. There were seven analyte detections: Conductivity in all three plus DOC and chloride in equipment blank 2 and copper and manganese in equipment blank 4. Thirteen data points were qualified as estimated high (J+): Conductivity in field blanks 2 and 4, DOC in GS-29SR, BPS11-11A1, DUP-2, PMP-09A, PMP-08A2, and PMP-10A, and chloride in AMW-13B, BPS11-11A2, AMW-13B2, AMW-13C, and BPS11-11C. No other results were affected.

Field blank results are used to provide a measure of contamination during field sampling and sample processing. Five field blank samples were collected during this sampling effort. Field blanks 2 and 4 had detections for conductivity. Two data points (conductivity in field blanks 2 and 4) were qualified as estimated high (J+). No other results were affected.

## Duplicates

Field duplicate samples assess the variance of the field sampling methods. Duplicates were collected at a minimum frequency of 1 per 20 primary samples, meeting the project QAPP specified frequency, resulting in five field duplicate sample pairs. Six analytes exhibited relative percent differences (RPDs) above the 20% criteria, although only one analyte required qualification. A total of 10 aluminum data points were qualified as estimated (J or UJ). A summary of the RPD results is provided in **Table 6**.

## **Laboratory Data Quality**

A total of 70 data points (1.39%) were qualified as estimated due to laboratory QA/QC deficiencies. Of these qualifications, three data points (4.29% of qualified, <0.01% of total) were due to field blank contamination, 19 data points (27.1% of qualified, 0.38% of total) were due to poor laboratory precision, and 48 data points (68.6% of qualified, 0.95% of total) were due to due to poor laboratory accuracy.

### Laboratory Blank Results

Laboratory method blanks assess contamination introduced during sample laboratory preparation activities. There were 11 method blank detections, resulting in three data points qualified as estimated high (J+): TOC in AMW-09 and GS-40R and DOC in GS-28B.

### Laboratory Precision

Laboratory duplicate samples assess the variance of the analytical methods. There was one matrix spike duplicate RPD exceedance, resulting in 19 selenium data points qualified as estimated (J or UJ).

### Accuracy

Laboratory accuracy is measured with percent recoveries for calibration verifications, laboratory fortified blanks or control samples, and matrix spikes. There were 10 matrix spike recovery failures, resulting in eight bromide, 21 nitrate+nitrite, one TOC, and 18 silver data points qualified as estimated (J+, J-, or UJ).

**Completeness**

Out of 84 planned samples (71 natural, 13 QA/QC), all 84 samples were collected, resulting in a 100% complete sample delivery group. Out of 840 analyses planned, 838 analyses were completed, resulting in 99.8% complete work orders. Out of 5,052 data points, all 5,052 data points are usable, resulting in a 100% complete data package. The project QAPP data quality objectives (DQOs) have been met.

**Data Validation Summary  
Second Quarter of 2023**



# Data Verification/Validation Checklist and Summary Report

PROJECT AND LABORATORY INFORMATION	
Project/Task/Sub-Task #:	NRDPM16 TO 2 / 001: Parrot Tailings Groundwater
Site & Location:	Butte, MT
Sample Collection Date(s):	May 8-16, 2023
Laboratory & Location:	Energy Laboratories – Helena, MT
Sample Delivery Group (SDG):	Q2
Work Order (WO):	H23050305, H23050392, H23050437, H23050596, H23050597
Extraction/Prep Date(s):	NA
Analysis Date(s):	May 11 – June 2, 2023
Laboratory Report Date(s):	H23050305: May 26, 2023 H23050392, H23050437, & H23050596: May 31, 2023 H23050597: June 6, 2023
Data Validator:	Janelle Garza
Data Validation Date(s):	December 5-6, 2023
Data Validation Reviewer:	
Data Validation Review Date(s):	

SDG/WO (in order of sample date/time)					
Lab ID	Sample ID	Sample Date	Sample Time	Matrix	Notes
H23050305-001	GS-29SR	5/8/2023	14:11	Aqueous: Groundwater (GW)	
H23050305-002	BPS11-11A1	5/8/2023	14:20	Aqueous: GW	
H23050305-003	DUP-2	5/8/2023	14:25	Aqueous: GW	GW QA/QC Group 2 duplicate: BPS11-11A1
H23050305-004	EB-2	5/8/2023	14:45	Deionized (DI) Water	GW QA/QC Group 2 equipment blank
H23050305-005	PMP-11A	5/8/2023	14:48	Aqueous: GW	
H23050305-006	FB-2	5/8/2023	15:00	DI Water	GW QA/QC Group 2 field blank
H23050305-007	AMW-13B	5/8/2023	15:23	Aqueous: GW	
H23050305-008	BPS11-11A2	5/8/2023	15:25	Aqueous: GW	
H23050305-009	AMW-13B2	5/8/2023	15:51	Aqueous: GW	
H23050305-010	BPS11-11B	5/8/2023	16:12	Aqueous: GW	
H23050305-011	AMW-13C	5/8/2023	16:19	Aqueous: GW	
H23050305-012	PMP-09A	5/9/2023	11:21	Aqueous: GW	
H23050305-013	BPS07-23	5/9/2023	11:31	Aqueous: GW	
H23050305-014	BPS11-11C	5/9/2023	11:32	Aqueous: GW	
H23050305-015	PMP-08A2	5/9/2023	11:57	Aqueous: GW	
H23050305-016	BPS11-10A	5/9/2023	14:29	Aqueous: GW	
H23050305-017	BPS07-07	5/9/2023	14:37	Aqueous: GW	
H23050305-018	DUP-1	5/9/2023	14:39	Aqueous: GW	GW QA/QC Group 1 duplicate: BPS07-07
H23050305-019	FB-1	5/9/2023	14:45	DI Water	GW QA/QC Group 1 field blank
H23050305-020	PMP-08B	5/9/2023	14:47	Aqueous: GW	
H23050305-021	BPS11-10B	5/9/2023	15:25	Aqueous: GW	
H23050305-022	BPS11-10C	5/9/2023	16:17	Aqueous: GW	
H23050305-023	PMP-10A	5/9/2023	16:20	Aqueous: GW	
H23050305-024	BPS07-07B	5/9/2023	16:24	Aqueous: GW	
H23050305-025	PMP-10B	5/9/2023	16:48	Aqueous: GW	

H23050392-001	BPS11-14A	5/10/2023	11:16	Aqueous: GW	
H23050392-002	AMC-24C	5/10/2023	11:35	Aqueous: GW	
H23050392-003	BPS11-14B	5/10/2023	11:52	Aqueous: GW	
H23050392-004	BPS11-17C	5/10/2023	12:59	Aqueous: GW	
H23050392-005	MSD-03	5/10/2023	13:08	Aqueous: GW	
H23050392-006	MF-07B	5/10/2023	13:43	Aqueous: GW	
H23050392-007	MF-11	5/10/2023	14:08	Aqueous: GW	
H23050392-008	MF-07	5/10/2023	14:11	Aqueous: GW	
H23050392-009	MSD-04	5/10/2023	14:33	Aqueous: GW	
H23050392-010	DUP-3	5/10/2023	14:34	Aqueous: GW	GW QA/QC Group 3 duplicate: MSD-04
H23050392-011	EB-3	5/10/2023	14:50	DI Water	GW QA/QC Group 3 equipment blank
H23050392-012	FB-3	5/10/2023	14:55	DI Water	GW QA/QC Group 3 field blank
H23050392-013	PMP-06B	5/10/2023	15:44	Aqueous: GW	
H23050392-014	PMP-07A	5/10/2023	16:02	Aqueous: GW	
H23050392-015	PMP-06A	5/10/2023	16:08	Aqueous: GW	
H23050392-016	MSD-02B	5/10/2023	16:39	Aqueous: GW	
H23050437-001	PMP-11B	5/11/2023	10:43	Aqueous: GW	
H23050437-002	PMP-05A	5/11/2023	10:49	Aqueous: GW	
H23050437-003	PMP-05BR	5/11/2023	11:18	Aqueous: GW	
H23050437-004	AMW-13A	5/11/2023	11:41	Aqueous: GW	
H23050437-005	BPS07-11B	5/11/2023	11:46	Aqueous: GW	
H23050437-006	BPS07-11A	5/11/2023	12:21	Aqueous: GW	
H23050437-019	PT14-1	5/11/2023	12:26	Aqueous: GW	
H23050437-007	BPS11-18B	5/11/2023	13:08	Aqueous: GW	
H23050437-020	AMW-09	5/11/2023	13:13	Aqueous: GW	
H23050437-008	BPS11-18C	5/11/2023	13:33	Aqueous: GW	
H23050437-009	PMP-03A	5/11/2023	13:53	Aqueous: GW	
H23050437-010	PMP-01B	5/11/2023	14:39	Aqueous: GW	
H23050437-011	AMW-01B	5/11/2023	15:00	Aqueous: GW	
H23050437-012	GS-28	5/12/2023	9:45	Aqueous: GW	
H23050437-013	GS-28B	5/12/2023	10:50	Aqueous: GW	
H23050437-015	FB-4	5/12/2023	11:05	DI Water	GW QA/QC Group 4 field blank
H23050437-014	PMP-08A	5/12/2023	11:19	Aqueous: GW	
H23050437-016	AMW-01C	5/12/2023	11:51	Aqueous: GW	
H23050437-017	DUP-4	5/12/2023	11:52	Aqueous: GW	GW QA/QC Group 4 duplicate: AMW-01C
H23050437-018	EB-4	5/12/2023	12:10	DI Water	QA/QC Group 4 equipment blank
H23050437-021	GS-40R	5/12/2023	13:50	Aqueous: GW	
H23050437-022	AMW-08	5/12/2023	13:52	Aqueous: GW	
H23050596-001	AMW-20	5/15/2023	11:50	Aqueous: GW	
H23050597-001	SS-04	5/15/2023	13:15	Aqueous: Surface Water (SW)	
H23050597-002	DUP-5	5/15/2023	13:16	Aqueous: SW	SW QA/QC duplicate: SS-04
H23050597-003	FB-5	5/15/2023	13:30	DI Water	SW QA/QC field blank
H23050597-004	PMP-12	5/15/2023	13:40	Aqueous: SW	
H23050597-005	MSDSG-02	5/15/2023	14:05	Aqueous: SW	
H23050597-006	MSDSG-05	5/15/2023	14:20	Aqueous: SW	
H23050597-007	MSDSG-03	5/15/2023	14:40	Aqueous: SW	
H23050597-008	MH-MSD108	5/16/2023	9:10	Aqueous: SW	

H23050597-009	MH-MSD113	5/16/2023	10:30	Aqueous: SW	
H23050597-010	MH-MSD116	5/16/2023	11:14	Aqueous: SW	
H23050596-002	PMP-09B	5/16/2023	11:41	Aqueous: GW	
H23050596-003	AMC-24B	5/16/2023	12:42	Aqueous: GW	
H23050596-004	AMC-23B	5/16/2023	13:46	Aqueous: GW	
H23050596-005	PMP-07B	5/16/2023	14:15	Aqueous: GW	
H23050596-006	MSD-02A	5/16/2023	14:46	Aqueous: GW	
H23050596-007	PMP-04B	5/16/2023	15:49	Aqueous: GW	
H23050596-008	PMP-02B	5/16/2023	16:38	Aqueous: GW	
H23050596-009	PMP-02A	5/16/2023	17:00	Aqueous: GW	
H23050596-010	PMP-01A	5/16/2023	17:10	Aqueous: GW	
H23050596-011	AMW-01A	5/17/2023	10:45	Aqueous: GW	

METHOD(S)/ANALYSES	
Physical Properties	A4500-H B: pH & pH Measurement Temp A2510 B: Conductivity A2540 C: Total Dissolved Solids (TDS)
Inorganics	A2320 B: Alkalinity, Bicarbonate, & Carbonate E300.0: Chloride, Sulfate, Bromide, Fluoride A2340B: Hardness
Aggregate Organics: A5310 C	Dissolved Organic Carbon (DOC) Total Organic Carbon (TOC)
Nutrients: E353.2	Nitrate+Nitrite (N+N)
Dissolved and Total Recoverable Metals: E200.7/8	Aluminum (Al), Antimony (Sb), Arsenic (As), Barium (Ba), Beryllium (B), Boron (B), Cadmium (Cd), Cesium (Cs), Calcium (Ca), Chromium (Cr), Cobalt (Co), Copper (Cu), Gallium (Ga), Iron (Fe), Lead (Pb), Lanthanum (La), Lithium (Li), Magnesium (Mg), Neodymium (Nd), Niobium (Nb), Manganese (Mn), Molybdenum (Mo), Nickel (Ni), Palladium (Pd), Praseodymium (Pr), Rubidium (Rb), Potassium (K), Selenium (Se), Silver (Ag), Sodium (Na), Strontium (Sr), Thallium (Tl), Thorium (Th), Tin (Sn), Titanium (Ti), Tungsten (W), Uranium (U), Vanadium (V), Zinc (Zn), Zirconium (Zr)
Data Quality: A1030 E	Anion/Cation (A/C) Balance

QUALIFIER DEFINITIONS	
<b>U</b>	The analyte was analyzed for but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate.
<b>UJ</b>	The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
<b>J</b>	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
<b>J-</b>	The result is an estimated quantity, but the result may be biased low.
<b>J+</b>	The result is an estimated quantity, but the result may be biased high.
<b>R</b>	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

GUIDANCE DOCUMENTS	
<b>List any/all Environmental Protection Agency (EPA) or state Department of Environmental Quality (DEQ) guidance documents referenced/resourced.</b>	<b>N/A</b>
❖ EPA <ul style="list-style-type: none"> <li>➤ Butte Mine Flooding Operable Unit (BMFOU) Monitoring Program, Butte Priority Soils Operable Unit (BPSOU), Butte Area / Silver Bow Creek (SBC), Record of Decision   September 2006</li> <li>➤ BPSOU Explanation of Significant Differences   July 2011</li> <li>➤ BPSOU Revised Interim Groundwater Monitoring Plan, Butte Area / SBC National Priority List Site, Butte – Silver Bow County, Montana   July 2011</li> <li>➤ Guidance for Quality Assurance Project Plans, EPA QA/G-5   Document No. EPA/240/R-02/009   December 2002</li> </ul>	



<ul style="list-style-type: none"> <li>➤ Guidance on Systematic Planning Using the Data Quality Objectives Process   Document No. EPAQA/G-4   February 2006</li> <li>➤ Groundwater Sampling Guidelines for Superfund and Resource Conservation and Recovery Act Project Managers, EPA 542-S-02-001   May 2002</li> </ul>			
❖ Montana DEQ: Circular DEQ-7 – Montana Numeric Water Quality Standards   October 2012			
<b>List any/all project quality assurance plan (QAP), sampling and analysis plan (SAP), or work plan (WP) referenced/resourced.</b>			<b>N/A</b>
<ul style="list-style-type: none"> <li>❖ Parrot Tailings Waste Removal Performance Monitoring WP and Quality Assurance Project Plan (QAPP) <ul style="list-style-type: none"> <li>➤ Administrative Rules of the State of Montana   2017</li> <li>➤ Natural Resource Damage Program <ul style="list-style-type: none"> <li>▪ Butte Natural Resource Damage Restoration Council Butte Area One (BAO) Final Restoration Plan   December 2012</li> <li>▪ Draft Data Gaps Site Investigation Technical Memorandum, Parrot Tailings Area, BAO, Butte, Montana   November 24, 2015</li> <li>▪ Tech Memo, Data Gaps Investigation, Silver Bow Creek and Blacktail Creek Corridors   July 21, 2016</li> </ul> </li> </ul> </li> </ul>			
<b>List any/all data validation (DV) standard operating guideline (SOG) or procedure (SOP) referenced/resourced.</b>			<b>N/A</b>
Water & Environmental Technologies (WET)   Data Validation (DV): Standard Operating Guidelines (SOG)   Inorganic, Organic, Radioanalytical, & High Resolution Atlantic Richfield Company (ARCO)   Clark Fork River Superfund Site Investigations   SOPs   September 1992			
<b>Select the applicable United States Environmental Protection Agency (USEPA) National Functional Guidelines (NFGs) Superfund Methods Data Review (SMDR) referenced/resourced:</b>	<b>Inorganic</b>	<b>Organic</b>	<b>N/A</b>
	X		
<b>Select the applicable USEPA Guideline for Data Review referenced/resourced:</b>	<b>High Resolution</b>	<b>Asbestos</b>	<b>N/A</b>
			X
<b>Was the Idaho National Engineering and Environmental Laboratory (INEEL) Radioanalytical DV Guide referenced/resourced? If no, enter any/all radioanalytical DV SOG/SOP referenced/resourced:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
			X

### CHECKLIST

Field QA/QC			
<b>Was field documentation provided and complete?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were calibration checks within project stabilization criteria (or other applicable range)?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Was chain-of-custody (COC) documentation accurate and complete?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Were all planned samples able to be collected?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were samples submitted within a reasonable time frame to meet extraction/prep and/or analytical hold times (HT)? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
pH (A4500-H B) analytical HT is 15 minutes. It is not feasible to submit the samples to the lab within this time frame. All analytical pH results are qualified as estimated (J).		X	
<b>Were samples submitted received by the laboratory in good condition?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were samples received by the laboratory within temperature and pH requirements? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were volatile samples collected with zero headspace, or was enough volume available for analysis without using any containers with bubbles? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
			X

Were field duplicate (FD) samples required?	Yes	No	N/A
	X		
Were FD samples collected at the correct frequency? If no, all field data points are qualified as estimated (J/UJ) due to lack of field precision QA/QC (FDX).	Yes	No	N/A
	X		
Were FD relative percent difference (RPD) results at or below control limits (CLs)? If no, detail below.	Yes	No	N/A
		X	
<p>BPS07-07 (original) &amp; DUP-1 (duplicate): representing all low-flow samples (BPS07-23, BPS07-07, DUP-1, FB-1, BPS07-07B, PMP-11B, AMW-13A, GS-28, GS-28B, PMP-08A, PMP-09B, AMC-24B, AMC-23B, PMP-07B, MSD-02A, PMP-04B, PMP-02B, PMP-02A, PMP-01A, AMW-01A)</p> <ul style="list-style-type: none"> <li>❖ Cadmium RPD was 22.2%, &gt;20% CL. The original and duplicate sample results were &lt;5xRL. The absolute difference between the original and duplicate sample results was ≤RL. <ul style="list-style-type: none"> <li>➢ No qualification required.</li> </ul> </li> <li>❖ Copper: The duplicate sample result was detected (&lt;5xRL) while the original sample result was ND and replaced with 0.001 mg/L (half RL) to give a 100% RPD, &gt;20% CL. The absolute difference between the detected duplicate sample result and half RL (ND original sample result) was ≤RL. <ul style="list-style-type: none"> <li>➢ No qualification required.</li> </ul> </li> <li>❖ Nitrate+Nitrite RPD was 40.0%, &gt;20% CL. The original and duplicate sample results were &lt;5xRL. The absolute difference between the original and duplicate sample results was ≤RL. <ul style="list-style-type: none"> <li>➢ No qualification required.</li> </ul> </li> </ul> <p>AMW-01C (original) &amp; DUP-4 (duplicate): representing PMP-05A, PMP-05BR, BPS07-11B, BPS07-11A, PT14-1, BPS11-18B, AMW-09, BPS11-18C, PMP-03A, PMP-01B, AMW-01B, FB-4, AMW-01C, DUP-4, EB-4, GS-40R, AMW-08, and AMW-20</p> <ul style="list-style-type: none"> <li>❖ Beryllium: The duplicate sample result was detected (&lt;5xRL) while the original sample result was ND and replaced with 0.0004 mg/L (half RL) to give a 66.7% RPD, &gt;20% CL. The absolute difference between the detected duplicate sample result and zero (ND original sample result) was ≤RL. <ul style="list-style-type: none"> <li>➢ No qualification required</li> </ul> </li> <li>❖ Iron RPD was 40.0%, &gt;20% CL. The original and duplicate sample results were &lt;5xRL. The absolute difference between the original and duplicate sample results was ≤RL. <ul style="list-style-type: none"> <li>➢ No qualification required.</li> </ul> </li> </ul> <p>SS-04 (original) &amp; DUP-5 (duplicate): representing all SW sites (SS-04, DUP-5, FB-5, PMP-12, MSDSG-02, MSDSG-05, MSDSG-03, MH-MSD108, MH-MSD113, and MH-MSD116)</p> <ul style="list-style-type: none"> <li>❖ Dissolved Aluminum RPD was 26.0%, &gt;20% CL. The original and duplicate sample results were ≥5xRL. <ul style="list-style-type: none"> <li>➢ SS-04, DUP-5, PMP-12, MSDSG-05, MH-MSD108, MH-MSD113, and MH-MSD116 were qualified as estimated detections (J).</li> <li>➢ FB-5, MSDSG-02, and MSDSG-03 were qualified as estimated ND (UJ).</li> </ul> </li> </ul>			
Was field decontamination of sampling equipment required?	Yes	No	N/A
	X		
Were equipment rinse blank (ERB) samples required?	Yes	No	N/A
	X		
Were ERB samples collected at the correct frequency? If no, all field data points are qualified (J/UJ) as estimated due to lack of field QA/QC (ERBX).	Yes	No	N/A
	X		
Were all ERB results non-detect (ND)? If no, detail below.	Yes	No	N/A
		X	
<p>EB-2: representing GS-29SR, BPS11-11A1, DUP-2, PMP-11A, FB-2, AMW-13B, BPS11-11A2, AMW-13B2, BPS11-11B, AMW-13C, PMP-09A, BPS11-11C, PMP-08A2, BPS11-10A, PMP-08B, BPS11-10B, BPS11-10C, PMP-10A, and PMP-10B</p> <ul style="list-style-type: none"> <li>❖ Conductivity was detected at 18 umhos/cm, &gt;RL of 5 umhos/cm. <ul style="list-style-type: none"> <li>➢ FB-2 was qualified as estimated high (J+) due to a result ≥RL but &lt;10xEB.</li> <li>➢ All remaining samples did not require qualification due to results ≥10xEB.</li> </ul> </li> <li>❖ DOC was detected at 0.6 mg/L, &gt;RL of 0.5 mg/L. <ul style="list-style-type: none"> <li>➢ GS-29SR, BPS11-11A1, DUP-2, PMP-09A, PMP-08A2, and PMP-10A were qualified as estimated high (J+) due to results ≥RL but &lt;10xEB and should be reported at the EB concentration.</li> <li>➢ BPS11-10A did not require qualification due to a result ≥10xEB.</li> <li>➢ All remaining samples did not require qualification due to ND results.</li> </ul> </li> <li>❖ Chloride was detected at 1 mg/L, equal to the RL. <ul style="list-style-type: none"> <li>➢ AMW-13B, BPS11-11A2, AMW-13B2, AMW-13C, and BPS11-11C were qualified as estimated high (J+) due to results ≥RL but &lt;10xEB and should be reported at the EB concentration.</li> </ul> </li> </ul>			

<ul style="list-style-type: none"> <li>➤ FB-2 did not require qualification due to a ND result.</li> <li>➤ All remaining samples did not require qualification due to results <math>\geq 10 \times \text{EB}</math>.</li> </ul> <p>EB-3: representing BPS11-14A, AMC-24C, BPS11-14B, BPS11-17C, MSD-03, MF-07B, MF-11, MF-07, MSD-04, DUP-3, FB-3, PMP-06B, PMP-07A, PMP-06A, and MSD-02B</p> <ul style="list-style-type: none"> <li>❖ Conductivity was detected at 6 umhos/cm, &gt;RL of 5 umhos/cm.               <ul style="list-style-type: none"> <li>➤ FB-3 did not require qualification due to a ND result.</li> <li>➤ All remaining samples did not require qualification due to results <math>\geq 10 \times \text{EB}</math>.</li> </ul> </li> </ul> <p>EB-4: representing PMP-05A, PMP-05BR, BPS07-11B, BPS07-11A, PT14-1, BPS11-18B, AMW-09, BPS11-18C, PMP-03A, PMP-01B, AMW-01B, FB-4, AMW-01C, DUP-4, GS-40R, AMW-08, and AMW-20</p> <ul style="list-style-type: none"> <li>❖ Conductivity was detected at 15 umhos/cm, &gt;RL of 5 umhos/cm.               <ul style="list-style-type: none"> <li>➤ FB-4 was qualified as estimated high (J+) due to a result <math>\geq \text{RL}</math> but <math>&lt; 10 \times \text{EB}</math>.</li> <li>➤ All remaining samples did not require qualification due to results <math>\geq 10 \times \text{EB}</math>.</li> </ul> </li> <li>❖ Copper was detected at 0.002 mg/L, equal to the RL.               <ul style="list-style-type: none"> <li>➤ FB-4 did not require qualification due to a ND result.</li> <li>➤ All remaining samples did not require qualification due results <math>\geq 10 \times \text{EB}</math>.</li> </ul> </li> <li>❖ Manganese was detected at 0.004 mg/L, &gt;RL of 0.001 mg/L.               <ul style="list-style-type: none"> <li>➤ FB-4 did not require qualification due to a ND result.</li> <li>➤ All remaining samples did not require qualification due to results <math>\geq 10 \times \text{EB}</math>.</li> </ul> </li> </ul>			
<b>Were field blank (FB) samples required?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were FB samples collected at the correct frequency? If no, all data is qualified as estimated due to lack of field QA/QC (FBX).</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were all FB results ND? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<p>FB-2: representing GS-29SR, BPS11-11A1, DUP-2, PMP-11A, FB-2, AMW-13B, BPS11-11A2, AMW-13B2, BPS11-11B, AMW-13C, PMP-09A, BPS11-11C, PMP-08A2, BPS11-10A, PMP-08B, BPS11-10B, BPS11-10C, PMP-10A, and PMP-10B</p> <ul style="list-style-type: none"> <li>❖ Conductivity was detected at 8 umhos/cm, &gt;RL of 5 umhos/cm.               <ul style="list-style-type: none"> <li>➤ EB-2 was qualified as estimated high (J+) due to a result <math>\geq \text{RL}</math> but <math>&lt; 10 \times \text{FB}</math> and should be reported at the FB concentration.</li> <li>➤ All remaining samples did not require qualification due to results <math>\geq 10 \times \text{FB}</math>.</li> </ul> </li> </ul> <p>FB-4: representing PMP-05A, PMP-05BR, BPS07-11B, BPS07-11A, PT14-1, BPS11-18B, AMW-09, BPS11-18C, PMP-03A, PMP-01B, AMW-01B, FB-4, AMW-01C, DUP-4, GS-40R, AMW-08, and AMW-20</p> <ul style="list-style-type: none"> <li>❖ Conductivity was detected at 6 umhos/cm, &gt;RL of 5 umhos/cm.               <ul style="list-style-type: none"> <li>➤ EB-4 was qualified as estimated high (J+) due to a result <math>\geq \text{RL}</math> but <math>&lt; 10 \times \text{FB}</math> and should be reported at the FB concentration.</li> <li>➤ All remaining samples did not require qualification due to results <math>\geq 10 \times \text{FB}</math>.</li> </ul> </li> </ul>			
<b>Were trip blank (TB) samples required (volatiles analyses)?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
		X	
<b>Were TB samples submitted as required (one per shipping container)? If no, all data is qualified as estimated due to lack of TB (TBX).</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
			X
<b>Other issues? If yes, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Field QA/QC Summary</b>			
<p>Out of 5052 total data points:</p> <ul style="list-style-type: none"> <li>• 4943 data points (97.8%) remain unqualified.</li> <li>• Out of 109 data points (2.2%) qualified as estimated:               <ul style="list-style-type: none"> <li>• 84 data points (77.1% of qualified, 1.7% of total) were due to HT exceedances.</li> <li>• No data points were due to preservation (temperature and/or pH) issues.</li> <li>• 15 data points (13.8% of qualified, 0.3% of total) were due to blank contamination.</li> <li>• 10 data points (9.2% of qualified, 0.2% of total) were due to poor replication.</li> </ul> </li> <li>• No data points were rejected.</li> </ul>			
<b>Laboratory QA/QC</b>			
<b>Did the laboratory use appropriate methods to extract/prep and analyze all samples within HT?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were there any results reported below the RL or in exceedance of (E) or over (O) instrument calibration? If yes, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
		X	

Other issues? If yes, detail below.	Yes	No	N/A
	X		
<p>Samples are submitted to the Helena, MT laboratory. The Helena laboratory subs DOC and TOC analysis to the Casper, WY laboratory. DOC and TOC are collected in amber glass containers. The following TOC samples were broken in transit from the Helena to Casper laboratories: BPS11-18C, PMP-05A</p>			
Laboratory Blanks			
Were TB results ND? If no, detail below.	Yes	No	N/A
			X
Were method blank (MB) samples analyzed at a frequency of one per 20 samples or one per batch?	Yes	No	N/A
	X		
Were MB results ND? If no, detail below.	Yes	No	N/A
		X	
<ul style="list-style-type: none"> <li>❖ Method A5310 C <ul style="list-style-type: none"> <li>➤ Batch C_R294719: AMW-09, GS-28, GS-28B, PMP-08A, GS-40R, AMW-08 <ul style="list-style-type: none"> <li>▪ DOC was detected at 0.1 mg/L, &lt;RL of 0.5 mg/L. <ul style="list-style-type: none"> <li>• GS-28B was qualified as estimated high (J+) due to a result <math>\geq</math>RL but &lt;10xMB.</li> <li>• All remaining samples did not require qualification due to results <math>\geq</math>10xMB.</li> </ul> </li> <li>▪ TOC was detected at 0.2 mg/L, &lt;RL of 0.5 mg/L. <ul style="list-style-type: none"> <li>• GS-28B did not require qualification due to a ND result.</li> <li>• AMW-09 and GS-40R were qualified as estimated high (J+) due to results <math>\geq</math>RL but &lt;10xMB.</li> <li>• All remaining samples did not require qualification due to results <math>\geq</math>10xMB.</li> </ul> </li> </ul> </li> </ul> </li> <li>❖ Method E200.7 <ul style="list-style-type: none"> <li>➤ Batch R184450: GS-29SR, BPS11-11A1, DUP-2, EB-2, PMP-11A, FB-2, AMW-13B, BPS11-11A2, AMW-13B2, BPS11-11B, AMW-13C, PMP-09A, BPS07-23, BPS11-11C, PMP-08A2, BPS11-10A, BPS07-07, DUP-1, FB-1, PMP-08B, BPS11-10C, BPS11-10C, PMP-10A, BPS07-07B, PMP-10B <ul style="list-style-type: none"> <li>▪ Dissolved Sodium was detected at 0.05 mg/L, &lt;RL of 1 mg/L. <ul style="list-style-type: none"> <li>• EB-2, FB-2, and FB-1 did not require qualification due to ND results.</li> <li>• All remaining samples did not require qualification due to results <math>\geq</math>10xMB.</li> </ul> </li> </ul> </li> <li>➤ Batch R184760: MH-MSD116, PMP-02B, PMP-02A <ul style="list-style-type: none"> <li>▪ Dissolved Cobalt was detected at 0.01 mg/L, &lt;RL of 0.01 mg/L. <ul style="list-style-type: none"> <li>• No qualification was required for any samples due to all results <math>\geq</math>10xMB.</li> </ul> </li> </ul> </li> </ul> </li> <li>❖ Method E200.8 <ul style="list-style-type: none"> <li>➤ Batch 66521: SS-04, DUP-5, FB-5, PMP-12, MSDSG-02, MSDSG-05, MSDSG-03, MH-MSD108, MH-MSD113 <ul style="list-style-type: none"> <li>▪ Total Manganese was detected at 0.0003 mg/L, &lt;RL of 0.001 mg/L. <ul style="list-style-type: none"> <li>• Batch samples: all SW samples except MH-MSD116 <ul style="list-style-type: none"> <li>◆ FB-5 did not require qualification due to a ND result.</li> <li>◆ All remaining samples did not require qualification due to results <math>\geq</math>10xMB.</li> </ul> </li> </ul> </li> <li>▪ Total Strontium was detected at 0.0009 mg/L, &lt;RL of 0.01 mg/L. <ul style="list-style-type: none"> <li>• Batch samples: all SW samples <ul style="list-style-type: none"> <li>◆ FB-5 did not require qualification due to a ND result.</li> <li>◆ All remaining samples did not require qualification due to results <math>\geq</math>10xMB.</li> </ul> </li> </ul> </li> <li>▪ Total Thorium was detected at 0.0004 mg/L, &lt;RL of 0.005 mg/L. <ul style="list-style-type: none"> <li>• Batch samples: all SW samples <ul style="list-style-type: none"> <li>◆ No qualification was required for any samples due to all ND results.</li> </ul> </li> </ul> </li> </ul> </li> <li>➤ Batch 66522: all SW samples <ul style="list-style-type: none"> <li>▪ Total Tungsten was detected at 0.0002 mg/L, &lt;RL of 0.1 mg/L. <ul style="list-style-type: none"> <li>• No qualification was required for any samples due to all ND results.</li> </ul> </li> </ul> </li> <li>➤ Batch R184492: BPS11-14A, AMC-24C, BPS11-14B, BPS11-17C, MSD-03, MF-07B, MF-11, MF-07, MSD-04, DUP-3, EB-3, FB-3, PMP-06B, PMP-07A, PMP-06A, MSD-02B <ul style="list-style-type: none"> <li>▪ Dissolved Tungsten was detected at 0.0002 mg/L, &lt;RL of 0.1 mg/L. <ul style="list-style-type: none"> <li>• No qualification was required for any samples due to all ND results.</li> </ul> </li> </ul> </li> </ul> </li></ul>			
Laboratory Accuracy			
Were initial/continuing calibration verification (ICV/CCV) analyses performed for each batch?	Yes	No	N/A
	X		
Were ICV/CCV percent recoveries within CLs? If no, detail below.	Yes	No	N/A
	X		

<b>Were laboratory fortified blanks (LFB) / control samples (LCS) analyzed at a frequency of one per 20 samples or one per batch?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were LFB/LCS percent recoveries within CLs? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were matrix spike (MS) samples analyzed at a frequency of one per 20 samples or one per batch?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were MS percent recoveries within CLs? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
*Note: All EB/ERB and FB samples, consistent of deionized (DI) water, are excluded from evaluation due to the potential matrix interference between DI water and the aqueous matrices.		X	
<ul style="list-style-type: none"> <li>❖ Method A5310 C <ul style="list-style-type: none"> <li>➢ Batch C_R294928: all SW samples <ul style="list-style-type: none"> <li>▪ H23050761-001EMS: unassociated WO sample <ul style="list-style-type: none"> <li>• Representing samples analyzed before 5/24/2023 1530: SS-04 <ul style="list-style-type: none"> <li>◆ TOC was recovered at 112% (MS), &gt;111% upper CL. <ul style="list-style-type: none"> <li>✓ This sample was qualified as estimated high (J+) due to a detected result.</li> </ul> </li> </ul> </li> <li>▪ H23050767-001BMSD: unassociated WO sample <ul style="list-style-type: none"> <li>• Representing samples analyzed between 5/25/2023 1236 and 5/26/2023 1147: none <ul style="list-style-type: none"> <li>◆ TOC was recovered at 114% (MSD), &gt;111% upper CL. <ul style="list-style-type: none"> <li>✓ No qualification required.</li> </ul> </li> </ul> </li> </ul> </li> </ul> </li> </ul> </li> <li>❖ Method E200.8 <ul style="list-style-type: none"> <li>➢ Batch R184592: BPS11-14A, AMC-24C, BPS11-14B, BPS11-17C, MSD-03, MF-07B, MF-11, MF-07, MSD-04, DUP-3, EB-3, FB-3, PMP-06B, PMP-07A, PMP-06A, MSD-02B, PMP-11B, PMP-05A, AMW-13A, BPS07-11B, BPS07-11A, PT14-1, BPS11-18B, AMW-09, BPS11-18C, PMP-03A, PMP-01B, AMW-01B, GS-28, GS-28B, FB-4, PMP-08A, AMW-01C, DUP-4, EB-4, GS-40R, AMW-08 <ul style="list-style-type: none"> <li>▪ H23050392-007BMS/D: MF-11 <ul style="list-style-type: none"> <li>• Representing samples analyzed between 5/16/2023 2042 and 2213: BPS11-14A, AMC-24C, BPS11-14B, BPS11-17C, MF-11, MSD-04, DUP-3, EB-3, FB-3, PMP-07A, PMP-11B, AMW-13A, BPS07-11A, GS-28, GS-28B, FB-4, PMP-08A, EB-4 <ul style="list-style-type: none"> <li>◆ Silver was recovered at 65% (MS) and 67% (MSD), &lt;70% lower CL. <ul style="list-style-type: none"> <li>✓ BPS11-17C was qualified as estimated low (J-) due to a detected result.</li> <li>✓ All remaining samples were qualified as estimated (UJ) due to ND results.</li> </ul> </li> </ul> </li> </ul> </li> </ul> </li> <li>❖ Method E300.0 <ul style="list-style-type: none"> <li>➢ Batch R184586: BPS11-14A, AMC-24C, BPS11-14B, BPS11-17C, MF-07B, MF-11, MF-07, MSD-04, DUP-3, EB-3, FB-3, PMP-06B, PMP-07A, PMP-06A, MSD-02B, PMP-11B, PMP-05A, AMW-13A, BPS07-11B, BPS07-11A, PMP-03A, PMP-01B, GS-28, GS-28B, FB-4, PMP-08A, AMW-01C, EB-4 <ul style="list-style-type: none"> <li>▪ H23050437-021AMS/D: GS-40R <ul style="list-style-type: none"> <li>• Representing samples analyzed after 5/17/2023 1723: none <ul style="list-style-type: none"> <li>◆ Fluoride was recovered at 115% (MSD), &gt;110% upper CL. <ul style="list-style-type: none"> <li>✓ No qualification required.</li> </ul> </li> </ul> </li> </ul> </li> <li>➢ Batch R184848: EB-2, MSD-03, PMP-05BR, PT14-1, AMW-09, BPS11-18C, AMW-01B, MSDSG-03, MH-MSD108, MH-MSD113, MH-MSD115 <ul style="list-style-type: none"> <li>▪ H23050437-008AMS/D: BPS11-18C <ul style="list-style-type: none"> <li>• Representing GW samples analyzed before 5/24/2023 2355: MSD-03, PMP-05BR, PT14-1, AMW-09, BPS11-18C, AMW-01B <ul style="list-style-type: none"> <li>◆ Bromide was recovered at 88% (MS and MSD), &lt;90% lower CL. <ul style="list-style-type: none"> <li>✓ PT14-1 was qualified as estimated low (J-) due to a detected result.</li> <li>✓ All remaining samples were qualified as estimated (UJ) due to ND results.</li> </ul> </li> </ul> </li> <li>▪ H23050597-008AMS: MH-MSD108 <ul style="list-style-type: none"> <li>• Representing SW samples analyzed between 5/24/2023 2019 and 5/25/2023 0009: MSDSG-03, MH-MSD108 <ul style="list-style-type: none"> <li>◆ Bromide was recovered at 89% (MS), &lt;90% lower CL. <ul style="list-style-type: none"> <li>✓ Both samples were qualified as estimated (UJ) due to ND results.</li> </ul> </li> </ul> </li> </ul> </li> <li>❖ Method E353.2 <ul style="list-style-type: none"> <li>➢ Batch R184665: BPS11-14A, AMC-24C, BPS11-14B, BPS11-17C, MF-07B, MF-11, MF-07, MSD-04, DUP-3, PMP-06B, PMP-07A, PMP-06A, MSD-02B, PMP-11B, PMP-05A, PMP-05BR, AMW-13A, BPS07-11B, BPS07-11A, PT14-1, BPS11-18B, AMW-09, BPS11-18C, PMP-03A, PMP-01B, GS-28, GS-28B, PMP-08A, AMW-01C, DUP-4, GS-40R, AMW-08 <ul style="list-style-type: none"> <li>▪ H23050392-016CMS/D: MSD-02B</li> </ul> </li> </ul> </li> </ul> </li></ul></li></ul></li></ul></li></ul></li></ul></li></ul>			



<ul style="list-style-type: none"> <li>• Representing samples analyzed between 5/18/2023 1411 and 1440: PMP-06B, PMP-07A, PMP-06A, MSD-02B, PMP-11B, PMP-05A, PMP-05BR               <ul style="list-style-type: none"> <li>◆ N+N was recovered at 34% (MS) and 35% (MSD), &lt;90% lower CL.                   <ul style="list-style-type: none"> <li>✓ MSD-02B and PMP-05BR were qualified as estimated (UJ) due to ND results.</li> <li>✓ All remaining samples were qualified as estimated low (J-) due to detected results.</li> </ul> </li> </ul> </li> <li>▪ H23050437-003CMS/D: PMP-05BR               <ul style="list-style-type: none"> <li>• Representing samples analyzed between 5/18/2023 1422 and 1539: PMP-11B, PMP-05A, PMP-05BR, BPS07-11B, BPS07-11A, BPS11-18B, BPS11-18C, PMP-03A, PMP-01B, GS-28, GS-28B, PMP-08A                   <ul style="list-style-type: none"> <li>◆ N+N was recovered at 63% (MS and MSD) and 77% (MS and MSD), &lt;90% lower CL.                       <ul style="list-style-type: none"> <li>✓ PMP-11B, PMP-05A, and PMP-05BR were already qualified for low MS/MSD recovery. The qualifications under this low MS/MSD recovery would be the same.</li> <li>✓ BPS07-11B, BPS11-18B, and PMP-03A were qualified as estimated (UJ) due to ND results.</li> <li>✓ All remaining samples were qualified as estimated low (J-) due to detected results.</li> </ul> </li> </ul> </li> </ul> </li> <li>➤ Batch R184881: AMW-20, SS-04, DUP-5, FB-5, PMP-12, MSDSG-02, MSDSG-05, MSDSG-03, MH-MSD108, MH-MSD113, MH-MSD116, PMP-09B, AMC-24B, AMC-23B, PMP-07B, MSD-02A, PMP-04B, PMP-02B, PMP-02A, PMP-01A, AMW-01A               <ul style="list-style-type: none"> <li>▪ H23050598-001BMS/D: unassociated work order sample                   <ul style="list-style-type: none"> <li>• Representing samples analyzed after 5/25/2023 1230: PMP-12, MSDSG-02, MSDSG-05, MSDSG-03, MH-MSD108, MH-MSD113, MH-MSD116                       <ul style="list-style-type: none"> <li>◆ N+N was recovered at 114% (MS) and 112% (MSD), &gt;110% lower CL.                           <ul style="list-style-type: none"> <li>✓ MSDSG-02 and MSDSG-03 did not require qualification due to ND results.</li> <li>✓ All remaining samples were qualified as estimated high (J+) due to detected results.</li> </ul> </li> </ul> </li> </ul> </li> </ul> </li></ul>			
<b>Were surrogate recoveries within CLs (organics only)? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
			X
<b>Laboratory Precision</b>			
<b>Were laboratory duplicates analyzed at a frequency of one per 20 samples or one per batch, either through laboratory sample duplicates (LSD), LCS duplicates (LCSD), or MS duplicates (MSD)?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were laboratory duplicate RPD results at or below CLs? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<ul style="list-style-type: none"> <li>❖ Method E200.8               <ul style="list-style-type: none"> <li>➤ Batch R184592: BPS11-14A, AMC-24C, BPS11-14B, BPS11-17C, MSD-03, MF-07B, MF-11, MF-07, MSD-04, DUP-3, EB-3, FB-3, PMP-06B, PMP-07A, PMP-06A, MSD-02B, PMP-11B, PMP-05A, AMW-13A, BPS07-11B, BPS07-11A, PT14-1, BPS11-18B, AMW-09, BPS11-18C, PMP-03A, PMP-01B, AMW-01B, GS-28, GS-28B, FB-4, PMP-08A, AMW-01C, DUP-4, EB-4, GS-40R, AMW-08                   <ul style="list-style-type: none"> <li>▪ H23050437-021BMS/D: GS-40R                       <ul style="list-style-type: none"> <li>• Representing samples analyzed after 5/16/2023 2216: MSD-03, MF-07B, MF-07, PMP-06B, PMP-06A, MSD-02B, PMP-05A, BPS07-11B, PT14-1, BPS11-18B, AMW-09, BPS11-18C, PMP-03A, PMP-01B, AMW-01B, AMW-01C, DUP-4, GS-40R, AMW-08                           <ul style="list-style-type: none"> <li>◆ Selenium RPD was 22%, &gt;20% CL.                               <ul style="list-style-type: none"> <li>✓ PT14-1 and PMP-01B were qualified as estimated (J) due to detected results.</li> <li>✓ All remaining samples were qualified as estimated (UJ) due to ND results.</li> </ul> </li> </ul> </li> </ul> </li> </ul> </li> </ul> </li></ul>			
<b>Were serial dilution (SD) samples analyzed at a frequency of one per 20 samples or one per batch (metals only)?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were SD RPD results at or below CLs? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Laboratory QA/QC Summary</b>			
Out of 5052 total data points: <ul style="list-style-type: none"> <li>• 4982 data points (98.6%) remain unqualified.</li> <li>• Out of 70 data points (1.4%) qualified as estimated:               <ul style="list-style-type: none"> <li>• No data points were due to detections below the RL or above the instrument upper calibration value or estimated values.</li> <li>• 3 data points (4.3% of qualified, &lt;0.01% of total) was due to laboratory blank contamination.</li> <li>• 48 data points (68.6% of qualified, 1.0% of total) were due to poor accuracy (MS/MSD failures).</li> <li>• 19 data points (27.1% of qualified, 0.4% of total) were due to poor precision (MS/MSD RPD exceedances).</li> </ul> </li> <li>• No data points were rejected.</li> </ul>			

**OVERALL SUMMARY****Data Quality**

Out of 5052 total data points:

- 4873 data points (96.5%) remain unqualified and are considered quantitative.
- Out of 179 data points (3.5%) qualified as estimated and assigned as qualitative:
  - 109 data points (60.9% of qualified, 2.2% of total) were due to field QA/QC.
  - 70 data points (39.1% of qualified, 1.4% of total) were due to laboratory QA/QC.
- No data points were rejected.

**Completeness**

Out of 84 samples planned (71 natural, 13 QA/QC), 84 (71 natural, 13 QA/QC) samples were completed. This SDG is 100% complete.

Out of 840 analyses planned, 838 analyses were completed. These WOs are 99.8% complete.

Out of 5052 data points produced, 5052 data points are useable. This data package is 100% complete.

**Level A/B Assessment Checklist**  
**Second Quarter of 2023**



**I. General Information**

**Site:** Parrot  
**Project:** Parrot Performance Monitoring  
**Client:** NRD  
**Sample Matrix:** Aqueous  
**Lab Report #s:** H23050305, H23050392, H23050437,  
H23050596, H23050597

**II. Enforcement Results**

Data are:  
1) Unusable   
2) Level A   
3) Level B

**III. Level A Screening**

Criteria – The following must be fully documented:	Yes/No	Comments
1. Sampling date	Yes	
2. Sampling team or leader	Yes	
3. Physical description of sampling location	Yes	
4. Sample depth (soils)	N/A	
5. Sample collection technique	Yes	
6. Field preparation technique	N/A	
7. Sample preservation technique	Yes	
8. Sample shipping records and laboratory analysis dates	Yes	
9. Companion sampling efforts	Yes	
10. Visual classification of samples	NA	Aqueous Samples

**IV. Level B Screening**

Criteria – The following must be fully documented:	Yes/No	Comments
1. Field/laboratory instrumentation, standardization and methods/procedures	Yes	
2. Proper sample containers and container preparation	Yes	
3. Collection of field replicates (1/20 minimum)	Yes	
4. Proper and decontaminated sampling equipment	N/A	
5. Identity of sample taker	Yes	
6. Field custody documentation	Yes	
7. Shipping custody documentation	Yes	
8. Traceable sample designation number	Yes	
9. Field notebooks, custody records in secure repository	Yes	
10. Properly prepared and complete field forms	Yes	
11. Physical data/observations date and time	Yes	
12. Physical data/observations recorder, team leader	Yes	
13. Physical data/observation location	Yes	



## **ATTACHMENT C**

### Data Quality Summary Third Quarter 2023

**Attachment B**

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**Data Quality Summary  
Third Quarter of 2023**

## **Quality Assurance (QA) and Quality Control (QC) Review of Inorganic Data**

Summaries of the samples collected for this investigation are included in the attached appendices. The sampling project analytical methods are listed below in Table A-1. The quality of the inorganic data is summarized in the paragraphs below and in the report attachments.

Table A-1 Parrot Performance Monitoring Analytical Requirement.

<b>Analysis Group</b>	<b>Analyses</b>	<b>Methods</b>
Metals	Total Recoverable (Surface Water and MH-MSD sites) Dissolved Rare Earth Elements	E200.7/8
Physical Properties	pH, pH Measurement Temp Conductivity Total Dissolved Solids (TDS)	A4500-H B A2510 B A2540 C
Inorganics	Alkalinity, Bicarbonate, Carbonate Chloride, Sulfate, Bromide, Fluoride Hardness	A2320 B E300.0 A2340 B
Aggregate Organics	Dissolved Organic Carbon (DOC) Total Organic Carbon (TOC)	A5310C
Nutrients	Nitrogen, Nitrate+Nitrite	E353.2
Data Quality	Anion/Cation (A/C) Balance	A1030 E

The following sample data groups (SDGs) have been validated and are included in NRD Parrot Tailings 2023 Third Quarter Sampling Event:

- H23080754
- H23080811
- H23080897
- H23080917
- H23080918
- H23090922

### **Data Quality Executive Summary**

A total of 65 of the 66 total groundwater samples and all five surface water samples, as well as five field duplicates, three equipment blanks, and five field blanks were collected as part of Parrot Tailings Removal Performance Monitoring project. A total of 4,996 individual data points were produced, and 100% of these data points may be used to support decision-making for the risk assessment, developing site-specific risk-based clean up goals, and support an evaluation of the scope of remedial action (if necessary).

Due to a laboratory error, anion/cation balance was not analyzed for two samples. Out of 830 analyses planned (83 samples multiplied by 10 methods), 828 analyses (99.8%) were completed.

A total of 220 data points (4.40%) received qualification during validation due to results outside of QA/QC acceptance criteria, as defined in the *EPA National Functional Guidelines for Inorganic Data Review* (EPA, November 2020). These qualifications (J, J-, J+ , and UJ) indicate some uncertainty in reported results due to preservation, contamination, accuracy, and/or

precision issues. The following provides a summary of qualified results suitable for use in further decision making regarding the NRD Parrot Tailings.

- Results qualified J: 112 (50.9% of qualified, 2.24% of total)
- Results qualified J-: 16 (7.27% of qualified, 0.32% of total)
- Results qualified J+: 63 (28.6% of qualified, 1.26% of total)
- Results qualified UJ: 29 (13.2% of qualified, 0.58% of total)

These qualifications, once assigned, do not limit the use of the results for purposes of decision making. The *EPA Risk Assessment Guidance, Part A, Sec. 5.4.1, pg. 5-15 Data Usability* (EPA, 1989) states the following with respect to use of 'J' or 'UJ' qualified results:

*"Basically, the guidance here is to use J-qualified concentrations the same way as positive data that do not have this qualifier. If possible, note potential uncertainties associated with the qualifier, so that if data qualified with a J contribute significantly to the risk, the appropriate caveats can be attached."*

Results qualified as R are not enforcement or screening quality and should not be used to inform decisions. Zero results were qualified as R.

### **QA/QC Review of Inorganic Data**

Data validation summaries were completed using the data validation guidelines from *EPA National Functional Guidelines for Inorganic Data Review* (EPA, November 2020). The completed summaries are attached. Laboratory data flags and qualifiers are listed in **Tables 3, 4, 5 and 6**.

### **Field Data Quality**

A total of 163 data points (3.26% of total) were qualified as estimated due to field QA/QC deficiencies. Of these qualifications, 83 data points (50.9% of qualified, 1.66% of total) were due to hold time exceedances, 39 data points (23.9% of qualified, 0.78% of total) were due to field blank contamination, and 41 data points (25.2% of qualified, 0.82% of total) were due to field duplicate relative percent difference (RPD) exceeding the 20% aqueous criteria specified by the EPA and project QAPP.

### **Preservation and Hold Times**

Preservation includes proper field filtration, preservation, and acceptable pH and temperature upon receipt by the laboratory. Hold time is determined from the date of collection to the date of analysis. Laboratory pH hold time is 15 minutes, which is impossible to meet, so all analytical pH results were qualified as estimated; refer to field pH for accurate results. These accounted for all 83 qualified data points.

### **Blanks**

Equipment blank results are used to provide a measure of effectiveness of field decontamination procedures between sampling wells. Three equipment blank samples were collected during this sampling effort. There were 12 analyte detections: Conductivity in all three plus DOC, TOC,

cadmium, and chloride in equipment blank 2, manganese in equipment blank 3, and cadmium, copper, manganese, and zinc in equipment blank 4. A total of 30 data points were qualified as estimated high (J+):

- cadmium in BPS11-10A, BPS11-11A2, PMP-10A, and BPS11-14A
- chloride in BPS11-10B, BPS11-10C, AMC-24C, BPS11-11A1, BPS11-11A2, BPS11-11B, DUP-2, and BPS11-11C
- conductivity in BPS11-11A2
- copper and zinc in BPS11-14A
- manganese in GS-29SR,R PMP-08B, BPS11-17C, PMP-10B, PMP-10A, BPS11-14A, and BPS11-14B
- DOC in MF-07, MF-07B, PMP-06A, PMP-06B, BPS07-11A, BPS11-11A1, BPS07-11B, and PMP-01B

No other results were affected.

Field blank results are used to provide a measure of contamination during field sampling and sample processing. Five field blank samples were collected during this sampling effort. Field blank 1 had detections for conductivity, copper, and nitrate+nitrite. Nine data points were qualified as estimated high (J+): copper in PMP-11B, AMWW-13A, PMP-09B, AMC-23B, PMP-08A, and PMP-07B and nitrate+nitrite in BPS07-07, PMP-02B, and PMP-07B. No other results were affected.

### Duplicates

Field duplicate samples assess the variance of the field sampling methods. Duplicates were collected at a minimum frequency of 1 per 20 primary samples, meeting the project QAPP specified frequency, resulting in five field duplicate sample pairs. Seven analytes exhibited relative percent differences (RPDs) above the 20% criteria, four of which required qualification. A total seven of copper, iron, and manganese and 20 TOC data points were qualified as estimated (J or UJ). A summary of the RPD results is provided in **Table 6**.

### **Laboratory Data Quality**

A total of 64 data points (1.28% of total) were qualified as estimated due to laboratory QA/QC deficiencies. Of these qualifications, 10 data points (15.6% of qualified, 0.20% of total) were due to field blank contamination and 54 data points (84.4% of qualified, 1.08% of total) were due to due to poor laboratory accuracy.

### Laboratory Blank Results

Laboratory method blanks assess contamination introduced during sample laboratory preparation activities. There were 41 method blank detections, resulting in only 10 data points qualified as estimated high (J+): TOC in PMP-04B, AMW-01C, PMP-02B, AMW-20, PMP-07B, MSD-02A, AMW-01B, and DUP-4, zinc in EB-4, and alkalinity in MH-MSD113.

### Laboratory Precision

Laboratory duplicate samples assess the variance of the analytical methods. All laboratory duplicate RPDs were below criteria maximums; therefore, no qualification was required.

### Accuracy

Laboratory accuracy is measured with percent recoveries for calibration verifications, laboratory fortified blanks or control samples, and matrix spikes. There were two continuing calibration verifications, one laboratory fortified blank, and eight matrix spike recovery failures. As a result, 13 bromide, 11 nitrate+nitrite, 14 TOC, and 16 sulfate data points were qualified as estimated (J, J+, J-, or UJ) only due to one or more matrix spike recoveries outside of acceptance criteria limits.

### **Completeness**

Out of 84 planned samples (71 natural, 13 QA/QC), 83 samples were collected (70 natural, 13 QA/QC), resulting in a 98.8% complete sample delivery group. Out of 830 analyses planned, 828 analyses were completed, resulting in 99.8% complete work orders. Out of 4,996 data points, all 4,996 data points are usable, resulting in a 100% complete data package. The project QAPP data quality objectives (DQOs) have been met.

**Data Validation Summary**  
**Third Quarter of 2023**





# Data Verification/Validation Checklist and Summary Report

PROJECT AND LABORATORY INFORMATION	
<b>Project/Task/Sub-Task #:</b>	NRDPM16 TO 2 / 001: Parrot Tailings Groundwater
<b>Site &amp; Location:</b>	Butte, MT
<b>Sample Collection Date(s):</b>	August 17-18 & 21-23, 2023 & September 28, 2023 (MH-MSD sites)
<b>Laboratory &amp; Location:</b>	Energy Laboratories – Helena, MT
<b>Sample Delivery Group (SDG):</b>	Q3
<b>Work Order (WO):</b>	H23080754, H23080811, H23080897, H23080917, H23080918, H23090922 (MH-MSD sites)
<b>Extraction/Prep Date(s):</b>	NA
<b>Analysis Date(s):</b>	August 18 – September 29, 2023 & October 1-19, 2023 (MH-MSD sites)
<b>Laboratory Report Date(s):</b>	H23080754: original – September 8, 2023; revision – December 8, 2023 H23080811: September 11, 2023 H23080897: September 19, 2023 H23080917: September 22, 2023 H23080918: September 13, 2023 H23090922: original – October 19, 2023; revision – December 8, 2023
<b>Data Validator:</b>	Janelle Garza
<b>Data Validation Date(s):</b>	December 7-8, 2023
<b>Data Validation Reviewer:</b>	
<b>Data Validation Review Date(s):</b>	

SDG/WO (in order of sample date/time)					
Lab ID	Sample ID	Sample Date	Sample Time	Matrix	Notes
H23050305-001	GS-29SR	5/8/2023	14:11	Aqueous: Groundwater (GW)	
H23050305-002	BPS11-11A1	5/8/2023	14:20	Aqueous: GW	
H23050305-003	DUP-2	5/8/2023	14:25	Aqueous: GW	GW QA/QC Group 2 duplicate: BPS11-11A1
H23050305-004	EB-2	5/8/2023	14:45	Deionized (DI) Water	GW QA/QC Group 2 equipment blank
H23050305-005	PMP-11A	5/8/2023	14:48	Aqueous: GW	
H23050305-006	FB-2	5/8/2023	15:00	DI Water	GW QA/QC Group 2 field blank
H23050305-007	AMW-13B	5/8/2023	15:23	Aqueous: GW	
H23050305-008	BPS11-11A2	5/8/2023	15:25	Aqueous: GW	
H23050305-009	AMW-13B2	5/8/2023	15:51	Aqueous: GW	
H23050305-010	BPS11-11B	5/8/2023	16:12	Aqueous: GW	
H23050305-011	AMW-13C	5/8/2023	16:19	Aqueous: GW	
H23050305-012	PMP-09A	5/9/2023	11:21	Aqueous: GW	
H23050305-013	BPS07-23	5/9/2023	11:31	Aqueous: GW	
H23050305-014	BPS11-11C	5/9/2023	11:32	Aqueous: GW	
H23050305-015	PMP-08A2	5/9/2023	11:57	Aqueous: GW	
H23050305-016	BPS11-10A	5/9/2023	14:29	Aqueous: GW	
H23050305-017	BPS07-07	5/9/2023	14:37	Aqueous: GW	
H23050305-018	DUP-1	5/9/2023	14:39	Aqueous: GW	GW QA/QC Group 1 duplicate: BPS07-07
H23050305-019	FB-1	5/9/2023	14:45	DI Water	GW QA/QC Group 1 field blank
H23050305-020	PMP-08B	5/9/2023	14:47	Aqueous: GW	
H23050305-021	BPS11-10B	5/9/2023	15:25	Aqueous: GW	

H23050305-022	BPS11-10C	5/9/2023	16:17	Aqueous: GW	
H23050305-023	PMP-10A	5/9/2023	16:20	Aqueous: GW	
H23050305-024	BPS07-07B	5/9/2023	16:24	Aqueous: GW	
H23050305-025	PMP-10B	5/9/2023	16:48	Aqueous: GW	
H23050392-001	BPS11-14A	5/10/2023	11:16	Aqueous: GW	
H23050392-002	AMC-24C	5/10/2023	11:35	Aqueous: GW	
H23050392-003	BPS11-14B	5/10/2023	11:52	Aqueous: GW	
H23050392-004	BPS11-17C	5/10/2023	12:59	Aqueous: GW	
H23050392-005	MSD-03	5/10/2023	13:08	Aqueous: GW	
H23050392-006	MF-07B	5/10/2023	13:43	Aqueous: GW	
H23050392-007	MF-11	5/10/2023	14:08	Aqueous: GW	
H23050392-008	MF-07	5/10/2023	14:11	Aqueous: GW	
H23050392-009	MSD-04	5/10/2023	14:33	Aqueous: GW	
H23050392-010	DUP-3	5/10/2023	14:34	Aqueous: GW	GW QA/QC Group 3 duplicate: MSD-04
H23050392-011	EB-3	5/10/2023	14:50	DI Water	GW QA/QC Group 3 equipment blank
H23050392-012	FB-3	5/10/2023	14:55	DI Water	GW QA/QC Group 3 field blank
H23050392-013	PMP-06B	5/10/2023	15:44	Aqueous: GW	
H23050392-014	PMP-07A	5/10/2023	16:02	Aqueous: GW	
H23050392-015	PMP-06A	5/10/2023	16:08	Aqueous: GW	
H23050392-016	MSD-02B	5/10/2023	16:39	Aqueous: GW	
H23050437-001	PMP-11B	5/11/2023	10:43	Aqueous: GW	
H23050437-002	PMP-05A	5/11/2023	10:49	Aqueous: GW	
H23050437-003	PMP-05BR	5/11/2023	11:18	Aqueous: GW	
H23050437-004	AMW-13A	5/11/2023	11:41	Aqueous: GW	
H23050437-005	BPS07-11B	5/11/2023	11:46	Aqueous: GW	
H23050437-006	BPS07-11A	5/11/2023	12:21	Aqueous: GW	
H23050437-019	PT14-1	5/11/2023	12:26	Aqueous: GW	
H23050437-007	BPS11-18B	5/11/2023	13:08	Aqueous: GW	
H23050437-020	AMW-09	5/11/2023	13:13	Aqueous: GW	
H23050437-008	BPS11-18C	5/11/2023	13:33	Aqueous: GW	
H23050437-009	PMP-03A	5/11/2023	13:53	Aqueous: GW	
H23050437-010	PMP-01B	5/11/2023	14:39	Aqueous: GW	
H23050437-011	AMW-01B	5/11/2023	15:00	Aqueous: GW	
H23050437-012	GS-28	5/12/2023	9:45	Aqueous: GW	
H23050437-013	GS-28B	5/12/2023	10:50	Aqueous: GW	
H23050437-015	FB-4	5/12/2023	11:05	DI Water	GW QA/QC Group 4 field blank
H23050437-014	PMP-08A	5/12/2023	11:19	Aqueous: GW	
H23050437-016	AMW-01C	5/12/2023	11:51	Aqueous: GW	
H23050437-017	DUP-4	5/12/2023	11:52	Aqueous: GW	GW QA/QC Group 4 duplicate: AMW-01C
H23050437-018	EB-4	5/12/2023	12:10	DI Water	QA/QC Group 4 equipment blank
H23050437-021	GS-40R	5/12/2023	13:50	Aqueous: GW	
H23050437-022	AMW-08	5/12/2023	13:52	Aqueous: GW	
H23050596-001	AMW-20	5/15/2023	11:50	Aqueous: GW	
H23050597-001	SS-04	5/15/2023	13:15	Aqueous: Surface Water (SW)	
H23050597-002	DUP-5	5/15/2023	13:16	Aqueous: SW	SW QA/QC duplicate: SS-04
H23050597-003	FB-5	5/15/2023	13:30	DI Water	SW QA/QC field blank
H23050597-004	PMP-12	5/15/2023	13:40	Aqueous: SW	

H23050597-005	MSDSG-02	5/15/2023	14:05	Aqueous: SW	
H23050597-006	MSDSG-05	5/15/2023	14:20	Aqueous: SW	
H23050597-007	MSDSG-03	5/15/2023	14:40	Aqueous: SW	
H23050597-008	MH-MSD108	5/16/2023	9:10	Aqueous: SW	
H23050597-009	MH-MSD113	5/16/2023	10:30	Aqueous: SW	
H23050597-010	MH-MSD116	5/16/2023	11:14	Aqueous: SW	
H23050596-002	PMP-09B	5/16/2023	11:41	Aqueous: GW	
H23050596-003	AMC-24B	5/16/2023	12:42	Aqueous: GW	
H23050596-004	AMC-23B	5/16/2023	13:46	Aqueous: GW	
H23050596-005	PMP-07B	5/16/2023	14:15	Aqueous: GW	
H23050596-006	MSD-02A	5/16/2023	14:46	Aqueous: GW	
H23050596-007	PMP-04B	5/16/2023	15:49	Aqueous: GW	
H23050596-008	PMP-02B	5/16/2023	16:38	Aqueous: GW	
H23050596-009	PMP-02A	5/16/2023	17:00	Aqueous: GW	
H23050596-010	PMP-01A	5/16/2023	17:10	Aqueous: GW	
H23050596-011	AMW-01A	5/17/2023	10:45	Aqueous: GW	

### METHOD(S)/ANALYSES

<b>Physical Properties</b>	A4500-H B: pH & pH Measurement Temp A2510 B: Conductivity A2540 C: Total Dissolved Solids (TDS)
<b>Inorganics</b>	A2320 B: Alkalinity, Bicarbonate, & Carbonate E300.0: Chloride, Sulfate, Bromide, Fluoride A2340B: Hardness
<b>Aggregate Organics: A5310 C</b>	Dissolved Organic Carbon (DOC) Total Organic Carbon (TOC)
<b>Nutrients: E353.2</b>	Nitrate+Nitrite (N+N)
<b>Dissolved and Total Recoverable Metals: E200.7/8</b>	Aluminum (Al), Antimony (Sb), Arsenic (As), Barium (Ba), Beryllium (B), Boron (B), Cadmium (Cd), Cesium (Cs), Calcium (Ca), Chromium (Cr), Cobalt (Co), Copper (Cu), Gallium (Ga), Iron (Fe), Lead (Pb), Lanthanum (La), Lithium (Li), Magnesium (Mg), Neodymium (Nd), Niobium (Nb), Manganese (Mn), Molybdenum (Mo), Nickel (Ni), Palladium (Pd), Praseodymium (Pr), Rubidium (Rb), Potassium (K), Selenium (Se), Silver (Ag), Sodium (Na), Strontium (Sr), Thallium (Tl), Thorium (Th), Tin (Sn), Titanium (Ti), Tungsten (W), Uranium (U), Vanadium (V), Zinc (Zn), Zirconium (Zr)
<b>Data Quality: A1030 E</b>	Anion/Cation (A/C) Balance

### QUALIFIER DEFINITIONS

<b>U</b>	The analyte was analyzed for but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate.
<b>UJ</b>	The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
<b>J</b>	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
<b>J-</b>	The result is an estimated quantity, but the result may be biased low.
<b>J+</b>	The result is an estimated quantity, but the result may be biased high.
<b>R</b>	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

### GUIDANCE DOCUMENTS

<b>List any/all Environmental Protection Agency (EPA) or state Department of Environmental Quality (DEQ) guidance documents referenced/resourced.</b>	<b>N/A</b>
❖ EPA <ul style="list-style-type: none"> <li>➤ Butte Mine Flooding Operable Unit (BMFOU) Monitoring Program, Butte Priority Soils Operable Unit (BPSOU), Butte Area / Silver Bow Creek (SBC), Record of Decision   September 2006</li> <li>➤ BPSOU Explanation of Significant Differences   July 2011</li> </ul>	

<ul style="list-style-type: none"> <li>➤ BPSOU Revised Interim Groundwater Monitoring Plan, Butte Area / SBC National Priority List Site, Butte – Silver Bow County, Montana   July 2011</li> <li>➤ Guidance for Quality Assurance Project Plans, EPA QA/G-5   Document No. EPA/240/R-02/009   December 2002</li> <li>➤ Guidance on Systematic Planning Using the Data Quality Objectives Process   Document No. EPAQA/G-4   February 2006</li> <li>➤ Groundwater Sampling Guidelines for Superfund and Resource Conservation and Recovery Act Project Managers, EPA 542-S-02-001   May 2002</li> </ul>			
❖ Montana DEQ: Circular DEQ-7 – Montana Numeric Water Quality Standards   October 2012			
<b>List any/all project quality assurance plan (QAP), sampling and analysis plan (SAP), or work plan (WP) referenced/resourced.</b>			<b>N/A</b>
❖ Parrot Tailings Waste Removal Performance Monitoring WP and Quality Assurance Project Plan (QAPP)			
<ul style="list-style-type: none"> <li>➤ Administrative Rules of the State of Montana   2017</li> <li>➤ Natural Resource Damage Program <ul style="list-style-type: none"> <li>▪ Butte Natural Resource Damage Restoration Council Butte Area One (BAO) Final Restoration Plan   December 2012</li> <li>▪ Draft Data Gaps Site Investigation Technical Memorandum, Parrot Tailings Area, BAO, Butte, Montana   November 24, 2015</li> <li>▪ Tech Memo, Data Gaps Investigation, Silver Bow Creek and Blacktail Creek Corridors   July 21, 2016</li> </ul> </li> </ul>			
<b>List any/all data validation (DV) standard operating guideline (SOG) or procedure (SOP) referenced/resourced.</b>			<b>N/A</b>
Water & Environmental Technologies (WET)   Data Validation (DV): Standard Operating Guidelines (SOG)   Inorganic, Organic, Radioanalytical, & High Resolution Atlantic Richfield Company (ARCO)   Clark Fork River Superfund Site Investigations   SOPs   September 1992			
<b>Select the applicable United States Environmental Protection Agency (USEPA) National Functional Guidelines (NFGs) Superfund Methods Data Review (SMDR) referenced/resourced:</b>	<b>Inorganic</b>	<b>Organic</b>	<b>N/A</b>
	X		
<b>Select the applicable USEPA Guideline for Data Review referenced/resourced:</b>	<b>High Resolution</b>	<b>Asbestos</b>	<b>N/A</b>
			X
<b>Was the Idaho National Engineering and Environmental Laboratory (INEEL) Radioanalytical DV Guide referenced/resourced? If no, enter any/all radioanalytical DV SOG/SOP referenced/resourced:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
			X

### CHECKLIST

Field QA/QC			
	Yes	No	N/A
<b>Was field documentation provided and complete?</b>	X		
<b>Were calibration checks within project stabilization criteria (or other applicable range)?</b>	X		
<b>Was chain-of-custody (COC) documentation accurate and complete?</b>		X	
GS-29SR: The ID on the COC was GS-29S4 and the ID on the container was GS-29SR. The lab used the COC ID, but WET requested a revised report with the container ID. No qualification required. MH-MSD108: The ID on the COC was MH-MSD106 and the ID on the container was MH-MSD108. The lab used the COC ID, but WET requested a revised report with the container ID. No qualification required. No date/time on the 1L unpreserved container for PMP-12; lab used COC information. No qualification required.			
<b>Were all planned samples able to be collected?</b>		X	
PT14-1 was inaccessible due to construction activities.			
<b>Were samples submitted within a reasonable time frame to meet extraction/prep and/or analytical hold times (HT)? If no, detail below.</b>		X	
pH (A4500-H B) analytical HT is 15 minutes. It is not feasible to submit the samples to the lab within this time frame. All analytical pH results are qualified as estimated (J).			
<b>Were samples submitted received by the laboratory in good condition?</b>	X		

<b>Were samples received by the laboratory within temperature and pH requirements? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
The metals and nutrients containers for DUP-3 were preserved incorrectly, but were resampled, preserved correctly, and resubmitted. No qualification required. The nutrients containers were preserved with phosphoric acid. Samples for nutrients were subsampled and preserved to pH<2 with 2 mL of sulfuric acid per 250 mL in the lab upon receipt. No qualification required.		X	
<b>Were volatile samples collected with zero headspace, or was enough volume available for analysis without using any containers with bubbles? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
			X
<b>Were field duplicate (FD) samples required?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were FD samples collected at the correct frequency? If no, all field data points are qualified as estimated (J/UJ) due to lack of field precision QA/QC (FDX).</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were FD relative percent difference (RPD) results at or below control limits (CLs)? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
BPS07-23 (original) & DUP-1 (duplicate): representing all low-flow samples (BPS07-07B, BPS07-07, BPS07-23, DUP-1, PMP-11B, AMW-13A, GS-28B, PMP-09B, GS-28, FB-1, AMC-23B, PMP-08A, PMP-04B, PMP-01A, AMC-24B, PMP-02B, PMP-07B, MSD-02A, PMP-02A, AMW-01A) ❖ TOC RPD was 126%, >20% CL. The original and duplicate sample results were <5xRL. The absolute difference between the original and duplicate sample results was >RL. ➢ BPS07-07B, PMP-11B, GS-28B, FB-1, AMC-23B, and AMC-24B were qualified as estimated ND (UJ). ➢ All remaining samples were qualified as estimated detections (J). ▪ PMP-04B, PMP-02B, PMP-07B, and MSD-02A were more specifically qualified as estimated high (J+) due to MB contamination. AMW-01B (original) & DUP-4 (duplicate): representing GS-40R, PMP-10B, AMW-09, PMP-10A, BPS11-14A, BPS11-14B, AMW-08, AMW-01C, AMW-20, FB-4, AMW-01B, DUP-4, EB-4, PMP-03A ❖ DOC and TOC RPDs were 25.0% and 40.0%, respectively, >20% CL. The original and duplicate sample results were <5xRL. The absolute difference between the original and duplicate sample results was ≤RL. ➢ No qualification required. ❖ Selenium: The original sample result was detected (<5xRL) while the duplicate sample result was ND and replaced with 0.0005 mg/L (half RL) to give a 66.7% RPD, >20% CL. The absolute difference between the detected original sample result and half RL (ND duplicate sample result) was ≤RL. ➢ No qualification required SS-04 (original) & DUP-5 (duplicate): representing all SW samples except MH-MSD sites (SS-04, DUP-5, FB-5, PMP-12, MSDSG-02, MSDSG-05, MSDSG-03). The MH-MSD sites are split samples collected from another consultant and are not subject to QA/QC under this SDG. ❖ Dissolved Copper RPD was 54.5%, >20% CL. The original and duplicate sample results were <5xRL. The absolute difference between the original and duplicate sample results was >RL. ➢ PMP-12, SS-04, DUP-5, and MSDSG-05 were qualified as estimated detections (J). ➢ FB-5, MSDSG-02, and MSDSG-03 were qualified as estimated ND (UJ). ❖ Dissolved Iron RPD was 33.3%, >20% CL. The original and duplicate sample results were ≥5xRL. ➢ FB-5 was qualified as estimated ND (UJ). ➢ All remaining samples were qualified as estimated detections (J). ❖ Total Manganese RPD was 30.8%, >20% CL. The original and duplicate sample results were ≥5xRL. ➢ FB-5 was qualified as an estimated ND (UJ). ➢ All remaining samples were qualified as estimated detections (J).		X	
<b>Was field decontamination of sampling equipment required?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were equipment rinse blank (ERB) samples required?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were ERB samples collected at the correct frequency? If no, all field data points are qualified (J/UJ) as estimated due to lack of field QA/QC (ERBX).</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were all ERB results non-detect (ND)? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
		X	



EB-2: representing BPS11-10A, MF-07, BPS11-10B, MF-07B, BPS11-10C, PMP-06A, AMC-24C, PMP-06B, BPS07-11A, BPS11-11A1, BPS0-11B, BPS11-11A2, BPS11-11B, DUP-2, FB-2, BPS11-11C, PMP-01B

- ❖ Conductivity was detected at 36 umhos/cm, >RL of 5 umhos/cm.
  - FB-2 did not require qualification due to a ND result.
  - BPS11-11A2 was qualified as estimated high (J+) due to a result  $\geq$ RL but <10xEB and should be reported at the EB concentration.
  - All remaining samples did not require qualification due to results  $\geq$ 10xEB.
- ❖ DOC and TOC were detected at 0.6 mg/L, >RL of 0.5 mg/L.
  - BPS11-10B, BPS11-10C, AMC-24C, BPS11-11A2, BPS11-11B, DUP-2, FB-2, and BPS11-11C did not require qualification due to ND results.
  - MF-07, MF-07B, PMP-06A, PMP-06B, BPS07-11A, BPS11-11A1, BPS07-11B, PMP-01B were qualified as estimated high (J+) due to results  $\geq$ RL but <10xEB and should be reported at the be concentration.
  - BPS11-10A did not require qualification due to a result  $\geq$ 10xEB.
- ❖ Cadmium was detected at 0.00004 mg/L, >RL of 0.00003 mg/L.
  - FB-2 did not require qualification due to a ND result.
  - BPS11-10A and BPS11-11A2 were qualified as estimated high (J+) due to results  $\geq$ RL but <10xEB and should be reported at the be concentration.
  - All remaining samples did not require qualification due to results  $\geq$ 10xEB.
- ❖ Chloride was detected at 3 mg/L, >RL of 1 mg/L.
  - FB-2 did not require qualification due to a ND result.
  - BPS11-10B, BPS11-10C, AMC-24C, BPS11-11A1, BPS11-11B, and DUP-2 were qualified as estimated high (J+) due to results  $\geq$ RL but <10xEB and should be reported at the be concentration.
  - All remaining samples did not require qualification due to results  $\geq$ 10xEB.

EB-3: representing MSD-03, PMP-07A, DUP-3, GS-29SR, FB-3, MF-11, PMP-11A, MSD-04, MSD-02B, AMW-13B, BPS11-18B, AMW-13B2, AMW-13C, BPS11-18C, PMP-09A, PMP-05A, PMP-8B, PMP-08A2, PMP-05BR, BPS11-17C

- ❖ Conductivity was detected at 12 umhos/cm, >RL of 5 umhos/cm.
  - FB-3 did not require qualification due to a ND result.
  - All remaining samples did not require qualification due to results  $\geq$ 10xEB.
- ❖ Manganese was detected at 0.005 mg/L, >RL of 0.001 mg/L.
  - FB-3, PMP-11A, AMW-13B, AMW-13B2, AMW-13C, PMP-09A, and PMP-8A2 did not require qualification due to ND results.
  - GS-29SR, PMP-08B, and BPS11-17C were qualified as estimated high (J+) due to results  $\geq$ RL but <10xEB. BPS11-17C should be reported at the EB concentration due to a result >EB.
  - All remaining samples did not require qualification due to results  $\geq$ 10xEB.

EB-4: representing GS-40R, PMP-10B, AMW-09, PMP-10A, BPS11-14A, BPS11-14B, AMW-08, AMW-01C, AMW-20, FB-4, AMW-01B, DUP-4, PMP-03A

- ❖ Conductivity was detected at 10 umhos/cm, >RL of 5 umhos/cm.
  - FB-4 did not require qualification due to a ND result.
  - All remaining samples did not require qualification due to results  $\geq$ 10xEB.
- ❖ Cadmium was detected at 0.00003 mg/L, equal to the RL.
  - FB-4 did not require qualification due to a ND result.
  - PMP-10A and BPS11-14A were qualified as estimated high (J+) due to results  $\geq$ RL but <10xEB and should be reported at the be concentration.
  - All remaining samples did not require qualification due to results  $\geq$ 10xEB.
- ❖ Copper was detected at 0.004 mg/L, >RL of 0.002 mg/L.
  - PMP-10B, PMP-10A, and FB-4 did not require qualification due to ND results.
  - BPS11-14A was qualified as estimated high (J+) due to a result  $\geq$ RL but <10xEB.
  - All remaining samples did not require qualification due results  $\geq$ 10xEB.
- ❖ Manganese was detected at 0.009 mg/L, >RL of 0.001 mg/L.
  - FB-4 did not require qualification due to a ND result.
  - PMP-10B, PMP-10A, BPS11-14A, and BPS11-14B were qualified as estimated high (J+) due to results  $\geq$ RL. PMP-10A and BPS11-14B should be reported at the EB concentration due to results >EB.
  - All remaining samples did not require qualification due to results  $\geq$ 10xEB.
- ❖ Zinc was detected at 0.008 mg/L, equal to the RL.
  - FB-4 did not require qualification due to a ND result.
  - BPS11-14A was qualified as estimated high (J+) due to a result  $\geq$ RL but <10xEB.
  - All remaining samples did not require qualification due to results  $\geq$ 10xEB.

Were field blank (FB) samples required?	Yes	No	N/A
	X		
	Yes	No	N/A

<b>Were FB samples collected at the correct frequency? If no, all data is qualified as estimated due to lack of field QA/QC (FBX).</b>	X		
<b>Were all FB results ND? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
FB-1: representing all low-flow samples (BPS07-07B, BPS07-07, BPS07-23, DUP-1, PMP-11B, AMW-13A, GS-28B, PMP-09B, GS-28, FB-1, AMC-23B, PMP-08A, PMP-04B, PMP-01A, AMC-24B, PMP-02B, PMP-07B, MSD-02A, PMP-02A, AMW-01A)			
<ul style="list-style-type: none"> <li>❖ Conductivity was detected at 5 umhos/cm, equal to the RL.               <ul style="list-style-type: none"> <li>➢ No qualification was required for any samples due to all results <math>\geq 10 \times \text{FB}</math>.</li> </ul> </li> <li>❖ Copper was detected at 0.010 mg/L, &gt;RL of 0.002 mg/L.               <ul style="list-style-type: none"> <li>➢ BPS07-07B, BPS07-077, BPS07-23, DUP-1, GS-28B, and GS-28 did not require qualification due to ND results.</li> <li>➢ PMP-11B, AMW-13A, PMP-09B, AMC-23B, PMP-08A, and PMP-07B were qualified as estimated high (J+) due to results <math>\geq \text{RL}</math> but <math>&lt; 10 \times \text{EB}</math>. AMW-13A and PMP-08A should be reported at the FB concentration due to results <math>&gt; \text{FB}</math>.</li> <li>➢ All remaining samples did not require qualification due results <math>\geq 10 \times \text{EB}</math>.</li> </ul> </li> <li>❖ N+N was detected at 0.03 mg/L, &gt;RL of 0.01 mg/L.               <ul style="list-style-type: none"> <li>➢ BPS07-23, DUP-1, GS-28, PMP-08A, PMP-04B, and PMP-02A did not require qualification due to ND results.</li> <li>➢ BPS07-07, PMP-02B, and PMP-07B were qualified as estimated high (J+) due to a result <math>\geq \text{RL}</math> but <math>&lt; 10 \times \text{EB}</math>. PMP-02B and PMP-07B should be reported at the FB concentration due to results <math>&gt; \text{FB}</math>.                   <ul style="list-style-type: none"> <li>▪ PMP-02B and PMP-07B were also qualified as estimated low (J-) due to low MS/MSD recovery. These two specific qualifiers cancel each other out and result in an estimated detection (J) qualification.</li> </ul> </li> <li>➢ All remaining samples did not require qualification due results <math>\geq 10 \times \text{EB}</math>.</li> </ul> </li> </ul>			
<b>Were trip blank (TB) samples required (volatiles analyses)?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
		X	
<b>Were TB samples submitted as required (one per shipping container)? If no, all data is qualified as estimated due to lack of TB (TBX).</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
			X
<b>Other issues? If yes, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Field QA/QC Summary</b>			
Out of 4996 total data points: <ul style="list-style-type: none"> <li>• 4833 data points (96.7%) remain unqualified.</li> <li>• Out of 163 data points (3.3%) qualified as estimated:               <ul style="list-style-type: none"> <li>• 83 data points (50.9% of qualified, 1.7% of total) were due to HT exceedances.</li> <li>• No data points were due to preservation (temperature and/or pH) issues.</li> <li>• 39 data points (23.9% of qualified, 0.8% of total) were due to blank contamination.</li> <li>• 41 data points (25.2% of qualified, 0.8% of total) were due to poor replication.</li> </ul> </li> <li>• No data points were rejected.</li> </ul>			
<b>Laboratory QA/QC</b>			
<b>Did the laboratory use appropriate methods to extract/prep and analyze all samples within HT?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were there any results reported below the RL or in exceedance of (E) or over (O) instrument calibration? If yes, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
		X	
<b>Other issues? If yes, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
Due to laboratory error, A/C Balance was not analyzed for DUP-3 and PMP-08A2.			
<b>Laboratory Blanks</b>			
<b>Were TB results ND? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
			X
<b>Were method blank (MB) samples analyzed at a frequency of one per 20 samples or one per batch?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were MB results ND? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
		X	
<ul style="list-style-type: none"> <li>❖ Method A2320 B               <ul style="list-style-type: none"> <li>➢ Batch R188658: MH-MSD108, MH-MSD113, MH-MSD116                   <ul style="list-style-type: none"> <li>▪ Alkalinity was detected at 2 mg/L, &lt;RL of 4 mg/L.</li> </ul> </li> </ul> </li> </ul>			

- MH-MSD116 did not require qualification due to a ND result.
- MH-MSD108 did not require qualification due to a result  $\geq 10 \times \text{MB}$ .
- MH-MSD113 was qualified as estimated high (J+) due to a result  $\geq \text{RL}$  but  $< 10 \times \text{MB}$ .
- ❖ Method A5310 C
  - Batch C\_R298162: PMP-08A, AMW-08, PMP-04B, PMP-01A, AMC-24B, AMW-01C, PMP-02B, AMW-20, PMP-07B, MSD-02A, FB-4, AMW-01B, DUP-4, EB-4, PMP-02A, AMW-01A, PMP-03A
    - TOC was detected at 0.2 mg/L,  $< \text{RL}$  of 0.5 mg/L.
      - AMC-24B, FB-4, and EB-4 did not require qualification due to ND results.
      - PMP-04B, AMW-01C, PMP-02B, AMW-20, PMP-07B, MSD-02A, AMW-01B, and DUP-4 were qualified as estimated high (J+) due to results  $\geq \text{RL}$  but  $< 10 \times \text{MB}$ .
      - All remaining samples did not require qualification due to results  $\geq 10 \times \text{MB}$ .
- ❖ Method E200.7
  - Batch R187602
    - Potassium was detected at 0.1 mg/L,  $< \text{RL}$  of 1 mg/L.
      - Samples in batch: PMP-09B, GS-28, BP07-11A, BPS11-11A1, BPS07-11B, BPS11-11A2, BPS11-11B, DUP-2, FB-2, BPS11-11C, FB-1, PMP-01B, GS-40R, AMC-23B, PMP-10B, PMP-10A, BPS11-14A, EB-2, BPS11-14B
        - ◆ FB-2, EB-1, and EB-2 did not require qualification due to ND results.
        - ◆ All remaining samples did not require qualification due to results  $\geq 10 \times \text{MB}$ .
    - Sodium was detected at 0.09 mg/L,  $< \text{RL}$  of 1 mg/L.
      - Samples in batch: PMP-09B, GS-28, BP07-11A, BPS11-11A1, BPS07-11B, BPS11-11A2, BPS11-11B, PMP-10B, PMP-10A, BPS11-14A, EB-2, BPS11-14B, AMC-24B, PMP-02B, AMW-20, PMP-07B, MSD-02A, FB-4, AMW-01B, DUP-4, EB-4, PMP-02A, PMP-03A
        - ◆ EB-2, FB-4, and EB-4 did not require qualification due to ND results.
        - ◆ All remaining samples did not require qualification due to results  $\geq 10 \times \text{MB}$ .
  - Batch R187634: PMP-08A, AMW-08, PMP-04B, PMP-12, SS-04, DUP-5, FB-5, MSDSG-02, MSDSG-05, MSDSG-03
    - Sodium was detected at 0.08 mg/L,  $< \text{RL}$  of 1 mg/L.
      - FB-5 did not require qualification due to a ND result.
      - All remaining samples did not require qualification due to results  $\geq 10 \times \text{MB}$ .
  - Batch R187724: AMW-08
    - Iron was detected at 0.009 mg/L,  $< \text{RL}$  of 0.02 mg/L.
      - No qualification was required for this sample due to a result  $\geq 10 \times \text{MB}$ .
  - Batch R188671: MH-MSD108, MH-MSD113
    - Sodium was detected at 0.08 mg/L,  $< \text{RL}$  of 1 mg/L.
      - No qualification was required for either sample due to both results  $\geq 10 \times \text{MB}$ .
  - Batch R189094: MH-MSD116
    - Sodium was detected at 0.07 mg/L,  $< \text{RL}$  of 1 mg/L.
      - No qualification was required for this sample due to a result  $\geq 10 \times \text{MB}$ .
- ❖ Method E200.8
  - Batch 67951: all SW samples except MH-MSD sites (PMP-12, SS-04, DUP-5, FB-5, MSDSG-02, MSDSG-05, MSDSG-03)
    - Representing all samples analyzed before 9/6/2023 1750: all batch samples
      - Barium was detected at 0.00005 mg/L,  $< \text{RL}$  of 0.003 mg/L.
        - ◆ FB-5 did not require qualification due to a ND result.
        - ◆ All remaining samples did not require qualification due to results  $\geq 10 \times \text{MB}$ .
      - Beryllium was detected at 0.00007 mg/L,  $< \text{RL}$  of 0.0008 mg/L.
        - ◆ No qualification was required for any samples due to all ND results.
      - Molybdenum was detected at 0.00002 mg/L,  $< \text{RL}$  of 0.001 mg/L.
        - ◆ FB-5 did not require qualification due to a ND result.
        - ◆ All remaining samples did not require qualification due to results  $\geq 10 \times \text{MB}$ .
    - Representing all samples analyzed after 9/5/2023 23:27: none
      - Vanadium was detected at 0.00007 mg/L,  $< \text{RL}$  of 0.0008 mg/L.
        - ◆ No qualification was required.
  - Batch 67981: all SW samples except MH-MSD sites (PMP-12, SS-04, DUP-5, FB-5, MSDSG-02, MSDSG-05, MSDSG-03)
    - Thorium was detected at 0.00002 mg/L,  $< \text{RL}$  of 0.005 mg/L.
      - No qualification was required for any samples due to all ND results.
  - Batch 68603: all three MH-MSD sites (MH-MSD108, MH-MSD113, MH-MSD116)
    - Representing all samples analyzed before 10/10/2023 1240: none
      - No qualification was required for the following detected analytes:



- ◆ Antimony was detected at 0.00006 mg/L, <RL of 0.0005 mg/L.
- ◆ Arsenic was detected at 0.0001 mg/L, <RL of 0.001 mg/L.
- ◆ Barium was detected at 0.005 mg/L, <RL of 0.003 mg/L.
- ◆ Cadmium was detected at 0.00004 mg/L, <RL of 0.00005 mg/L.
- ◆ Chromium was detected at 0.001 mg/L, <RL of 0.005 mg/L.
- ◆ Cobalt was detected at 0.00008 mg/L, <RL of 0.005 mg/L.
- ◆ Lead was detected at 0.0002 mg/L, <RL of 0.0003 mg/L.
- ◆ Molybdenum was detected at 0.0002 mg/L, <RL of 0.001 mg/L.
- ◆ Selenium was detected at 0.0001 mg/L, <RL of 0.001 mg/L.
- ◆ Silver was detected at 0.00005 mg/L, <RL of 0.0002 mg/L.
- ◆ Thallium was detected at 0.0001 mg/L, <RL of 0.0002 mg/L.
- ◆ Thorium was detected at 0.00005 mg/L, <RL of 0.005 mg/L.
- ◆ Titanium was detected at 0.0006 mg/L, <RL of 0.005 mg/L.
- ◆ Uranium was detected at 0.0002 mg/L, <RL of 0.0003 mg/L.
- ◆ Vanadium was detected at 0.0004 mg/L, <RL of 0.01 mg/L.
- Representing all samples analyzed after 10/5/2023 21:49: all batch samples
  - Tin was detected at 0.0004 mg/L, <RL of 0.05 mg/L.
    - ◆ No qualification was required for any samples due to all ND results.
- Batch 68614: all three MH-MSD sites (MH-MSD108, MH-MSD113, MH-MSD116)
  - Niobium was detected at 0.0005 mg/L, <RL of 0.01 mg/L.
    - No qualification was required for any samples due to all ND results.
  - Tungsten was detected at 0.0002 mg/L, <RL of 0.1 mg/L.
    - No qualification was required for any samples due to all ND results.
- Batch R187694: EB-3
  - Copper was detected at 0.0001 mg/L, <RL of 0.002 mg/L.
    - No qualification was required for this sample due to a ND result.
- Batch R187736: includes 78 samples
  - Niobium was detected at 0.00009 mg/L, <RL of 0.01 mg/L.
    - No qualification was required for any samples due to all ND results.
- Batch R187884
  - Beryllium was detected at 0.00006 mg/L, <RL of 0.0008 mg/L.
    - Batch samples include: PMP-09B, GS-28, BPS07-11A, BPS11-11A1, BPS07-11B, BPS11-11A2, BPS11-11B, DUP-2, FB-2, BPS11-11C, FB-1, PMP-01B, GS-40R, AMC-23B, PMP-10B, AMW-09, PMP-10A, BPS11-14A, EB-2, BPS11-14B, PMP-08A, PMP-01A, AMC-24B, PMP-07B, MSD-02A, FB-4, EB-4, AMW-01A
      - ◆ BPS07-11A, BPS0711-B, GS-40R, AMW-09, PMP-01A, and MSD-02A did not require qualification due to results  $\geq 10 \times \text{MB}$ .
      - ◆ All remaining samples did not require qualification due to ND results.
  - Copper was detected at 0.00006 mg/L, <RL of 0.002 mg/L.
    - Batch samples include: BPS11-14A
      - ◆ No qualification was required for this sample due to a result  $\geq 10 \times \text{MB}$ .
  - Molybdenum was detected at 0.00002 mg/L, <RL of 0.001 mg/L.
    - Batch samples include: PMP-09B, AMC-23B, BPS11-14A, BPS11-14B
      - ◆ No qualification was required for any samples due to all results  $\geq 10 \times \text{MB}$ .
- Batch R187919
  - Manganese was detected at 0.00006 mg/L, <RL of 0.001 mg/L.
    - Batch samples include: DUP-5, FB-5, MSDSD-02, MSDSG-05, MSDSG-03
      - ◆ FB-5 did not require qualification due to a ND result.
      - ◆ All remaining samples did not require qualification due to results  $\geq 10 \times \text{MB}$ .
  - Zinc was detected at 0.001 mg/L, <RL of 0.008 mg/L.
    - Batch samples include: GS-28, EB-4, SS-04, DUP-5, FB-5, MSDSD-02, MSDSG-05, MSDSG-03
      - ◆ EB-4 was qualified as estimated high (J+) due to a result  $\geq \text{RL}$  but  $< 10 \times \text{MB}$ .
      - ◆ MSDSG-05 and MSDSG-03 did not require qualification due to results  $\geq 10 \times \text{MB}$ .
      - ◆ All remaining samples did not require qualification due to ND results.
- Batch R189087: all three MH-MSD sites (MH-MSD108, MH-MSD113, MH-MSD116)
  - Thorium was detected at 0.000008 mg/L, <RL of 0.005 mg/L.
    - No qualification was required for any samples due to all ND results.

**Laboratory Accuracy**
**Were initial/continuing calibration verification (ICV/CCV) analyses performed for each batch?**
**Yes**
**No**
**N/A**

X

Were ICV/CCV percent recoveries within CLs? If no, detail below.	Yes	No	N/A
<ul style="list-style-type: none"> <li>❖ Method E200.7               <ul style="list-style-type: none"> <li>➤ Batch R187553: DUP-3, BPS11-10C, PMP-06A, AMC-24C, PMP-06B                   <ul style="list-style-type: none"> <li>▪ Representing samples analyzed between 8/25/2023 0012 and 0142: none                       <ul style="list-style-type: none"> <li>• Magnesium was recovered at 116%, &gt;110% upper CL.                           <ul style="list-style-type: none"> <li>◆ No qualification required.</li> </ul> </li> </ul> </li> <li>➤ Batch R187602: PMP-01B, GS-40R, AMW-09, BPS11-14B                   <ul style="list-style-type: none"> <li>▪ Representing samples analyzed between 8/25/2023 1234 and 8/26/2023 0154: none                       <ul style="list-style-type: none"> <li>• Zinc was recovered at 111%, &gt;110% upper CL.                           <ul style="list-style-type: none"> <li>◆ No qualification required.</li> </ul> </li> </ul> </li> </ul> </li> </ul> </li> </ul> </li></ul>		X	
<b>Were laboratory fortified blanks (LFB) / control samples (LCS) analyzed at a frequency of one per 20 samples or one per batch?</b>	X		
<b>Were LFB/LCS percent recoveries within CLs? If no, detail below.</b>	X		
<ul style="list-style-type: none"> <li>❖ Method E200.8               <ul style="list-style-type: none"> <li>➤ Batch R187811:                   <ul style="list-style-type: none"> <li>▪ Representing samples analyzed before 8/31/2023 13:05: none                       <ul style="list-style-type: none"> <li>• Zirconium was recovered at 146%, &gt;115% upper CL.                           <ul style="list-style-type: none"> <li>◆ No qualification required.</li> </ul> </li> </ul> </li> </ul> </li> </ul> </li> </ul>			
<b>Were matrix spike (MS) samples analyzed at a frequency of one per 20 samples or one per batch?</b>	X		
<b>Were MS percent recoveries within CLs? If no, detail below.</b> *Note: All EB/ERB and FB samples, consistent of deionized (DI) water, are excluded from evaluation due to the potential matrix interference between DI water and the aqueous matrices.		X	
<ul style="list-style-type: none"> <li>❖ Method A5310 C               <ul style="list-style-type: none"> <li>➤ Batch C_R298022: GS-29SR, FB-3, MF-11, BPS07-07B, PMP-11A, AMW-13B, BPS11-18B, AMW-13B2, AMW-13C, PMP-05A, AMW-13A                   <ul style="list-style-type: none"> <li>▪ H23080754-022E: PMP-05A                       <ul style="list-style-type: none"> <li>• Representing samples analyzed before 8/23/2023 1709: all batch samples except AMW-13A                           <ul style="list-style-type: none"> <li>◆ TOC was recovered at 82% (MS), &lt;90% lower CL.                               <ul style="list-style-type: none"> <li>✓ GS-29SR, MF-11, BPS11-18B, and PMP-05A were qualified as estimated low (J-) due to detected results.</li> <li>✓ All remaining samples (except FB-3) were qualified as estimated (UJ) due to ND results.</li> </ul> </li> </ul> </li> </ul> </li> <li>➤ Batch C_R298148: BPS07-23, GS-28B, PMP-12, SS-04, DUP-5, FB-5, MSDSG-02, MSDSG-05, MSDSG-03                   <ul style="list-style-type: none"> <li>▪ H23080917-001D: PMP-12                       <ul style="list-style-type: none"> <li>• Representing samples analyzed before 8/28/2023 1555: none                           <ul style="list-style-type: none"> <li>◆ DOC was recovered at 113% (MS) and 119% (MSD), &gt;111% upper CL.                               <ul style="list-style-type: none"> <li>✓ No qualification required.</li> </ul> </li> </ul> </li> <li>▪ H23081110-001GMSD: unassociated WO sample                       <ul style="list-style-type: none"> <li>• Representing samples analyzed between 8/28/2023 1555 and 2220: PMP-12, SS-04, DUP-5, FB-5, MSDSG-02, MSDSG-05                           <ul style="list-style-type: none"> <li>◆ DOC was recovered at 81% (MSD), &lt;90% lower CL.                               <ul style="list-style-type: none"> <li>✓ All samples (except FB-5) were qualified as estimated low (J-) due to detected results.</li> </ul> </li> </ul> </li> </ul> </li> </ul> </li> </ul> </li> </ul> </li></ul></li></ul>			
<ul style="list-style-type: none"> <li>❖ Method E300.0               <ul style="list-style-type: none"> <li>➤ Batch R187509: includes 80 samples                   <ul style="list-style-type: none"> <li>▪ H23080754-020AMSD: PMP-11B                       <ul style="list-style-type: none"> <li>• Representing samples analyzed after 8/24/2023 1458 in WO H2308754: PMP-0A, PMP-05A, AMW-13A                           <ul style="list-style-type: none"> <li>◆ Bromide was recovered at 89% (MSD), &lt;90% upper CL.                               <ul style="list-style-type: none"> <li>✓ No qualification required was required for any samples due to all ND results.</li> </ul> </li> </ul> </li> <li>▪ H23080811-005AMS/D: BPS11-17C                       <ul style="list-style-type: none"> <li>• Representing samples analyzed before 8/24/2023 2322 in WO H23080811: PMP-08B, GS-28B, PMP-08A2, PMP-05BR, BPS11-17C                           <ul style="list-style-type: none"> <li>◆ Bromide was recovered at 86% (MS and MSD), &lt;90% upper CL.                               <ul style="list-style-type: none"> <li>✓ All samples were qualified as estimated ND (UJ) due to ND results.</li> </ul> </li> </ul> </li> <li>▪ H23080812-001AMS/D: unassociated WO sample                       <ul style="list-style-type: none"> <li>• Representing samples analyzed after 8/24/2023 2015 in WO H23080811: BPS11-10A, MF-07, BPS11-10B, MF-07B, BPS11-10C, PMP-06A, AMC-24C, PMP-06B</li> </ul> </li> </ul> </li> </ul> </li> </ul> </li></ul></li></ul>			

<ul style="list-style-type: none"> <li>◆ Bromide was recovered at 89% (MS and MSD), &lt;90% upper CL. <ul style="list-style-type: none"> <li>✓ MF-07 and PMP-06A were qualified as estimated low (J-) due to detected results.</li> <li>✓ All remaining samples were qualified as estimated ND (UJ) due to ND results.</li> </ul> </li> <li>▪ H23080897-010AMS/D: PMP-01B <ul style="list-style-type: none"> <li>• Representing samples analyzed before 8/26/2023 1317 in WO H23080897: PMP-09B, GS-28, BPS07-11A, BPS11-11A1, BPS07-11B, BPS11-11A2, BPS11-11B, DUP-2, FB-2, BPS11-11C, FB-1, PMP-01B, GS-040R, AMC-23B, PMP-10B, PMP-10A, BPS11-14A, EB-2, BPS11-14B <ul style="list-style-type: none"> <li>◆ Sulfate was recovered at 111% (MS and MSD), &gt;110% upper CL. <ul style="list-style-type: none"> <li>✓ All samples (except FB-2, FB-1, and EB-2) were qualified as estimated high (J+) due to detected results.</li> </ul> </li> </ul> </li> </ul> </li> </ul>			
<ul style="list-style-type: none"> <li>❖ Method E353.2 <ul style="list-style-type: none"> <li>➢ Batch R187741: includes 40 samples <ul style="list-style-type: none"> <li>▪ H23080918-015CMS/D: PMP-02A <ul style="list-style-type: none"> <li>• Representing samples in WO H23080918: PMP-08A, AMW-08, PMP-04B, AMC-24B, AMW-01C, PMP-02B, AMW-20, PMP-07B, FB-4, EB-4, PMP-02A, AMW-01A, PMP-03A <ul style="list-style-type: none"> <li>◆ N+N was recovered at 88% (MS) and 89% (MSD), &lt;90% lower CL. <ul style="list-style-type: none"> <li>✓ PMP-08A, AMW-08, PMP-04B, and PMP-02A were qualified as estimated (UJ) due to ND results.</li> <li>✓ All remaining samples (except FB-4 and EB-4) were qualified as estimated low (J-) due to detected results. <ul style="list-style-type: none"> <li>✗ PMP-02B and PMP-07B were also qualified as estimated high (J+) due to FB contamination. These two specific qualifiers cancel each other out and result in an estimated detection (J) qualification.</li> </ul> </li> </ul> </li> </ul> </li> </ul> </li> </ul> </li> </ul> </li></ul>			
<b>Were surrogate recoveries within CLs (organics only)? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
			X
<b>Laboratory Precision</b>			
<b>Were laboratory duplicates analyzed at a frequency of one per 20 samples or one per batch, either through laboratory sample duplicates (LSD), LCS duplicates (LCSD), or MS duplicates (MSD)?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were laboratory duplicate RPD results at or below CLs? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were serial dilution (SD) samples analyzed at a frequency of one per 20 samples or one per batch (metals only)?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were SD RPD results at or below CLs? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Laboratory QA/QC Summary</b>			
Out of 4996 total data points: <ul style="list-style-type: none"> <li>• 4932 data points (98.7%) remain unqualified.</li> <li>• Out of 64 data points (1.3%) qualified as estimated: <ul style="list-style-type: none"> <li>• No data points were due to detections below the RL or above the instrument upper calibration value or estimated values.</li> <li>• 10 data points (15.6% of qualified, 0.2% of total) was due to laboratory blank contamination.</li> <li>• 54 data points (84.4% of qualified, 1.1% of total) were due to poor accuracy (MS/MSD failures).</li> <li>• No data points were due to poor precision.</li> </ul> </li> <li>• No data points were rejected.</li> </ul>			

## OVERALL SUMMARY

### Data Quality

- Out of 4996 total data points:
- 4776 data points (95.6%) remain unqualified and are considered quantitative.
  - Out of 220 data points (4.4%) qualified as estimated and assigned as qualitative:
    - 163 data points (74.1% of qualified, 3.3% of total) were due to field QA/QC.
    - 64 data points (29.1% of qualified, 1.3% of total) were due to laboratory QA/QC.
  - No data points were rejected.

### Completeness

Out of 84 samples planned (71 natural, 13 QA/QC), 83 (70 natural, 13 QA/QC) samples were completed. This SDG is 98.8% complete.  
Out of 830 analyses planned, 828 analyses were completed. These WOs are 99.8% complete.

Out of 4996 data points produced, 4996 data points are useable. This data package is 100% complete.

**Level A/B Assessment Checklist**  
**Third Quarter of 2023**

**I. General Information**

**Site:** Parrot  
**Project:** Parrot Performance Monitoring  
**Client:** NRD  
**Sample Matrix:** Aqueous  
**Lab Report #s:** H23080754, H23080811, H23080897,  
H23080917, H23080918, H23090922

**II. Enforcement Results**

Data are:  
1) Unusable   
2) Level A   
3) Level B

**III. Level A Screening**

Criteria – The following must be fully documented:	Yes/No	Comments
1. Sampling date	Yes	
2. Sampling team or leader	Yes	
3. Physical description of sampling location	Yes	
4. Sample depth (soils)	N/A	
5. Sample collection technique	Yes	
6. Field preparation technique	N/A	
7. Sample preservation technique	Yes	
8. Sample shipping records and laboratory analysis dates	Yes	
9. Companion sampling efforts	Yes	
10. Visual classification of samples	NA	Aqueous Samples

**IV. Level B Screening**

Criteria – The following must be fully documented:	Yes/No	Comments
1. Field/laboratory instrumentation, standardization and methods/procedures	Yes	
2. Proper sample containers and container preparation	Yes	
3. Collection of field replicates (1/20 minimum)	Yes	
4. Proper and decontaminated sampling equipment	N/A	
5. Identity of sample taker	Yes	
6. Field custody documentation	Yes	
7. Shipping custody documentation	Yes	
8. Traceable sample designation number	Yes	
9. Field notebooks, custody records in secure repository	Yes	
10. Properly prepared and complete field forms	Yes	
11. Physical data/observations date and time	Yes	
12. Physical data/observations recorder, team leader	Yes	
13. Physical data/observation location	Yes	



## **ATTACHMENT D**

### Data Quality Summary Fourth Quarter 2023

## **Attachment B**

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### **Data Quality Summary Fourth Quarter of 2023**



## **Quality Assurance (QA) and Quality Control (QC) Review of Inorganic Data**

Summaries of the samples collected for this investigation are included in the attached appendices. The sampling project analytical methods are listed below in Table A-1. The quality of the inorganic data is summarized in the paragraphs below and in the report attachments.

Table A-1 Parrot Performance Monitoring Analytical Requirement.

<b>Analysis Group</b>	<b>Analyses</b>	<b>Methods</b>
Metals	Total Recoverable (Surface Water and MH-MSD sites) Dissolved Rare Earth Elements	E200.7/8
Physical Properties	pH, pH Measurement Temp Conductivity Total Dissolved Solids (TDS)	A4500-H B A2510 B A2540 C
Inorganics	Alkalinity, Bicarbonate, Carbonate Chloride, Sulfate, Bromide, Fluoride Hardness	A2320 B E300.0 A2340 B
Aggregate Organics	Dissolved Organic Carbon (DOC) Total Organic Carbon (TOC)	A5310C
Nutrients	Nitrogen, Nitrate+Nitrite	E353.2
Data Quality	Anion/Cation (A/C) Balance	A1030 E

The following sample data groups (SDGs) have been validated and are included in NRD Parrot Tailings 2023 Fourth Quarter Sampling Event:

- H23110570
- H23110571
- H23110658
- H23110659

### **Data Quality Executive Summary**

All 66 groundwater samples and all five surface water samples, as well as five field duplicates, three equipment blanks, and five field blanks were collected as part of Parrot Tailings Removal Performance Monitoring project. A total of 5,054 individual data points were produced, and 100% of these data points may be used to support decision-making for the risk assessment, developing site-specific risk-based clean up goals, and support an evaluation of the scope of remedial action (if necessary).

A total of 361 data points (7.14%) received qualification during validation due to results outside of QA/QC acceptance criteria, as defined in the *EPA National Functional Guidelines for Inorganic Data Review* (EPA, November 2020). These qualifications (J, J-, J+ , and UJ) indicate some uncertainty in reported results due to preservation, contamination, accuracy, and/or precision issues. The following provides a summary of qualified results suitable for use in further decision making regarding the NRD Parrot Tailings.

- Results qualified J: 115 (31.9% of qualified, 2.28% of total)
- Results qualified J-: 61 (16.9% of qualified, 1.21% of total)

- Results qualified J+: 136 (37.7% of qualified, 2.69% of total)
- Results qualified UJ: 49 (13.6% of qualified, 0.97% of total)

These qualifications, once assigned, do not limit the use of the results for purposes of decision making. The *EPA Risk Assessment Guidance, Part A, Sec. 5.4.1, pg. 5-15 Data Usability* (EPA, 1989) states the following with respect to use of ‘J’ or ‘UJ’ qualified results:

*"Basically, the guidance here is to use J-qualified concentrations the same way as positive data that do not have this qualifier. If possible, note potential uncertainties associated with the qualifier, so that if data qualified with a J contribute significantly to the risk, the appropriate caveats can be attached."*

Results qualified as R are not enforcement or screening quality and should not be used to inform decisions. One result (carbonate in AMW-13B) was qualified as R due to the laboratory’s failure to analyze within technical hold time and a non-detect result.

### **QA/QC Review of Inorganic Data**

Data validation summaries were completed using the data validation guidelines from *EPA National Functional Guidelines for Inorganic Data Review* (EPA, November 2020). The completed summaries are attached. Laboratory data flags and qualifiers are listed in **Tables 3, 4, 5 and 6**.

### **Field Data Quality**

A total of 259 data points (5.12% of total) were qualified as estimated due to field QA/QC deficiencies. Of these qualifications, 84 data points (32.4% of qualified, 1.66% of total) were due to hold time exceedances, 135 data points (52.1% of qualified, 2.67% of total) were due to field blank contamination, and 50 data points (19.3% of qualified, 0.99% of total) were due to field duplicate relative percent difference (RPD) exceeding the 20% aqueous criteria specified by the EPA and project QAPP.

### **Preservation and Hold Times**

Preservation includes proper field filtration, preservation, and acceptable pH and temperature upon receipt by the laboratory. Hold time is determined from the date of collection to the date of analysis. Laboratory pH hold time is 15 minutes, which is impossible to meet, so all analytical pH results were qualified as estimated; refer to field pH for accurate results. These accounted for all 84 qualified data points.

### **Blanks**

Equipment blank results are used to provide a measure of effectiveness of field decontamination procedures between sampling wells. Three equipment blank samples were collected during this sampling effort. There were 26 analyte detections resulting in estimated high (J+) qualifications for 11 analytes. No other results were affected.

Field blank results are used to provide a measure of contamination during field sampling and sample processing. Five field blank samples were collected during this sampling effort. There were no positive detections in any of the field blanks.

### Duplicates

Field duplicate samples assess the variance of the field sampling methods. Duplicates were collected at a minimum frequency of 1 per 20 primary samples, meeting the project QAPP specified frequency, resulting in five field duplicate sample pairs. Six analytes exhibited relative percent differences (RPDs) above the 20% criteria, two of which required qualification. A total of 20 copper and 20 manganese data points were qualified as estimated (J or UJ). A summary of the RPD results is provided in **Table 6**.

### **Laboratory Data Quality**

A total of 102 data points (2.02%) were qualified as estimated and one data point (<0.01%) was qualified as unusable due to laboratory QA/QC deficiencies. Of these qualifications, three estimated data points (2.94% of qualified, <0.01% of total) and one rejected data point (<0.01% of total) were due to analysis past hold time, one data point (0.98% of qualified, <0.01% of total) was due to field blank contamination, and 99 data points (97.1% of qualified, 1.96% of total) were due to poor laboratory accuracy.

### Analysis Hold Times

Hold time is determined from the date of collection to the date of analysis. Alkalinity and bicarbonate in AMW-13B and nitrate+nitrite in PMP-01A were qualified as estimated low (J-) due to analysis past hold time and detected results. Carbonate in AMW-13B was rejected (R) due to analysis past hold time and a non-detect result.

### Laboratory Blank Results

Laboratory method blanks assess contamination introduced during sample laboratory preparation activities. There were 60 method blank detections, resulting in only one data point (vanadium in MH-MSD116) qualified as estimated high (J+). No other results were affected.

### Laboratory Precision

Laboratory duplicate samples assess the variance of the analytical methods. All laboratory duplicate RPDs were below criteria maximums; therefore, no qualification was required.

### Accuracy

Laboratory accuracy is measured with percent recoveries for calibration verifications, laboratory fortified blanks or control samples, and matrix spikes. There were 10 matrix spike recovery failures, resulting in 30 bromide, 13 calcium, and 52 nitrate+nitrite data points qualified as estimated (J, J+, J-, or UJ).

### **Completeness**

Out of 84 planned samples (71 natural, 13 QA/QC), all 84 samples were collected, resulting in a 100% complete sample delivery group. Out of 840 analyses planned (84 samples multiplied by 10 methods), all 840 analyses were completed, resulting in 100% complete work orders. Out of

5,054 data points, all 5,054 data points are usable, resulting in a 100% complete data package. The project QAPP data quality objectives (DQOs) have been met.

**Data Validation Summary  
Fourth Quarter of 2023**



# Data Verification/Validation Checklist and Summary Report

PROJECT AND LABORATORY INFORMATION	
Project/Task/Sub-Task #:	NRDPM16 TO 2 / 001: Parrot Tailings Groundwater
Site & Location:	Butte, MT
Sample Collection Date(s):	November 13-16, 2023
Laboratory & Location:	Energy Laboratories – Helena, MT
Sample Delivery Group (SDG):	Q4
Work Order (WO):	H23110570, H23110571, H23110658, H23110659
Extraction/Prep Date(s):	NA
Analysis Date(s):	November 16, 2023 – January 3, 2024
Laboratory Report Date(s):	H23110570: December 27, 2023 H23110571: January 4, 2024 H23110658: December 19, 2023 H23110659: December 28, 2023
Data Validator:	Janelle Garza
Data Validation Date(s):	January 8-15, 2023
Data Validation Reviewer:	Laurel Bitterman
Data Validation Review Date(s):	January 19, 2024

SDG/WO (in order of sample date/time)					
Lab ID	Sample ID	Sample Date	Sample Time	Matrix	Notes
H23110571-001	PMP-11A	11/13/2023	11:13	Aqueous: Groundwater (GW)	
H23110571-002	BPS07-07B	11/13/2023	11:26	Aqueous: GW	
H23110571-003	BPS07-07	11/13/2023	11:54	Aqueous: GW	
H23110571-004	BPS07-23	11/13/2023	12:34	Aqueous: GW	
H23110571-005	MSD-03	11/13/2023	12:55	Aqueous: GW	
H23110571-006	AMW-13B	11/13/2023	13:27	Aqueous: GW	
H23110571-007	MF-11	11/13/2023	13:42	Aqueous: GW	
H23110571-008	AMW-13B2	11/13/2023	13:48	Aqueous: GW	
H23110571-009	MSD-04	11/13/2023	14:10	Aqueous: GW	
H23110571-010	AMW-13C	11/13/2023	14:23	Aqueous: GW	
H23110571-011	PMP-09A	11/13/2023	15:02	Aqueous: GW	
H23110571-012	PMP-07A	11/13/2023	15:07	Aqueous: GW	
H23110571-013	FB-2	11/13/2023	16:02	Deionized (DI) Water	GW QA/QC Group 2 (Transect C) field blank
H23110571-014	MSD-02B	11/13/2023	16:16	Aqueous: GW	
H23110571-015	DUP-2	11/13/2023	16:17	Aqueous: GW	GW QA/QC Group 2 (Transect C) duplicate: MSD- 02B
H23110571-016	EB-2	11/13/2023	16:30	DI Water	GW QA/QC Group 2 (Transect C) equipment blank
H23110571-017	FB-4	11/14/2023	9:40	DI Water	GW QA/QC Group 4 (low-flow) field blank
H23110571-018	BPS11-18B	11/14/2023	9:41	Aqueous: GW	
H23110571-019	PMP-08A2	11/14/2023	9:42	Aqueous: GW	
H23110571-020	PMP-08B	11/14/2023	10:02	Aqueous: GW	
H23110570-001	MH-MSD108	11/14/2023	10:10	Aqueous: Surface Water (SW)	

H23110571-021	BPS11-18C	11/14/2023	10:22	Aqueous: GW	
H23110571-022	PMP-11B	11/14/2023	10:45	Aqueous: GW	
H23110571-023	DUP-4	11/14/2023	10:46	Aqueous: GW	GW QA/QC Group 4 (low-flow) duplicate: PMP-11B
H23110571-024	BPS11-10A	11/14/2023	11:03	Aqueous: GW	
H23110571-025	PMP-05A	11/14/2023	11:07	Aqueous: GW	
H23110570-002	MH-MSD113	11/14/2023	11:15	Aqueous: SW	
H23110571-026	BPS11-10B	11/14/2023	11:30	Aqueous: GW	
H23110571-027	PMP-05BR	11/14/2023	11:33	Aqueous: GW	
H23110570-003	MH-MSD116	11/14/2023	11:53	Aqueous: SW	
H23110571-028	BPS11-10C	11/14/2023	12:08	Aqueous: GW	
H23110571-029	AMW-13A	11/14/2023	12:25	Aqueous: GW	
H23110571-030	BPS11-17C	11/14/2023	13:39	Aqueous: GW	
H23110571-031	GS-28	11/14/2023	14:00	Aqueous: GW	
H23110571-032	MF-07	11/14/2023	14:25	Aqueous: GW	
H23110571-033	BPS11-11A1	11/14/2023	14:32	Aqueous: GW	
H23110571-034	MF-07B	11/14/2023	14:50	Aqueous: GW	
H23110571-035	BPS11-11A2	11/14/2023	14:51	Aqueous: GW	
H23110571-036	GS-28B	11/14/2023	15:13	Aqueous: GW	
H23110571-037	BPS11-11B	11/14/2023	15:18	Aqueous: GW	
H23110571-038	DUP-1	11/14/2023	15:19	Aqueous: GW	GW QA/QC Group 1 (Transects E/D) duplicate: BPS11-11B
H23110571-039	PMP-06A	11/14/2023	15:19	Aqueous: GW	
H23110571-040	EB-1	11/14/2023	15:30	DI Water	GW QA/QC Group 1 (Transects E/D) equipment blank
H23110571-041	PMP-08A	11/14/2023	15:43	Aqueous: GW	
H23110571-042	FB-1	11/14/2023	15:45	DI Water	GW QA/QC Group 1 (Transects E/D) field blank
H23110571-043	PMP-06B	11/14/2023	15:50	Aqueous: GW	
H23110571-044	BPS11-11C	11/14/2023	16:13	Aqueous: GW	
H23110571-045	BPS07-11A	11/15/2023	9:28	Aqueous: GW	
H23110571-046	GS-29SR	11/15/2023	9:29	Aqueous: GW	
H23110571-047	BPS07-11B	11/15/2023	9:49	Aqueous: GW	
H23110571-048	PMP-10A	11/15/2023	10:03	Aqueous: GW	
H23110571-049	PMP-10B	11/15/2023	10:26	Aqueous: GW	
H23110571-050	AMW-01B	11/15/2023	10:47	Aqueous: GW	
H23110571-051	AMC-24C	11/15/2023	11:03	Aqueous: GW	
H23110571-052	BPS11-14A	11/15/2023	11:52	Aqueous: GW	
H23110571-053	BPS11-14B	11/15/2023	12:16	Aqueous: GW	
H23110571-054	AMC-23B	11/15/2023	12:27	Aqueous: GW	
H23110571-055	AMW-01C	11/15/2023	12:56	Aqueous: GW	
H23110659-001	PMP-03A	11/15/2023	14:26	Aqueous: GW	
H23110659-002	GS-40R	11/15/2023	14:44	Aqueous: GW	
H23110659-003	FB-3	11/15/2023	14:45	DI Water	GW QA/QC Group 3 (Transects B/A) field blank
H23110659-004	PMP-01B	11/15/2023	15:02	Aqueous: GW	
H23110659-005	DUP-3	11/15/2023	15:03	Aqueous: GW	GW QA/QC Group 3 (Transects B/A) duplicate: PMP-01B
H23110659-006	AMW-09	11/15/2023	15:14	Aqueous: GW	

H23110659-007	EB-3	11/15/2023	15:15	DI Water	GW QA/QC Group 3 (Transects B/A) equipment blank
H23110659-008	PMP-09B	11/15/2023	15:37	Aqueous: GW	
H23110659-009	AMW-08	11/15/2023	15:46	Aqueous: GW	
H23110659-010	PT14-1	11/16/2023	9:38	Aqueous: GW	
H23110659-011	AMW-01A	11/16/2023	9:41	Aqueous: GW	
H23110659-012	MSD-02A	11/16/2023	10:19	Aqueous: GW	
H23110659-013	AMC-24B	11/16/2023	10:46	Aqueous: GW	
H23110659-014	AMW-20	11/16/2023	11:02	Aqueous: SW	
H23110659-015	PMP-02B	11/16/2023	11:29	Aqueous: GW	
H23110659-016	PMP-02A	11/16/2023	11:50	Aqueous: GW	
H23110659-017	PMP-07B	11/16/2023	13:14	Aqueous: GW	
H23110658-001	PMP-12	11/16/2023	13:15	Aqueous: GW	
H23110659-018	PMP-01A	11/16/2023	13:21	Aqueous: GW	
H23110658-002	SS-04	11/16/2023	13:45	Aqueous: SW	
H23110658-003	DUP-5	11/16/2023	13:46	Aqueous: SW	SW QA/QC duplicate: SS-04
H23110658-004	FB-5	11/16/2023	14:05	DI Water	SW QA/QC field blank
H23110658-005	MSDSG-02	11/16/2023	14:19	Aqueous: SW	
H23110658-006	MSDSG-05	11/16/2023	14:41	Aqueous: SW	
H23110658-007	MSDSG-03	11/16/2023	15:20	Aqueous: SW	
H23110659-019	PMP-04B	11/16/2023	15:42	Aqueous: GW	

### METHOD(S)/ANALYSES

<b>Physical Properties</b>	A4500-H B: pH & pH Measurement Temp A2510 B: Conductivity A2540 C: Total Dissolved Solids (TDS)
<b>Inorganics</b>	A2320 B: Alkalinity, Bicarbonate, & Carbonate E300.0: Chloride, Sulfate, Bromide, Fluoride A2340B: Hardness
<b>Aggregate Organics: A5310 C</b>	Dissolved Organic Carbon (DOC) Total Organic Carbon (TOC)
<b>Nutrients: E353.2</b>	Nitrate+Nitrite (N+N)
<b>Dissolved and Total Recoverable Metals: E200.7/8</b>	Aluminum (Al), Antimony (Sb), Arsenic (As), Barium (Ba), Beryllium (B), Boron (B), Cadmium (Cd), Cesium (Cs), Calcium (Ca), Chromium (Cr), Cobalt (Co), Copper (Cu), Gallium (Ga), Iron (Fe), Lead (Pb), Lanthanum (La), Lithium (Li), Magnesium (Mg), Neodymium (Nd), Niobium (Nb), Manganese (Mn), Molybdenum (Mo), Nickel (Ni), Palladium (Pd), Praseodymium (Pr), Rubidium (Rb), Potassium (K), Selenium (Se), Silver (Ag), Sodium (Na), Strontium (Sr), Thallium (Tl), Thorium (Th), Tin (Sn), Titanium (Ti), Tungsten (W), Uranium (U), Vanadium (V), Zinc (Zn), Zirconium (Zr)
<b>Data Quality: A1030 E</b>	Anion/Cation (A/C) Balance

### QUALIFIER DEFINITIONS

<b>U</b>	The analyte was analyzed for but was not detected above the level of the adjusted detection limit or quantitation limit, as appropriate.
<b>UJ</b>	The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
<b>J</b>	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
<b>J-</b>	The result is an estimated quantity, but the result may be biased low.
<b>J+</b>	The result is an estimated quantity, but the result may be biased high.
<b>R</b>	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.



<b>GUIDANCE DOCUMENTS</b>			
<b>List any/all Environmental Protection Agency (EPA) or state Department of Environmental Quality (DEQ) guidance documents referenced/resourced.</b>			<b>N/A</b>
<ul style="list-style-type: none"> <li>❖ EPA               <ul style="list-style-type: none"> <li>➤ Butte Mine Flooding Operable Unit (BMFOU) Monitoring Program, Butte Priority Soils Operable Unit (BPSOU), Butte Area / Silver Bow Creek (SBC), Record of Decision   September 2006</li> <li>➤ BPSOU Explanation of Significant Differences   July 2011</li> <li>➤ BPSOU Revised Interim Groundwater Monitoring Plan, Butte Area / SBC National Priority List Site, Butte – Silver Bow County, Montana   July 2011</li> <li>➤ Guidance for Quality Assurance Project Plans, EPA QA/G-5   Document No. EPA/240/R-02/009   December 2002</li> <li>➤ Guidance on Systematic Planning Using the Data Quality Objectives Process   Document No. EPAQA/G-4   February 2006</li> <li>➤ Groundwater Sampling Guidelines for Superfund and Resource Conservation and Recovery Act Project Managers, EPA 542-S-02-001   May 2002</li> </ul> </li> <li>❖ Montana DEQ: Circular DEQ-7 – Montana Numeric Water Quality Standards   October 2012</li> </ul>			
<b>List any/all project quality assurance plan (QAP), sampling and analysis plan (SAP), or work plan (WP) referenced/resourced.</b>			<b>N/A</b>
<ul style="list-style-type: none"> <li>❖ Parrot Tailings Waste Removal Performance Monitoring WP and Quality Assurance Project Plan (QAPP)               <ul style="list-style-type: none"> <li>➤ Administrative Rules of the State of Montana   2017</li> <li>➤ Natural Resource Damage Program                   <ul style="list-style-type: none"> <li>▪ Butte Natural Resource Damage Restoration Council Butte Area One (BAO) Final Restoration Plan   December 2012</li> <li>▪ Draft Data Gaps Site Investigation Technical Memorandum, Parrot Tailings Area, BAO, Butte, Montana   November 24, 2015</li> <li>▪ Tech Memo, Data Gaps Investigation, Silver Bow Creek and Blacktail Creek Corridors   July 21, 2016</li> </ul> </li> </ul> </li> </ul>			
<b>List any/all data validation (DV) standard operating guideline (SOG) or procedure (SOP) referenced/resourced.</b>			<b>N/A</b>
Water & Environmental Technologies (WET)   Data Validation (DV): Standard Operating Guidelines (SOG)   Inorganic, Organic, Radioanalytical, & High Resolution Atlantic Richfield Company (ARCO)   Clark Fork River Superfund Site Investigations   SOPs   September 1992			
<b>Select the applicable United States Environmental Protection Agency (USEPA) National Functional Guidelines (NFGs) Superfund Methods Data Review (SMDR) referenced/resourced:</b>	<b>Inorganic</b>	<b>Organic</b>	<b>N/A</b>
	X		
<b>Select the applicable USEPA Guideline for Data Review referenced/resourced:</b>	<b>High Resolution</b>	<b>Asbestos</b>	<b>N/A</b>
			X
<b>Was the Idaho National Engineering and Environmental Laboratory (INEEL) Radioanalytical DV Guide referenced/resourced? If no, enter any/all radioanalytical DV SOG/SOP referenced/resourced:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
			X

<b>CHECKLIST</b>			
<b>Field QA/QC</b>			
<b>Was field documentation provided and complete?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were calibration checks within project stabilization criteria (or other applicable range)?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Was chain-of-custody (COC) documentation accurate and complete?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
		X	
<ul style="list-style-type: none"> <li>❖ MH-MSD108: The ID on the COC was MH-MSD106 and the ID on the container was MH-MSD108. The lab contacted WET (J. Garza) to confirm the ID of MH-MSD108. No qualification required.</li> <li>❖ AMW-13B2: The collection time on the COC was 13:48 and the container was 13:47. The lab used the COC time. No qualification required.</li> </ul>			
<b>Were all planned samples able to be collected?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		

<b>Were samples submitted within a reasonable time frame to meet extraction/prep and/or analytical hold times (HT)? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
pH (A4500-H B) analytical HT is 15 minutes. It is not feasible to submit the samples to the lab within this time frame. All analytical pH results are qualified as estimated (J). See field pH measurements.		X	
<b>Were samples submitted received by the laboratory in good condition?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were samples received by the laboratory within temperature and pH requirements? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
The DOC container for BPS07-07B was received by the lab at pH>2. Upon receipt, the lab added 2mL of phosphoric acid to preserve to pH<2. No qualification required.		X	
<b>Were volatile samples collected with zero headspace, or was enough volume available for analysis without using any containers with bubbles? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
			X
<b>Were field duplicate (FD) samples required?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were FD samples collected at the correct frequency? If no, all field data points are qualified as estimated (J/UJ) due to lack of field precision QA/QC (FDX).</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were FD relative percent difference (RPD) results at or below control limits (CLs)? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
MSD-02B (original) & DUP-2 (duplicate): representing all Transect C samples (MSD-03, MF-11, MSD-04, PMP-07A, FB-2, MSD-02B, DUP-2, EB-2, BPS11-18B, BPS11-18C, PMP-05A, PMP-05BR, BPS11-17C, MF-07, MF-07B, PMP-06A, PMP-06B) ❖ Selenium: The original sample result was detected (<5xRL) while the duplicate sample result was ND and replaced with 0.0005 mg/L (half RL) to give a 66.7% RPD, >20% CL. The absolute difference between the detected original sample result and half RL (ND duplicate sample result) was ≤RL. ➤ No qualification required. PMP-11B (original) & DUP-4 (duplicate): representing all low-flow samples (BPS07-07B, BPS07-07, BPS07-23, FB-4, PMP-11B, DUP-4, AMW-13A, GS-28, GS-28B, PMP-08A, AMC-23B, PMP-09B, AMW-01A, MSD-02A, AMC-24B, PMP-02B, PMP-02A, PMP-07B, PMP-01A, PMP-04B) ❖ DOC: The original sample result was detected (<5xRL) while the duplicate sample result was ND and replaced with 0.25 mg/L (half RL) to give a 66.7% RPD, >20% CL. The absolute difference between the detected original sample result and half RL (ND duplicate sample result) was ≤RL. ➤ No qualification required. ❖ Copper RPD was 140%, >20% CL. The original sample result was <5xRL while the duplicate sample result was ≥5xRL. The absolute difference between the original and duplicate sample results was >RL. ➤ BPS07-07B, BPS07-23, FB-4, GS-28, and GS-28B were qualified as estimated (UJ) due to ND results. ➤ All remaining samples were qualified as estimated (J) due to detected results. ❖ Manganese: The duplicate sample result was detected (<5xRL) while the original sample result was ND and replaced with 0.0005 mg/L (half RL) to give a 156% RPD, >20% CL. The absolute difference between the detected duplicate sample result and half RL (ND original sample result) was >RL. ➤ BPS07-07B, FB-4, PMP-11B, and AMC-24B were qualified as estimated (UJ) due to ND results. ➤ All remaining samples were qualified as estimated (J) due to detected results. SS-04 (original) & DUP-5 (duplicate): representing all SW samples (SS-04, DUP-5, FB-5, PMP-12, MSDSG-02, MSDSG-05, MSDSG-03, MH-MSD108, MH-MSD113, MH-MSD116). ❖ Dissolved Copper: The original sample result was detected (<5xRL) while the duplicate sample result was ND and replaced with 0.001 mg/L (half RL) to give a 100% RPD, >20% CL. The absolute difference between the detected original sample result and half RL (ND duplicate sample result) was ≤RL. ➤ No qualification required. ❖ Total Lead RPD was 50.0%, >20% CL. The original and duplicate sample results were <5xRL. The absolute difference between the original and duplicate sample results were ≤RL. ➤ No qualification required.		X	
<b>Was field decontamination of sampling equipment required?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were equipment rinse blank (ERB) samples required?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
	<b>Yes</b>	<b>No</b>	<b>N/A</b>

<b>Were ERB samples collected at the correct frequency? If no, all field data points are qualified (J/UJ) as estimated due to lack of field QA/QC (ERBX).</b>	X		
<b>Were all ERB results non-detect (ND)? If no, detail below.</b>	Yes	No	N/A
		X	
<b>EB-1: representing Transect E/D samples (PMP-11A, AMW-13B, AMW-13B2, AMW-13C, PMP-09A, PMP-08A2, PMP-08B, BPS11-10A, BPS11-10B, BPS11-10C, BPS11-11A1, BPS11-11A2, BPS11-11B, DUP-1, EB-1, FB-1, BPS11-11C, GS-29SR, PMP-10A, PMP-10B, AMC-24C, BPS11-14A, BPS11-14B)</b>			
<ul style="list-style-type: none"> <li>❖ Conductivity was detected at 77 umhos/cm, &gt;RL of 5 umhos/cm. <ul style="list-style-type: none"> <li>➢ FB-1 did not require qualification due to a ND result.</li> <li>➢ PMP-11A, AMW-13B, AMW-13B2, AMW-13C, PMP-08A2, BPS11-11A1, BPS11-11A2, GS-29SR, PMP-10A, PMP-10B, and BPS11-14A were qualified as estimated high (J+) due to results ≥RL but &lt;10xEB and should be reported at the EB concentration due to results&gt;EB.</li> <li>➢ PMP-09A, PMP-08B, BPS11-10A, BPS11-10B, BPS11-10C, BPS11-11B, DUP-1, BPS11-11C, AMC-24C, and BPS11-14B did not require qualification due to results ≥10xEB.</li> </ul> </li> <li>❖ TDS was detected at 40 mg/L, &gt;RL of 20 mg/L. <ul style="list-style-type: none"> <li>➢ FB-1 did not require qualification due to a ND result.</li> <li>➢ PMP-11A, AMW-13B, AMW-13B2, BPS11-11A1, BPS11-11A2, GS-29SR, PMP-10A, and BPS11-14A were qualified as estimated high (J+) due to results ≥RL but &lt;10xEB and should be reported at the EB concentration due to results&gt;EB.</li> <li>➢ All remaining samples did not require qualification due to a result ≥10xEB.</li> </ul> </li> <li>❖ DOC was detected at 0.8 mg/L, &gt;RL of 0.5 mg/L. <ul style="list-style-type: none"> <li>➢ AMW-13B, AMW-13B2, AMW-13C, BPS11-10B, BPS11-10C, BPS11-11A2, BPS11-11B, DUP-1, FB-1, BPS11-11C, PMP-10B, and AMC-24C did not require qualification due to ND results.</li> <li>➢ PMP-11A, PMP-09A, PMP-08A2, PMP-08B, BPS11-10A, BPS11-11A1, GS-29SR, PMP-10A, BPS11-14A, and BPS11-14B were qualified as estimated high (J+) due to results ≥RL but &lt;10xEB. <ul style="list-style-type: none"> <li>▪ All samples except PMP-11A, PMP-08B, and GS-29SR should be reported at the EB concentration due to results&gt;EB.</li> </ul> </li> </ul> </li> <li>❖ Dissolved Cadmium was detected at 0.00004 mg/L, &gt;RL of 0.00003 mg/L. <ul style="list-style-type: none"> <li>➢ FB-1 did not require qualification due to a ND result.</li> <li>➢ PMP-11A, AMW-13B, BPS11-10A, PMP-10A, and BPS11-14A were qualified as estimated high (J+) due to results ≥RL but &lt;10xEB and should be reported at the EB concentration due to results&gt;EB.</li> <li>➢ All remaining samples did not require qualification due to results ≥10xEB.</li> </ul> </li> <li>❖ Dissolved Manganese was detected at 0.006 mg/L, &gt;RL of 0.001 mg/L. <ul style="list-style-type: none"> <li>➢ AMW-13B, PMP-09A, PMP-08A2, BPS11-10B, BPS11-10C, BPS11-11B, DUP-1, and FB-1 did not require qualification due to ND results.</li> <li>➢ BPS11-10A and PMP-10A did not require qualification due to results ≥10xEB.</li> <li>➢ All remaining samples were qualified as estimated high (J+) due to results ≥RL but &lt;10xEB. <ul style="list-style-type: none"> <li>▪ BPS11-11A1, BPS11-11C, AMC-24C, BPS11-14A, and BPS11-14B should be reported at the EB concentration due to results&gt;EB.</li> </ul> </li> </ul> </li> <li>❖ Chloride was detected at 6 mg/L, &gt;RL of 1 mg/L. <ul style="list-style-type: none"> <li>➢ FB-1 did not require qualification due to a ND result.</li> <li>➢ PMP-09A did not require qualification due to a result ≥10xEB.</li> <li>➢ All remaining samples were qualified as estimated high (J+) due to results ≥RL but &lt;10xEB and should be reported at the EB concentration due to results≥EB.</li> </ul> </li> </ul>			
<b>EB-2: representing all Transect C samples (MSD-03, MF-11, MSD-04, PMP-07A, FB-2, MSD-02B, DUP-2, EB-2, BPS11-18B, BPS11-18C, PMP-05A, PMP-05BR, BPS11-17C, MF-07, MF-07B, PMP-06A, PMP-06B)</b>			
<ul style="list-style-type: none"> <li>❖ Hardness was detected at 2 mg/L, &gt;RL of 1 mg/L. <ul style="list-style-type: none"> <li>➢ FB-2 did not require qualification due to a ND result.</li> <li>➢ All remaining samples did not require qualification due to results ≥10xEB.</li> </ul> </li> <li>❖ Conductivity was detected at 24 umhos/cm, &gt;RL of 5 umhos/cm. <ul style="list-style-type: none"> <li>➢ FB-2 did not require qualification due to a ND result.</li> <li>➢ All remaining samples did not require qualification due to results ≥10xEB.</li> </ul> </li> <li>❖ TDS was detected at 36 mg/L, &gt;RL of 20 mg/L. <ul style="list-style-type: none"> <li>➢ FB-2 did not require qualification due to a ND result.</li> <li>➢ All remaining samples did not require qualification due to a result ≥10xEB.</li> </ul> </li> <li>❖ Dissolved Cadmium was detected at 0.0008 mg/L, &gt;RL of 0.00003 mg/L. <ul style="list-style-type: none"> <li>➢ FB-2 did not require qualification due to a ND result.</li> <li>➢ MF-11, MSD-04, and PMP-07A were qualified as estimated high (J+) due to results ≥RL but &lt;10xEB and should be reported at the EB concentration due to results&gt;EB.</li> <li>➢ All remaining samples did not require qualification due to results ≥10xEB.</li> </ul> </li> </ul>			

- ❖ Dissolved Copper was detected at 0.029 mg/L, >RL of 0.002 mg/L.
    - FB-2 did not require qualification due to a ND result.
    - MF-11, MSD-04, PMP-07A, MF-07, and PMP-06A were qualified as estimated high (J+) due to results ≥RL but <10XEB.
      - MF-07 and PMP-06A should be reported at the EB concentration due to results>EB.
    - All remaining samples did not require qualification due to results ≥10xEB.
  - ❖ Dissolved Iron was detected at 0.71 mg/L, >RL of 0.02 mg/L.
    - MSD-04, PMP-07A, FB-2, BPS11-17C, and MF-07B did not require qualification due to ND results.
    - MSD-03, MF-11, BPS11-18C, PMP-05A, MF-07, PMP-06A, and PMP-06B were qualified as estimated high (J+) due to results ≥RL but <10XEB.
      - PMP-05A should be reported at the EB concentration due to a result>EB.
    - All remaining samples did not require qualification due to results ≥10xEB.
  - ❖ Dissolved Manganese was detected at 0.172 mg/L, >RL of 0.001 mg/L.
    - FB-2 did not require qualification due to a ND result.
    - MF-11 and BPS11-17C were qualified as estimated high (J+) due to results ≥RL but <10XEB.
      - MF-11 should be reported at the EB concentration due to a result>EB.
    - All remaining samples did not require qualification due to results ≥10xEB.
  - ❖ Dissolved Zinc was detected at 0.148 mg/L, >RL of 0.008 mg/L.
    - FB-2 did not require qualification due to a ND result.
    - MF-11, MSD-04, and PMP-07A were qualified as estimated high (J+) due to results ≥RL but <10XEB and should be reported at the EB concentration due to results>EB.
    - All remaining samples did not require qualification due to results ≥10xEB.
  - ❖ Chloride was detected at 2 mg/L, >RL of 1 mg/L.
    - FB-2 did not require qualification due to a ND result.
    - All remaining samples did not require qualification due to results ≥10xEB.
- EB-3: representing Transect B/A samples (BPS07-11A, BPS07-11B, AMW-01B, AMW-01C, PMP-03A, GS-40R, FB-3, PMP-01B, DUP-3, AMW-09, AMW-08, PT14-1, AMW-20)
- ❖ Hardness was detected at 1 mg/L, equal to the RL.
    - FB-3 did not require qualification due to a ND result.
    - All remaining samples did not require qualification due to results ≥10xEB.
  - ❖ Conductivity was detected at 157 umhos/cm, >RL of 5 umhos/cm.
    - FB-3 did not require qualification due to a ND result.
    - BPS07-11A, BPS07-11B, and AMW-09 were qualified as estimated high (J+) due to results ≥RL but <10XEB and should be reported at the EB concentration due to results>EB.
    - All remaining samples did not require qualification due to results ≥10xEB.
  - ❖ DOC was detected at 0.7 mg/L, >RL of 0.5 mg/L.
    - FB-3 did not require qualification due to a ND result.
    - All remaining samples were qualified as estimated high (J+) due to results ≥RL but <10XEB.
      - All samples except AMW-01C should be reported at the EB concentration due to results>EB.
  - ❖ TOC was detected at 1.2 mg/L, >RL of 0.5 mg/L.
    - FB-3 did not require qualification due to a ND result.
    - All remaining samples were qualified as estimated high (J+) due to results ≥RL but <10XEB.
      - All samples except BPS07-11B, AMW-01B, AMW-01C, and AMW-09 should be reported at the EB concentration due to results>EB.
  - ❖ Dissolved Cadmium was detected at 0.00041 mg/L, >RL of 0.00003 mg/L.
    - FB-3 did not require qualification due to a ND result.
    - All remaining samples did not require qualification due to results ≥10xEB.
  - ❖ Dissolved Copper was detected at 0.056 mg/L, >RL of 0.002 mg/L.
    - FB-3 did not require qualification due to a ND result.
    - BPS07-11A and GS-40R were qualified as estimated high (J+) due to results ≥RL but <10XEB and should be reported at the EB concentration due to results>EB.
    - All remaining samples did not require qualification due to results ≥10xEB.
  - ❖ Dissolved Iron was detected at 0.23 mg/L, >RL of 0.02 mg/L.
    - BPS07-11A, FB-3, PMP-01B, and DUP-3 did not require qualification due to ND results.
    - AMW-01B, AMW-01C, and AMW-09 were qualified as estimated high (J+) due to results ≥RL but <10XEB.
      - AMW-01B should be reported at the EB concentration due to a result>EB.
    - All remaining samples did not require qualification due to results ≥10xEB.
  - ❖ Dissolved Manganese was detected at 0.024 mg/L, >RL of 0.001 mg/L.
    - FB-3 did not require qualification due to a ND result.
    - All remaining samples did not require qualification due to results ≥10xEB.

❖ Dissolved Zinc was detected at 0.032 mg/L, >RL of 0.008 mg/L. ➤ FB-3 did not require qualification due to a ND result. ➤ All remaining samples did not require qualification due to results ≥10xEB.			
❖ Chloride was detected at 12 mg/L, >RL of 1 mg/L. ➤ FB-3 did not require qualification due to a ND result. ➤ AMW-01B, PMP-03A, and PT14-1 did not require qualification due to results ≥10xEB. ➤ All remaining samples were qualified as estimated high (J+) due to results ≥RL but <10XEB and should be reported at the EB concentration due to results>EB.			
❖ Fluoride was detected at 0.2 mg/L, >RL of 0.1 mg/L. ➤ FB-3 did not require qualification due to a ND result. ➤ AMW-01B, AMW-09, AMW-08, and PT14-1 did not require qualification due to results ≥10xEB. ➤ All remaining samples were qualified as estimated high (J+) due to results ≥RL but <10XEB and should be reported at the EB concentration due to results≥EB.			
<b>Were field blank (FB) samples required?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were FB samples collected at the correct frequency? If no, all data is qualified as estimated due to lack of field QA/QC (FBX).</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were all FB results ND? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		
<b>Were trip blank (TB) samples required (volatiles analyses)?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
		X	
<b>Were TB samples submitted as required (one per shipping container)? If no, all data is qualified as estimated due to lack of TB (TBX).</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
			X
<b>Other issues? If yes, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
		X	
<b>Field QA/QC Summary</b>			
Out of 5054 total data points:			
<ul style="list-style-type: none"> <li>• 4795 data points (94.9%) remain unqualified.</li> <li>• Out of 259 data points (5.1%) qualified as estimated: <ul style="list-style-type: none"> <li>• 84 data points (32.4% of qualified, 1.7% of total) were due to HT exceedances.</li> <li>• No data points were due to preservation (temperature and/or pH) issues.</li> <li>• 135 data points (52.1% of qualified, 2.7% of total) were due to blank contamination.</li> <li>• 40 data points (15.4% of qualified, 0.8% of total) were due to poor replication.</li> </ul> </li> <li>• No data points were rejected.</li> </ul>			
<b>Laboratory QA/QC</b>			
<b>Did the laboratory use appropriate methods to extract/prep and analyze all samples within HT?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
		X	
❖ Method A2320 B ➤ Alkalinity, Bicarbonate, and Carbonate in AMW-13B were analyzed past the 14-day hold time. <ul style="list-style-type: none"> <li>▪ Alkalinity and Bicarbonate were qualified as estimated low (J-) due to detected results.</li> <li>▪ Carbonate was rejected (R) due to a ND result.</li> </ul>			
❖ Method E353.2 ➤ Nitrate+Nitrite in PMP-01A was analyzed past the 28-day hold time. <ul style="list-style-type: none"> <li>▪ Qualified as estimated low (J-) due to a detected result.</li> </ul>			
<b>Were there any results reported below the RL or in exceedance of (E) or over (O) instrument calibration? If yes, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
		X	
<b>Other issues? If yes, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
		x	
<b>Laboratory Blanks</b>			
<b>Were TB results ND? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
			X
	<b>Yes</b>	<b>No</b>	<b>N/A</b>



<b>Were method blank (MB) samples analyzed at a frequency of one per 20 samples or one per batch?</b>	X		
<b>Were MB results ND? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
		X	
<ul style="list-style-type: none"> <li>❖ Method E200.7 <ul style="list-style-type: none"> <li>➤ Batch R190339: PMP-11A, FB-2, MH-MSD108, BPS11-10A, MH-MSD116, GS-28, MF-07, GS-28B, BPS11-11B, DUP-1, EB-1, PMP-08A, FB-1, BPS07-11A, GS-29SR, PMP-10A, PMP-10B, BPS11-14A, BPS11-14B <ul style="list-style-type: none"> <li>▪ Sodium was detected at 0.08 mg/L, &lt;RL of 1 mg/L. <ul style="list-style-type: none"> <li>• FB-2, EB-1, and FB-1 did not require qualification due to ND results.</li> <li>• All remaining samples did not require qualification due to results <math>\geq 10 \times \text{MB}</math>.</li> </ul> </li> </ul> </li> <li>➤ Batch R190705: PMP-01B, DUP-3, AMW-09, EB-3, PMP-09B, AMW-08, PT14-1, AMW-01A, MSD-02A, AMC-24B, AMW-02, PMP-02B, PMP-02A, PMP-07B, PMP-01A <ul style="list-style-type: none"> <li>▪ Sodium was detected at 0.05 mg/L, &lt;RL of 1 mg/L. <ul style="list-style-type: none"> <li>• EB-3 did not require qualification due to a ND result.</li> <li>• All remaining samples did not require qualification due to results <math>\geq 10 \times \text{MB}</math>.</li> </ul> </li> </ul> </li> <li>➤ Batch R190737: MH-MSD113, PMP-04B <ul style="list-style-type: none"> <li>▪ Sodium was detected at 0.04 mg/L, &lt;RL of 1 mg/L. <ul style="list-style-type: none"> <li>• No qualification was required for either sample due to results <math>\geq 10 \times \text{MB}</math>.</li> </ul> </li> </ul> </li> <li>➤ Batch R191281: BPS07-07, BPS07-23, AMW-13B, MF-11, AMW-13B2, MSD-04, PMP-09A, PMP-07A, MSD-02B, PMP-08B, BPS11-18C, PMP-11B, PMP-05A, BPS11-10B, PMP-05BR, BPS11-10C, AMW-13A, BPS11-17C, MF-07B, PMP-06A, PMP-06B, BPS11-11C, BPS07-11B, AMW-01B, AMC-24C, AMC-23B, AMW-01C <ul style="list-style-type: none"> <li>▪ Sodium was detected at 0.05 mg/L, &lt;RL of 1 mg/L. <ul style="list-style-type: none"> <li>• No qualification was required for any samples due to all results <math>\geq 10 \times \text{MB}</math>.</li> </ul> </li> </ul> </li> </ul> </li> <li>❖ Method E200.8 <ul style="list-style-type: none"> <li>➤ Batch 69391: MH-MSD108, MH-MSD113, MH-MSD116 <ul style="list-style-type: none"> <li>▪ Total Arsenic was detected at 0.0001 mg/L (analysis between 12/15/23 1345 and 12/20/23 1738) and 0.0005 mg/L (analysis before 12/19/23 2311), &lt;RL of 0.001 mg/L. <ul style="list-style-type: none"> <li>• No qualification was required for any samples due to all results <math>\geq 10 \times \text{MB}</math>.</li> </ul> </li> <li>▪ Total Barium was detected at 0.00009 mg/L (analysis before 12/19/23 2311), &lt;RL of 0.003 mg/L. <ul style="list-style-type: none"> <li>• No qualification was required for any samples due to all results <math>\geq 10 \times \text{MB}</math>.</li> </ul> </li> <li>▪ Total Cadmium was detected at 0.00001 mg/L (analysis before 12/19/23 2311), &lt;RL of 0.00003 mg/L. <ul style="list-style-type: none"> <li>• No qualification was required for any samples due to all results <math>\geq 10 \times \text{MB}</math>.</li> </ul> </li> <li>▪ Total Lithium was detected at 0.0007 mg/L (analysis between 12/15/23 1345 and 12/20/23 1738) and 0.002 mg/L (analysis before 12/19/23 2311), &lt;RL of 0.1 mg/L. <ul style="list-style-type: none"> <li>• No qualification was required for any samples due to all results <math>\geq 10 \times \text{MB}</math>.</li> </ul> </li> <li>▪ Total Molybdenum was detected at 0.00005 mg/L (analysis before 12/19/23 2311), &lt;RL of 0.001 mg/L. <ul style="list-style-type: none"> <li>• MH-MSD116 did not require qualification due to a ND result.</li> <li>• MH-MSD108 and MH-MSD113 did not require qualification due to results <math>\geq 10 \times \text{MB}</math>.</li> </ul> </li> <li>▪ Total Selenium was detected at 0.00003 mg/L (analysis between 12/15/23 1345 and 12/20/23 1738) and 0.0003 mg/L (analysis before 12/19/23 2311), &lt;RL of 0.001 mg/L. <ul style="list-style-type: none"> <li>• No qualification was required for any samples due to all ND results.</li> </ul> </li> <li>▪ Total Silver was detected at 0.00002 mg/L (analysis between 12/15/23 1345 and 12/20/23 1738) and 0.0001 mg/L (analysis before 12/19/23 2311), &lt;RL of 0.0002 mg/L. <ul style="list-style-type: none"> <li>• MH-MSD108 did not require qualification due to a ND result.</li> <li>• MH-MSD113 and MH-MSD116 did not require qualification due to results <math>\geq 10 \times \text{MB}</math>.</li> </ul> </li> <li>▪ Total Strontium was detected at 0.00003 mg/L (analysis between 12/15/23 1345 and 12/20/23 1738) and 0.0003 mg/L (analysis before 12/19/23 2311), &lt;RL of 0.01 mg/L. <ul style="list-style-type: none"> <li>• No qualification was required for any samples due to all results <math>\geq 10 \times \text{MB}</math>.</li> </ul> </li> <li>▪ Total Thallium was detected at 0.000009 mg/L (analysis between 12/15/23 1345 and 12/20/23 1738) and 0.00004 mg/L (analysis before 12/19/23 2311), &lt;RL of 0.001 mg/L. <ul style="list-style-type: none"> <li>• No qualification was required for any samples due to all ND results.</li> </ul> </li> <li>▪ Total Thorium was detected at 0.00005 mg/L (analysis between 12/15/23 1345 and 12/20/23 1738), 0.00004 mg/L (analysis before 12/19/23 2311), and 0.0004 mg/L (analysis between 12/20/23 138 and 12/21/23 1507), &lt;RL of 0.005 mg/L. <ul style="list-style-type: none"> <li>• No qualification was required for any samples due to all ND results.</li> </ul> </li> <li>▪ Total Uranium was detected at 0.000008 mg/L (analysis between 12/15/23 1345 and 12/20/23 1738) and 0.00002 mg/L (analysis before 12/19/23 2311), &lt;RL of 0.001 mg/L. <ul style="list-style-type: none"> <li>• No qualification was required for any samples due to all results <math>\geq 10 \times \text{MB}</math>.</li> </ul> </li> </ul> </li> </ul> </li></ul>			

- Total Vanadium was detected at 0.001 mg/L (analysis between 12/15/23 1345 and 12/20/23 1738) and 0.006 mg/L (analysis before 12/19/23 2311), <RL of 0.01 mg/L. The greater detection was used for evaluation.
      - MH-MSD108 and MH-MSD113 did not require qualification due to ND results.
      - MH-MSD116 was qualified as estimated high (J+) due to a result ≥RL but <10xMB and should be reported at the MB concentration due to a result >MB.
- Batch 69420: all SW samples except the MH-MSDs
  - Total Arsenic was detected at 0.0001 mg/L (analysis after 12/1/23 1527), <RL of 0.001 mg/L.
    - FB-5 did not require qualification due to a ND result.
    - All remaining samples did not require qualification due to results ≥10xMB.
  - Total Lithium was detected at 0.0007 mg/L (analysis after 12/1/23 1527), <RL of 0.1 mg/L.
    - No qualification was required for any samples due to all ND results.
  - Total Molybdenum was detected at 0.00002 mg/L (analysis after 12/1/23 1527) and 0.0003 mg/L (analysis before 12/15/23 2012), <RL of 0.001 mg/L.
    - FB-5 did not require qualification due to a ND result.
    - All remaining samples did not require qualification due to results ≥10xMB.
  - Total Selenium was detected at 0.00001 mg/L (analysis after 12/1/23 1527), <RL of 0.001 mg/L.
    - PMP-12 did not require qualification due to a result ≥10xMB.
    - All remaining samples did not require qualification due to ND results.
  - Total Thorium was detected at 0.00002 mg/L (analysis after 12/1/23 1527) and 0.0008 mg/L (analysis before 12/15/23 2012), <RL of 0.005 mg/L.
    - No qualification was required for any samples due to all ND results.
  - Total Tin was detected at 0.0006 mg/L (analysis before 12/15/23 2012), <RL of 0.05 mg/L.
    - No qualification was required for any samples due to all ND results.
  - Total Uranium was detected at 0.00007 mg/L (analysis before 12/15/23 2012), <RL of 0.001 mg/L.
    - FB-5 did not require qualification due to a ND result.
    - All remaining samples did not require qualification due to results ≥10xMB.
  - Total Vanadium was detected at 0.0008 mg/L (analysis after 12/1/23 1527), <RL of 0.01 mg/L.
    - No qualification was required for any samples due to all ND results.
- Batch 69431: all SW samples (including MH-MSDs)
  - Total Gallium was detected at 0.00007 mg/L, <RL of 0.01 mg/L.
    - No qualification was required for any samples due to all ND results.
  - Total Tungsten was detected at 0.00008 mg/L, <RL of 0.1 mg/L.
    - No qualification was required for any samples due to all ND results.
- Batch R190453: all SW samples (including MH-MSDs), plus PMP-03A, GS-40R, FB-3, PMP-01B, DUP-3, AMW-09, EB-3, PMP-09B, AMW-08, PT14-1, AMW-01A, MSD-02A, AMC-24B, AMW-20, PMP-02B, PMP-02A, PMP-07B, PMP-01A, and PMP-04B
  - Dissolved Niobium was detected at 0.00004 mg/L, <RL of 0.01 mg/L.
    - No qualification was required for any samples due to all ND results.
- Batch R190518
  - Dissolved Cadmium was detected at 0.00002 mg/L, <RL of 0.00003 mg/L.
    - Samples in batch: PMP-03A, GS-40R, PMP-01B, DUP-3, AMW-09, EB-3, PMP-09B, AMW-08, PT14-1, AMW-01A, MSD-02A, AMC-24B, AMW-20, PMP-02B, PMP-02A, PMP-07B, PMP-01A, SS-04, DUP-5, FB-5, MSDSG-02, MSDSG-05, MSDSG-03, PMP-04B
      - ◆ SS-04, DUP-5, FB-5, MSDSG-02, MSDSG-05, and MSDSG-03 did not require qualification due to ND results.
      - ◆ All remaining samples did not require qualification due to results ≥10xMB.
  - Dissolved Iron was detected at 0.002 mg/L, <RL of 0.02 mg/L.
    - Samples in batch: PMP-01B, DUP-3, EB-3, PMP-09B, AMW-01A, AMC-24B, AMW-20, PMP-07B, PMP-01A, FB-5, MSDSG-02, PMP-04B
      - ◆ PMP-01B, DUP-3, PMP-09B, AMC-24B, FB-5, and MSDSG-02 did not require qualification due to ND results.
      - ◆ EB-3, AMW-01A, AMW-20, PMP-07B, PMP-01A, PMP-04B did not require qualification due to results ≥10xMB.
  - Dissolved Molybdenum was detected at 0.00003 mg/L, <RL of 0.001 mg/L.
    - Samples in batch: PMP-03A, GS-40R, FB-3, PMP-01B, DUP-3, AMW-09, EB-3, PMP-09B, AMW-08, PT14-1, AMW-01A, MSD-02A, AMC-24B, AMW-20, PMP-02B, PMP-02A, PMP-07B, PMP-12, PMP-01A, SS-04, DUP-5, FB-5, MSDSG-02, MSDSG-05, MSDSG-03, PMP-04B
      - ◆ PMP-03A, FB-3, PMP-01B, DUP-3, AMW-09, EB-3, AMW-08, PT14-1, MSD-02A, PMP-02B, PMP-02A, PMP-01A, FB-5, and PMP-04B did not require qualification due to ND results.

- ◆ GS-40R, PMP-09B, AMW-01A, AMC-24B, AMW-20, PMP-07B, PMP-12, SS-04, DUP-5, MSDSG-02, MSDSG-05, and MSDSG-03 did not require qualification due to results  $\geq 10 \times \text{MB}$ .
- Dissolved Potassium was detected at 0.03 mg/L, <RL of 1 mg/L.
  - Samples in batch: PMP-03A, GS-40R, FB-3, PMP-01B, DUP-3, AMW-09, EB-3, PMP-09B, AMW-08, PT14-1, AMW-01A, MSD-02A, AMC-24B, PMP-12, SS-04, DUP-5, FB-5, MSDSG-02, MSDSG-05, MSDSG-03
    - ◆ FB-3, EB-3, and FB-5 did not require qualification due to ND results.
    - ◆ All remaining samples did not require qualification due to results  $\geq 10 \times \text{MB}$ .
- Dissolved Sodium was detected at 0.01 mg/L, <RL of 1 mg/L.
  - Samples in batch: PMP-03A, GS-40R, FB-3, PMP-12, SS-04, DUP-5, FB-5, MSDSG-02, MSDSG-05, MSDSG-03
    - ◆ FB-3 and FB-5 did not require qualification due to ND results.
    - ◆ All remaining samples did not require qualification due to results  $\geq 10 \times \text{MB}$ .
- Dissolved Thallium was detected at 0.00002 mg/L, <RL of 0.0002 mg/L.
  - Samples in batch: PMP-03A, FB-3, PMP-01B, DUP-3, AMW-09, EB-3, PMP-09B, AMW-08, PT14-1, AMW-01A, MSD-02A, AMC-24B, AMW-20, PMP-02B, PMP-02A, PMP-07B, PMP-12, PMP-01A, SS-04, DUP-5, FB-5, MSDSG-02, MSDSG-05, MSDSG-03, PMP-04B
    - ◆ No qualification was required for any samples due to all ND results.
- Dissolved Thorium was detected at 0.00001 mg/L, <RL of 0.005 mg/L.
  - Samples in batch: PMP-03A, GS-40R, FB-3, PMP-01B, DUP-3, AMW-09, EB-3, PMP-09B, AMW-08, PT14-1, AMW-01A, MSD-02A, AMC-24B, AMW-20, PMP-02B, PMP-02A, PMP-07B, PMP-12, PMP-01A, SS-04, DUP-5, FB-5, MSDSG-02, MSDSG-05, MSDSG-03, PMP-04B
    - ◆ AMW-08 did not require qualification due to a result  $\geq 10 \times \text{MB}$ .
    - ◆ All remaining samples did not require qualification due to ND results.
- Dissolved Uranium was detected at 0.00002 mg/L, <RL of 0.0002 mg/L.
  - Samples in batch: PMP-03A, FB-3, PMP-01B, DUP-3, AMW-09, EB-3, PMP-09B, AMW-08, PT14-1, AMW-01A, MSD-02A, AMC-24B, AMW-20, PMP-02B, PMP-02A, PMP-12, PMP-01A, SS-04, DUP-5, FB-5, MSDSG-02, MSDSG-05, MSDSG-03
    - ◆ FB-3, EB-3, and FB-5 did not require qualification due to ND results.
    - ◆ All remaining samples did not require qualification due to results  $\geq 10 \times \text{MB}$ .
- Batch R190627: PMP-11A, BPS07-07B, BPS07-07, BPS07-23, MSD-03, AMW-13B, MF-11, AMW-13B2, MSD-04, AMW-13C, PMP-09A, PMP-07A, FB-2, MSD-02B, DUP-2, EB-2, FB-4, BPS11-18B, PMP-08A2, PMP-08B, BPS11-18C, PMP-11B, DUP-4, BPS11-10A, PMP-05A, BPS11-10B, PMP-05BR, BPS11-10C, AMW-13A, BPS11-17C, GS-28, MF-07, BPS11-11A1, MF-07B, BPS11-11A2, GS-28B, BPS11-11B, DUP-1, PMP-06A, EB-1, PMP-08A, FB-1, PMP-06B, BPS11-11C, BPS07-11A, GS-29SR, BPS07-11B, PMP-10A, PMP-10B, AMW-01B, AMC-24C, BPS11-14A, BPS11-14B, AMC-23B, AMW-01C
  - Dissolved Barium was detected at 0.0005 mg/L, <RL of 0.003 mg/L.
    - FB-2, EB-2, FB-4, EB-1, FB-1, and AMW-01C did not require qualification due to ND results.
    - All remaining samples did not require qualification due to results  $\geq 10 \times \text{MB}$ .
- Batch R190901
  - Dissolved Iron was detected at 0.001 mg/L, <RL of 0.02 mg/L.
    - Samples in batch: FB-3, AMW-09, MSD-02A, PMP-12, SS-04, DUP-5, MSDSG-05, MSDSG-03
      - ◆ FB-3 did not require qualification due to a ND result.
      - ◆ All remaining samples did not require qualification due to results  $\geq 10 \times \text{MB}$ .
  - Dissolved Molybdenum was detected at 0.00003 mg/L, <RL of 0.001 mg/L.
    - Samples in batch: MH-MSD108, MH-MSD113, MH-MSD116
      - ◆ MH-MSD116 did not require qualification due to a ND result.
      - ◆ MH-MSD108 and MH-MSD113 did not require qualification due to results  $\geq 10 \times \text{MB}$ .
  - Dissolved Thorium was detected at 0.000006 mg/L, <RL of 0.005 mg/L.
    - Samples in batch: MH-MSD108, MH-MSD113, MH-MSD116
      - ◆ No qualification was required for any samples due to all ND results.
  - Dissolved Uranium was detected at 0.000003 mg/L, <RL of 0.0002 mg/L.
    - Samples in batch: MH-MSD108, MH-MSD113, MH-MSD116, GS-40R, PMP-07B, PMP-04B
      - ◆ No qualification was required for any samples due to all results  $\geq 10 \times \text{MB}$ .
- Batch R191058
  - Dissolved Beryllium was detected at 0.0001 mg/L, <RL of 0.0008 mg/L.
    - Samples in batch: MH-MSD108, MH-MSD113, MH-MSD116
      - ◆ MH-MSD108 did not require qualification due to a ND result.
      - ◆ MH-MSD113 and MH-MSD116 did not require qualification due to results  $\geq 10 \times \text{MB}$ .
  - Dissolved Lithium was detected at 0.0008 mg/L, <RL of 0.1 mg/L.



- Samples in batch: PMP-04B
  - ◆ No qualification required due to a result  $\geq 10 \times \text{MB}$ .
- Batch R191217
  - Dissolved Copper was detected at 0.00004 mg/L, <RL of 0.002 mg/L.
    - Samples in batch: EB-2, PMP-08A2, PMP-08A, FB-1, PMP-06B, BPS11-11C, BPS07-11A, GS-29SR, BPS07-11B, PMP-10A, PMP-10B, AMC-24C, BPS11-14A, BPS11-14B, AMC-23B
      - ◆ FB-1, BPS11-11C, PMP-10A, and PMP-10B did not require qualification due to ND results.
      - ◆ All remaining samples did not require qualification due to results  $\geq 10 \times \text{MB}$ .
  - Dissolved Iron was detected at 0.002 mg/L, <RL of 0.02 mg/L.
    - Samples in batch: FB-1, PMP-06B, BPS11-11C, AMW-01C
      - ◆ FB-1 did not require qualification due to a ND result.
      - ◆ All remaining samples did not require qualification due to results  $\geq 10 \times \text{MB}$ .
  - Dissolved Molybdenum was detected at 0.00003 mg/L, <RL of 0.001 mg/L.
    - Samples in batch: BPS11-14A
      - ◆ No qualification required due to a result  $\geq 10 \times \text{MB}$ .
  - Dissolved Selenium was detected at 0.00002 mg/L, <RL of 0.001 mg/L.
    - Samples in batch: AMC-24C, BPS11-14A, AMC-23B
      - ◆ No qualification was required for any samples due to all ND results.
  - Dissolved Thorium was detected at 0.00002 mg/L, <RL of 0.005 mg/L.
    - Samples in batch: PMP-11A, BPS07-07B, BPS07-07, BPS07-23, MSD-03, AMW-13B, MF-11, AMW-13B2, MSD-04, AMW-13C, PMP-09A, PMP-07A, FB-2, MSD-02B, DUP-2, EB-2, FB-4, BPS11-18B, PMP-08A2, PMP-08B, BPS11-18C, PMP-11B, DUP-4, BPS11-10A, PMP-05A, BPS11-10B, PMP-05BR, BPS11-10C, AMW-13A, BPS11-17C, GS-28, MF-07, BPS11-11A1, MF-07B, BPS11-11A2, GS-28B, BPS11-11B, DUP-1, PMP-06A, EB-1, PMP-08A, FB-1, PMP-06B, BPS11-11C, BPS07-11A, GS-29SR, BPS07-11B, PMP-10A, PMP-10B, AMW-01B, AMC-24C, BPS11-14A, BPS11-14B, AMC-23B, AMW-01C
      - ◆ No qualification was required for any samples due to all ND results.
  - Dissolved Uranium was detected at 0.000009 mg/L, <RL of 0.0002 mg/L.
    - Samples in batch: PMP-06B
      - ◆ No qualification required due to a result  $\geq 10 \times \text{MB}$ .

**Laboratory Accuracy**

Were initial/continuing calibration verification (ICV/CCV) analyses performed for each batch?	Yes	No	N/A
	X		
Were ICV/CCV percent recoveries within CLs? If no, detail below.	Yes	No	N/A
	X		
Were laboratory fortified blanks (LFB) / control samples (LCS) analyzed at a frequency of one per 20 samples or one per batch?	Yes	No	N/A
	X		
Were LFB/LCS percent recoveries within CLs? If no, detail below.	Yes	No	N/A
	X		
Were matrix spike (MS) samples analyzed at a frequency of one per 20 samples or one per batch?	Yes	No	N/A
	X		
Were MS percent recoveries within CLs? If no, detail below.	Yes	No	N/A
*Note: All EB/ERB and FB samples, consistent of deionized (DI) water, are excluded from evaluation due to the potential matrix interference between DI water and the aqueous matrices.		X	

## ❖ Method E200.7

- Batch R190361: PMP-03A, EB-3, PMP-12, SS-04, DUP-5, FB-5, MSDSG-02, MSDSG-05, MSDSG-03
  - H23110659-006BMS2: AMW-09
    - Representing samples analyzed before 11/27/23 2305: all batch samples except EB-3
      - ◆ Calcium was recovered at 60% (MS), <70% lower CL.
        - ✓ FB-5, consistent of DI water, was excluded from evaluation due to the potential matrix interference between DI water and aqueous matrices.
        - ✓ All remaining samples were qualified as estimated low (J-) due to detected results.
- Batch R190705: DUP-2, BPS11-18B, PMP-08B, BPS11-18C, GS-40R, FB-3, PMP-01B, DUP-3, AMW-09, PMP-09B, AMW-08, PT14-1, AMW-01A, MSD-02A, AMC-24B, AMW-20, PMP-02B, PMP-02A, PMP-07B, PMP-01A
  - H23110659-012BMSD2: MSD-02A
    - Representing samples analyzed after 12/8/23 1721: AMC-24B, AMW-20, PMP-02B, PMP-02A, PMP-07B, PMP-01A

- ◆ Calcium was recovered at 69% (MSD), <70% lower CL.
  - ✓ All samples were qualified as estimated low (J-) due to detected results.

**❖ Method E300.0**

- Batch R190187: PMP-11A, BPS07-07B, BPS07-07, BPS07-23, MSD-03, AMW-13B, MF-11, AMW-13B2, MSD-04, AMW-13C, PMP-09A, PMP-07A, FB-2, MSD-02B, DUP-2, EB-2, FB-4, BPS11-18B, PMP-08A2, PMP-08B, MH-MSD108, BPS11-18C, PMP-11B, DUP-4, BPS11-10A, PMP-05A, MH-MSD113, BPS11-10B, PMP-05BR, MH-MSD116, BPS11-10C, AMW-13A, BPS11-17C, GS-28, MF-07, BPS11-11A1, MF-07B, BPS11-11A2, GS-28B, BPS11-11B, DUP-1, PMP-06A, EB-1, PMP-08A, FB-1, BPS11-11C, BPS07-11A, GS-29SR, BPS07-11B, PMP-10A, PMP-10B, AMW-01B, AMC-24C, BPS11-14A, BPS11-14B, AMC-23B, AMW-01C, PMP-03A, PMP-12, SS-04, DUP-5, FB-5, MSDSG-02, MSDSG-05, MSDSG-03
  - H23110571-053AMS/D: BPS11-14B
    - Representing samples analyzed after 11/17/23 1857: BPS11-11C, BPS07-11A, GS-29SR, BPS07-11B, PMP-10A, PMP-10B, AMW-01B, AMC-24C, BPS11-14A, BPS11-14B, AMC-23B, AMW-01C
      - ◆ Bromide was recovered at 88% (MS and MSD), <90% lower CL.
        - ✓ All samples were qualified as estimated (UJ) due to ND results.
  - H23110658-007AMS/D: MSDSG-03
    - Representing samples analyzed on 11/18/23: PMP-03A, PMP-12, SS-04, DUP-5, FB-5, MSDSG-02, MSDSG-05, MSDSG-03
      - ◆ Bromide was recovered at 89% (MS and MSD), <90% lower CL.
        - ✓ FB-5, consistent of DI water, was excluded from evaluation due to the potential matrix interference between DI water and aqueous matrices.
        - ✓ PMP-03A was qualified as estimated low (J-) due to a detected result.
        - ✓ All remaining samples were qualified as estimated (UJ) due to ND results.
  - Batch R190257: GS-40R, FB-3, PMP-01B, DUP-3, AMW-09, EB-3, PMP-09B, AMW-08, PT14-1, AMW-01A, MSD-02A, AMC-24B, AMW-20, PMP-02B, PMP-02A, PMP-07B, PMP-01A, PMP-04B
    - H23110659-008AMS/D: PMP-09B
      - Representing samples analyzed before 11/21/23 0050: all samples except PMP-04B
        - ◆ Bromide was recovered at 87% (MS and MSD), <90% lower CL.
          - ✓ FB-3 and EB-3, consistent of DI water, was excluded from evaluation due to the potential matrix interference between DI water and aqueous matrices.
          - ✓ PT14-1, AMW-01A, and PMP-02B were qualified as estimated low (J-) due to detected results.
          - ✓ All remaining samples were qualified as estimated (UJ) due to ND results.

**❖ Method E353.2**

- Batch R190261: PMP-11A, BPS07-07B, BPS07-07, BPS07-23, MSD-03, AMW-13B, MF-11, AMW-13B2, MSD-04, AMW-13C, PMP-09A, PMP-07A, FB-2, MSD-02B, DUP-2, EB-2, FB-4, BPS11-18B, PMP-08A2, PMP-08B, MH-MSD108, BPS11-18C, PMP-11B, DUP-4, BPS11-10A, PMP-05A, MH-MSD113, BPS11-10B, PMP-05B4, MH-MSD116, BPS11-10C, AMW-13A, BPS11-17C, GS-28, MF-07, BPS11-11A1, MF-07B, BPS11-11A2, GS-28B, BPS11-11B, DUP-1, PMP-06A, EB-1, PMP-08A, FB-1, PMP-06B, BPS11-11C, BPS07-11A, GS-29SR, BPS07-11B, PMP-10A, PMP-10B, AMW-01B, AMC-24C, BPS11-14A, BPS11-14B, AMC-23B, AMW-01C
  - H23110571-014CMS/D: MSD-02B
    - Representing samples analyzed before 11/20/23 1638: PMP-11A, BPS07-07B, BPS07-07, BPS07-23, MSD-03, AMW-13B, MF-11, AMW-13B2, MSD-04, AMW-13C, PMP-09A, PMP-07A, FB-2, MSD-02B, MH-MSD108, MH-MSD113, MH-MSD116
      - ◆ N+N was recovered at 68% (MS and MSD), <90% lower CL.
        - ✓ FB-2, consistent of DI water, was excluded from evaluation due to the potential matrix interference between DI water and aqueous matrices.
        - ✓ BPS07-23 and MSD-02B were qualified as estimated (UJ) due to ND results.
        - ✓ All remaining samples were qualified as estimated low (J-) due to detected results.
  - H23110571-027CMS/D: PMP-05BR
    - Representing samples analyzed between 11/20/23 1638 and 1703: DUP-2, EB-2, FB-4, BPS11-18B, PMP-08A2, PMP-08B, BPS11-18C, PMP-11B, DUP-4, BPS11-10A, PMP-05A, BPS11-10B, PMP-05BR, BPS11-10C, AMW-13A
      - ◆ N+N was recovered at 78% (MS) and 83% (MSD), <90% lower CL.
        - ✓ EB-2 and FB-4, consistent of DI water, was excluded from evaluation due to the potential matrix interference between DI water and aqueous matrices.
        - ✓ DUP-2 and BPS11-18B were qualified as estimated (UJ) due to ND results.
        - ✓ All remaining samples were qualified as estimated low (J-) due to detected results.
  - Batch R190433: PMP-03A, GS-40R, FB-3, PMP-01B, DUP-3, AMW-09, EB-3, PMP-09B, AMW-08, PT14-1, AMW-01A, MSD-02A, AMC-24B, AMW-20, PMP-02B, PMP-02A, PMP-07B, PMP-12, SS-04, DUP-5, FB-5, MSDSG-02, MSDSG-05, MSDSG-03, PMP-04B

<ul style="list-style-type: none"> <li>▪ H23110659-010CMS/D: PT14-1           <ul style="list-style-type: none"> <li>◆ N+N was recovered at 79% (MS) and 78% (MSD), &lt;90% lower CL.               <ul style="list-style-type: none"> <li>✓ FB-3, EB-3, and FB-5, consistent of DI water, was excluded from evaluation due to the potential matrix interference between DI water and aqueous matrices.</li> <li>✓ PMP-03A, GS-40R, AMW-08, PT14-1, PMP-02A, and PMP-04B were qualified as estimated (UJ) due to ND results.</li> <li>✓ All remaining samples were qualified as estimated low (J-) due to detected results.</li> </ul> </li> </ul> </li> <li>➤ Batch R191181: PMP-01A           <ul style="list-style-type: none"> <li>▪ H23110663-006BMS/D: unassociated WO sample               <ul style="list-style-type: none"> <li>◆ N+N was recovered at 89% (MS) and 87% (MSD), &lt;90% lower CL.                   <ul style="list-style-type: none"> <li>✓ Qualified as estimated low (J-) due to a detected result.</li> </ul> </li> </ul> </li> </ul> </li> </ul>			
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<b>Were surrogate recoveries within CLs (organics only)? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
			X

**Laboratory Precision**

<b>Were laboratory duplicates analyzed at a frequency of one per 20 samples or one per batch, either through laboratory sample duplicates (LSD), LCS duplicates (LCSD), or MS duplicates (MSD)?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		

<b>Were laboratory duplicate RPD results at or below CLs? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		

<ul style="list-style-type: none"> <li>❖ Method E200.8           <ul style="list-style-type: none"> <li>➤ Batch R190627: PMP-11A, BPS07-07B, BPS07-07, BPS07-23, MSD-03, AMW-13B, MF-11, AMW-13B2, MSD-04, AMW-13C, PMP-09A, PMP-07A, FB-2, MSD-02B, DUP-2, EB-2, FB-4, BPS11-18B, PMP-08A2               <ul style="list-style-type: none"> <li>▪ H23110571-011BMSD: PMP-09A                   <ul style="list-style-type: none"> <li>• Representing samples analyzed between 11/17/23 0358 and 0529: PMP-09A, PMP-07A, FB-2, DUP-2, EB-2, FB-4, BPS11-18B, PMP-08A2, PMP-08B, BPS11-18C, PMP-11B, DUP-4, BPS11-10A, PMP-05A, BPS11-10B, BPS11-10C, AMW-13A, BPS11-17C                       <ul style="list-style-type: none"> <li>◆ Aluminum RPD was 20%, equal to the CL.                           <ul style="list-style-type: none"> <li>✓ No qualification required.</li> </ul> </li> </ul> </li> </ul> </li> </ul> </li> </ul> </li></ul>			
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<b>Were serial dilution (SD) samples analyzed at a frequency of one per 20 samples or one per batch (metals only)?</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		

<b>Were SD RPD results at or below CLs? If no, detail below.</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
	X		

**Laboratory QA/QC Summary**

Out of 5054 total data points: <ul style="list-style-type: none"> <li>• 4951 data points (98.0%) remain unqualified.</li> <li>• Out of 102 data points (2.0%) qualified as estimated:             <ul style="list-style-type: none"> <li>• 3 data points (2.9% of qualified, &lt;0.01% of total) was due to analysis past hold time.</li> <li>• 1 data point (1.0% of qualified, &lt;0.01% of total) was due to laboratory blank contamination.</li> <li>• 99 data points (97.1% of qualified, 2.0% of total) were due to poor accuracy (MS/MSD failures).</li> <li>• No data points were due to poor precision.</li> </ul> </li> <li>• 1 data point (&lt;0.01%) was rejected due to analysis past hold time.</li> </ul>			
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**OVERALL SUMMARY**

**Data Quality**

Out of 5054 total data points: <ul style="list-style-type: none"> <li>• 4692 data points (92.8%) remain unqualified and are considered quantitative.</li> <li>• Out of 361 data points (7.1%) qualified as estimated and assigned as qualitative:             <ul style="list-style-type: none"> <li>• 259 data points (71.7% of qualified, 5.1% of total) were due to field QA/QC.</li> <li>• 102 data points (28.3% of qualified, 2.0% of total) were due to laboratory QA/QC.</li> </ul> </li> <li>• 1 data point (&lt;0.01%) was rejected due to laboratory QA/QC.</li> </ul>			
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**Completeness**

Out of 84 samples planned (71 natural, 13 QA/QC), 84 (71 natural, 13 QA/QC) samples were completed. This SDG is 100% complete. Out of 840 analyses planned, 840 analyses were completed. These WOs are 100% complete. Out of 5054 data points produced, 5053 data points are usable. This data package is 99.98% complete.			
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**Level A/B Assessment Checklist**  
**Fourth Quarter of 2023**

**I. General Information**

**Site:** Parrot  
**Project:** Parrot Performance Monitoring  
**Client:** NRD  
**Sample Matrix:** Aqueous  
**Lab Report #s:** H23110570, H23110571, H23110658, H23110659

**II. Enforcement Results**

Data are:  
 1) Unusable   
 2) Level A   
 3) Level B

**III. Level A Screening**

Criteria – The following must be fully documented:	Yes/No	Comments
1. Sampling date	Yes	
2. Sampling team or leader	Yes	
3. Physical description of sampling location	Yes	
4. Sample depth (soils)	N/A	
5. Sample collection technique	Yes	
6. Field preparation technique	N/A	
7. Sample preservation technique	Yes	
8. Sample shipping records and laboratory analysis dates	Yes	
9. Companion sampling efforts	Yes	
10. Visual classification of samples	NA	Aqueous Samples

**IV. Level B Screening**

Criteria – The following must be fully documented:	Yes/No	Comments
1. Field/laboratory instrumentation, standardization and methods/procedures	Yes	
2. Proper sample containers and container preparation	Yes	
3. Collection of field replicates (1/20 minimum)	Yes	
4. Proper and decontaminated sampling equipment	N/A	
5. Identity of sample taker	Yes	
6. Field custody documentation	Yes	
7. Shipping custody documentation	Yes	
8. Traceable sample designation number	Yes	
9. Field notebooks, custody records in secure repository	Yes	
10. Properly prepared and complete field forms	Yes	
11. Physical data/observations date and time	Yes	
12. Physical data/observations recorder, team leader	Yes	
13. Physical data/observation location	Yes	



## **ATTACHMENT E**

### Field Notes



**Consulting Scientists and Engineers**  
480 East Park Street  
Butte, Montana 59701  
Phone: 406-782-5220  
Fax: 406-723-1537

**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	AMC-23B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	January 18, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	12:30
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	24F	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	7.24	<b>Calculated Purge Volume (gal):</b>	51.09
<b>Total Well Depth (ft):</b>	111.5	<b>Pumping Rate (gal/min):</b>	0.12
<b>Water Column Height (ft):</b>	104.26	<b>Calculated Pump Run Time (min):</b>	425.75
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	
<b>Final Depth to Water (ft):</b>	10.92	<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	9.71	0.6	6.7	1,069	4.96	6.99	69	6.41	
8	10.28	0.96	6.9	1,072	4.78	6.9	72.3	0.94	
11	11.06	1.32	7.1	1,079	4.71	6.86	75.5	1.35	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Pump start at 1217, stop at 1234

January 18, 2023



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**Butte, Montana 59701**  
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**Fax: 406-723-1537**

**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	AMC-24B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	January 18, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	13:05
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	26F	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.24	<b>Calculated Purge Volume (gal):</b>	20.1
<b>Total Well Depth (ft):</b>	51.27	<b>Pumping Rate (gal/min):</b>	0.12
<b>Water Column Height (ft):</b>	41.03	<b>Calculated Pump Run Time (min):</b>	167.5
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	0
<b>Final Depth to Water (ft):</b>	10.39	<b>Total Volume Purged (gal):</b>	0

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	10.38	0.6	9.5	969	8.59	7.32	99.9	0.02	
8	10.38	0.96	9.5	971	8.27	7.32	102.2	0.03	
11	10.38	1.32	9.6	974	7.95	7.25	108.1	0.02	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Pump start at 1252, stop at 1309

January 18, 2023





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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	AMC-24C
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 19, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	17:00
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Light snow with fading light, 31f	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.05	<b>Calculated Purge Volume (gal):</b>	35.97
<b>Total Well Depth (ft):</b>	82.45	<b>Pumping Rate (gal/min):</b>	3
<b>Water Column Height (ft):</b>	73.4	<b>Calculated Pump Run Time (min):</b>	11.99
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	15
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	45

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		15	9.3	990	1.72	6.53	165.3		
8		24	9.4	992	1.63	6.5	165.8		
11		33	9.4	992	1.59	6.47	166		
14		42	9.4	992	1.57	6.46	166.2	2.2	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

January 19, 2023



**Consulting Scientists and Engineers**  
 480 East Park Street  
 Butte, Montana 59701  
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 Fax: 406-723-1537

**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	AMW-01B
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 25, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	15:26
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	12.72	<b>Calculated Purge Volume (gal):</b>	57.25
<b>Total Well Depth (ft):</b>	41.96	<b>Pumping Rate (gal/min):</b>	1.67
<b>Water Column Height (ft):</b>	29.24	<b>Calculated Pump Run Time (min):</b>	34.28
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	37
<b>Final Depth to Water (ft):</b>	12.83	<b>Total Volume Purged (gal):</b>	61.79

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
25	12.83	41.75	11.2	3,645	0.23	4.13	334.3	4.13	
30	12.84	50.1	11.2	3,641	0.23	4.12	335.8	0.57	
35	12.83	58.45	11.3	3,639	0.21	4.13	338.4	0.44	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>	DUP-4	1527pp
<b>Field Blank</b>	EB-4	0805
<b>Equipment Blank</b>	FB-4	0800

**COMMENTS/OBSERVATIONS**

		January 25, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	AMW-01C
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 26, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	11:41
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	12.32	<b>Calculated Purge Volume (gal):</b>	179.51
<b>Total Well Depth (ft):</b>	104	<b>Pumping Rate (gal/min):</b>	1.67
<b>Water Column Height (ft):</b>	91.68	<b>Calculated Pump Run Time (min):</b>	107.49
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	112
<b>Final Depth to Water (ft):</b>	13.71	<b>Total Volume Purged (gal):</b>	187.04

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
60	12.8	100.2	10.6	2,524	0.18	5.71	56.3	1.4	
70	12.81	116.9	10.2	2,539	0.18	5.53	77.9	0.02	
80	12.83	133.6	10.6	2,547	0.2	5.55	91.6	0.02	
90	12.85	150.3	10.6	2,547	0.2	5.54	99.2	0.02	
100	12.83	167	10.5	2,547	0.21	5.54	103	0.02	
110	12.84	183.7	10.6	2,548	0.2	5.55	104.4	0.02	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	January 26, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	AMW-08
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 24, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	13:00
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Cloudy 25f	<b>Well Condition</b>	Broken hinge

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	44.44	<b>Calculated Purge Volume (gal):</b>	5.64
<b>Total Well Depth (ft):</b>	47.32	<b>Pumping Rate (gal/min):</b>	0.6
<b>Water Column Height (ft):</b>	2.88	<b>Calculated Pump Run Time (min):</b>	9.4
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	11
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	6.6

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		3	8.3	4,600	1.64	3.27	320.8		
8		4.8	8.3	4,608	1.58	3.25	323.3		
11		6.6	8.4	4,611	1.55	3.24	327.1	4.6	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**



January 24, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	AMW-09
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 20, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	15:00
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Partly cloudy 20f	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	26.99	<b>Calculated Purge Volume (gal):</b>	39.81
<b>Total Well Depth (ft):</b>	47.32	<b>Pumping Rate (gal/min):</b>	3
<b>Water Column Height (ft):</b>	20.33	<b>Calculated Pump Run Time (min):</b>	13.27
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	15
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	45

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		15	9.5	1,268	1.11	4.01	270.4		
10		30	9.6	1,261	1.09	4	273.3		
14		42	9.6	1,258	1.09	4	276	2.1	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**



January 20, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	AMW-13A
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	January 17, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	15:23
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	28F, overcast	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.72	<b>Calculated Purge Volume (gal):</b>	12.71
<b>Total Well Depth (ft):</b>	17.21	<b>Pumping Rate (gal/min):</b>	0.01
<b>Water Column Height (ft):</b>	6.49	<b>Calculated Pump Run Time (min):</b>	12
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	
<b>Final Depth to Water (ft):</b>	11.61	<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	11.36	0.05	9.4	974	0.95	6.76	131.2	0.57	
8	11.44	0.08	9.2	984	0.95	6.72	126.3	0.89	
11	11.7	0.11	9.3	987	0.99	6.71	124.7	1.06	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Pump start at 1511, pump off at 1329

January 17, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	AMW-13B
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 19, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	16:00
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Cloudy 31f	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.25	<b>Calculated Purge Volume (gal):</b>	13.23
<b>Total Well Depth (ft):</b>	37.25	<b>Pumping Rate (gal/min):</b>	2.5
<b>Water Column Height (ft):</b>	27	<b>Calculated Pump Run Time (min):</b>	5.29
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	11
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	27.5

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		12.5	9.5	258	2.79	7.1	131.5		
8		20	9.5	257.8	2.79	7.1	131.6		
11		27.5	9.5	257.9	2.79	7.1	131.7	0.02	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	January 19, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	AMW-13B2
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 19, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	16:20
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Cloudy 31f	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	11.43	<b>Calculated Purge Volume (gal):</b>	18.36
<b>Total Well Depth (ft):</b>	48.9	<b>Pumping Rate (gal/min):</b>	2.5
<b>Water Column Height (ft):</b>	37.47	<b>Calculated Pump Run Time (min):</b>	7.34
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	11
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	27.5

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		12.5	9.6	265.6	3.16	7.07	131.4		
8		20	9.6	265.7	3.04	7.07	131.5		
11		27.5	9.6	266	2.98	7.07	131.6	2.8	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	January 19, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	AMW-13C
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 19, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	16:40
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Cloudy light snow 30f	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.64	<b>Calculated Purge Volume (gal):</b>	35.31
<b>Total Well Depth (ft):</b>	81.7	<b>Pumping Rate (gal/min):</b>	3
<b>Water Column Height (ft):</b>	72.06	<b>Calculated Pump Run Time (min):</b>	11.77
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	13
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	39

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		15	10	572.5	0.85	6.63	142.7		
9		27	10	572.4	0.85	6.67	142.7		
13		39	10	572.7	0.85	6.67	142.7	0.02	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	January 19, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	AMW-20
<b>Sampling Method</b>	Other	<b>Sample Date</b>	January 24, 2023
<b>Decon Method</b>	NA	<b>Sample Time</b>	14:00
<b>Water Disposal</b>	NA	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Cloudy 25f	<b>Well Condition</b>	Inaccessible

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	0	<b>Calculated Purge Volume (gal):</b>	81.92
<b>Total Well Depth (ft):</b>	41.84	<b>Pumping Rate (gal/min):</b>	
<b>Water Column Height (ft):</b>	41.84	<b>Calculated Pump Run Time (min):</b>	
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

No sample. Pond is high and flooding on road has made well inaccessible

January 24, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	BPS07-07
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	January 18, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	10:38
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	17F	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	5.53	<b>Calculated Purge Volume (gal):</b>	1.38
<b>Total Well Depth (ft):</b>	16.83	<b>Pumping Rate (gal/min):</b>	0.13
<b>Water Column Height (ft):</b>	11.3	<b>Calculated Pump Run Time (min):</b>	10.61
<b>Well Diameter (in):</b>	1	<b>Actual Pump Run Time (min):</b>	
<b>Final Depth to Water (ft):</b>	5.62	<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		0.65	9.3	248.6	0.7	6.33	82.9	1.66	
8		1.04	9.3	248.9	0.62	6.41	77.8	1.23	
11		1.43	9.2	249.8	0.55	6.37	75.7	1.07	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alakinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Pump start at 1026, cannot take DTW measurements while purging as casing is only 1",



January 18, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	BPS07-07B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	January 17, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	16:51
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	25F overcast	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	6.82	<b>Calculated Purge Volume (gal):</b>	18.74
<b>Total Well Depth (ft):</b>	45.06	<b>Pumping Rate (gal/min):</b>	0.12
<b>Water Column Height (ft):</b>	38.24	<b>Calculated Pump Run Time (min):</b>	156.16
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	6.82	0.6	8.6	722	9.1	7.39	119.9	1.34	
8	6.82	0.96	8.6	724	9.06	7.37	121	0.87	
11	6.82	1.32	8.7	731	8.95	7.32	124	1.12	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Pump start at 1639, off at 1656

January 17, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	BPS07-11A
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 25, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	12:39
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	15.44	<b>Calculated Purge Volume (gal):</b>	4.21
<b>Total Well Depth (ft):</b>	24.04	<b>Pumping Rate (gal/min):</b>	1.67
<b>Water Column Height (ft):</b>	8.6	<b>Calculated Pump Run Time (min):</b>	2.52
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	13
<b>Final Depth to Water (ft):</b>	15.88	<b>Total Volume Purged (gal):</b>	21.71

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	15.87	8.35	10.5	909	1.01	5.24	278.1	2.32	
8	15.89	13.36	10.5	901	0.98	5.22	281.1	2.16	
11	15.88	18.37	10.5	900	0.93	5.19	283.7	1.94	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	<p align="right">January 25, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	BPS07-11B
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 25, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	12:59
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Clouy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	15.16	<b>Calculated Purge Volume (gal):</b>	14.46
<b>Total Well Depth (ft):</b>	44.67	<b>Pumping Rate (gal/min):</b>	1.67
<b>Water Column Height (ft):</b>	29.51	<b>Calculated Pump Run Time (min):</b>	8.65
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	13
<b>Final Depth to Water (ft):</b>	15.32	<b>Total Volume Purged (gal):</b>	21.71

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	15.29	8.35	9.6	1,393	0.34	4.95	211.8	3.21	
8	15.3	13.36	9.7	1,381	0.34	4.9	208.4	3.11	
11	15.3	18.37	9.7	1,379	0.38	4.93	205	2.25	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	<p align="right">January 25, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	BPS07-23
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	January 18, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	11:15
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	21F	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.89	<b>Calculated Purge Volume (gal):</b>	0.84
<b>Total Well Depth (ft):</b>	16.8	<b>Pumping Rate (gal/min):</b>	0.12
<b>Water Column Height (ft):</b>	6.91	<b>Calculated Pump Run Time (min):</b>	7
<b>Well Diameter (in):</b>	1	<b>Actual Pump Run Time (min):</b>	
<b>Final Depth to Water (ft):</b>	9.89	<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		0.6	7.1	943	0.63	6.79	14.4	37.7	
8		0.96	6.9	960	0.54	6.83	-0.2	22.3	
11		1.32	6.9	970	0.4	6.86	-14.8	10.5	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Pump start at 1103, could not collect DTW during purging due to size of casing, pump stop at 1120

January 18, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	BPS11-10A
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 19, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	17:30
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Cloudy 30f	<b>Well Condition</b>	Broken hinges

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	11.42	<b>Calculated Purge Volume (gal):</b>	6.17
<b>Total Well Depth (ft):</b>	24.02	<b>Pumping Rate (gal/min):</b>	2.5
<b>Water Column Height (ft):</b>	12.6	<b>Calculated Pump Run Time (min):</b>	2.46
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	11
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	27.5


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		12.5	9.1	1,377	0.78	6.36	19.6		
8		20	9.1	1,344	0.8	6.36	17.5		
11		27.5	9.1	1,341	0.81	6.37	15.3	4.2	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID	SAMPLE TIME		
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	January 19, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	BPS11-10B
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 19, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	17:50
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Cloudy 30f	<b>Well Condition</b>	Broken hinge

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	11.41	<b>Calculated Purge Volume (gal):</b>	18.29
<b>Total Well Depth (ft):</b>	48.73	<b>Pumping Rate (gal/min):</b>	2.5
<b>Water Column Height (ft):</b>	37.32	<b>Calculated Pump Run Time (min):</b>	7.31
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	11
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	27.5

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		12.5	9.1	1,120	3.4	6.4	84.5		
8		20	9.1	1,120	3.43	6.4	86.5		
11		27.5	9.1	1,120	3.12	6.39	87.5	4.9	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	January 19, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	BPS11-10C
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 19, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	18:10
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Cloudy 31f	<b>Well Condition</b>	Good enough

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.62	<b>Calculated Purge Volume (gal):</b>	54.09
<b>Total Well Depth (ft):</b>	120	<b>Pumping Rate (gal/min):</b>	3
<b>Water Column Height (ft):</b>	110.38	<b>Calculated Pump Run Time (min):</b>	18.03
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	20
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	60

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		15	9.4	910	2.02	6.59	115.9		
10		30	9.6	911	1.99	6.57	114.9		
15		45	9.6	912	2	6.57	114.8		
19		57	9.6	912	2	6.57	114.3	0.02	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	January 19, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	BPS11-11A1
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 19, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	14:00
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Cloudy 30f	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	5.72	<b>Calculated Purge Volume (gal):</b>	5.07
<b>Total Well Depth (ft):</b>	16.07	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	10.35	<b>Calculated Pump Run Time (min):</b>	2.53
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	11
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	22

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		10	10.9	247	1.82	6.55	160.4		
8		16	10.9	248	1.79	6.55	160.5		
11		22	10.9	247.8	1.77	6.55	160.5	0.02	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	January 19, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	BPS11-11A2
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 19, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	14:30
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Cloudy 31f	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	5.68	<b>Calculated Purge Volume (gal):</b>	14.5
<b>Total Well Depth (ft):</b>	35.28	<b>Pumping Rate (gal/min):</b>	2.5
<b>Water Column Height (ft):</b>	29.6	<b>Calculated Pump Run Time (min):</b>	5.8
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	11
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	27.5

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		12.5	10	294	2.21	6.85	154.7		
8		20	10	294.2	2.21	6.84	154.2		
11		27.5	10.1	294.2	2.18	6.85	154.3	2	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	January 19, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	BPS11-11B
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 19, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	15:00
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	4.45	<b>Calculated Purge Volume (gal):</b>	35.08
<b>Total Well Depth (ft):</b>	76.05	<b>Pumping Rate (gal/min):</b>	2.5
<b>Water Column Height (ft):</b>	71.6	<b>Calculated Pump Run Time (min):</b>	14.03
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	15
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	37.5

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		12.5	10.5	817	2.76	6.46	160		
9		22.5	10.5	817	2.74	6.45	159.5		
12		30	10.5	817	2.73	6.44	159.5		
15		37.5	10.5	817	2.73	6.44	159.5	0.02	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	January 19, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	BPS11-11C
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 19, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	15:30
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Cloudy 30f	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	4.23	<b>Calculated Purge Volume (gal):</b>	71.92
<b>Total Well Depth (ft):</b>	151	<b>Pumping Rate (gal/min):</b>	3
<b>Water Column Height (ft):</b>	146.77	<b>Calculated Pump Run Time (min):</b>	23.97
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	25
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	75

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		15	10.7	776	0.52	6.74	150.2		
10		30	10.9	781	0.42	6.74	147.9		
15		45	11	782	0.38	6.72	138.7		
20		60	11	781	0.4	6.71	135.8		
25		75	11.1	780	0.37	6.65	132.3	0.02	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	January 19, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	BPS11-14A
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 20, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	12:30
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Sun 15f	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.39	<b>Calculated Purge Volume (gal):</b>	7.5
<b>Total Well Depth (ft):</b>	24.7	<b>Pumping Rate (gal/min):</b>	2.5
<b>Water Column Height (ft):</b>	15.31	<b>Calculated Pump Run Time (min):</b>	3
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	11
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	27.5

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		12.5	9.5	519	0.69	6.45	156.7		
8		20	9.5	518	0.68	6.45	156.5		
11		27.5	9.5	517.5	0.68	6.44	156.6	4	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

January 20, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	BPS11-14B
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 20, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	13:00
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Sun 15f	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.04	<b>Calculated Purge Volume (gal):</b>	28.74
<b>Total Well Depth (ft):</b>	67.7	<b>Pumping Rate (gal/min):</b>	2.5
<b>Water Column Height (ft):</b>	58.66	<b>Calculated Pump Run Time (min):</b>	11.49
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	15
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	37.5

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		12.5	9.5	1,793	0.26	6.1	183.6		
8		20	9.5	1,793	0.23	6.1	183.6		
11		27.5	9.5	1,794	0.28	6.1	183.8		
14		35	9.5	1,794	0.3	6.09	183.8	2	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	January 20, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	BPS11-17C
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 24, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	10:30
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Pc 15f	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	8.53	<b>Calculated Purge Volume (gal):</b>	29.83
<b>Total Well Depth (ft):</b>	69.4	<b>Pumping Rate (gal/min):</b>	3
<b>Water Column Height (ft):</b>	60.87	<b>Calculated Pump Run Time (min):</b>	9.94
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	11
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	33

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		15	9.4	1,762	1.37	6.35	208.6		
8		24	9.4	1,764	1.33	6.25	207.7		
11		33	9.4	1,765	1.3	6.25	206.8	2	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	January 24, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	BPS11-18B
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 24, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	14:23
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.41	<b>Calculated Purge Volume (gal):</b>	17.33
<b>Total Well Depth (ft):</b>	45.78	<b>Pumping Rate (gal/min):</b>	1.67
<b>Water Column Height (ft):</b>	35.37	<b>Calculated Pump Run Time (min):</b>	10.37
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	17
<b>Final Depth to Water (ft):</b>	11.01	<b>Total Volume Purged (gal):</b>	28.39

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
10	11.01	16.7	10.4	3,301	0.45	4.06	223.2	0.23	
13	11.01	21.71	10.4	3,317	0.37	4.04	215.4	0.02	
16	11.01	26.72	10.4	3,316	0.34	4.09	214.6	0.02	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	<p align="right">January 24, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	BPS11-18C
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 24, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	14:46
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Snow	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.42	<b>Calculated Purge Volume (gal):</b>	25.89
<b>Total Well Depth (ft):</b>	63.25	<b>Pumping Rate (gal/min):</b>	1.67
<b>Water Column Height (ft):</b>	52.83	<b>Calculated Pump Run Time (min):</b>	15.50
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	17
<b>Final Depth to Water (ft):</b>	10.7	<b>Total Volume Purged (gal):</b>	28.39

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
10	10.7	16.7	10.4	1,876	0.31	5.61	220.9	0.02	
13	10.7	21.71	10.4	1,877	0.29	5.67	222.9	0.02	
16	10.71	26.72	10.3	1,874	0.23	5.67	223.3	0.02	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	GS-28
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	January 17, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	11:04
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	19F, sunny	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	4.98	<b>Calculated Purge Volume (gal):</b>	3.94
<b>Total Well Depth (ft):</b>	13.03	<b>Pumping Rate (gal/min):</b>	0.033
<b>Water Column Height (ft):</b>	8.05	<b>Calculated Pump Run Time (min):</b>	119.39
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	
<b>Final Depth to Water (ft):</b>	10.65	<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	6.98	0.165	6.73	330.2	1.06	6.66	-3.5	5.4	
8	9.23	0.264	7.2	339.5	0.95	6.7	-22.4	4.6	
12	9.54	0.396	7.2	336.9	0.63	6.73	-39.5	4.2	
15	9.54	0.495	7.2	342.1	0.58	6.69	-46.8	5.4	
18	10.06	0.594	7.2	341.5	0.5	6.66	-53.7	4.3	
21		0.693	7.1	341.6	0.46	6.61	-54.2	5.2	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Pump start at 1043, decreased flow rate @ 1050 to lowest possible due to drawdown, pump stop at 1118

January 17, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	GS-28B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	January 17, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	14:26
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	28F	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	4.25	<b>Calculated Purge Volume (gal):</b>	17.38
<b>Total Well Depth (ft):</b>	39.68	<b>Pumping Rate (gal/min):</b>	0.087
<b>Water Column Height (ft):</b>	35.46	<b>Calculated Pump Run Time (min):</b>	199.77
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	
<b>Final Depth to Water (ft):</b>	4.26	<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	4.3	0.435	8.5	272.5	2.77	7.02	106.1	4.5	
8	4.3	0.696	8.6	272.8	2.55	7.06	102.5	3.6	
11	4.31	0.957	8.3	276.1	2.38	7.08	100.1	0.56	
14	4.32	1.218	8.3	274.6	2.32	7.07	101.2	0.89	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>	DUP-1	1430
<b>Field Blank</b>	FB-1	1435
<b>Equipment Blank</b>	EB-1	1435

**COMMENTS/OBSERVATIONS**

Pump start at 1411, DUP-1 at 1430, pump off at 1442

January 17, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	GS-29SR
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 18, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	13:45
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Sun 25f	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	6.77	<b>Calculated Purge Volume (gal):</b>	39.47
<b>Total Well Depth (ft):</b>	26.93	<b>Pumping Rate (gal/min):</b>	3
<b>Water Column Height (ft):</b>	20.16	<b>Calculated Pump Run Time (min):</b>	13.15
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	15
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	45

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		15	8.6	373	2.48	6.82	161		
10		30	8.8	372	2.57	6.79	163.9		
12		36	8.8	375	2.6	6.78	164.2		
15		45	8.8	372.5	2.63	6.77	165	0.02	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

January 18, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	GS-40R
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 23, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	13:00
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Cloudy 28f	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	25.53	<b>Calculated Purge Volume (gal):</b>	18.51
<b>Total Well Depth (ft):</b>	63.3	<b>Pumping Rate (gal/min):</b>	2.5
<b>Water Column Height (ft):</b>	37.77	<b>Calculated Pump Run Time (min):</b>	7.40
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	11
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	27.5

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		12.5	9.2	1,952	1.9	5.33	132.5		Turbid then clear
8		20	9.2	1,958	1.67	5.3	131.5		
11		27.5	9.2	1,961	1.53	5.33	130.8	6.4	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	<p align="right">January 23, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	MF-07
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 24, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	11:00
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Pc 18f	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.98	<b>Calculated Purge Volume (gal):</b>	10.61
<b>Total Well Depth (ft):</b>	16.4	<b>Pumping Rate (gal/min):</b>	2.5
<b>Water Column Height (ft):</b>	5.42	<b>Calculated Pump Run Time (min):</b>	4.24
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	11
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	27.5

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		12.5	8.8	1,633	0.71	6.2	202.5		
8		20	8.8	1,633	0.69	6.2	202.1		
11		27.5	8.8	1,634	0.65	6.2	201.8	1.8	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	January 24, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	MF-07B
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 24, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	11:30
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Pc 18f	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.68	<b>Calculated Purge Volume (gal):</b>	14.44
<b>Total Well Depth (ft):</b>	40.15	<b>Pumping Rate (gal/min):</b>	2.5
<b>Water Column Height (ft):</b>	29.47	<b>Calculated Pump Run Time (min):</b>	5.77
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	11
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	27.5

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		12.5	9.4	1,031	0.43	6.14	196.9		
8		20	9.4	1,032	0.41	6.14	197.1		
11		27.5	9.4	1,033	0.4	6.13	197.3	4.8	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	<p style="text-align: right;">January 24, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	MF-11
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 23, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	13:12
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	J. Garza
<b>Field Conditions</b>	18F, cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.09	<b>Calculated Purge Volume (gal):</b>	7.23
<b>Total Well Depth (ft):</b>	13.78	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	3.69	<b>Calculated Pump Run Time (min):</b>	3.61
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	18
<b>Final Depth to Water (ft):</b>	10.79	<b>Total Volume Purged (gal):</b>	36

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	10.79	10	9.7	761	2.47	6.89	205.8	1.06	Clear
8	10.82	16	9.8	720	2.29	6.87	204.3	0.02	Clear
11	10.82	22	9.8	714	2.39	6.83	202.6	0.02	Clear
14	10.82	28	9.8	705	2.48	6.83	201.4	0.02	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Start pump at 1257. Stop pump at 1315.

January 23, 2023

**Field Sample Data Sheet**

Page 1 of 1

Project Name: PM-MH-MSD108-011723

Piezometer/Station: MH108 Date 1-17-2023 Arival Time 9:50  
 Sampling Personnel: \_\_\_\_\_ Weather Conditions \_\_\_\_\_  
 Sketch on Back: Yes No Photographs: Yes No

Purge Data:  
 Purge Method Peristaltic Piezometer Depth \_\_\_\_\_ Feet  
 Start Purging 10:12 Depth to Water 3.34 Feet  
 Purge Rate \_\_\_\_\_ Column Head \_\_\_\_\_ Feet  
 Rate Change 1) Time \_\_\_\_\_ Rate \_\_\_\_\_ Casing Diameter \_\_\_\_\_ Inch  
 2) Time \_\_\_\_\_ Rate \_\_\_\_\_ 3 Well Volumes \_\_\_\_\_ Gal.  
 Sample Time 10:30 Total Purge Volume \_\_\_\_\_ Gal.

**Sample Data:**

Sample ID	Sample #	Tag #	Volume	Check IF Filtered	Pres.	Analysis Requested
PM-MH-MSD108-011723			HNO <sub>3</sub>	X		Dissolved Metals
PM-MH-MSD108-011723			HNO <sub>3</sub>		X	Total Metals
PM-MH-MSD108-011723			RAW			
PM-MH-MSD108-011723			H <sub>2</sub> SO <sub>4</sub>		X	

**Field Parameter:**

Time	pH	Temp(°C)	S.C. (µmhos/cm)	ORP(mV)	D.O. (mg/L)	Amount Purged
10:18	6.10	5.2	1058	88.8	2.01	
10:21	6.09	5.2	1064	90.2	1.94	
10:24	6.09	4.8	1062	92.8	1.89	
*****Final Field Parameters Prior to Sampling*****						
10:27	6.11	4.9	1058	94.3	1.88	

Field Equipment Q/A and Calibration: Recorded in field Logbook  
 Field Remarks:

Duplicate Sample taken @ this location

Turb-4.90

**Field Sample Data Sheet**

Page 1 of 1

Project Name: PM-MH-MSD113-011723

Piezometer/Station: MH113 Date 1-17-2023 Arrival Time 11:20  
 Sampling Personnel: \_\_\_\_\_ Weather Conditions \_\_\_\_\_  
 Sketch on Back: Yes No Photographs: Yes  No

Purge Data:  
 Purge Method Peristaltic Piezometer Depth \_\_\_\_\_ Feet  
 Start Purging 11:25 Depth to Water 5.73 Feet  
 Purge Rate \_\_\_\_\_ Column Head \_\_\_\_\_ Feet  
 Rate Change 1) Time \_\_\_\_\_ Rate \_\_\_\_\_ Casing Diameter \_\_\_\_\_ Inch  
 2) Time \_\_\_\_\_ Rate \_\_\_\_\_ 3 Well Volumes \_\_\_\_\_ Gal.  
 Sample Time 11:40 Total Purge Volume \_\_\_\_\_ Gal.

**Sample Data:**

Sample ID	Sample #	Tag #	Volume	Check IF Filtered	Pres.	Analysis Requested
PM-MH-MSD113-011723			HNO <sub>3</sub>	X		Dissolved Metals
PM-MH-MSD113-011723			HNO <sub>3</sub>		X	Total Metals
PM-MH-MSD113-011723			RAW			
PM-MH-MSD113-011723			H <sub>2</sub> SO <sub>4</sub>		X	

**Field Parameter:**

Time	pH	Temp(°C)	S.C. (µmhos/cm)	ORP(mV)	D.O. (mg/L)	Amount Purged
11:30	5.61	4.8	2115	131.5	2.14	
11:33	5.62	5.1	2141	133.1	2.01	
11:36	5.59	5.1	2147	133.8	1.97	
*****Final Field Parameters Prior to Sampling*****						
11:39	5.63	5.2	2149	133.9	1.95	

Turb - 3.60

Field Equipment Q/A and Calibration: Recorded in field Logbook  
 Field Remarks:

collected SDH samples w/WET

**Field Sample Data Sheet**

Page 1 of 1

Project Name: PM-MH-MSD116-011723

Piezometer/Station: MH 116 Date 1-17-2023 Arrival Time 11:55  
 Sampling Personnel: \_\_\_\_\_ Weather Conditions \_\_\_\_\_  
 Sketch on Back: Yes \_\_\_ No \_\_\_ Photographs: Yes \_\_\_ No \_\_\_

**Purge Data:**

Purge Method Peristaltic Piezometer Depth \_\_\_\_\_ Feet  
 Start Purging 12:00 Depth to Water 4.42 Feet  
 Purge Rate \_\_\_\_\_ Column Head \_\_\_\_\_ Feet  
 Rate Change 1) Time \_\_\_\_\_ Rate \_\_\_\_\_ Casing Diameter \_\_\_\_\_ Inch  
 2) Time \_\_\_\_\_ Rate \_\_\_\_\_ 3 Well Volumes \_\_\_\_\_ Gal.  
 Sample Time 12:18 Total Purge Volume \_\_\_\_\_ Gal.

**Sample Data:**

Sample ID	Sample #	Tag #	Volume	Check IF Filtered	Pres.	Analysis Requested
PM-MH-MSD116-011723			HNO <sub>3</sub>	X		Dissolved Metals
PM-MH-MSD116-011723			HNO <sub>3</sub>		X	Total Metals
PM-MH-MSD116-011723			RAW			
PM-MH-MSD116-011723			H <sub>2</sub> SO <sub>4</sub>		X	

**Field Parameter:**

Time	pH	Temp(°C)	S.C. (µmhos/cm)	ORP(mV)	D.O. (mg/L)	Amount Purged
12:05	4.90	3.1	2638	100.1	1.03	
12:08	4.90	3.3	2647	96.3	.68	
12:12	4.89	3.3	2640	95.8	.60	
*****Final Field Parameters Prior to Sampling*****						
12:15	4.88	3.5	2638	95.1	.58	

Field Equipment Q/A and Calibration: Recorded in field Logbook

Field Remarks:

Collected Split Samples w/WET

Turb - 1.89 ntu



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	MSD-02A
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	January 19, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	10:40
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	20F, snowing	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.27	<b>Calculated Purge Volume (gal):</b>	2.26
<b>Total Well Depth (ft):</b>	13.88	<b>Pumping Rate (gal/min):</b>	0.12
<b>Water Column Height (ft):</b>	4.61	<b>Calculated Pump Run Time (min):</b>	18.83
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	
<b>Final Depth to Water (ft):</b>	9.55	<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	9.66	0.6	9	564	0.44	5.23	253.5	0.02	
8	9.71	0.96	9	562	0.46	5.18	259.5	0.05	
11	9.78	1.32	9.2	560	0.49	5.15	262.1	0.02	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Pump start at 1027, pump stop at 1045

January 19, 2023





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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	MSD-02B
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 24, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	15:37
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Snow	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	11.62	<b>Calculated Purge Volume (gal):</b>	17.72
<b>Total Well Depth (ft):</b>	47.78	<b>Pumping Rate (gal/min):</b>	1.67
<b>Water Column Height (ft):</b>	36.16	<b>Calculated Pump Run Time (min):</b>	10.61
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	17
<b>Final Depth to Water (ft):</b>	12	<b>Total Volume Purged (gal):</b>	28.39

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
10	11.98	16.7	9.9	4,154	0.26	4.29	210	0.34	
13	11.98	21.71	9.7	4,158	0.29	4.29	213.1	0.02	
16	11.98	26.72	9.9	4,122	0.24	4.28	211.2	0.02	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	January 24, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	MSD-03
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 23, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	16:25
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	J. Garza
<b>Field Conditions</b>	22F, cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.24	<b>Calculated Purge Volume (gal):</b>	20.15
<b>Total Well Depth (ft):</b>	50.36	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	41.12	<b>Calculated Pump Run Time (min):</b>	10.07
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	17
<b>Final Depth to Water (ft):</b>	9.82	<b>Total Volume Purged (gal):</b>	34

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	9.79	10	10.5	2,464	1.63	5.56	375.8	0.02	Clear
8	9.81	16	10.4	2,478	1.34	5.59	371.6	0.02	Clear
11	9.82	22	10.4	2,477	1.25	5.61	368.5	0.02	Clear
14	9.82	28	10.4	2,490	1.22	5.62	366.3	0.02	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Start pump at 1510. Stop pump at 1727.

*JG*

January 23, 2023





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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	MSD-04
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 23, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	14:17
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	J. Garza
<b>Field Conditions</b>	21F, cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.58	<b>Calculated Purge Volume (gal):</b>	20.61
<b>Total Well Depth (ft):</b>	52.65	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	42.07	<b>Calculated Pump Run Time (min):</b>	10.30
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	14
<b>Final Depth to Water (ft):</b>	11.07	<b>Total Volume Purged (gal):</b>	28

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	11.05	10	8.9	912	1.75	6.17	255.4	0.02	Clear
8	11.07	16	8.9	915	1.67	6.16	254.7	0.02	Clear
11	11.07	22	8.9	917	1.59	6.18	252.8	0.02	Clear

**SAMPLE COLLECTION**


CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Start pump at 1405. Stop pump at 1419.



January 23, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	MSDSG-02
<b>Sampling Method</b>	Other	<b>Sample Date</b>	January 25, 2023
<b>Decon Method</b>	na	<b>Sample Time</b>	13:25
<b>Water Disposal</b>	na	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Cloudy 30f	<b>Well Condition</b>	Stream

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	0	<b>Calculated Purge Volume (gal):</b>	
<b>Total Well Depth (ft):</b>		<b>Pumping Rate (gal/min):</b>	
<b>Water Column Height (ft):</b>		<b>Calculated Pump Run Time (min):</b>	
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
1			0.2	287	2.44	6.62	17.9	28	Turbid

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Ice at gauge, little flow at culvert

January 25, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	MSDSG-03
<b>Sampling Method</b>	Other	<b>Sample Date</b>	January 25, 2023
<b>Decon Method</b>	NA	<b>Sample Time</b>	12:45
<b>Water Disposal</b>	NA	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Cloudy 30f	<b>Well Condition</b>	Stream

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	0	<b>Calculated Purge Volume (gal):</b>	
<b>Total Well Depth (ft):</b>		<b>Pumping Rate (gal/min):</b>	
<b>Water Column Height (ft):</b>		<b>Calculated Pump Run Time (min):</b>	
<b>Well Diameter (in):</b>		<b>Actual Pump Run Time (min):</b>	
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
1			0.8	296	9.66	6.29	141.3	2	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Ice at gauge, good flow at culvert (0.5 CFS)

January 25, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	MSDSG-05
<b>Sampling Method</b>	Other	<b>Sample Date</b>	January 25, 2023
<b>Decon Method</b>	na	<b>Sample Time</b>	13:15
<b>Water Disposal</b>	na	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Cloudy 30f	<b>Well Condition</b>	Stream

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	0	<b>Calculated Purge Volume (gal):</b>	
<b>Total Well Depth (ft):</b>		<b>Pumping Rate (gal/min):</b>	
<b>Water Column Height (ft):</b>		<b>Calculated Pump Run Time (min):</b>	
<b>Well Diameter (in):</b>		<b>Actual Pump Run Time (min):</b>	
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
1			4.7	321.6	12.5	6.97	146.8	16	Slightly turbid

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Elevated stage due to culvert blockage at SS-04, not good point for stage-discharge relationship

January 25, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	PMP-01A
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 23, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	13:40
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Cloudy 28f	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	14.91	<b>Calculated Purge Volume (gal):</b>	3.73
<b>Total Well Depth (ft):</b>	22.52	<b>Pumping Rate (gal/min):</b>	0.5
<b>Water Column Height (ft):</b>	7.61	<b>Calculated Pump Run Time (min):</b>	7.46
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	11
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	5.5

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		2.5	8.8	939	1.05	4.77	207.8		
8		4	8.8	942	1.01	4.77	209.1		
11		5.5	8.8	944	0.99	4.76	210.5	0.2	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

January 23, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	PMP-01B
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 23, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	14:10
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Cloudy 20f	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	15.63	<b>Calculated Purge Volume (gal):</b>	16.09
<b>Total Well Depth (ft):</b>	48.46	<b>Pumping Rate (gal/min):</b>	2.5
<b>Water Column Height (ft):</b>	32.83	<b>Calculated Pump Run Time (min):</b>	6.43
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	11
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	27.5

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		12.5	9.5	1,489	0.53	5.51	209.3		
8		20	9.6	1,491	0.51	5.51	209.5		
11		27.5	9.6	1,489	0.5	5.51	209.6	0.02	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>	DUP-3	1415
<b>Field Blank</b>	FB-3	1420
<b>Equipment Blank</b>	EB-3	1420

**COMMENTS/OBSERVATIONS**

	January 23, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	PMP-03A
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 26, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	12:50
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	15.99	<b>Calculated Purge Volume (gal):</b>	3.48
<b>Total Well Depth (ft):</b>	23.09	<b>Pumping Rate (gal/min):</b>	0.29
<b>Water Column Height (ft):</b>	7.1	<b>Calculated Pump Run Time (min):</b>	12
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	18
<b>Final Depth to Water (ft):</b>	17.49	<b>Total Volume Purged (gal):</b>	5.22

**FIELD PARAMETERS**

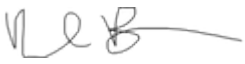
TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
10	17.02	2.9	6.9	3,562	0.89	5.34	69.2	0.48	
13	17.06	3.77	7.1	3,572	0.87	5.33	65.9	0.13	
16	17.12	4.64	7	3,587	0.85	5.33	60	0.02	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

		January 26, 2023
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**Consulting Scientists and Engineers**  
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**Fax: 406-723-1537**

**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	PMP-04B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	January 19, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	16:31
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	25F, snowy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	18.11	<b>Calculated Purge Volume (gal):</b>	16.91
<b>Total Well Depth (ft):</b>	52.61	<b>Pumping Rate (gal/min):</b>	0.1
<b>Water Column Height (ft):</b>	34.5	<b>Calculated Pump Run Time (min):</b>	169.1
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	
<b>Final Depth to Water (ft):</b>	18.29	<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	18.19	0.5	11	1,573	1.23	3.61	319.1	0.02	
8	18.19	0.8	10.8	1,517	1.08	4.06	308	0.02	
11	18.19	1.1	10.8	1,502	0.78	4.59	274.1	0.02	
14	18.19	1.4	10.6	1,490	0.55	4.77	248.7	0.02	
17	18.19	1.7	10.6	1,486	0.5	4.8	243.6	0.02	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Pump start at 1613, off at 1634

January 19, 2023





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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	PMP-05A
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 18, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	15:45
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Sun 25f	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	12.95	<b>Calculated Purge Volume (gal):</b>	5.65
<b>Total Well Depth (ft):</b>	24.48	<b>Pumping Rate (gal/min):</b>	2.5
<b>Water Column Height (ft):</b>	11.53	<b>Calculated Pump Run Time (min):</b>	2.26
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	11
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	27.5

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		12.5	10.8	1,505	0.51	5.77	145.5		
8		20	10.8	1,441	0.5	5.81	143		
11		27.5	10.8	1,460	0.48	5.81	141.3	3.6	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**



January 18, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	PMP-05BR
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 18, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	16:15
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Sun 25f	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	12.12	<b>Calculated Purge Volume (gal):</b>	17.35
<b>Total Well Depth (ft):</b>	47.53	<b>Pumping Rate (gal/min):</b>	2.5
<b>Water Column Height (ft):</b>	35.41	<b>Calculated Pump Run Time (min):</b>	6.94
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	11
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	27.5

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		12.5	10.3	3,291	0.55	4.09	216.6		
8		20	10.3	3,295	0.55	4.12	218.2		
11		27.5	10.3	3,300	0.55	4.13	219	4	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

January 18, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	PMP-06A
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 18, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	14:45
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Sun 25f	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	13.08	<b>Calculated Purge Volume (gal):</b>	6.45
<b>Total Well Depth (ft):</b>	26.25	<b>Pumping Rate (gal/min):</b>	2.5
<b>Water Column Height (ft):</b>	13.17	<b>Calculated Pump Run Time (min):</b>	2.58
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	11
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	27.5

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		12.5	9.9	1,347	0.8	6.1	167.8		
8		20	9.9	1,345	0.93	6.09	166.9		
11		27.5	10	1,344	0.99	6.09	167	4	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**



January 18, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	PMP-06B
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 18, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	15:15
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Sun 25 f	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	11.65	<b>Calculated Purge Volume (gal):</b>	17.89
<b>Total Well Depth (ft):</b>	48.16	<b>Pumping Rate (gal/min):</b>	2.5
<b>Water Column Height (ft):</b>	36.51	<b>Calculated Pump Run Time (min):</b>	7.15
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	11
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	27.5

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		12.5	9.6	995	1.17	5.83	178.3		
8		20	9.6	1,013	0.85	5.81	179		
11		27.5	9.6	1,018	0.85	5.82	180.1	2.6	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	January 18, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	PMP-07A
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 23, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	15:21
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	J. Garza
<b>Field Conditions</b>	22F, cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.9	<b>Calculated Purge Volume (gal):</b>	5.7
<b>Total Well Depth (ft):</b>	21.53	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	11.63	<b>Calculated Pump Run Time (min):</b>	2.85
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	14
<b>Final Depth to Water (ft):</b>	11.08	<b>Total Volume Purged (gal):</b>	28

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	11.06	10	9.6	640	0.41	6.64	339.5	0.02	Clear
8	11.08	16	9.6	641	0.32	6.66	335.1	0.02	Clear
11	11.08	22	9.6	644	0.27	6.65	332.9	0.02	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Start pump at 1509. Stop pump at 1523.

*900*

January 23, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	PMP-07B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	January 19, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	15:20
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	28F, snowy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.45	<b>Calculated Purge Volume (gal):</b>	25.48
<b>Total Well Depth (ft):</b>	62.44	<b>Pumping Rate (gal/min):</b>	0.09
<b>Water Column Height (ft):</b>	51.99	<b>Calculated Pump Run Time (min):</b>	283.1
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	
<b>Final Depth to Water (ft):</b>	10.5	<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	10.72	0.45	9.1	2,491	6.69	6.03	102.2	0.02	
8	10.75	0.72	9	2,506	6.75	5.96	110.3	0.02	
11	10.75	0.99	9	2,512	6.66	5.94	116.2	0.02	
14	10.76	1.26	9.1	2,511	6.55	5.9	118.5	0.02	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Pump start at 1505, fine sediment in purge water, pump stop at 1525

January 19, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	PMP-08A
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	January 19, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	14:35
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	27F, snowy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	11.01	<b>Calculated Purge Volume (gal):</b>	3.15
<b>Total Well Depth (ft):</b>	17.44	<b>Pumping Rate (gal/min):</b>	0.11
<b>Water Column Height (ft):</b>	6.43	<b>Calculated Pump Run Time (min):</b>	28.63
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	
<b>Final Depth to Water (ft):</b>	11.05	<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	11.31	0.55	8	892	0.5	6.27	50	0.02	
8	11.31	0.88	8	896	0.57	6.33	39.9	0.02	
11	11.31	1.21	8	899	0.53	6.38	29.2	0.02	
14	11.31	1.54	7.8	901	0.45	6.39	21.5	0.02	
17	11.31	1.87	7.8	901	0.44	6.4	20.9	0.02	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Pump start at 1417, off at 1437

January 19, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	PMP-08A2
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 20, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	10:30
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Cloudy 10f	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	11.08	<b>Calculated Purge Volume (gal):</b>	7.51
<b>Total Well Depth (ft):</b>	26.41	<b>Pumping Rate (gal/min):</b>	2.5
<b>Water Column Height (ft):</b>	15.33	<b>Calculated Pump Run Time (min):</b>	3.00
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	11
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	27.5

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		12.5	9.4	769	2.3	6.23	170.3		
8		20	9.4	768	2.1	6.22	169.8		
11		27.5	9.4	768	2	6.22	169.2	2	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	January 20, 2023
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**Consulting Scientists and Engineers**  
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	PMP-08B
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 20, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	11:30
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Cloudy 10f	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	11.22	<b>Calculated Purge Volume (gal):</b>	15.32
<b>Total Well Depth (ft):</b>	42.48	<b>Pumping Rate (gal/min):</b>	2.5
<b>Water Column Height (ft):</b>	31.26	<b>Calculated Pump Run Time (min):</b>	6.12
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	11
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	27.5

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		12.5	9.1	1,374	1.44	6.16	180.2		
8		20	9.1	1,371	1.46	6.16	180.2		
11		27.5	9.1	1,372	1.47	6.16	180.1	0.02	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	January 20, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	PMP-09A
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 20, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	12:00
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Cloudy 12f	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.85	<b>Calculated Purge Volume (gal):</b>	11.09
<b>Total Well Depth (ft):</b>	32.48	<b>Pumping Rate (gal/min):</b>	2.5
<b>Water Column Height (ft):</b>	22.63	<b>Calculated Pump Run Time (min):</b>	4.43
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	11
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	27.5

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		12.5							

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>	DUP-2	1,205
<b>Field Blank</b>	FB-2	1,210
<b>Equipment Blank</b>	EB-2	1,210

**COMMENTS/OBSERVATIONS**

	January 20, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	PMP-09B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	January 19, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	09:52
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	18F, snowy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	8.64	<b>Calculated Purge Volume (gal):</b>	21.54
<b>Total Well Depth (ft):</b>	52.59	<b>Pumping Rate (gal/min):</b>	0.11
<b>Water Column Height (ft):</b>	43.95	<b>Calculated Pump Run Time (min):</b>	195.81
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	9.84	0.55	8.6	913	8.74	7.01	224	0.02	
8	9.87	0.88	8.4	918	8.58	7.04	223.5	0.02	
11	9.96	1.21	8.4	919	8.47	7.02	223.6	0.15	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Pump start at 940, stop at 957

January 19, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	PMP-10A
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 18, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	14:15
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Sun 25f	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	3.87	<b>Calculated Purge Volume (gal):</b>	6.09
<b>Total Well Depth (ft):</b>	16.29	<b>Pumping Rate (gal/min):</b>	2.5
<b>Water Column Height (ft):</b>	12.42	<b>Calculated Pump Run Time (min):</b>	2.43
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	11
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	27.5

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		12.5	9.3	281	1.8	6.84	131.3		Turbid then clear
8		20	9.2	277.7	1.86	6.83	130.5		
11		27.5	9.2	276.2	1.86	6.82	130.1	4.8	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	January 18, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	PMP-11A
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 18, 2023
<b>Decon Method</b>	4 Stage (soap, rinse, acid, distilled water)	<b>Sample Time</b>	13:15
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	JB
<b>Field Conditions</b>	Sun 25f	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	13.39	<b>Calculated Purge Volume (gal):</b>	9.16
<b>Total Well Depth (ft):</b>	32.08	<b>Pumping Rate (gal/min):</b>	2.5
<b>Water Column Height (ft):</b>	18.69	<b>Calculated Pump Run Time (min):</b>	3.66
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	11
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	27.5

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		12.5	8.3	275	3.1	6.29	181.6	2	
8		20	8.4	275	3.03	6.32	180.6		
11		27.5	3.02	275	3	6.32	180.2	2.4	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**



January 18, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	PMP-11B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	January 17, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	16:16
<b>Water Disposal</b>	Containerized and Properly Disposed	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	27F	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	13.58	<b>Calculated Purge Volume (gal):</b>	17.77
<b>Total Well Depth (ft):</b>	49.85	<b>Pumping Rate (gal/min):</b>	0.1
<b>Water Column Height (ft):</b>	36.27	<b>Calculated Pump Run Time (min):</b>	177.7
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	
<b>Final Depth to Water (ft):</b>	13.6	<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	13.64	0.5	9.4	255.3	2.56	7.55	92.8	0.67	
8	13.63	0.8	9.2	256.1	2.37	7.15	97.3	0.76	
11	13.68	1.1	9.1	255.3	2.68	7.11	99.2	0.52	
14	13.68	1.4	8.9	255.2	2.6	7.09	102.9	0.48	


**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Pump start at 1602



January 17, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	PMP-12
<b>Sampling Method</b>	Other	<b>Sample Date</b>	January 25, 2023
<b>Decon Method</b>	no sample	<b>Sample Time</b>	13:35
<b>Water Disposal</b>	no sample	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Cloudy 30f	<b>Well Condition</b>	Stream iced over

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	0	<b>Calculated Purge Volume (gal):</b>	
<b>Total Well Depth (ft):</b>		<b>Pumping Rate (gal/min):</b>	
<b>Water Column Height (ft):</b>		<b>Calculated Pump Run Time (min):</b>	
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

No sample, channel iced over

January 25, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM02 Task 8	<b>Sample ID</b>	SS-04
<b>Sampling Method</b>	12-volt	<b>Sample Date</b>	January 25, 2023
<b>Decon Method</b>	NA	<b>Sample Time</b>	13:45
<b>Water Disposal</b>	NA	<b>Sampler(s) Initials</b>	Jb
<b>Field Conditions</b>	Cloudy 30f	<b>Well Condition</b>	Stream

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	0	<b>Calculated Purge Volume (gal):</b>	
<b>Total Well Depth (ft):</b>		<b>Pumping Rate (gal/min):</b>	
<b>Water Column Height (ft):</b>		<b>Calculated Pump Run Time (min):</b>	
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
1			2.9	331	12	7.09	96.7	36	Slightly Turbid


**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>	DUP-5	1350
<b>Field Blank</b>	FB-5	1355
<b>Equipment Blank</b>	EB-5	1355

**COMMENTS/OBSERVATIONS**

No SWL, elevated stage due to blockage at culvert

	January 25, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMC-23B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	May 16, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	13:46
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Sunny	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	7.12	<b>Calculated Purge Volume (gal):</b>	51.04
<b>Total Well Depth (ft):</b>	111.5	<b>Pumping Rate (gal/min):</b>	0.25
<b>Water Column Height (ft):</b>	104.38	<b>Calculated Pump Run Time (min):</b>	204.16
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	210
<b>Final Depth to Water (ft):</b>	23.8	<b>Total Volume Purged (gal):</b>	52.5


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
70	21.96	17.5	9.2	1,008	2.59	6.63	168.6	0.93	
140	23.65	35	9.2	1,051	2.18	6.68	147.9	2.17	
165	23.8	41.25	9.1	1,056	2.26	6.69	146.5	4.12	
185	23.8	46.25	9.1	1,056	2.2	6.7	146.8	2.51	
205	23.78	51.25	9.2	1,053	2.32	6.71	145.3	4.17	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	<p style="text-align: right;">May 16, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMC-24B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	May 16, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	12:42
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza
<b>Field Conditions</b>	66, mostly sunny	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.59	<b>Calculated Purge Volume (gal):</b>	20
<b>Total Well Depth (ft):</b>	51.27	<b>Pumping Rate (gal/min):</b>	0.5
<b>Water Column Height (ft):</b>	40.68	<b>Calculated Pump Run Time (min):</b>	40
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	44
<b>Final Depth to Water (ft):</b>	10.65	<b>Total Volume Purged (gal):</b>	22


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
14	10.64	7	9.4	1,007	2.49	6.45	221.2	3.36	Clear
28	10.64	14	9.6	916	2.68	6.37	220.9	1.22	Clear
32	10.65	16	9.5	900	2.7	6.36	220.7	0.73	Clear
36	10.64	18	9.6	907	2.64	6.36	219.9	1.07	Clear
40	10.65	20	9.6	914	2.59	6.36	219.4	0.97	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>		<b>SAMPLE TIME</b>	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	<p>May 16, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMC-24C
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 10, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	11:35
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza
<b>Field Conditions</b>	42, partly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	8.98	<b>Calculated Purge Volume (gal):</b>	35.9
<b>Total Well Depth (ft):</b>	82.45	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	73.47	<b>Calculated Pump Run Time (min):</b>	17.95
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	21
<b>Final Depth to Water (ft):</b>	11.55	<b>Total Volume Purged (gal):</b>	42

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
6	11.34	12	9.8	934	1.82	6.24	242.3	3.5	Clear
12	11.48	24	9.9	935	1.26	6.26	236.9	1.56	Clear
15	11.51	30	9.9	935	1.21	6.28	234.7	1.43	Clear
18	11.55	36	9.9	936	1.19	6.28	232.1	1.61	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID	SAMPLE TIME		
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

Transducer removed/replaced 1113/1142.

May 10, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMW-01A
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	May 17, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	10:45
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	12.12	<b>Calculated Purge Volume (gal):</b>	1.62
<b>Total Well Depth (ft):</b>	12.95	<b>Pumping Rate (gal/min):</b>	0.03
<b>Water Column Height (ft):</b>	0.83	<b>Calculated Pump Run Time (min):</b>	54.19
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	37
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	1.11

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
17	12.38	0.51	11.2	2,767	1.93	6.06	136.2	135	
34	12.83	1.02	10.5	2,644	1.87	5.9	211.2	1.13	
37		1.11	10.5	2,655	1.86	5.93	209.2	1.97	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Pump start/stop times are from 5/16. Well ran dry - returned to sample on 5/17.

May 17, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMW-01B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 11, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	15:00
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza
<b>Field Conditions</b>	56, hail	<b>Well Condition</b>	Ears broken

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	12.18	<b>Calculated Purge Volume (gal):</b>	58.3
<b>Total Well Depth (ft):</b>	41.96	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	29.78	<b>Calculated Pump Run Time (min):</b>	29.15
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	31
<b>Final Depth to Water (ft):</b>	12.45	<b>Total Volume Purged (gal):</b>	62


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
10	12.39	20	11.5	3,428	1.28	3.99	255.3	1.39	Clear
20	12.39	40	11.6	3,416	2.25	4	260.6	0.62	Clear
23	12.42	46	11.6	3,414	2.15	4	261.8	0.67	Clear
26	12.43	52	11.6	3,428	2.26	4	263.8	0.29	Clear
29	12.44	58	11.6	3,419	2.28	4	266	0.25	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**



May 11, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMW-01C
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 12, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	11:51
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza
<b>Field Conditions</b>	53, partly cloudy	<b>Well Condition</b>	Two ears broken, bolt sheared in third.

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	11.85	<b>Calculated Purge Volume (gal):</b>	180
<b>Total Well Depth (ft):</b>	104	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	92.15	<b>Calculated Pump Run Time (min):</b>	90
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	95
<b>Final Depth to Water (ft):</b>	16.5	<b>Total Volume Purged (gal):</b>	190

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
30	17	60	11.4	2,699	0	5.11	244.9	3.57	Clear
60	16.79	120	11.4	2,664	0	5.12	242.8	2.17	Clear
70	16.81	140	11.4	2,663	0	5.12	242.3	2.12	Clear
80	17.24	160	11.4	2,668	0	5.13	241.8	2.08	Clear
90	16.94	180	11.4	2,667	0	5.13	241.5	1.28	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>	DUP-4	11:52
<b>Field Blank</b>	FB-4	11:05
<b>Equipment Blank</b>	EB-4	10:53

**COMMENTS/OBSERVATIONS**

May 12, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMW-08
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 12, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	13:52
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	44.15	<b>Calculated Purge Volume (gal):</b>	6.21
<b>Total Well Depth (ft):</b>	47.32	<b>Pumping Rate (gal/min):</b>	1
<b>Water Column Height (ft):</b>	3.17	<b>Calculated Pump Run Time (min):</b>	6.21
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	13
<b>Final Depth to Water (ft):</b>	46.6	<b>Total Volume Purged (gal):</b>	13

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	46.6	5	10.4	3,824	1.2	3.09	392.2	1.02	
8	46.6	8	10.3	3,841	1.24	3.12	397.6	0.57	
11	46.6	11	10.3	2,356	1.22	3.13	401.3	3.67	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>			<b>SAMPLE TIME</b>
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

May 12, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMW-09
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 12, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	13:13
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	26.35	<b>Calculated Purge Volume (gal):</b>	25.83
<b>Total Well Depth (ft):</b>	39.54	<b>Pumping Rate (gal/min):</b>	2.25
<b>Water Column Height (ft):</b>	13.19	<b>Calculated Pump Run Time (min):</b>	11.48
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	18
<b>Final Depth to Water (ft):</b>	27.79	<b>Total Volume Purged (gal):</b>	40.5

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
10	27.87	22.5	9.4	1,106	0	4.16	271.3	1.52	
13	27.86	29.25	9.4	1,107	0	4.15	272.4	2.76	
16	27.88	36	9.4	1,105	0	4.15	273.7	3.06	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	<p style="text-align: right;">May 12, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMW-13A
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	May 11, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	11:41
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	47F	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.37	<b>Calculated Purge Volume (gal):</b>	13.39
<b>Total Well Depth (ft):</b>	17.21	<b>Pumping Rate (gal/min):</b>	0.30
<b>Water Column Height (ft):</b>	6.84	<b>Calculated Pump Run Time (min):</b>	43.93
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	49
<b>Final Depth to Water (ft):</b>	13.01	<b>Total Volume Purged (gal):</b>	14.94


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
10	11.9	3.05	7.1	1,018	3.13	6.59	179.5	19.9	Very slight yellow tint
20	12.69	6.1	6.8	1,050	2.36	6.53	117.4	9.11	
30	12.97	9.15	6.8	1,120	1.15	6.59	88.9	4.4	
35	13.11	10.675	6.8	1,148	1.18	6.6	79.9	3.12	
40	13.19	12.2	6.7	1,158	1.12	6.6	77.3	4.06	
45	13.27	13.725	6.6	1,163	1.13	6.61	75.3	2.27	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	<p>May 11, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMW-13B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 8, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	15:23
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.38	<b>Calculated Purge Volume (gal):</b>	13.13
<b>Total Well Depth (ft):</b>	37.25	<b>Pumping Rate (gal/min):</b>	2.26
<b>Water Column Height (ft):</b>	26.87	<b>Calculated Pump Run Time (min):</b>	5.81
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	13
<b>Final Depth to Water (ft):</b>	10.59	<b>Total Volume Purged (gal):</b>	29.38

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	10.59	11.3	9.8	241.3	2.63	7.08	191.2	3.66	
8	10.59	18.08	9.8	241.1	2.48	7.1	189	2.45	
11	10.59	24.86	9.8	240.9	2.53	7.1	188.7	2.48	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	May 8, 2023
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**Consulting Scientists and Engineers**  
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**Butte, Montana 59701**  
**Phone: 406-782-5220**  
**Fax: 406-723-1537**

**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMW-13B2
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 8, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	15:51
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	11.52	<b>Calculated Purge Volume (gal):</b>	18.27
<b>Total Well Depth (ft):</b>	48.9	<b>Pumping Rate (gal/min):</b>	2.25
<b>Water Column Height (ft):</b>	37.38	<b>Calculated Pump Run Time (min):</b>	8.12
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	13
<b>Final Depth to Water (ft):</b>	11.9	<b>Total Volume Purged (gal):</b>	29.25

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	11.89	11.25	9.9	247.6	2.49	7.1	189.4	1.97	
8	11.9	18	9.9	248.2	2.48	7.11	189.2	0.86	
11	11.9	24.75	9.9	248.8	2.45	7.11	189.1	0.59	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	May 8, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMW-13C
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 8, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	16:19
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.43	<b>Calculated Purge Volume (gal):</b>	35.34
<b>Total Well Depth (ft):</b>	81.7	<b>Pumping Rate (gal/min):</b>	2.25
<b>Water Column Height (ft):</b>	72.27	<b>Calculated Pump Run Time (min):</b>	15.70
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	18
<b>Final Depth to Water (ft):</b>	11.6	<b>Total Volume Purged (gal):</b>	40.5

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
10	11.51	22.5	10.2	530	0.76	6.66	193.7	4.58	
13	11.56	29.25	10.2	530	0.75	6.66	193.1	2.61	
16	11.6	36	10.2	530	0.75	6.67	192.2	1.52	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	May 8, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMW-20
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 15, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	11:50
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Partly cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	28.18	<b>Calculated Purge Volume (gal):</b>	26.75
<b>Total Well Depth (ft):</b>	41.84	<b>Pumping Rate (gal/min):</b>	1
<b>Water Column Height (ft):</b>	13.66	<b>Calculated Pump Run Time (min):</b>	26.75
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	28
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	28

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
6	34.23	6	9.2	1,998	2.2	5.71	281	5.25	
12	34.3	12	9.2	1,867	4.81	5.33	281	8.62	
18		18	9.7	1,886	5.56	5.46	274.1	1.09	
22		22	9.5	1,864	5.49	5.42	271.8	3.83	
26		26	9.5	1,862	5.4	5.33	266.6	1.5	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
Duplicate		
Field Blank		
Equipment Blank		

**COMMENTS/OBSERVATIONS**

Tape acting weird

May 15, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS07-07
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	May 9, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	14:37
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	48F, drizzling	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	4.98	<b>Calculated Purge Volume (gal):</b>	1.45
<b>Total Well Depth (ft):</b>	16.83	<b>Pumping Rate (gal/min):</b>	0.14
<b>Water Column Height (ft):</b>	11.85	<b>Calculated Pump Run Time (min):</b>	10.41
<b>Well Diameter (in):</b>	1	<b>Actual Pump Run Time (min):</b>	47
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	6.58


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
4		0.56	8.4	264.7	1.83	6.75	78.8	19.6	Clear
8		1.12	8.3	264.5	1.76	6.63	69.2	20.4	
12		1.68	8.3	264.9	2.15	6.6	64.2	5.32	
16		2.24	8.2	270.3	2.22	6.56	58.2	5.07	
20		2.8	8.2	272	1.79	6.55	54.5	3.35	
25		3.5	8.1	275.9	1.25	6.54	50.3	2.74	
30		4.2	8.1	276	1.05	6.53	48.2	2	
35		4.9	8.1	278.2	1.05	6.52	48	1.75	
40		5.6	8.1	277.1	0.99	6.52	43.1	0.98	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>	<b>SAMPLE TIME</b>		
<b>Duplicate</b>	DUP-1	14:39		
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	
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May 9, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS07-07B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	May 9, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	16:24
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	44F	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	6.17	<b>Calculated Purge Volume (gal):</b>	19.01
<b>Total Well Depth (ft):</b>	45.06	<b>Pumping Rate (gal/min):</b>	0.26
<b>Water Column Height (ft):</b>	38.89	<b>Calculated Pump Run Time (min):</b>	72.03
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	76
<b>Final Depth to Water (ft):</b>	6.17	<b>Total Volume Purged (gal):</b>	20.06

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
15	6.62	3.96	8.6	817	7.05	6.76	107.8	2.09	
30	6.62	7.92	8.8	760	3.35	6.68	114	3.04	
45	6.62	11.88	8.8	694.3	2.7	6.69	117.6	2.47	
60	6.62	15.84	8.8	636.5	2.63	6.69	119.7	2.23	
65	6.62	17.16	8.8	636.4	2.62	6.69	120.6	2.15	
70	6.62	18.48	8.8	630.7	2.63	6.7	121.3	1.6	
73	6.62	19.272	8.8	626.7	2.7	6.7	121.8	2.26	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>	FB-1	14:45
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

May 9, 2023



**Consulting Scientists and Engineers**  
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS07-11A
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 11, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	12:21
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza
<b>Field Conditions</b>	52, groppe	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	14.72	<b>Calculated Purge Volume (gal):</b>	4.6
<b>Total Well Depth (ft):</b>	24.04	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	9.32	<b>Calculated Pump Run Time (min):</b>	2.3
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	18
<b>Final Depth to Water (ft):</b>	15.67	<b>Total Volume Purged (gal):</b>	36

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
3	15.61	6	9.8	527.5	0.72	4.93	188.7	1.36	Clear
6	15.66	12	9.8	456.9	0.49	4.86	192.8	0.65	Clear
9	15.67	18	9.9	438.9	0.3	4.82	195.7	0.45	
12	15.68	24	10	439.9	0.21	4.82	197.8	0.36	Clear
15	15.69	30	10	444.8	0.11	4.82	199.8	0.37	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Transducer removed/replaced 1159/1227.

May 11, 2023





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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS07-11B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 11, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	11:46
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza
<b>Field Conditions</b>	52F, partly cloudy	<b>Well Condition</b>	One bolt missing. Bolts not 9/16.

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	14.65	<b>Calculated Purge Volume (gal):</b>	14.8
<b>Total Well Depth (ft):</b>	44.67	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	30.02	<b>Calculated Pump Run Time (min):</b>	7.4
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	17
<b>Final Depth to Water (ft):</b>	14.94	<b>Total Volume Purged (gal):</b>	34

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
3	14.88	6	10	1,352	1.27	4.75	210.1	34	Cloudy
6	14.91	12	10	1,331	0.63	4.72	206.9	15.3	Slightly cloudy
9	14.93	18	10	1,318	0.22	4.71	202	4.57	Clear
12	14.94	24	10	1,313	0.03	4.72	197.7	2.51	Clear
15	14.94	30	10	1,310	0	4.72	194.3	1.73	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Transducer removed/replaced at approximately 1120/1150.

May 11, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS07-23
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	May 9, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	11:31
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	46F, rainy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	7.52	<b>Calculated Purge Volume (gal):</b>	1.14
<b>Total Well Depth (ft):</b>	16.8	<b>Pumping Rate (gal/min):</b>	0.13
<b>Water Column Height (ft):</b>	9.28	<b>Calculated Pump Run Time (min):</b>	8.64
<b>Well Diameter (in):</b>	1	<b>Actual Pump Run Time (min):</b>	41
<b>Final Depth to Water (ft):</b>	7.57	<b>Total Volume Purged (gal):</b>	5.41

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
3		0.396	5	1,233	2.15	6.69	84.8	52.6	Clear
6		0.792	4.7	1,246	2.25	6.81	46.1	41.1	
9		1.188	4.8	1,257	5.17	6.84	19	27.5	
12		1.584	4.6	1,250	5.92	6.84	13.8	26.3	
15		1.98	4.7	1,258	7.23	6.86	3.1	23.2	
20		2.64	4.6	1,261	6.53	6.87	-11.2	25.9	
25		3.3	4.7	1,267	5.05	6.88	-23.2	22.4	
30		3.96	4.7	1,267	3.34	6.89	-33.8	23.1	
35		4.62	4.7	1,270	3.24	6.89	-34.7	22.5	
40		5.28	4.7	1,271	3.2	6.89	-37.9	22.1	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

May 9, 2023



**Consulting Scientists and Engineers**  
**480 East Park Street**  
**Butte, Montana 59701**  
**Phone: 406-782-5220**  
**Fax: 406-723-1537**

**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-10A
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 9, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:29
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza
<b>Field Conditions</b>	37F, goppel	<b>Well Condition</b>	Lid detached.

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	11.92	<b>Calculated Purge Volume (gal):</b>	5.9
<b>Total Well Depth (ft):</b>	24.02	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	12.1	<b>Calculated Pump Run Time (min):</b>	2.95
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	
<b>Final Depth to Water (ft):</b>	15	<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
3	13.5	6	7	1,622	0.68	6.25	1.6	77.4	Cloudy
6	13.53	12	7	1,619	1.81	6.25	-4.7	36.5	Slightly cloudy
9	13.81	18	7	1,616	0.24	6.27	-13.4	15	Almost clear
12	14.37	24	7	1,575	0.16	6.29	-20.9	110	Cloudy again
15	14.46	30	7.1	1,536	0.3	6.3	-23.3	176	Cloudier
18	14.48	36	7.2	1,493	0.56	6.31	-23.9	57.1	Clearing up again
21	14.49	42	7.2	1,452	0.63	6.31	-24.4	29.1	Clearer, but particulates present
24	14.76	48	7.2	1,422	0.46	6.31	-25.2	223	Cloudy
27	14.82	54	7.3	1,358	0.4	6.33	-26.6	103	Cloudy
30	15.02	60	7.2	1,344	0.49	6.33	-25.9	107	Cloudy
33	15.42	66	7	1,331	0.46	6.34	-28.2	102	Cloudy

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Transducer removed/replaced at 1343/14. DO, turbidity, and water level fluctuated throughout purge. Well may need redeveloping?

May 9, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-10B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 9, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	15:25
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza
<b>Field Conditions</b>	37, light rain	<b>Well Condition</b>	Lid detached

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	12.06	<b>Calculated Purge Volume (gal):</b>	17.9
<b>Total Well Depth (ft):</b>	48.73	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	36.67	<b>Calculated Pump Run Time (min):</b>	8.95
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	11
<b>Final Depth to Water (ft):</b>	12.5	<b>Total Volume Purged (gal):</b>	22

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
3	12.5	6	9.2	1,165	1.91	6.24	111.3	4.6	Clear
6	12.52	12	9.2	1,167	1.81	6.23	113.8	0.76	Clear
9	12.51	18	9.2	1,166	1.75	6.21	119.2	0.32	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

Transducer removed/replaced at 1450/1535.



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-10C
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 9, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	16:17
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza
<b>Field Conditions</b>	37, cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.45	<b>Calculated Purge Volume (gal):</b>	54
<b>Total Well Depth (ft):</b>	120	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	110.55	<b>Calculated Pump Run Time (min):</b>	27
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	29
<b>Final Depth to Water (ft):</b>	14.85	<b>Total Volume Purged (gal):</b>	58

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
9	14.85	18	9.9	962	2.53	6.44	159.5	0.31	Clear
18	14.92	36	9.9	963	2.01	6.46	150.9	0.22	Clear
21	14.94	42	9.9	963	1.97	6.46	149.4	0.09	Clear
24	14.96	48	9.9	963	1.92	6.46	148	0.26	Clear
27	14.97	54	9.9	963	1.91	6.46	147.1	0.22	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

Transducer removed/replaced at 1545/1621.

May 9, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-11A1
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 8, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:20
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza
<b>Field Conditions</b>	57F, partly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	5.56	<b>Calculated Purge Volume (gal):</b>	5.1
<b>Total Well Depth (ft):</b>	16.07	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	10.51	<b>Calculated Pump Run Time (min):</b>	2.55
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	21
<b>Final Depth to Water (ft):</b>	5.86	<b>Total Volume Purged (gal):</b>	42

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
3	5.86	6	9	346.5	1.25	6.36	154.2	0.46	Clear
6	5.86	12	8.9	347.3	1.2	6.38	155.6	0.34	Clear
9	5.86	18	9	352.8	1.16	6.37	156	0.23	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID	SAMPLE TIME		
Duplicate	DUP-2	14:25		
Field Blank	FB-2	15:00		
Equipment Blank	EB-2	14:45		

**COMMENTS/OBSERVATIONS**

Transducer removed/replaced at approximately 1355/1435..

May 8, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-11A2
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 8, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	15:25
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza
<b>Field Conditions</b>	57F, partly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	5.5	<b>Calculated Purge Volume (gal):</b>	14.6
<b>Total Well Depth (ft):</b>	35.28	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	29.78	<b>Calculated Pump Run Time (min):</b>	7.3
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	15
<b>Final Depth to Water (ft):</b>	5.65	<b>Total Volume Purged (gal):</b>	30


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
3	5.65	6	10.2	276.5	2.05	6.82	145.8	1.11	Clear
6	5.65	12	10.2	276.8	2.04	6.81	147.3	0.66	Clear
9	5.65	18	10.2	277	1.95	6.8	148.2	0.46	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	
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May 8, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-11B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 8, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	16:12
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza
<b>Field Conditions</b>	57F, partly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	4.19	<b>Calculated Purge Volume (gal):</b>	35.1
<b>Total Well Depth (ft):</b>	76.05	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	71.86	<b>Calculated Pump Run Time (min):</b>	17.55
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	21
<b>Final Depth to Water (ft):</b>	6.68	<b>Total Volume Purged (gal):</b>	42

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
6	6.55	12	10.6	803	2.78	6.28	171.8	0.45	Clear
12	6.63	24	10.6	803	2.48	6.27	172.6	0.23	Clear
15	6.65	30	10.7	802	2.5	6.27	172.6	0.28	Clear
18	6.67	36	10.6	803	2.44	6.27	172.6	0.25	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	
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May 8, 2023





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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-11C
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 9, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	11:32
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza
<b>Field Conditions</b>	47, drizzling rain	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	3.92	<b>Calculated Purge Volume (gal):</b>	71.9
<b>Total Well Depth (ft):</b>	151	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	147.08	<b>Calculated Pump Run Time (min):</b>	36
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	40
<b>Final Depth to Water (ft):</b>	17.27	<b>Total Volume Purged (gal):</b>	80

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
12	16.54	24	11.2	825	0.66	6.43	133.8	1.17	Clear
24	17.27	48	11.3	817	0.13	6.47	133.2	0.95	Clear
28	17.33	56	11.3	816	0.1	6.47	132.9	1.03	Clear
32	17.38	64	11.3	816	0.04	6.48	131.4	0.78	Clear
36	17.46	72	11.3	816	0.02	6.49	129.6	0.65	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**



May 9, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-14A
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 10, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	11:16
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Partly cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	8.99	<b>Calculated Purge Volume (gal):</b>	7.68
<b>Total Well Depth (ft):</b>	24.7	<b>Pumping Rate (gal/min):</b>	2.25
<b>Water Column Height (ft):</b>	15.71	<b>Calculated Pump Run Time (min):</b>	3.41
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	18
<b>Final Depth to Water (ft):</b>	9.33	<b>Total Volume Purged (gal):</b>	40.5


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
10	9.33	22.5	8.4	559.9	0.49	6.34	206.9	1.08	
13	9.33	29.25	8.4	559.6	0.49	6.32	207.9	0.69	
16	9.33	36	8.4	558.1	0.44	6.31	208.4	1.36	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID	SAMPLE TIME		
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	<p align="right">May 10, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-14B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 10, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	11:52
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Partly cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	8.66	<b>Calculated Purge Volume (gal):</b>	28.87
<b>Total Well Depth (ft):</b>	67.7	<b>Pumping Rate (gal/min):</b>	2.25
<b>Water Column Height (ft):</b>	59.04	<b>Calculated Pump Run Time (min):</b>	12.83
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	25
<b>Final Depth to Water (ft):</b>	14.01	<b>Total Volume Purged (gal):</b>	56.25


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
7	13.46	15.75	9.3	1,947	1.71	5.96	249.2	2.19	
10	13.73	22.5	9.3	1,949	2.56	5.96	250.4	1.81	
13	13.91	29.25	9.3	1,948	1.94	5.96	241.6	0.76	
18	13.96	40.5	9.3	1,952	0.43	5.97	252.3	0.62	
21	13.99	47.25	9.3	1,952	0.2	5.97	252.4	0.56	
24	14.01	54	9.3	1,953	0.09	5.97	252.3	0.52	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>		<b>SAMPLE TIME</b>	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	<p align="right">May 10, 2023</p>
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**Consulting Scientists and Engineers**  
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-17C
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 10, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	12:59
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza
<b>Field Conditions</b>	50F, mostly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	7.78	<b>Calculated Purge Volume (gal):</b>	30.1
<b>Total Well Depth (ft):</b>	69.4	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	61.62	<b>Calculated Pump Run Time (min):</b>	15.05
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	18
<b>Final Depth to Water (ft):</b>	11.1	<b>Total Volume Purged (gal):</b>	36

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	10.83	10	9.9	1,717	0.54	6.15	363	0.85	Clear
10	11.02	20	9.9	1,713	0.08	6.15	361.9	0.61	Clear
13	11.13	26	9.9	1,715	0	6.16	360.6	0.3	Clear
16	11.17	32	9.9	1,715	0	6.16	359.4	0.27	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	
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May 10, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-18B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 11, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	13:08
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Partly cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.7	<b>Calculated Purge Volume (gal):</b>	17.64
<b>Total Well Depth (ft):</b>	45.78	<b>Pumping Rate (gal/min):</b>	2.25
<b>Water Column Height (ft):</b>	36.08	<b>Calculated Pump Run Time (min):</b>	7.84
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	18
<b>Final Depth to Water (ft):</b>	10.6	<b>Total Volume Purged (gal):</b>	40.5


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
10	10.54	22.5	10.3	3,137	0.12	4.3	256.9	1.55	
13	10.59	29.25	10.3	3,141	0	4.32	255.8	1.25	
16	10.6	36	10.2	3,142	0	4.29	254.7	0.89	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID	SAMPLE TIME		
Duplicate				
Field Blank				
Equipment Blank				

**COMMENTS/OBSERVATIONS**

	<p align="right">May 11, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	GS-28
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	May 12, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	09:45
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	56F, rain and hail	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	4.48	<b>Calculated Purge Volume (gal):</b>	4.18
<b>Total Well Depth (ft):</b>	13.03	<b>Pumping Rate (gal/min):</b>	0.3
<b>Water Column Height (ft):</b>	8.55	<b>Calculated Pump Run Time (min):</b>	13.93
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	16
<b>Final Depth to Water (ft):</b>	9.46	<b>Total Volume Purged (gal):</b>	4.8

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	10.15	1.5	5.6	1,054	2.56	7.11	95.9	13.8	
10	10.92	3	5.6	1,049	1.28	6.95	89.1	13.6	
13	11.61	3.9	5.8	1,088	0.88	6.97	76.4	11.7	
16		4.8	6.3	969	0.92	7.04	31		

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Well dry at 1532 on 5-11-23, returned morning of 5-12-23 to collect sample, DTW on 5/12 is 4.54, star timing at 940, pump for 5 min then collect sample

May 11, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	GS-28B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	May 12, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	10:50
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	48F, sunny	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	4.18	<b>Calculated Purge Volume (gal):</b>	17.35
<b>Total Well Depth (ft):</b>	39.68	<b>Pumping Rate (gal/min):</b>	0.3
<b>Water Column Height (ft):</b>	35.5	<b>Calculated Pump Run Time (min):</b>	57.86
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	61
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	18.3

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
10	4.49	3	9.6	279.9	4.75	7.24	215	4.44	
20	4.45	6	9.6	278	2.51	6.86	221.6	3.75	
30	4.46	9	9.6	278.4	2.21	7.05	203.2	3.53	
40	4.45	12	9.8	277.3	2.05	7.1	195.4	2.12	
45	4.46	13.5	9.7	273.9	2	7.13	190.1	1.89	
50	4.45	15	9.9	276.8	1.95	7.14	188	1.47	
55	4.45	16.5	9.8	277.1	2.01	7.15	185.4	1.96	
58	4.45	17.4	9.9	275.4	1.96	7.15	184.3	1.45	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	<p>May 12, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	GS-29SR
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 8, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:11
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Partly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	5.87	<b>Calculated Purge Volume (gal):</b>	41.25
<b>Total Well Depth (ft):</b>	26.93	<b>Pumping Rate (gal/min):</b>	2.26
<b>Water Column Height (ft):</b>	21.06	<b>Calculated Pump Run Time (min):</b>	18.25
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	21
<b>Final Depth to Water (ft):</b>	7.9	<b>Total Volume Purged (gal):</b>	47.46


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
10	7.89	22.6	7.7	358.5	3.1	6.99	261	3.79	
15	7.89	33.9	7.8	355.6	3.11	6.96	260.9	1.9	
20	7.9	45.2	7.9	354.3	3.09	6.92	260.6	1.95	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	May 8, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	GS-40R
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 12, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	13:50
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza
<b>Field Conditions</b>	53, partly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	25.2	<b>Calculated Purge Volume (gal):</b>	18.6
<b>Total Well Depth (ft):</b>	63.3	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	38.1	<b>Calculated Pump Run Time (min):</b>	9.3
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	17
<b>Final Depth to Water (ft):</b>	25.61	<b>Total Volume Purged (gal):</b>	34

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
3	25.57	6	9.9	2,011	0.47	5.15	180.7	18.8	Slightly cloudy
6	25.58	12	9.9	2,061	0.28	5.15	175.3	9.16	Clear
9	25.6	18	10	2,122	0.1	5.16	170.4	4.23	Clear
12	55.6	24	9.9	2,158	0	5.17	165.8	2.22	Clear
15	25.61	30	10	2,174	0	5.18	161.8	1.15	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

Transducer removed/replaced 1330/1403.

May 12, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	MF-07
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 10, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:11
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza
<b>Field Conditions</b>	52, mostly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.15	<b>Calculated Purge Volume (gal):</b>	12.2
<b>Total Well Depth (ft):</b>	16.4	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	6.25	<b>Calculated Pump Run Time (min):</b>	6.1
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	11
<b>Final Depth to Water (ft):</b>	11.03	<b>Total Volume Purged (gal):</b>	22

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
3	10.92	6	7.2	1,426	0.47	6.13	292.4	2.14	Clear
6	10.99	12	7.2	1,440	0.08	6.1	291.9	0.78	Clear
9	11.03	18	7.2	1,443	0	6.09	287	0.47	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**



May 10, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	MF-07B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 10, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	13:43
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza
<b>Field Conditions</b>	52F, mostly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.93	<b>Calculated Purge Volume (gal):</b>	14.7
<b>Total Well Depth (ft):</b>	40.15	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	30.22	<b>Calculated Pump Run Time (min):</b>	7.35
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	12
<b>Final Depth to Water (ft):</b>	12.85	<b>Total Volume Purged (gal):</b>	24


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
3	12.85	6	9.5	1,020	0.45	6.05	333.2	4.13	Clear
6	12.9	12	9.5	1,012	0.18	6.03	333.4	3.38	Clear
9	12.96	18	9.5	1,006	0	6.02	332.7	3.12	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>				
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**COMMENTS/OBSERVATIONS**

	
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May 10, 2023



**Consulting Scientists and Engineers**  
**480 East Park Street**  
**Butte, Montana 59701**  
**Phone: 406-782-5220**  
**Fax: 406-723-1537**

**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	MF-11
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 10, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:08
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.31	<b>Calculated Purge Volume (gal):</b>	8.75
<b>Total Well Depth (ft):</b>	13.78	<b>Pumping Rate (gal/min):</b>	2.25
<b>Water Column Height (ft):</b>	4.47	<b>Calculated Pump Run Time (min):</b>	3.89
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	43
<b>Final Depth to Water (ft):</b>	10.3	<b>Total Volume Purged (gal):</b>	96.75

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
3	10.25	6.75	6.6	3,784	3.53	6.82	242.4	8.42	
6	10.27	13.5	6.8	2,687	2.87	6.89	231.3	4.69	
9	10.3	20.25	6.9	2,104	2.55	6.92	222.9	2.41	
14	10.31	31.5	6.9	1,547	2.32	6.94	214.2	2.85	
17	10.31	38.25	6.9	1,415	2.27	6.95	210.9	1.43	
22	10.32	49.5	7	1,306	2.27	6.94	206.9	1.34	
25	10.31	56.25	7	1,247	2.28	6.95	204.9	1.06	
35	10.31	78.75	7	1,148	2.32	6.94	199.4	1.01	
38	10.29	85.5	7	1,135	2.32	6.94	197.3	1.05	
42	10.3	94.5	7	1,132	2.3	6.94	195.6	1.17	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	May 10, 2023
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**Field Sample Data Sheet**

Page 1 of 1

Project Name: Parrot monitoring

Piezometer/Station: 108 Date: 5/16/23 Arrival Time: 8:45  
 Sampling Personnel: \_\_\_\_\_ Weather Conditions: 51° Sunny  
 Sketch on Back: Yes No Photographs: Yes  No

Purge Data:  
 Purge Method: Peristaltic Piezometer Depth: \_\_\_\_\_ Feet  
 Start Purging: 8:51 Depth to Water: 5.70' Feet  
 Purge Rate: \_\_\_\_\_ Column Head: \_\_\_\_\_ Feet  
 Rate Change 1) Time: \_\_\_\_\_ Rate: \_\_\_\_\_ Casing Diameter: \_\_\_\_\_ Inch  
 2) Time: \_\_\_\_\_ Rate: \_\_\_\_\_ 3 Well Volumes: \_\_\_\_\_ Gal  
 Sample Time: 9:10 Total Purge Volume: \_\_\_\_\_ Gal

**Sample Data:**

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
PM-MH-MSD108-051623	250 ml		HNO3	Al, As, B, Cd, Ca, Cu, Fe, Pb, Li, Mg, Ag, U, Zn Hardness
PM-MH-MSD108-051623	250ml	v	HNO3	Al, As, B, Cd, Ca, Cu, Fe, Pb, Li, Mg, Ag, U, Zn Hardness, Ba, SiO2
PM-MH-MSD108-051623	250ml		Raw	Alkalinity, TDS, TSS, Sulfate
PM-MH-MSD108-051623	250 ml		H2SO4	NO2/NO3

**Field Parameter:**

Time	pH	Temp(°C)	S.C. (unhos/cm)	ORP(mV)	D.O. (mg/L)	Turb.
8:57	6.02	9.6	1230	169.0	2.01	
9:00	6.08	9.4	1222	166.1	1.84	
9:03	6.10	9.2	1215	165.8	1.79	
9:06	6.12	9.2	1213	165.4	1.76	
*****Final Field Parameters Prior to Sampling*****						
9:09	6.12	9.3	1215	165.2	1.78	5.86 NTU

Field Equipment Q/A and Calibration: Recorded in field Logbook

Field Remarks:

Collected split samples for TREC & WET  
 Duplicate sample taken @ this location

**Field Sample Data Sheet**

Page 1 of 1

Project Name: Parrot monitoring

Piezometer/Station: PM-MH-MSD113-051623 Date 5/16/23 Arrival Time 10:07  
 Sampling Personnel: \_\_\_\_\_ Weather Conditions 60° Sunny  
 Sketch on Back: Yes \_\_\_ No \_\_\_ Photographs: Yes  No \_\_\_

Purge Data:  
 Purge Method Peristaltic Piezometer Depth \_\_\_\_\_ Feet  
 Start Purging 9:10:15 Depth to Water 5.74' Feet  
 Purge Rate \_\_\_\_\_ Column Head \_\_\_\_\_ Feet  
 Rate Change 1) Time \_\_\_\_\_ Rate \_\_\_\_\_ Casing Diameter \_\_\_\_\_ Inch  
 2) Time \_\_\_\_\_ Rate \_\_\_\_\_ 3 Well Volumes \_\_\_\_\_ Gal.  
 Sample Time 10:30 Total Purge Volume \_\_\_\_\_ Gal.

**Sample Data:**

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
PM-MH-MSD113-051623	250 ml		HNO3	Al, As, B, Cd, Ca, Cu, Fe, Pb, Li, Mg, Ag, U, Zn Hardness
PM-MH-MSD113-051623	250ml	V	HNO3	Al, As, B, Cd, Ca, Cu, Fe, Pb, Li, Mg, Ag, U, Zn Hardness
PM-MH-MSD113-051623	250ml		Raw	Alkalinity, TDS, TSS, Sulfate
PM-MH-MSD113-051623	250 ml		H2SO4	NO2/NO3

**Field Parameter:**

Time	pH	Temp (°C)	S.C. (µhos/cm)	ORP (mV)	D.O. (mg/L)	
10:20	5.76	10.8	2182	139.0	2.02	
10:23	5.77	10.5	2161	140.3	1.94	
10:26	5.78	10.4	2162	141.0	1.91	
*****Final Field Parameters Prior to Sampling*****						
10:29	5.78	10.5	2158	141.3	1.98	5.37

Field Equipment Q/A and Calibration: Recorded in field Logbook  
 Field Remarks: Collected Split Samples for TREC & WET



**Field Sample Data Sheet**

Page 1 of 1

Project Name: Parrot monitoring

Piezometer/Station: PM-MH-MSD116-051623 Date 5/16/23 Arival Time 10:46  
 Sampling Personnel: \_\_\_\_\_ Weather Conditions 65°, Sunny  
 Sketch on Back: Yes No Photographs: Yes No

Purge Data:  
 Purge Method Peristaltic Piezometer Depth \_\_\_\_\_ Feet  
 Start Purging 10:51 Depth to Water 4.16 Feet  
 Purge Rate \_\_\_\_\_ Column Head \_\_\_\_\_ Feet  
 Rate Change 1) Time \_\_\_\_\_ Rate \_\_\_\_\_ Casing Diameter \_\_\_\_\_ Inch  
 2) Time \_\_\_\_\_ Rate \_\_\_\_\_ 3 Well Volumes \_\_\_\_\_ Gal.  
 Sample Time 11:14 Total Purge Volume \_\_\_\_\_ Gal.

**Sample Data:**

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
PM-MH-MSD116-051623	250 ml		HNO3	Al, As, B, Cd, Ca, Cu, Fe, Pb, Li, Mg, Ag, U, Zn Hardness
PM-MH-MSD116-051623	250ml	✓	HNO3	Al, As, B, Cd, Ca, Cu, Fe, Pb, Li, Mg, Ag, U, Zn Hardness
PM-MH-MSD116-051623	250ml		Raw	Alkalinity, TDS, TSS, Sulfate
PM-MH-MSD116-051623	250 ml		H2SO4	NO2/NO3

**Field Parameter:**

Time	pH	Temp (°C)	S.C. (µmhos/cm)	ORP(mV)	D.O. (mg/L)	Turb. NTU
<u>11:05</u>	<u>5.02</u>	<u>14.8</u>	<u>3827</u>	<u>149.7</u>	<u>0.56</u>	
<u>11:08</u>	<u>5.01</u>	<u>15.1</u>	<u>3828</u>	<u>144.0</u>	<u>0.25</u>	
<u>11:11</u>	<u>4.99</u>	<u>15.2</u>	<u>3836</u>	<u>142.6</u>	<u>0.26</u>	
*****Final Field Parameters Prior to Sampling*****						
<u>11:14</u>	<u>4.98</u>	<u>15.1</u>	<u>3827</u>	<u>143.8</u>	<u>0.22</u>	<u>13.7</u>

Field Equipment Q/A and Calibration: Recorded in field Logbook  
 Field Remarks:





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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	MSD-02A
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	May 16, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:46
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza
<b>Field Conditions</b>	70, storms forming	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	8.83	<b>Calculated Purge Volume (gal):</b>	2.4
<b>Total Well Depth (ft):</b>	13.88	<b>Pumping Rate (gal/min):</b>	0.25
<b>Water Column Height (ft):</b>	5.05	<b>Calculated Pump Run Time (min):</b>	9.6
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	22
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	5.5

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
3	9.59	0.75	8.1	551.2	1.26	5.09	207	1.6	Clear
6	9.76	1.5	8.1	558.5	0.86	5.07	210.9	0.85	Clear
9	9.91	2.25	8.1	605	0.43	5.02	217.2	0.73	Clear
12	10.08	3	8.1	598.3	0.35	5.06	218.5	0.7	Clear
15	10.15	3.75	8.1	604.4	0.24	5.09	219.2	0.53	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
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**COMMENTS/OBSERVATIONS**

Replaced tubing.

May 16, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	MSD-02B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 10, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	16:39
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.89	<b>Calculated Purge Volume (gal):</b>	18.03
<b>Total Well Depth (ft):</b>	47.78	<b>Pumping Rate (gal/min):</b>	2.25
<b>Water Column Height (ft):</b>	36.89	<b>Calculated Pump Run Time (min):</b>	8.01
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	18
<b>Final Depth to Water (ft):</b>	11.45	<b>Total Volume Purged (gal):</b>	40.5

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
10	11.45	22.5	10	4,262	0	4.02	285.6	2.32	
13	11.45	29.25	10	4,298	0	4.02	283.1	1.76	
16	11.45	36	10	4,299	0	4.03	280.9	1.24	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	May 10, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	MSD-03
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 10, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	13:08
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	8.6	<b>Calculated Purge Volume (gal):</b>	20.42
<b>Total Well Depth (ft):</b>	50.36	<b>Pumping Rate (gal/min):</b>	2.25
<b>Water Column Height (ft):</b>	41.76	<b>Calculated Pump Run Time (min):</b>	9.07
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	15
<b>Final Depth to Water (ft):</b>	9.36	<b>Total Volume Purged (gal):</b>	33.75

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
7	9.33	15.75	10.2	2,525	0.15	5.54	268.7	0.59	
10	9.35	22.5	10.2	2,544	0.03	5.54	269.9	0.59	
13	9.36	29.25	10.3	2,570	0	5.54	270.3	0.94	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>		<b>SAMPLE TIME</b>	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	<p align="right">May 10, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	MSD-04
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 10, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:33
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.95	<b>Calculated Purge Volume (gal):</b>	20.88
<b>Total Well Depth (ft):</b>	52.65	<b>Pumping Rate (gal/min):</b>	2.25
<b>Water Column Height (ft):</b>	42.7	<b>Calculated Pump Run Time (min):</b>	9.28
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	15
<b>Final Depth to Water (ft):</b>	10.56	<b>Total Volume Purged (gal):</b>	33.75

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
7	10.56	15.75	8.9	932	0	6.25	192.8	1.77	
13	10.56	29.25	8.9	931	0	6.24	193.6	1.14	
16	10.56	36	8.8	930	0	6.24	194	0.93	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>	<b>SAMPLE TIME</b>		
<b>Duplicate</b>	DUP-3	14:34		
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

May 10, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	MSDSG-02
<b>Sampling Method</b>	Other	<b>Sample Date</b>	May 15, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:05
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	0	<b>Calculated Purge Volume (gal):</b>	
<b>Total Well Depth (ft):</b>		<b>Pumping Rate (gal/min):</b>	
<b>Water Column Height (ft):</b>		<b>Calculated Pump Run Time (min):</b>	
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	0
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
			20.9	349.5	7.01	8.21	9.4	1.8	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**



May 15, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	MSDSG-03
<b>Sampling Method</b>	Other	<b>Sample Date</b>	May 15, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:40
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Rain	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	0	<b>Calculated Purge Volume (gal):</b>	
<b>Total Well Depth (ft):</b>		<b>Pumping Rate (gal/min):</b>	
<b>Water Column Height (ft):</b>		<b>Calculated Pump Run Time (min):</b>	
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	0
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
			21	297.8	0.79	7.45	31.4	10.3	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>		<b>SAMPLE TIME</b>	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	<p align="right">May 15, 2023</p>
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**Consulting Scientists and Engineers**  
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**Phone: 406-782-5220**  
**Fax: 406-723-1537**

**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	MSDSG-05
<b>Sampling Method</b>	Other	<b>Sample Date</b>	May 15, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:20
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	0	<b>Calculated Purge Volume (gal):</b>	
<b>Total Well Depth (ft):</b>		<b>Pumping Rate (gal/min):</b>	
<b>Water Column Height (ft):</b>		<b>Calculated Pump Run Time (min):</b>	
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
			13	36	6.04	7.35	31.7	7.56	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID	SAMPLE TIME		
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

Water just above Staff gauge

May 15, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-01A
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	May 16, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	17:10
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Partly cloud	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	14.41	<b>Calculated Purge Volume (gal):</b>	3.96
<b>Total Well Depth (ft):</b>	22.52	<b>Pumping Rate (gal/min):</b>	0.12
<b>Water Column Height (ft):</b>	8.11	<b>Calculated Pump Run Time (min):</b>	33.04
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	37
<b>Final Depth to Water (ft):</b>	14.41	<b>Total Volume Purged (gal):</b>	4.44

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
11	14.45	1.32	8.8	885	0	4.96	233.7	2.98	
22	14.44	2.64	8.9	914	0	4.84	244.4	2.41	
28	14.41	3.36	8.8	916	0	4.76	248.6	0.91	
31	14.41	3.72	8.8	918	0	4.79	247.5	1.57	
34	14.41	4.08	8.8	918	0	4.79	247.7	2.98	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	<p>May 16, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-01B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 11, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:39
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Partly cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	15.03	<b>Calculated Purge Volume (gal):</b>	16.34
<b>Total Well Depth (ft):</b>	48.46	<b>Pumping Rate (gal/min):</b>	2.35
<b>Water Column Height (ft):</b>	33.43	<b>Calculated Pump Run Time (min):</b>	6.95
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	29
<b>Final Depth to Water (ft):</b>	20.46	<b>Total Volume Purged (gal):</b>	68.15


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	20.68	11.75	9.6	1,471	0	5.66	244.2	33.1	
8	20.51	18.8	9.6	1,489	0	5.64	245.8	11.4	
13	20.22	30.55	9.6	1,463	0	5.63	247.2	5.54	
18	20.31	42.3	9.6	1,441	0	5.62	248.2	3.53	
23	20.44	54.05	9.5	1,422	0	5.61	248.9	3.03	
28	20.47	65.8	9.5	1,403	0	5.6	249.8	4.18	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>		<b>SAMPLE TIME</b>	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	<p align="right">May 11, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-02A
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	May 16, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	17:00
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza
<b>Field Conditions</b>	70, partly cloudy, breezy	<b>Well Condition</b>	No bolts

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	12.97	<b>Calculated Purge Volume (gal):</b>	1
<b>Total Well Depth (ft):</b>	15	<b>Pumping Rate (gal/min):</b>	0.25
<b>Water Column Height (ft):</b>	2.03	<b>Calculated Pump Run Time (min):</b>	6
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	18
<b>Final Depth to Water (ft):</b>	14.05	<b>Total Volume Purged (gal):</b>	4.5

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
4	14.03	1	10.1	2,254	0	4.31	217.8	4.74	Clear
8	14.5	2	10.3	2,290	0	4.3	210.5	4.37	Clear
15		3.75	10.4	2,300	0	4.3	208	4.02	Clear


**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Slowed rate from ~0.5 gpm to ~0.25 gpm between 2nd and 3rd readings due to drawdown, then began to recover.



May 16, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-02B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	May 16, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	16:38
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza
<b>Field Conditions</b>	70, partly cloudy, breezy	<b>Well Condition</b>	No bolts

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	11.72	<b>Calculated Purge Volume (gal):</b>	15.7
<b>Total Well Depth (ft):</b>	43.76	<b>Pumping Rate (gal/min):</b>	0.5
<b>Water Column Height (ft):</b>	32.04	<b>Calculated Pump Run Time (min):</b>	31.4
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	34
<b>Final Depth to Water (ft):</b>	11.82	<b>Total Volume Purged (gal):</b>	17


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
10	11.8	5	10.4	4,722	1.47	4.23	157.3	4.9	Clear
20	11.82	10	10.4	5,107	0.1	4.22	160.2	4.31	Clear
24	11.81	12	10.4	5,123	0	4.22	160.1	4.68	Red flakes
28	11.81	14	10.4	5,113	0	4.22	159.3	4.5	Clear
32	11.81	16	10.4	5,110	0.03	4.22	159.5	4.25	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-03A
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 11, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	13:53
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza
<b>Field Conditions</b>	56F, intermittent grollpel	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	15.55	<b>Calculated Purge Volume (gal):</b>	3.7
<b>Total Well Depth (ft):</b>	23.09	<b>Pumping Rate (gal/min):</b>	1
<b>Water Column Height (ft):</b>	7.54	<b>Calculated Pump Run Time (min):</b>	3.7
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	17
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	17

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
3	17.15	3	7	2,780	2	5.09	140	25.8	Slightly turbid
6	17.9	6	7.3	2,971	0.74	5.08	116.9	13.7	Slightly turbid
9		9	7.6	3,168	0.29	5.02	102.9	4.36	Clear
12		12	7.8	3,184	0.14	5.01	100.1	4.8	Clear
15		15	7.8	3,234	0	5.04	98.3	3.64	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>	<b>SAMPLE TIME</b>		
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

Water level below top of pump by 3rd reading.

May 11, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-04B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	May 16, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	15:49
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza
<b>Field Conditions</b>	70, storms forming	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	15.48	<b>Calculated Purge Volume (gal):</b>	18.2
<b>Total Well Depth (ft):</b>	52.61	<b>Pumping Rate (gal/min):</b>	0.5
<b>Water Column Height (ft):</b>	37.13	<b>Calculated Pump Run Time (min):</b>	36.4
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	40
<b>Final Depth to Water (ft):</b>	15.67	<b>Total Volume Purged (gal):</b>	20

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
12	15.67	6	10.4	1,325	0.45	4.83	197.5	4.91	Clear
24	15.67	12	10.4	1,285	0	4.93	185.8	4.36	Clear
28	15.76	14	10.4	1,285	0	4.93	183.1	4.03	Clear
32	15.67	16	10.4	1,283	0	4.94	181.5	3.83	Clear
36	15.67	18	10.4	1,286	0	4.95	180	3.75	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	May 16, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-05A
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 11, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	10:49
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Sunny	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	12.68	<b>Calculated Purge Volume (gal):</b>	5.77
<b>Total Well Depth (ft):</b>	24.48	<b>Pumping Rate (gal/min):</b>	2.26
<b>Water Column Height (ft):</b>	11.8	<b>Calculated Pump Run Time (min):</b>	2.55
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	13
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	29.38

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	21.3	11.3	10.4	1,887	0.56	5.84	213.9	1.66	
8		18.08	10.4	1,862	0.56	5.82	214.7	3.89	
11		24.86	10.4	1,873	0.55	5.82	214.2	0.98	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Water level was top of pump after first reading

May 11, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-05BR
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 11, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	11:18
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Partly cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	11.49	<b>Calculated Purge Volume (gal):</b>	17.62
<b>Total Well Depth (ft):</b>	47.53	<b>Pumping Rate (gal/min):</b>	2.25
<b>Water Column Height (ft):</b>	36.04	<b>Calculated Pump Run Time (min):</b>	7.83
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	21
<b>Final Depth to Water (ft):</b>	14.34	<b>Total Volume Purged (gal):</b>	47.25

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
10	14.13	22.5	10.3	3,278	0	4.26	284.9	5.33	
13	14.22	29.25	10.4	3,286	0	4.29	284.6	3.52	
16	14.32	36	10.4	3,319	0	4.32	283.3	2.48	
19	14.34	42.75	10.4	3,353	0	4.33	282	2.39	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

May 11, 2023

*Rb*



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-06A
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 10, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	16:08
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza
<b>Field Conditions</b>	46, cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	12.88	<b>Calculated Purge Volume (gal):</b>	6.5
<b>Total Well Depth (ft):</b>	26.25	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	13.37	<b>Calculated Pump Run Time (min):</b>	3.25
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	11
<b>Final Depth to Water (ft):</b>	16.4	<b>Total Volume Purged (gal):</b>	22

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
3	16.17	6	9.2	1,322	0.42	6.11	219	3.1	Clear
6	16.3	12	9.3	1,301	0.22	6.08	216.9	3.42	Clear
9	16.33	18	9.3	1,296	0	6.09	210.5	1.55	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
Duplicate		
Field Blank		
Equipment Blank		

**COMMENTS/OBSERVATIONS**

	
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-06B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 10, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	15:44
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza
<b>Field Conditions</b>	47F, cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	11.02	<b>Calculated Purge Volume (gal):</b>	18.1
<b>Total Well Depth (ft):</b>	48.16	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	37.14	<b>Calculated Pump Run Time (min):</b>	9.05
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	17
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	34

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
3		6	9.9	981	2.4	5.92	249.1	12.2	Clear
6		12	10	1,045	1.43	5.81	253.1	13	Clear
9		18	10.3	1,122	0.88	5.71	256.1	12.5	Clear
12		24	10.3	1,132	0.88	5.69	257.4	11.4	Clear
15		30	10.3	1,133	0.87	5.69	558.4	11.9	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID	SAMPLE TIME		
Duplicate				
Field Blank				
Equipment Blank				

**COMMENTS/OBSERVATIONS**

Water level drew down to top of pump within 3 min. Flow fluctuated due to drawdown and recovery. Did not have the one working flow controller. Suggest a flow controller at 1 gpm.

May 10, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-07A
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 10, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	16:02
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.11	<b>Calculated Purge Volume (gal):</b>	6.07
<b>Total Well Depth (ft):</b>	21.53	<b>Pumping Rate (gal/min):</b>	2.25
<b>Water Column Height (ft):</b>	12.42	<b>Calculated Pump Run Time (min):</b>	2.69
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	13
<b>Final Depth to Water (ft):</b>	10.51	<b>Total Volume Purged (gal):</b>	29.25


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	10.52	11.25	7.4	698.3	0	6.84	185.8	1.48	
8	10.51	18	7.5	691.8	0	6.82	185.5	1.32	
11	10.51	24.75	7.5	690.4	0	6.8	185.2	1.02	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	<p align="right">May 10, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-07B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	May 16, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:15
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza
<b>Field Conditions</b>	70, partly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.74	<b>Calculated Purge Volume (gal):</b>	25.7
<b>Total Well Depth (ft):</b>	62.44	<b>Pumping Rate (gal/min):</b>	0.5
<b>Water Column Height (ft):</b>	52.7	<b>Calculated Pump Run Time (min):</b>	51.4
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	60
<b>Final Depth to Water (ft):</b>	10.71	<b>Total Volume Purged (gal):</b>	30

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
18	10.72	9	9.5	2,467	1.85	6.02	206.9	2.94	Clear
36	10.7	18	9.5	2,350	0.4	6.05	186.9	1.22	Clear
42	10.71	21	9.5	2,345	0.27	6.04	184.2	1.96	Clear
48	10.7	24	9.6	2,334	0.15	6.04	161.6	1.32	Clear
54	10.7	27	9.6	2,350	0.05	6.04	180.2	1.25	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**



May 16, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-08A
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	May 12, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	11:19
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	52F, breezy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	11.05	<b>Calculated Purge Volume (gal):</b>	3.12
<b>Total Well Depth (ft):</b>	17.44	<b>Pumping Rate (gal/min):</b>	0.3
<b>Water Column Height (ft):</b>	6.39	<b>Calculated Pump Run Time (min):</b>	10.41
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	21
<b>Final Depth to Water (ft):</b>	11.05	<b>Total Volume Purged (gal):</b>	6.3

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
4	11.71	1.2	6	994	4.2	6.5	58.3	2.84	
8	11.69	2.4	5.9	1,017	1.15	6.44	39.4	2.29	
12	11.69	3.6	5.9	1,016	0.48	6.46	21	2.25	
15	11.69	4.5	5.8	1,015	0.35	6.49	15.3	2.15	
18	11.69	5.4	5.9	1,013	0.3	6.49	13.7	2.07	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

May 12, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-08A2
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 9, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	11:56
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	11.76	<b>Calculated Purge Volume (gal):</b>	7.16
<b>Total Well Depth (ft):</b>	26.41	<b>Pumping Rate (gal/min):</b>	2.25
<b>Water Column Height (ft):</b>	14.65	<b>Calculated Pump Run Time (min):</b>	3.18
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	17
<b>Final Depth to Water (ft):</b>	12.23	<b>Total Volume Purged (gal):</b>	38.25

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
10	12.23	22.5	8.9	751	0.92	6.44	131.2	1.62	
13	12.23	29.25	8.9	749	0.89	6.44	131.6	0.97	
16	12.23	36	8.9	745	0.87	6.43	131.7	1.12	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID	SAMPLE TIME		
Duplicate				
Field Blank				
Equipment Blank				

**COMMENTS/OBSERVATIONS**

	<p align="right">May 9, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-08B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 9, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:47
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	12.51	<b>Calculated Purge Volume (gal):</b>	14.65
<b>Total Well Depth (ft):</b>	42.48	<b>Pumping Rate (gal/min):</b>	2.25
<b>Water Column Height (ft):</b>	29.97	<b>Calculated Pump Run Time (min):</b>	6.51
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	23
<b>Final Depth to Water (ft):</b>	13.19	<b>Total Volume Purged (gal):</b>	51.75


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
10	13.19	22.5	9.2	1,534	1.72	6.29	175.7	3.82	
13	13.29	29.25	9.2	1,531	1.53	6.29	174.8	2.05	
16	13.19	36	9.2	1,530	1.39	6.29	174.8	1.97	
19	13.19	42.75	9.2	1,529	1.31	6.29	173.2	1.88	
22	13.19	49.5	9.2	1,526	1.29	6.29	172.5	1.32	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID	SAMPLE TIME		
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	<p style="text-align: right;">May 9, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-09A
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 9, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	11:21
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.82	<b>Calculated Purge Volume (gal):</b>	10.59
<b>Total Well Depth (ft):</b>	32.48	<b>Pumping Rate (gal/min):</b>	2.25
<b>Water Column Height (ft):</b>	21.66	<b>Calculated Pump Run Time (min):</b>	4.70
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	15
<b>Final Depth to Water (ft):</b>	11.53	<b>Total Volume Purged (gal):</b>	33.75

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	11.52	11.25	8.3	1,416	1.62	6.74	126.1	2.72	
8	11.53	18	8.4	1,414	1.07	6.74	129.9	1.43	
11	11.53	24.75	8.4	1,411	1.05	6.73	133.5	1.41	
14	11.53	31.5	8.4	1,405	1.02	6.73	134.9	1.94	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Rb

May 9, 2023



**Consulting Scientists and Engineers**  
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**Phone: 406-782-5220**  
**Fax: 406-723-1537**

**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-09B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	May 16, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	11:41
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza
<b>Field Conditions</b>	66F, mostly sunny	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	8.98	<b>Calculated Purge Volume (gal):</b>	21.3
<b>Total Well Depth (ft):</b>	52.59	<b>Pumping Rate (gal/min):</b>	0.5
<b>Water Column Height (ft):</b>	43.61	<b>Calculated Pump Run Time (min):</b>	42.6
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	52
<b>Final Depth to Water (ft):</b>	12.55	<b>Total Volume Purged (gal):</b>	26

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
14	12.36	7	8.5	987	5.72	6.73	224.7	1.07	Clear
28	12.47	14	8.7	1,080	2.37	6.68	219.1	2.29	Clear
32	12.51	16	8.8	1,112	2.05	6.69	217.5	0.87	Clear
36	12.54	18	8.7	1,137	1.94	6.69	216.3	0.83	Clear
40	12.53	20	8.8	1,149	2.02	6.7	214.2	0.7	Clear
44	12.54	22	8.8	1,145	2.05	6.71	213.2	0.5	Clear
48	12.55	24	8.8	1,152	1.96	6.71	211.9	0.55	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	
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May 16, 2023





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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-10A
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 9, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	16:20
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	3.48	<b>Calculated Purge Volume (gal):</b>	6.26
<b>Total Well Depth (ft):</b>	16.29	<b>Pumping Rate (gal/min):</b>	2.25
<b>Water Column Height (ft):</b>	12.81	<b>Calculated Pump Run Time (min):</b>	2.78
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	15
<b>Final Depth to Water (ft):</b>	3.85	<b>Total Volume Purged (gal):</b>	33.75


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	3.83	11.25	7.1	326.5	1.99	6.88	130.7	5.42	
8	3.83	18	7.2	323.7	1.93	6.78	132.8	4.55	
11	3.85	24.75	7.2	318.3	1.92	6.78	130.5	2.62	
14	3.85	31.5	7.2	315.2	1.89	6.81	126.6	1.78	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	<p align="right">May 9, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-10B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 9, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	16:48
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	1.8	<b>Calculated Purge Volume (gal):</b>	24.36
<b>Total Well Depth (ft):</b>	51.63	<b>Pumping Rate (gal/min):</b>	2.25
<b>Water Column Height (ft):</b>	49.83	<b>Calculated Pump Run Time (min):</b>	10.82
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	18
<b>Final Depth to Water (ft):</b>	4.25	<b>Total Volume Purged (gal):</b>	40.5

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
10	4.25	22.5	10.1	531.9	2.03	6.9	126.9	1.49	
13	4.25	29.25	10.1	534.6	2.03	6.9	126.9	1.36	
16	4.25	36	10.1	532.5	2.06	6.87	127.9	0.85	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

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May 9, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-11A
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 8, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:48
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	13.48	<b>Calculated Purge Volume (gal):</b>	9.09
<b>Total Well Depth (ft):</b>	32.08	<b>Pumping Rate (gal/min):</b>	2.25
<b>Water Column Height (ft):</b>	18.6	<b>Calculated Pump Run Time (min):</b>	4.04
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	13
<b>Final Depth to Water (ft):</b>	14.19	<b>Total Volume Purged (gal):</b>	29.25

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	14.19	11.25	8.5	251.3	2.6	6.93	203.7	4.79	
8	14.19	18	8.5	251.5	2.55	6.93	204.4	3.07	
11	14.19	24.75	8.5	250.8	2.5	6.93	203.7	2.46	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

May 8, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-11B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	May 11, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	10:43
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	45F, sunny	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	13.69	<b>Calculated Purge Volume (gal):</b>	17.68
<b>Total Well Depth (ft):</b>	49.85	<b>Pumping Rate (gal/min):</b>	0.264
<b>Water Column Height (ft):</b>	36.16	<b>Calculated Pump Run Time (min):</b>	66.97
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	70
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	18.48


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
15	13.85	3.96	8.3	243.1	6.1	6.92	251.4	1.4	
30	13.85	7.92	8.3	242.7	4.96	7.13	222.3	1.66	
45	13.86	11.88	8.3	239.3	4.35	7.15	208	2.56	
55	13.86	14.52	8.4	245.1	4.37	7.14	205.4	2.27	
61	13.86	16.104	8.3	239.9	4.55	7.17	198.7	0.94	
67	13.86	17.688	8.4	239.9	4.47	7.19	197.8	0.97	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>		<b>SAMPLE TIME</b>	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	<p style="text-align: right;">May 11, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-12
<b>Sampling Method</b>	Other	<b>Sample Date</b>	May 15, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	13:40
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	3.16	<b>Calculated Purge Volume (gal):</b>	
<b>Total Well Depth (ft):</b>		<b>Pumping Rate (gal/min):</b>	
<b>Water Column Height (ft):</b>		<b>Calculated Pump Run Time (min):</b>	
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	0
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
1,339			9.7	2,415	9.69	7.16	155.8	6.89	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>	<b>SAMPLE TIME</b>		
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	<p align="right">May 15, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PT14-1
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	May 12, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	12:26
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Partly cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	34.19	<b>Calculated Purge Volume (gal):</b>	20.86
<b>Total Well Depth (ft):</b>	44.84	<b>Pumping Rate (gal/min):</b>	2.25
<b>Water Column Height (ft):</b>	10.65	<b>Calculated Pump Run Time (min):</b>	9.27
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	59
<b>Final Depth to Water (ft):</b>	37.18	<b>Total Volume Purged (gal):</b>	132.75

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	36.71	11.25	7.8	2,376	0.48	3.64	344.1	57.8	
8	36.71	18	7.8	2,442	0.36	3.74	337.9	52.4	
13	35.87	29.25	7.8	2,501	0.1	3.86	312.5	36.6	
18	37.18	40.5	7.7	2,549	0.03	3.86	299.1	31.5	
23	37.38	51.75	7.8	2,568	0	3.86	291.3	288	
28	37.13	63	7.7	2,580	0	3.79	289.4	167	
38	37.16	85.5	7.7	2,564	0.17	3.83	278.7	12.9	
43	37.18	96.75	7.7	2,564	0.09	3.84	276	5.18	
48	37.18	108	7.7	2,561	0.09	3.85	273.1	4.31	
53	37.18	119.25	7.8	2,559	0.02	3.86	270.6	3.09	
58	37.18	130.5	3.3	2,559	0.02	3.87	268.2	3.3	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	May 12, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	SS-04
<b>Sampling Method</b>	Other	<b>Sample Date</b>	May 15, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	13:15
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Sunny	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	0.46	<b>Calculated Purge Volume (gal):</b>	
<b>Total Well Depth (ft):</b>		<b>Pumping Rate (gal/min):</b>	
<b>Water Column Height (ft):</b>		<b>Calculated Pump Run Time (min):</b>	
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	0
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
1,314			12.6	185.8	11.98	7.28	195.6	15.7	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>		<b>SAMPLE TIME</b>	
<b>Duplicate</b>	DUP-5		13:16	
<b>Field Blank</b>	FB-5		13:30	
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	<p align="right">May 15, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMC-23B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	August 21, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	13:25
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	63F, muggy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	6.75	<b>Calculated Purge Volume (gal):</b>	51.22
<b>Total Well Depth (ft):</b>	111.5	<b>Pumping Rate (gal/min):</b>	0.29
<b>Water Column Height (ft):</b>	104.75	<b>Calculated Pump Run Time (min):</b>	176.63
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	180
<b>Final Depth to Water (ft):</b>	20.85	<b>Total Volume Purged (gal):</b>	52.2

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
20	16.55	5.8	9.7	1,072	2.51	6.54	115.7	1.45	
40	19.92	11.6	8.9	1,067	2.74	6.58	108	2.99	
60	18.84	17.4	9.1	1,074	2.12	6.65	101.6	1.24	
80	19.98	23.2	9.2	1,070	2.12	6.69	100.2	1.34	
100	20.12	29	9.5	1,070	2.06	6.73	99	1.72	
120	20.35	34.8	9.7	1,075	1.98	6.76	98.4	1.64	
140	20.89	40.6	9.5	1,101	2.7	6.81	98.9	2.86	
150	20.85	43.5	9.5	1,107	2.03	6.81	98.9	1.51	
160	20.85	46.4	9.4	1,113	2.05	6.81	99	1.29	
170	21.23	49.3	9.4	1,110	2.11	6.82	99.5	1.13	
177	21.15	51.33	9.4	1,113	2.1	6.82	99.7	1.56	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>	FB-1	11:45
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**



August 21, 2023





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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMC-24B
<b>Sampling Method</b>	Other	<b>Sample Date</b>	August 22, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	12:27
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	70F, breezy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.2	<b>Calculated Purge Volume (gal):</b>	20.08
<b>Total Well Depth (ft):</b>	51.27	<b>Pumping Rate (gal/min):</b>	0.21
<b>Water Column Height (ft):</b>	41.07	<b>Calculated Pump Run Time (min):</b>	95.63
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	99
<b>Final Depth to Water (ft):</b>	10.22	<b>Total Volume Purged (gal):</b>	20.79

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
15	10.23	3.15	9.3	1,045	0.31	6.35	73.3	3.88	
30	10.24	6.3	9.5	1,114	2.12	6.36	91.6	1.86	
45	10.25	9.45	9.5	1,139	2.39	6.36	113.8	1.15	
60	10.24	12.6	9.6	1,147	2.44	6.36	127.4	1.13	
75	10.25	15.75	9.5	1,150	2.48	6.36	138.5	2.12	
90	10.25	18.9	9.6	1,147	2.48	6.36	146	2.22	
96	10.25	20.16	9.6	1,153	2.51	6.37	146.2	1.35	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

August 22, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMC-24C
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 18, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:33
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza, J. Rhodes
<b>Field Conditions</b>	85F, partly cloudy, windy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	8.92	<b>Calculated Purge Volume (gal):</b>	36
<b>Total Well Depth (ft):</b>	82.45	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	73.53	<b>Calculated Pump Run Time (min):</b>	18
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	19
<b>Final Depth to Water (ft):</b>	10.73	<b>Total Volume Purged (gal):</b>	38


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
6	10.61	12	10.3	1,073	1.81	6.64	228.1	1.85	Clear
12	10.68	24	10.3	1,069	1.6	6.64	227.8	0.92	Clear
15	10.71	30	10.3	1,068	1.6	6.64	228.2	0.64	Clear
18	10.72	36	10.2	1,066	1.56	6.65	228.7	0.61	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID	SAMPLE TIME		
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	August 18, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMW-01A
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	August 23, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	09:58
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza
<b>Field Conditions</b>	75F, mostly cloudy, breezy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.33	<b>Calculated Purge Volume (gal):</b>	5.1
<b>Total Well Depth (ft):</b>	12.95	<b>Pumping Rate (gal/min):</b>	0.15
<b>Water Column Height (ft):</b>	2.62	<b>Calculated Pump Run Time (min):</b>	34
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	10.87	0.75	11.2	2,637	0.72	5.86	177	7.11	Clear
10	11.3	1.5	11.3	2,593	1.63	5.84	173.5	3.82	Clear
15	11.8	2.25	11.3	2,592	1.46	5.82	171.7	3.55	Clear
20	12.26	3	11.2	2,588	0.73	5.74	170.8	3.88	Clear
25	12.82	3.75	11.1	2,691	0.45	5.8	169.9	5.19	Clear
	11.45		10.8	3,141	1.28	5.76	248.5	13.3	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Start pump 8/22 at 1444. Well ran dry - stop pump 8/22 at 1509. Readings 1-5 from 8/22. Reading 6 from 8/23. DTW on 8/23 = 11.10 ft.

August 22, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMW-01B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 22, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	15:53
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.92	<b>Calculated Purge Volume (gal):</b>	60.80
<b>Total Well Depth (ft):</b>	41.96	<b>Pumping Rate (gal/min):</b>	1.6
<b>Water Column Height (ft):</b>	31.04	<b>Calculated Pump Run Time (min):</b>	38.00
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	43
<b>Final Depth to Water (ft):</b>	11.27	<b>Total Volume Purged (gal):</b>	68.8


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
10	11.24	16	12	3,735	1.25	4.06	260.7	4.86	
20	11.26	32	11.9	3,716	0.68	4.05	268.1	2.63	
30	11.27	48	11.9	3,742	0.7	4.05	271.3	2.18	
40	11.26	64	11.9	3,741	0.71	4.04	273.3	1	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID	SAMPLE TIME		
<b>Duplicate</b>	DUP-4	15:54		
<b>Field Blank</b>	FB-4	15:35		
<b>Equipment Blank</b>	EB-4	16:00		

**COMMENTS/OBSERVATIONS**

	
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August 22, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMW-01C
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 22, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	13:17
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Partly cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.7	<b>Calculated Purge Volume (gal):</b>	182.77
<b>Total Well Depth (ft):</b>	104	<b>Pumping Rate (gal/min):</b>	1.6
<b>Water Column Height (ft):</b>	93.3	<b>Calculated Pump Run Time (min):</b>	114.23
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	117
<b>Final Depth to Water (ft):</b>	15.51	<b>Total Volume Purged (gal):</b>	187.2


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
38	15.29	60.8	11.6	2,856	0.07	5.37	208.5	39.1	
76	15.06	121.6	11.8	2,790	0	5.34	212.7	1.2	
96	15.33	153.6	11.7	2,789	0	5.33	213.9	4.42	
116	15.69	185.6	11.7	2,790	0	5.34	214.4	3.93	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	<p align="right">August 22, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMW-08
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 22, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	10:00
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Partly cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	43.04	<b>Calculated Purge Volume (gal):</b>	8.38
<b>Total Well Depth (ft):</b>	47.32	<b>Pumping Rate (gal/min):</b>	1
<b>Water Column Height (ft):</b>	4.28	<b>Calculated Pump Run Time (min):</b>	8.38
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	42
<b>Final Depth to Water (ft):</b>	47.8	<b>Total Volume Purged (gal):</b>	42

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
3	46.08	3	10.5	5,332	1.89	3.07	384.2	19.9	
6	48.7	6	10.4	5,303	1	3.13	373.8	10.8	
9	49.7	9	10.4	4,951	1.4	3.4	335.3	10.6	
12	48.55	12	10.7	4,580	2.87	3.69	285.8	438	
15	48.5	15	10.6	4,513	2.45	3.71	276.2	103	
20	48.22	20	10.6	4,351	1.74	3.8	264.9	16.7	
25	48.15	25	10.5	4,257	1.54	3.85	257.5	9.03	
30	48	30	10.6	4,217	1.37	3.88	253.4	5.47	
35	47.97	35	10.6	4,176	1.22	3.92	248.2	2.99	
38	47.93	38	10.6	4,169	1.18	3.93	246.3	3.34	
41	47.89	41	10.7	4,149	1.2	3.95	244.7	2.09	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	August 22, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMW-09
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 21, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:26
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	24.81	<b>Calculated Purge Volume (gal):</b>	28.85
<b>Total Well Depth (ft):</b>	39.54	<b>Pumping Rate (gal/min):</b>	1.2
<b>Water Column Height (ft):</b>	14.73	<b>Calculated Pump Run Time (min):</b>	24.04
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	28
<b>Final Depth to Water (ft):</b>	25.95	<b>Total Volume Purged (gal):</b>	33.6

**FIELD PARAMETERS**

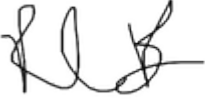
TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	25.9	6	9.9	1,040	2.91	4.01	205.8	6.56	
10	25.93	12	9.8	1,040	0.38	4	219.6	1.15	
15	25.95	18	9.9	1,042	0.19	3.99	229	1.21	
20	25.93	24	10	1,048	0.11	4	238.2	0.7	
23	25.95	27.6	10	1,045	0.07	3.97	242.9	1	
26	25.95	31.2	10	1,045	0.05	3.99	246.8	0.68	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	August 21, 2023
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**Consulting Scientists and Engineers**  
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 Butte, Montana 59701  
 Phone: 406-782-5220  
 Fax: 406-723-1537

**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMW-13A
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	August 17, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	17:11
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	91F, breezy and smoky	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.56	<b>Calculated Purge Volume (gal):</b>	13.02
<b>Total Well Depth (ft):</b>	17.21	<b>Pumping Rate (gal/min):</b>	0.211
<b>Water Column Height (ft):</b>	6.65	<b>Calculated Pump Run Time (min):</b>	61.74
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	66
<b>Final Depth to Water (ft):</b>	13.95	<b>Total Volume Purged (gal):</b>	13.92

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
10	12.19	2.11	12.8	712	0	6.56	73.8	1.42	
20	12.74	4.22	13.2	757	0	6.5	82.5	0.71	
30	13.54	6.33	12.9	821	0	6.4	87.9	0.74	
40	13.95	8.44	12.2	852	0	6.44	94.4	0.02	
50	14.13	10.55	12.4	1,017	0	6.54	98.3	0.02	
54		11.394	12.6	1,028	0.05	6.56	98.8	0.02	
58	14.16	12.238	12.4	1,017	0.1	6.56	98.7	0.02	
62	14.2	13.082	12.5	1,021	0.05	6.56	98.8	0.02	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**



August 17, 2023





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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMW-13B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 17, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	13:45
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza, J. Rhodes
<b>Field Conditions</b>	87 F, Sunny	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.49	<b>Calculated Purge Volume (gal):</b>	13.08
<b>Total Well Depth (ft):</b>	37.25	<b>Pumping Rate (gal/min):</b>	1
<b>Water Column Height (ft):</b>	26.76	<b>Calculated Pump Run Time (min):</b>	13.08
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	15
<b>Final Depth to Water (ft):</b>	10.62	<b>Total Volume Purged (gal):</b>	15

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	10.64	5	10	268	4.1	7.63	144	0.59	Clear
8	10.62	8	10	267.8	3.8	7.61	145.2	0.43	Clear
11	10.63	11	9.9	267.8	3.66	7.63	146.4	0.36	Clear
3	10.63	3	9.9	267.8	3.56	7.59	147.4	0.16	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
Duplicate		
Field Blank		
Equipment Blank		

**COMMENTS/OBSERVATIONS**

	August 17, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMW-13B2
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 17, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:18
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza, J. Rhodes
<b>Field Conditions</b>	87 F, sunny	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	11.64	<b>Calculated Purge Volume (gal):</b>	18.22
<b>Total Well Depth (ft):</b>	48.9	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	37.26	<b>Calculated Pump Run Time (min):</b>	9.11
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	16
<b>Final Depth to Water (ft):</b>	11.91	<b>Total Volume Purged (gal):</b>	32

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	11.9	10	10.7	304.1	3.83	7.58	177.8	0.72	Clear
8	11.9	16	10.8	304.5	3.5	7.54	178.8	0.47	Clear
11	11.9	22	10.7	304.6	3.34	7.56	177.9	0.25	Clear
14	11.91	28	10.6	304.6	3.32	7.55	177.8	0.22	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
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**COMMENTS/OBSERVATIONS**

	August 17, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMW-13C
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 17, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:49
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza, J. Rhodes
<b>Field Conditions</b>	87 F, sunny	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.55	<b>Calculated Purge Volume (gal):</b>	35.28
<b>Total Well Depth (ft):</b>	81.7	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	72.15	<b>Calculated Pump Run Time (min):</b>	17.64
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	19
<b>Final Depth to Water (ft):</b>	11.32	<b>Total Volume Purged (gal):</b>	38


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
6	11.17	12	10.7	599	1.4	6.97	208.6	0.83	Clear
12	11.25	24	10.7	596	1.34	6.97	206.4	0.78	Clear
15	11.28	30	10.7	594	1.33	6.97	205.7	0.39	Clear
18	11.31	36	10.7	593	1.34	6.96	205.1	0.32	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	August 17, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMW-20
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 22, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:30
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Mostly sunny	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	27.61	<b>Calculated Purge Volume (gal):</b>	27.87
<b>Total Well Depth (ft):</b>	41.84	<b>Pumping Rate (gal/min):</b>	1.6
<b>Water Column Height (ft):</b>	14.23	<b>Calculated Pump Run Time (min):</b>	17.42
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	28
<b>Final Depth to Water (ft):</b>	39.13	<b>Total Volume Purged (gal):</b>	44.8

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	32.76	8	9.5	2,197	1.5	5.32	214.8	10.3	
10	37.77	16	9.1	2,142	2.11	4.96	218.4	5.4	
15	39.2	24	9.5	2,112	2.84	5.02	219.1	5.43	
20	39.13	32	9.2	2,088	2.9	4.92	220.4	3.54	
23	39.13	36.8	9.4	2,089	2.95	4.95	220.3	4.83	
26	39.13	41.6	9.4	2,081	2.77	4.96	220.6	4.18	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Rb

August 22, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS07-07
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	August 17, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	12:16
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	79F, smoky	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	5.49	<b>Calculated Purge Volume (gal):</b>	1.39
<b>Total Well Depth (ft):</b>	16.83	<b>Pumping Rate (gal/min):</b>	0.13
<b>Water Column Height (ft):</b>	11.34	<b>Calculated Pump Run Time (min):</b>	10.56
<b>Well Diameter (in):</b>	1	<b>Actual Pump Run Time (min):</b>	23
<b>Final Depth to Water (ft):</b>	5.5	<b>Total Volume Purged (gal):</b>	3.03

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		0.66	10	260.4	0	6.83	56.7	0.98	
10		1.32	9.9	259.7	0	6.82	49.2	0.86	
15		1.98	9.7	259.9	0	6.81	45.9	0.02	
20		2.64	9.7	258.6	0	6.79	44.2	0.02	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	<p style="text-align: right;">August 17, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS07-07B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	August 17, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	11:40
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	73F, smoky	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	6.52	<b>Calculated Purge Volume (gal):</b>	18.84
<b>Total Well Depth (ft):</b>	45.06	<b>Pumping Rate (gal/min):</b>	0.21
<b>Water Column Height (ft):</b>	38.54	<b>Calculated Pump Run Time (min):</b>	89.31
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	96
<b>Final Depth to Water (ft):</b>	6.52	<b>Total Volume Purged (gal):</b>	20.25

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
10	6.85	2.11	9.8	616.9	3.23	6.56	165.4	2.54	Clear
25	6.91	5.275	9.8	772	0.84	6.4	164.5	2.34	Clear
40	6.91	8.44	9.9	693.3	1.59	6.51	151.9	0.31	Clear
55	6.91	11.605	9.7	639.5	1.88	6.59	142.1	0.57	Clear
65	6.91	13.715	9.7	631.9	1.93	6.56	139.3	2.44	Clear
75	6.91	15.825	9.7	635.6	1.85	6.57	136.5	0.52	
85	6.91	17.935	9.8	630.5	1.9	6.61	130.3	0.07	
90	6.91	18.99	9.9	625.7	1.91	6.62	127.5	0.02	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**



August 17, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS07-11A
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 21, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	09:47
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Light rain	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	13.4	<b>Calculated Purge Volume (gal):</b>	5.20
<b>Total Well Depth (ft):</b>	24.04	<b>Pumping Rate (gal/min):</b>	1.6
<b>Water Column Height (ft):</b>	10.64	<b>Calculated Pump Run Time (min):</b>	3.25
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	26
<b>Final Depth to Water (ft):</b>	13.94	<b>Total Volume Purged (gal):</b>	41.6

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	14.4	8	9.7	311.6	2.74	4.45	196.7	0.43	
10	14.09	16	9.7	344.6	2.19	4.44	197.2	0.39	
15	14.09	24	9.8	368.3	2.08	4.45	197.7	0.44	
18	13.92	28.8	9.8	389.3	2.04	4.46	197.9	0.97	
21	13.94	33.6	9.8	387.4	2.04	4.46	198.2	0.19	
24	13.94	38.4	9.8	393.9	2.03	4.47	198.6	0.33	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

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August 21, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS07-11B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 21, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	10:12
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	13.39	<b>Calculated Purge Volume (gal):</b>	15.29
<b>Total Well Depth (ft):</b>	44.67	<b>Pumping Rate (gal/min):</b>	1.6
<b>Water Column Height (ft):</b>	31.28	<b>Calculated Pump Run Time (min):</b>	9.55
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	15
<b>Final Depth to Water (ft):</b>	13.65	<b>Total Volume Purged (gal):</b>	24


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	13.6	8	10.1	1,257	0.08	4.6	197.4	5.54	
8	13.65	12.8	10.1	1,266	0.01	4.63	187.8	2.84	
11	13.62	17.6	10.1	1,265	0	4.64	183.4	1.47	
14	13.64	22.4	10.1	1,267	0	4.65	179.8	0.94	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID	SAMPLE TIME		
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	<p align="right">August 21, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS07-23
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	August 17, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	13:37
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	84F, smoky	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	8.77	<b>Calculated Purge Volume (gal):</b>	0.98
<b>Total Well Depth (ft):</b>	16.8	<b>Pumping Rate (gal/min):</b>	0.13
<b>Water Column Height (ft):</b>	8.03	<b>Calculated Pump Run Time (min):</b>	7.48
<b>Well Diameter (in):</b>	1	<b>Actual Pump Run Time (min):</b>	52
<b>Final Depth to Water (ft):</b>	8.77	<b>Total Volume Purged (gal):</b>	6.86

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		0.66	9.3	1,275	0.03	7.5	7	40.6	Cloudy
10		1.32	9.5	1,371	0	7.53	-11.7	34.9	
15		1.98	9.5	1,432	0	7.47	-34.4	33.4	
25		3.3	9.5	1,479	0	7.43	-57.6	27.6	
35		4.62	9.4	1,507	0	7.42	-66.7	20.7	
40		5.28	9.5	1,521	0	7.4	-69.8	19.7	
45		5.94	9.5	1,525	0	7.43	-70.4	19.9	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>	<b>SAMPLE TIME</b>		
<b>Duplicate</b>	DUP-1	13:39		
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

No DTW during purge

August 17, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-10A
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 18, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	12:43
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza, J. Rhodes
<b>Field Conditions</b>	80, partly cloudy, breezy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	11.85	<b>Calculated Purge Volume (gal):</b>	6
<b>Total Well Depth (ft):</b>	24.02	<b>Pumping Rate (gal/min):</b>	1
<b>Water Column Height (ft):</b>	12.17	<b>Calculated Pump Run Time (min):</b>	6
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	25
<b>Final Depth to Water (ft):</b>	13.41	<b>Total Volume Purged (gal):</b>	25

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	13.44	5	9.8	1,668	1.03	6.75	145.1	18.1	Clear
8	13.44	8	9.7	1,608	0.98	6.76	118.7	5.21	Clear
11	13.44	11	9.6	1,532	0.92	6.75	101.8	3.95	Clear 2.96
14	13.44	14	9.5	1,476	0.8	6.77	88.8	2.96	Clear
17	13.41	17	9.5	1,410	0.69	6.76	72.8	1.93	Clear
20	13.39	20	9.5	1,396	0.67	6.75	69.1	2.28	Clear
23	13.44	23	9.4	1,390	0.65	6.76	68.8		Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>		<b>SAMPLE TIME</b>	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-10B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 18, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	13:15
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza, J. Rhodes
<b>Field Conditions</b>	81, partly cloudy, breezy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	11.91	<b>Calculated Purge Volume (gal):</b>	18
<b>Total Well Depth (ft):</b>	48.73	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	36.82	<b>Calculated Pump Run Time (min):</b>	9
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	18
<b>Final Depth to Water (ft):</b>	12.15	<b>Total Volume Purged (gal):</b>	36

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	12.12	10	10.6	1,174	2.43	6.45	170.5	14.4	Clear
8	12.14	16	10.7	1,174	2.3	6.45	167.9	7.08	Clear
11	12.15	22	10.6	1,173	2.33	6.45	167	4.84	Clear
14	12.15	28	10.7	1,170	2.26	6.44	166.5	3.51	Clear
17	12.15	34	10.7	1,168	2.22	6.43	166.3	2.69	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
Duplicate		
Field Blank		
Equipment Blank		

**COMMENTS/OBSERVATIONS**

	<p align="right">August 18, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-10C
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 18, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	13:52
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza, J. Rhodes
<b>Field Conditions</b>	81F, partly sunny, breezy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.43	<b>Calculated Purge Volume (gal):</b>	54
<b>Total Well Depth (ft):</b>	120	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	110.57	<b>Calculated Pump Run Time (min):</b>	27
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	30
<b>Final Depth to Water (ft):</b>	13.23	<b>Total Volume Purged (gal):</b>	60

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	13.16	10	10.3	981	2.16	6.79	202	0.53	Clear
9	13.2	18	10.4	979	2.34	6.78	196.6	0.52	Clear
18	13.19	36	10.3	969	2.28	6.74	192.5	0.41	Clear
21	13.21	42	10.3	969	2.28	6.77	191.6	0.28	Clear
24	13.23	48	10.3	972	2.31	6.78	191.1	0.22	Clear
27	13.23	54	10.3	972	2.3	6.78	190.6	0.1	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	<p align="right">August 18, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-11A1
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 21, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	09:53
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza, J. Rhodes
<b>Field Conditions</b>	58F, cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	5.53	<b>Calculated Purge Volume (gal):</b>	5.2
<b>Total Well Depth (ft):</b>	16.07	<b>Pumping Rate (gal/min):</b>	1
<b>Water Column Height (ft):</b>	10.54	<b>Calculated Pump Run Time (min):</b>	5.2
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	15
<b>Final Depth to Water (ft):</b>	5.66	<b>Total Volume Purged (gal):</b>	15

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	5.65	5	10.6	389.1	2.02	6.81	134.7	0.54	Clear
8	5.66	8	10.7	388.5	1.49	6.8	134.5	0.55	Clear
11	5.66	11	10.7	387.2	1.47	6.79	134.7	0.35	Clear
14	5.66	14	10.6	384.5	1.45	6.8	134.9	0.37	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID	SAMPLE TIME		
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	<p align="right">August 21, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-11A2
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 21, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	10:15
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza, J. Rhodes
<b>Field Conditions</b>	58F, mostly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	5.49	<b>Calculated Purge Volume (gal):</b>	14
<b>Total Well Depth (ft):</b>	35.28	<b>Pumping Rate (gal/min):</b>	1
<b>Water Column Height (ft):</b>	29.79	<b>Calculated Pump Run Time (min):</b>	14
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	15
<b>Final Depth to Water (ft):</b>	5.65	<b>Total Volume Purged (gal):</b>	15

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	5.65	5	10.3	309.3	2.17	7.22	133	0.41	Clear
8	5.65	8	10.3	309.3	2.17	7.21	133.6	0.47	Clear
11	5.65	11	10.3	308.2	2.14	7.2	134.2	0.35	Clear
14	5.65	14	10.3	308.4	2.13	7.2	134.7	0.49	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	August 21, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-11B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 21, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	10:52
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza, J. Rhodes
<b>Field Conditions</b>	58F, mostly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	4.01	<b>Calculated Purge Volume (gal):</b>	35.2
<b>Total Well Depth (ft):</b>	76.05	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	72.04	<b>Calculated Pump Run Time (min):</b>	17.6
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	20
<b>Final Depth to Water (ft):</b>	6.55	<b>Total Volume Purged (gal):</b>	40

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
6	6.6	12	10.6	875	3.32	6.52	157.7	0.42	Clear
12	6.65	24	10.6	876	3.24	6.51	161.1	0.77	Clear
15	6.51	30	10.6	876	3.2	6.5	162.4	0.55	Clear
18	6.52	36	10.6	876	3.14	6.52	163.4	0.43	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>	<b>SAMPLE TIME</b>		
<b>Duplicate</b>	DUP-2	10:53		
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

Obstruction at ~35 ft. Cannot lower pump past that depth.

August 21, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-11C
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 21, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	11:40
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza, J. Rhodes
<b>Field Conditions</b>	60G, mostly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	3.74	<b>Calculated Purge Volume (gal):</b>	72
<b>Total Well Depth (ft):</b>	151	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	147.26	<b>Calculated Pump Run Time (min):</b>	36
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	38
<b>Final Depth to Water (ft):</b>	11.7	<b>Total Volume Purged (gal):</b>	76

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	11.42	10	11.1	826	0.79	6.89	164.7	1.16	Clear
12	11.63	24	11.4	847	0.44	6.85	140	0.84	Clear
24	11.86	48	11.5	840	0.42	6.84	126.4	0.4	Clear
28	11.91	56	11.5	839	0.42	6.84	124.1	0.83	Clear
32	12.32	64	11.5	835	0.44	6.85	122.2	0.59	Clear
36	11.97	72	11.5	834	0.43	6.84	120.4	0.65	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>	FB-2		11:20	
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	<p style="text-align: right;">August 21, 2023</p>
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Consulting Scientists and Engineers  
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 Butte, Montana 59701  
 Phone: 406-782-5220  
 Fax: 406-723-1537

**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-14A
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 21, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	15:07
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza, J. Rhodes
<b>Field Conditions</b>	75F, partly cloudy, intermittent wind	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	8.69	<b>Calculated Purge Volume (gal):</b>	7.82
<b>Total Well Depth (ft):</b>	24.7	<b>Pumping Rate (gal/min):</b>	1
<b>Water Column Height (ft):</b>	16.01	<b>Calculated Pump Run Time (min):</b>	7.8
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	13
<b>Final Depth to Water (ft):</b>	8.83	<b>Total Volume Purged (gal):</b>	13


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	8.83	5	9.6	512	1.22	6.6	96.9	1.92	Clear
8	8.84	8	9.5	513	1.21	6.62	96.4	0.49	Clear
11	8.84	11	9.6	514	1.19	6.6	97	0.56	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID	SAMPLE TIME		
Duplicate				
Field Blank				
Equipment Blank	EB-2	15:20		

**COMMENTS/OBSERVATIONS**

		August 21, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-14B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 21, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	15:44
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza, J. Rhodes
<b>Field Conditions</b>	75F, partly cloudy, intermittent wind	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	8.36	<b>Calculated Purge Volume (gal):</b>	29
<b>Total Well Depth (ft):</b>	67.7	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	59.34	<b>Calculated Pump Run Time (min):</b>	14.5
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	18
<b>Final Depth to Water (ft):</b>	11.8	<b>Total Volume Purged (gal):</b>	36


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	11.83	10	10.2	1,930	0.52	6.11	135.5	0.67	Clear
10	11.87	20	10.2	1,928	0.45	6.12	141.3	0.5	Clear
13	11.9	26	10.2	1,927	0.42	6.11	143.6	0.53	Clear
16	11.92	32	10.2	1,926	0.41	6.13	145.8	0.4	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	August 21, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-17C
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 18, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	12:00
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Sunny windy hazy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	7.43	<b>Calculated Purge Volume (gal):</b>	30.30
<b>Total Well Depth (ft):</b>	69.4	<b>Pumping Rate (gal/min):</b>	1.6
<b>Water Column Height (ft):</b>	61.97	<b>Calculated Pump Run Time (min):</b>	18.93
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	22
<b>Final Depth to Water (ft):</b>	10.15	<b>Total Volume Purged (gal):</b>	35.2


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	9.84	8	10.2	2,123	1.03	6.21	165.1	0.54	
10	10	16	10.2	2,058	0.31	6.19	170.3	4.53	
15	10.06	24	10.2	2,045	0.12	6.18	172.2	2.99	
20	10.15	32	10.2	2,033	0.05	6.19	174.1	1.5	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID	SAMPLE TIME		
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	
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August 18, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-18B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 17, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:12
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Sunny hazy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.35	<b>Calculated Purge Volume (gal):</b>	17.81
<b>Total Well Depth (ft):</b>	45.78	<b>Pumping Rate (gal/min):</b>	1.6
<b>Water Column Height (ft):</b>	36.43	<b>Calculated Pump Run Time (min):</b>	11.13
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	22
<b>Final Depth to Water (ft):</b>	10.14	<b>Total Volume Purged (gal):</b>	35.2

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	10.08	8	11	3,129	0.67	4.12	238.3	0.4	
10	10.12	16	11	3,147	0.49	4.13	219.6	0.02	
15	10.13	24	11	3,160	0.37	4.15	208.5	0.02	
18	10.13	28.8	10.9	3,162	0.29	4.17	203.3	0.02	
21	10.14	33.6	10.9	3,161	0.24	4.17	201.7	0.02	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	<p align="right">August 17, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-18C
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 17, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	15:06
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Sunny hazy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.29	<b>Calculated Purge Volume (gal):</b>	26.38
<b>Total Well Depth (ft):</b>	63.25	<b>Pumping Rate (gal/min):</b>	1.6
<b>Water Column Height (ft):</b>	53.96	<b>Calculated Pump Run Time (min):</b>	16.49
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	18
<b>Final Depth to Water (ft):</b>	9.69	<b>Total Volume Purged (gal):</b>	28.8

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	9.65	8	11.1	1,589	0.73	5.56	256.6	12.2	
10	9.69	16	11.1	1,677	0.42	5.56	256.6	3.34	
13	9.69	20.8	11	1,677	0.29	5.57	255.7	0.02	
16	9.69	25.6	11.1	1,684	0.17	5.55	255.1	0.02	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	<p align="right">August 17, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	GS-28
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	August 18, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	09:40
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	71F, breezy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	5.21	<b>Calculated Purge Volume (gal):</b>	3.82
<b>Total Well Depth (ft):</b>	13.03	<b>Pumping Rate (gal/min):</b>	0.10
<b>Water Column Height (ft):</b>	7.82	<b>Calculated Pump Run Time (min):</b>	36.07
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	9.71	0.53	11.7	413.2	0.14	6.75	-12.3	18.6	Turbid at start
10	10.13	1.06	11.4	416.6	0.02	6.68	-24.9	8.51	
20	11.17	2.12	10.3	438.1	0	6.65	-46.5	3.82	
25	11.54	2.65	10.1	457.8	0	6.66	-51.2	1.92	
30	11.79	3.18	10.2	472.9	0	6.69	-53.9	1.77	
35	12.7	3.71	9.8	464.8	0	6.78	-61.1	8.6	
40		4.24							

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>		<b>SAMPLE TIME</b>	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

Original flow rate was 0.158gal/min but turned pump down at 908, well dry at 940, going to allow to recover

August 18, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	GS-28
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	August 21, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	16:35
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	71F, breezy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	5.21	<b>Calculated Purge Volume (gal):</b>	3.82
<b>Total Well Depth (ft):</b>	13.03	<b>Pumping Rate (gal/min):</b>	0.10
<b>Water Column Height (ft):</b>	7.82	<b>Calculated Pump Run Time (min):</b>	36.07
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	
<b>Final Depth to Water (ft):</b>	9.85	<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	9.71	0.53	11.7	413.2	0.14	6.75	-12.3	18.6	Turbid at start
10	10.13	1.06	11.4	416.6	0.02	6.68	-24.9	8.51	
20	11.17	2.12	10.3	438.1	0	6.65	-46.5	3.82	
25	11.54	2.65	10.1	457.8	0	6.66	-51.2	1.92	
30	11.79	3.18	10.2	472.9	0	6.69	-53.9	1.77	
35	12.7	3.71	9.8	464.8	0	6.78	-61.1	8.6	
5	9.42	0.53	11.6	346.5	0.13	7.13	-3.6	3.23	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Purged well dry on 8/18/23, came back to sample on 8/21/23, first 6 readings are from 8/18/23, 7th reading is from 8/21/23

August 21, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	GS-28B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	August 18, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	11:00
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	74F, getting warmer	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	4.35	<b>Calculated Purge Volume (gal):</b>	17.27
<b>Total Well Depth (ft):</b>	39.68	<b>Pumping Rate (gal/min):</b>	0.23
<b>Water Column Height (ft):</b>	35.33	<b>Calculated Pump Run Time (min):</b>	74.78
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	79
<b>Final Depth to Water (ft):</b>	4.38	<b>Total Volume Purged (gal):</b>	18.24


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
10	4.51	2.31	10.1	302.4	1.8	7.17	-20.7	5.87	
20	4.51	4.62	10	302.2	1.76	7.12	-5.4	2.56	
30	4.51	6.93	10.2	302.5	1.76	7.15	1.1	2.26	
40	4.51	9.24	10.2	302.6	1.76	7.17	4.7	2.71	
50	4.51	11.55	10.3	302.2	1.75	7.17	7.9	3.23	
60	4.51	13.86	10.4	303	1.75	7.38	10	3	
65	4.51	15.015	10.4	305.4	1.71	7.34	10.9	2.08	
70	4.51	16.17	10.5	302.5	1.72	7.33	11.9	2.21	
75	4.51	17.325	10.4	301.2	1.7	7.32	12.5	2.26	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>		<b>SAMPLE TIME</b>	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	<p style="text-align: right;">August 18, 2023</p>
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**Consulting Scientists and Engineers**  
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**Fax: 406-723-1537**

**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	GS-29SR
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 17, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	10:42
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza, J. Rhodes
<b>Field Conditions</b>	65F, sunny	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	6.5	<b>Calculated Purge Volume (gal):</b>	40
<b>Total Well Depth (ft):</b>	26.93	<b>Pumping Rate (gal/min):</b>	1
<b>Water Column Height (ft):</b>	20.43	<b>Calculated Pump Run Time (min):</b>	40
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	39
<b>Final Depth to Water (ft):</b>	7.35	<b>Total Volume Purged (gal):</b>	47

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
7	8.09	14	8.1	388.4	3.27	7.15	211	1.61	Clear
21	7.35	28	8.4	386.2	3.79	7.16	221.1	0.21	Clear
26	7.34	33	8.4	386.8	3.72	7.18	223.3	0.15	Clear
31	7.33	38	8.4	387.4	3.69	7.21	225	0.15	Clear
36	7.34	43	8.4	384.8	3.7	7.05	226.9	0.12	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>		<b>SAMPLE TIME</b>	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

Lowered purge rate from 2 gpm to 1 gpm at first reading.

August 17, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	GS-40R
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 21, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	13:19
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Mostly cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	24	<b>Calculated Purge Volume (gal):</b>	19.21
<b>Total Well Depth (ft):</b>	63.3	<b>Pumping Rate (gal/min):</b>	1.2
<b>Water Column Height (ft):</b>	39.3	<b>Calculated Pump Run Time (min):</b>	16.01
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	11
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	13.2

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	24.06	6	10.4	1,999	0.47	5.11	220.8	3.86	
8	24.07	9.6	10.4	2,014	0.36	5.12	223.2	2.89	
11	24.08	13.2	10.4	2,024	0.17	5.15	218.4	1.26	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Well purged, stabilized prior to sample and sampled @ 1319. Before survey could be sent Survey123 crashed and the field form got deleted. Collecting parameters until stable again.

August 21, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	MF-07
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 18, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	13:06
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Partly cloudy hazy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.24	<b>Calculated Purge Volume (gal):</b>	12.06
<b>Total Well Depth (ft):</b>	16.4	<b>Pumping Rate (gal/min):</b>	1.6
<b>Water Column Height (ft):</b>	6.16	<b>Calculated Pump Run Time (min):</b>	7.54
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	15
<b>Final Depth to Water (ft):</b>	10.99	<b>Total Volume Purged (gal):</b>	24

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	10.88	8	12.1	1,729	0.7	6.2	179.3	1.83	
8	10.92	12.8	12.1	1,729	0.41	6.19	180.3	0.56	
11	10.96	17.6	12.1	1,731	0.26	6.19	180.3	0.02	
14	10.99	22.4	12.3	1,731	0.2	6.19	180.4	0.02	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	August 18, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	MF-07B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 18, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	13:39
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Partly cloudy hazy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.62	<b>Calculated Purge Volume (gal):</b>	14.92
<b>Total Well Depth (ft):</b>	40.15	<b>Pumping Rate (gal/min):</b>	1.6
<b>Water Column Height (ft):</b>	30.53	<b>Calculated Pump Run Time (min):</b>	9.33
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	13
<b>Final Depth to Water (ft):</b>	12.36	<b>Total Volume Purged (gal):</b>	20.8


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	12.32	8	10	1,184	0	6.1	183.7	0.74	
8	12.34	12.8	10.1	1,174	0	6.08	184.8	0.83	
11	12.36	17.6	10.1	1,169	0	6.08	185.5	0.25	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID	SAMPLE TIME		
Duplicate				
Field Blank				
Equipment Blank				

**COMMENTS/OBSERVATIONS**

	August 18, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	MF-11
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 17, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	11:31
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Sunny hazy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	8.95	<b>Calculated Purge Volume (gal):</b>	9.46
<b>Total Well Depth (ft):</b>	13.78	<b>Pumping Rate (gal/min):</b>	1.6
<b>Water Column Height (ft):</b>	4.83	<b>Calculated Pump Run Time (min):</b>	5.91
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	17
<b>Final Depth to Water (ft):</b>	9.75	<b>Total Volume Purged (gal):</b>	27.2

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	9.74	8	9.8	698.5	1.51	6.81	149.4	0.02	
8	9.75	12.8	9.7	638.5	1.85	6.81	148.8	0.02	
11	9.75	17.6	9.6	620.1	2.01	6.82	147.9	0.02	
14	9.74	22.4	9.7	614.9	2.02	6.82	146.7	0.02	
17	9.77	27.2	9.6	609.7	2.18	6.8	144.8	0.02	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	<p style="text-align: right;">August 17, 2023</p>
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**Field Sample Data Sheet**

Project Name: Parrot monitoring

Piezometer/Station: PM-MH-MSD108-092823 Date 9/28/23 Arival Time 8:10  
 Sampling Personnel: TS, RU Weather Conditions 27°F Clear, Sunny  
 Sketch on Back: Yes No Photographs: Yes ✓ No    

Purge Data:

Purge Method Peristaltic Piezometer Depth     Feet  
 Start Purging 8:19 Depth to Water 4.26 Feet  
 Purge Rate     Column Head     Feet  
 Rate Change 1) Time     Rate     Casing Diameter     Inch  
 2) Time     Rate     3 Well Volumes     Gal.  
 Sample Time 8:38 Total Purge Volume     Gal.

Sample Data: 9/28/23

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
PM-MH-MSD108-092823	250 ml		HNO3	Al, As, B, Cd, Ca, Cu, Fe, Pb, Li, Mg, Ag, U, Zn Hardness
PM-MH-MSD108-092823	250ml	✓	HNO3	Al, As, B, Cd, Ca, Cu, Fe, Pb, Li, Mg, Ag, U, Zn Hardness
PM-MH-MSD108-092823	250ml		Raw	Alkalinity, TDS, TSS, Sulfate
PM-MH-MSD108-092823	250 ml		H2SO4	NO2/NO3

Field Parameter:

Time	pH	Temp (°C)	S.C. (µmhos/cm)	ORP(mV)	D.O. (mg/L)	Turb. NTU
8:23	6.06	7.4	1114	-9.7	2.51	10.8
8:26	6.15	8.0	1124	-41.9	1.64	
8:29	6.17	8.2	1129	-56.3	1.35	
8:32	6.18	8.3	1132	-63.8	1.23	
8:35	6.18	8.4	1133	-69.3	1.18	
*****Final Field Parameters Prior to Sampling*****						
8:38	6.19	8.4	1133	-71.9	1.17	10.8

Field Equipment Q/A and Calibration: Recorded in field Logbook

Field Remarks:

Collected Duplicate Sample - PM-MH-MSD990-092823  
 Sample time 8:40  
 Collected Split Samples W/WET

**Field Sample Data Sheet**

Project Name: Parrot monitoring

PM-MH-MSD113-092823

Piezometer/Station: 113 Date 9/28/23 Arrival Time 9:31

Sampling Personnel: TS, RW Weather Conditions 36°F clear, Sunny

Sketch on Back: Yes No Photographs: Yes X No   

**Purge Data:**

Purge Method Peristaltic Piezometer Depth            Feet

Start Purging 9:36 Depth to Water 5.65 Feet

Purge Rate            Column Head            Feet

Rate Change 1) Time            Rate            Casing Diameter            Inch

2) Time            Rate            3 Well Volumes            Gal.

Sample Time 9:54 Total Purge Volume            Gal.

**Sample Data:**

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
PM-MH-MSD113-092823	250 ml		HNO3	Al, As, B, Cd, Ca, Cu, Fe, Pb, Li, Mg, Ag, U, Zn Hardness
PM-MH-MSD113-092823	250ml	✓	HNO3	Al, As, B, Cd, Ca, Cu, Fe, Pb, Li, Mg, Ag, U, Zn Hardness
PM-MH-MSD113-092823	250ml		Raw	Alkalinity, TDS, TSS, Sulfate
PM-MH-MSD113-092823	250 ml		H2SO4	NO2/NO3

**Field Parameter:**

Time	pH	Temp (°C)	S.C. (µhos/cm)	ORP(mV)	D.O. (mg/L)	Turb. NTU
9:39	5.87	9.5	1692	-73.7	1.49	6.18
9:42	5.86	9.7	1711	-73.9	0.91	
9:45	5.85	9.7	1713	-71.2	0.98	
9:48	5.85	9.9	1722	-72.1	0.74	
9:51	5.84	10.1	1731	-72.6	0.59	
*****Final Field Parameters Prior to Sampling*****						
9:54	5.84	10.2	1733	-73.5	0.53	6.18

Field Equipment Q/A and Calibration: Recorded in field Logbook

Field Remarks:

*collected split sample w/wet*



**Field Sample Data Sheet**

Project Name: Parrot monitoring

Piezometer/Station: PM-MH-MSD116-092823 Date 9/28/23 Arival Time 10:10  
 Sampling Personnel: TS, RN Weather Conditions 41°F clear, sunny  
 Sketch on Back: Yes No Photographs: Yes X No   

Purge Data:  
 Purge Method Peristaltic Piezometer Depth            Feet  
 Start Purging 10:18 Depth to Water 2.87 Feet  
 Purge Rate            Column Head            Feet  
 Rate Change 1) Time            Rate            Casing Diameter            Inch  
 2) Time            Rate            3 Well Volumes            Gal.  
 Sample Time 10:36 Total Purge Volume            Gal.

**Sample Data:**

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
PM-MH-MSD116-092823	250 ml		HNO3	Al, As, B, Cd, Ca, Cu, Fe, Pb, Li, Mg, Ag, U, Zn Hardness
PM-MH-MSD116-092823	250ml	✓	HNO3	Al, As, B, Cd, Ca, Cu, Fe, Pb, Li, Mg, Ag, U, Zn Hardness
PM-MH-MSD116-092823	250ml		Raw	Alkalinity, TDS, TSS, Sulfate
PM-MH-MSD116-092823	250 ml		H2SO4	NO2/NO3

**Field Parameter:**

Time	pH	Temp(°C)	S.C. (µmhos/cm)	ORP(mV)	D.O. (mg/L)	Turb. NTU
10:21	4.96	10.3	2795	-75.9	0.72	3.26
10:24	4.99	10.4	2793	-83.3	0.42	
10:27	4.98	10.4	2772	-83.2	0.27	
10:30	4.95	10.5	2747	-96.4	0.20	
10:33	4.94	10.5	2742	-96.9	0.17	
*****Final Field Parameters Prior to Sampling*****						
10:36	4.94	10.5	2742	-98.8	0.16	3.26

Field Equipment Q/A and Calibration: Recorded in field Logbook

Field Remarks: Collected split samples w/WET





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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	MSD-02A
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	August 22, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	15:08
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	76F, PC	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	8.16	<b>Calculated Purge Volume (gal):</b>	2.79
<b>Total Well Depth (ft):</b>	13.88	<b>Pumping Rate (gal/min):</b>	0.19
<b>Water Column Height (ft):</b>	5.72	<b>Calculated Pump Run Time (min):</b>	14.12
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	21
<b>Final Depth to Water (ft):</b>	9.32	<b>Total Volume Purged (gal):</b>	4.15

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	9.21	0.99	10.7	910	0.19	5.14	174.2	1.66	
10	9.52	1.98	10.4	905	0	5.14	183.9	0.72	
15	9.63	2.97	10.2	897	0	5.16	186.6	0.87	
18	9.61	3.564	10.2	899	0	5.15	189.5	1.23	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	August 22, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	MSD-02B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 17, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	12:38
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Sunny hazy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.42	<b>Calculated Purge Volume (gal):</b>	18.26
<b>Total Well Depth (ft):</b>	47.78	<b>Pumping Rate (gal/min):</b>	1.6
<b>Water Column Height (ft):</b>	37.36	<b>Calculated Pump Run Time (min):</b>	11.41
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	13
<b>Final Depth to Water (ft):</b>	10.94	<b>Total Volume Purged (gal):</b>	20.8


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	10.94	8	10.6	3,812	0.38	4.18	211.4	0.02	
8	10.94	12.8	10.6	3,822	0.31	4.19	206	0.02	
11	10.94	17.6	10.6	3,854	0.24	4.19	202.8	0.02	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>	<b>SAMPLE TIME</b>		
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**



August 17, 2023



**Consulting Scientists and Engineers**  
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	MSD-03
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 17, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	09:53
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Sunny, hazy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	8.47	<b>Calculated Purge Volume (gal):</b>	20.48
<b>Total Well Depth (ft):</b>	50.36	<b>Pumping Rate (gal/min):</b>	1.6
<b>Water Column Height (ft):</b>	41.89	<b>Calculated Pump Run Time (min):</b>	12.80
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	21
<b>Final Depth to Water (ft):</b>	9.07	<b>Total Volume Purged (gal):</b>	33.6

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
943	9.05	1,508.8	10.6	2,226	0.52	5.46	178.2	1.67	
946	9.06	1,513.6	10.6	2,254	0.3	5.46	177.8	0.02	
949	9.07	1,518.4	10.6	2,267	0.17	5.48	177.6	0.02	
952	9.07	1,523.2	10.6	2,274	0.11	5.49	177.6	0.02	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	August 17, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	MSD-04
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 17, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	12:05
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Sunny, hazy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.56	<b>Calculated Purge Volume (gal):</b>	21.07
<b>Total Well Depth (ft):</b>	52.65	<b>Pumping Rate (gal/min):</b>	1.6
<b>Water Column Height (ft):</b>	43.09	<b>Calculated Pump Run Time (min):</b>	13.16
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	16
<b>Final Depth to Water (ft):</b>	10.13	<b>Total Volume Purged (gal):</b>	25.6


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	10.13	8	9.5	816	0.41	6.15	158.4	1.6	
10	10.13	16	9.5	827	0.13	6.16	156	1.28	
15	10.13	24	9.5	828	0.05	6.1	154.3	0.02	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>	<b>SAMPLE TIME</b>		
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	August 17, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	MSDSG-02
<b>Sampling Method</b>	Other	<b>Sample Date</b>	August 23, 2023
<b>Decon Method</b>	NA	<b>Sample Time</b>	11:35
<b>Water Disposal</b>	NA	<b>Sampler(s) Initials</b>	J. Garza
<b>Field Conditions</b>	70F, partly sunny	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	0	<b>Calculated Purge Volume (gal):</b>	
<b>Total Well Depth (ft):</b>		<b>Pumping Rate (gal/min):</b>	
<b>Water Column Height (ft):</b>		<b>Calculated Pump Run Time (min):</b>	
<b>Well Diameter (in):</b>		<b>Actual Pump Run Time (min):</b>	
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
			19.3	303.7	4.97	8.26	137.1	27.5	Slightly turbid

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	<p style="text-align: right;">August 23, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	MSDSG-03
<b>Sampling Method</b>	Other	<b>Sample Date</b>	August 23, 2023
<b>Decon Method</b>	NA	<b>Sample Time</b>	12:10
<b>Water Disposal</b>	NA	<b>Sampler(s) Initials</b>	J. Garza, J. Rhodes
<b>Field Conditions</b>	70F, mostly cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	0	<b>Calculated Purge Volume (gal):</b>	
<b>Total Well Depth (ft):</b>		<b>Pumping Rate (gal/min):</b>	
<b>Water Column Height (ft):</b>		<b>Calculated Pump Run Time (min):</b>	
<b>Well Diameter (in):</b>		<b>Actual Pump Run Time (min):</b>	
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
			22.4	317.7	3.7	7.15	150.4	12.4	Clear


**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Sheen on water

August 23, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	MSDSG-05
<b>Sampling Method</b>	Other	<b>Sample Date</b>	August 23, 2023
<b>Decon Method</b>	NA	<b>Sample Time</b>	11:50
<b>Water Disposal</b>	NA	<b>Sampler(s) Initials</b>	J. Garza, J. Rhodes
<b>Field Conditions</b>	70F, mostly sunny	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	0	<b>Calculated Purge Volume (gal):</b>	
<b>Total Well Depth (ft):</b>		<b>Pumping Rate (gal/min):</b>	
<b>Water Column Height (ft):</b>		<b>Calculated Pump Run Time (min):</b>	
<b>Well Diameter (in):</b>		<b>Actual Pump Run Time (min):</b>	
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
			15	277.9	6.71	7.57	142.3	4.53	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	August 23, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-01A
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	August 22, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	11:26
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza, J. Rhodes
<b>Field Conditions</b>	70, partly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	12.47	<b>Calculated Purge Volume (gal):</b>	4.9
<b>Total Well Depth (ft):</b>	22.52	<b>Pumping Rate (gal/min):</b>	0.25
<b>Water Column Height (ft):</b>	10.05	<b>Calculated Pump Run Time (min):</b>	19.6
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	25
<b>Final Depth to Water (ft):</b>	12.8	<b>Total Volume Purged (gal):</b>	6.25


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
4	12.82	1	9.4	933	0.68	5.09	192.9	4.36	Clear
7	12.82	1.75	9.5	952	0.57	4.95	197.6	2.25	Clear
14	12.82	3.5	9.4	964	0.48	4.86	204.3	1.29	Clear
17	12.8	4.25	9.4	965	0.46	4.83	206.9	1.66	Clear
20	12.81	5	9.3	965	0.45	4.83	208.2	1.38	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
Duplicate				
Field Blank				
Equipment Blank				

**COMMENTS/OBSERVATIONS**

	August 22, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-01B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 21, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	11:59
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	13.86	<b>Calculated Purge Volume (gal):</b>	16.91
<b>Total Well Depth (ft):</b>	48.46	<b>Pumping Rate (gal/min):</b>	1.6
<b>Water Column Height (ft):</b>	34.6	<b>Calculated Pump Run Time (min):</b>	10.57
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	23
<b>Final Depth to Water (ft):</b>	17.71	<b>Total Volume Purged (gal):</b>	36.8


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	17.36	8	10.2	1,442	0.49	5.43	315.2	23.2	
10	17.48	16	10.2	1,452	0.19	5.45	306.4	7.23	
15	17.61	24	10.2	1,442	0.02	5.46	300.7	2.77	
18	17.64	28.8	10.2	1,434	0	5.46	298.2	2.51	
21	17.71	33.6	10.3	1,428	0	5.46	296.2	2.08	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	<p align="right">August 21, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-02A
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	August 23, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	09:35
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza, J. Rhodes
<b>Field Conditions</b>	76F, partly cloudy	<b>Well Condition</b>	No bolts

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	11.81	<b>Calculated Purge Volume (gal):</b>	1.6
<b>Total Well Depth (ft):</b>	15	<b>Pumping Rate (gal/min):</b>	0.15
<b>Water Column Height (ft):</b>	3.19	<b>Calculated Pump Run Time (min):</b>	10.6
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	3.6

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
3	13.11	0.75	12	2,422	0.39	3.65	161.7	7.64	Clear
6	13.85	1.5	12	2,394	0.3	3.84	171.3	19.9	Clear
9	14.04	2.25	12.2	2,399	0.31	4.22	169.6	45.7	Slightly turbid
12	14.31	2.7	11.6	2,514	0.33	4.36	158.4	54.6	Turbid
15	14.31	3.15	12.1	2,528	1.57	4.41	149.4	98.1	Turbid - pulling sediment from bottom.
	12.75		11.3	2,800	1.59	3.25	218	5.93	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Start pump 8/22 at 1404. Reduced purge rate from 0.25 to 0.15 gpm at reading 4. Well ran dry - stop pump 8/22 at 1420. Readings 1-5 from 8/22. Reading 6 from 8/23. DTW on 8/23 = 11.72 ft.

August 22, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-02B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	August 22, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	13:55
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza, J. Rhodes
<b>Field Conditions</b>	76F, partly cloudy	<b>Well Condition</b>	No bolts

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.62	<b>Calculated Purge Volume (gal):</b>	16
<b>Total Well Depth (ft):</b>	43.76	<b>Pumping Rate (gal/min):</b>	0.25
<b>Water Column Height (ft):</b>	33.14	<b>Calculated Pump Run Time (min):</b>	64
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	66
<b>Final Depth to Water (ft):</b>	10.74	<b>Total Volume Purged (gal):</b>	16.5

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	10.74	1.25	10.4	4,681	1.3	4.8	155.6	5.39	Clear
22	10.74	5.5	10.4	5,799	0.41	4.31	159	2.82	Clear
44	10.74	11	10.3	5,825	0.34	4.28	156.4	4.22	Blue-ish
49	10.74	12.25	10.4	5,816	0.32	4.29	155.8	2.1	Blue-ish
54	10.74	13.5	10.4	5,812	0.31	4.31	155.8	1.86	Blue-ish
59	10.74	14.75	10.4	5,814	0.3	4.33	155.4	3.4	Blue-ish
64	10.74	16	10.3	5,814	0.3	4.36	155.2	3.14	Blue-ish

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	August 22, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-03A
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 23, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	10:23
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Sunny	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	14.34	<b>Calculated Purge Volume (gal):</b>	4.27
<b>Total Well Depth (ft):</b>	23.09	<b>Pumping Rate (gal/min):</b>	1
<b>Water Column Height (ft):</b>	8.75	<b>Calculated Pump Run Time (min):</b>	4.27
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	44
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	44

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		5	15	1,765	3.81	4.71	197.6	37	
10		10	15.3	2,833	3.02	4.76	183.3	19.6	
15		15	15.6	3,264	2.6	4.78	177	11.3	
20		20	15.7	3,363	2.36	4.79	174.7	8.96	
25		25	16.2	3,148	2.58	4.97	160.6	6.63	
30		30	16.4	3,209	2.38	4.92	159	5.92	
33		33	16.6	3,300	2.15	4.87	160	4.8	
36		36	16.7	3,368	2.1	4.86	159.7	3.99	
39		39	16.8	3,397	2.04	4.86	159.2	3.98	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Dtw: top of pump

August 23, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-04B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	August 22, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	10:47
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza, J. Rhodes
<b>Field Conditions</b>	64, mostly sunny	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	14.36	<b>Calculated Purge Volume (gal):</b>	18.7
<b>Total Well Depth (ft):</b>	52.61	<b>Pumping Rate (gal/min):</b>	0.25
<b>Water Column Height (ft):</b>	38.25	<b>Calculated Pump Run Time (min):</b>	74.8
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	79
<b>Final Depth to Water (ft):</b>	14.52	<b>Total Volume Purged (gal):</b>	19.75

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	14.56	1.25	10.6	1,469	3.57	4.46	187.8	16.7	Clear
25	14.55	6.25	10.7	1,476	0.5	5.07	186	6.05	Clear
50	14.55	12.5	10.7	1,485	0.43	5.09	181.3	3.03	Clear
55	14.55	13.75	10.7	1,488	0.4	5.09	179.9	2.51	Clear
60	14.54	15	10.7	1,485	0.4	5.11	178.2	4	Clear
65	14.55	16.25	10.8	1,488	0.38	5.12	177	4.09	Clear
70	14.54	17.5	10.7	1,490	0.38	5.11	176	3.81	Clear
75	14.54	18.75	10.7	1,487	0.38	5.12	174.8	3.31	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	<p align="right">August 22, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-05A
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 17, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	16:05
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Sunny hazy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	12.35	<b>Calculated Purge Volume (gal):</b>	5.93
<b>Total Well Depth (ft):</b>	24.48	<b>Pumping Rate (gal/min):</b>	1.6
<b>Water Column Height (ft):</b>	12.13	<b>Calculated Pump Run Time (min):</b>	3.70
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	18
<b>Final Depth to Water (ft):</b>	22.4	<b>Total Volume Purged (gal):</b>	28.8

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	19.6	8	11.1	1,590	0.67	5.91	164.3	14.9	
10	20.82	16	11	1,655	0.95	5.93	158.1	14.6	
13	22	20.8	11	1,650	1	5.9	156.6	15.3	
16	22.25	25.6	11	1,649	1.02	5.87	155.1	14.9	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	August 17, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-06A
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 18, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:10
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Sunny hazy windy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	12.78	<b>Calculated Purge Volume (gal):</b>	6.58
<b>Total Well Depth (ft):</b>	26.25	<b>Pumping Rate (gal/min):</b>	1.6
<b>Water Column Height (ft):</b>	13.47	<b>Calculated Pump Run Time (min):</b>	4.11
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	15
<b>Final Depth to Water (ft):</b>	15.35	<b>Total Volume Purged (gal):</b>	24


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	15.32	8	9.9	1,581	0.55	6.14	180.7	2.36	
8	15.35	12.8	10	1,574	0.26	6.13	180.4	1.74	
11	15.35	17.6	10.1	1,565	0.05	6.13	179.6	0.88	
14	15.35	22.4	9.9	1,562	0.02	6.13	178.6	0.65	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>		<b>SAMPLE TIME</b>	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	<p align="right">August 18, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-06B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 18, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:42
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Cloudy windy hazy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.66	<b>Calculated Purge Volume (gal):</b>	18.33
<b>Total Well Depth (ft):</b>	48.16	<b>Pumping Rate (gal/min):</b>	1.6
<b>Water Column Height (ft):</b>	37.5	<b>Calculated Pump Run Time (min):</b>	11.46
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	18
<b>Final Depth to Water (ft):</b>	31.57	<b>Total Volume Purged (gal):</b>	28.8

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	24.5	8	11.2	1,063	1.46	5.84	192.8	1.17	
10	32.4	16	10.5	1,163	0.1	5.78	196.6	1.14	
13	33.49	20.8	10.5	1,174	0.05	5.76	197.3	1.64	
16	32.02	25.6	10.6	1,176	0	5.76	198	0.44	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**



August 18, 2023





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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-07A
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 17, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	10:29
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Rb
<b>Field Conditions</b>	Sunny, hazy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	8.77	<b>Calculated Purge Volume (gal):</b>	6.23
<b>Total Well Depth (ft):</b>	21.53	<b>Pumping Rate (gal/min):</b>	1.6
<b>Water Column Height (ft):</b>	12.76	<b>Calculated Pump Run Time (min):</b>	3.89
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	13
<b>Final Depth to Water (ft):</b>	10.03	<b>Total Volume Purged (gal):</b>	20.8


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
1,022	10	1,635.2	9.1	682.9	0.41	6.59	158.4	0.02	
1,025	10.02	1,640	9.1	676.7	0.19	6.57	157.4	0.02	
1,028	10.03	1,644.8	9.1	671.6	0.08	6.57	156.3	0.02	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID	SAMPLE TIME		
<b>Duplicate</b>	DUP-3	10:30		
<b>Field Blank</b>	FB-3	10:43		
<b>Equipment Blank</b>	EB-3	10:37		

**COMMENTS/OBSERVATIONS**



August 17, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-07B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	August 22, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	14:42
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	71F, breezy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.22	<b>Calculated Purge Volume (gal):</b>	26.02
<b>Total Well Depth (ft):</b>	62.44	<b>Pumping Rate (gal/min):</b>	0.22
<b>Water Column Height (ft):</b>	53.22	<b>Calculated Pump Run Time (min):</b>	114.6
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	119
<b>Final Depth to Water (ft):</b>	9.27	<b>Total Volume Purged (gal):</b>	27.01

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
15	9.92	3.405	9.5	2,801	0	6.03	148.8	1.54	
30	9.92	6.81	9.6	2,807	0	6.05	143.2	1.12	
45	9.91	10.215	9.4	2,833	0	6.15	138.3	0.96	
60	9.92	13.62	9.5	2,814	0	6.13	135.4	1.07	
75	9.92	17.025	9.6	2,791	0	6.14	134.5	1.32	
90	9.92	20.43	9.5	2,789	0	6.12	133.7	1.33	
105	9.92	23.835	9.4	2,783	0	6.1	132.4	1.82	
115	9.92	26.105	9.5	2,787	0	6.1	131.8	2.45	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**



August 22, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-08A
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	August 22, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	09:48
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	63F, warming	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.73	<b>Calculated Purge Volume (gal):</b>	3.28
<b>Total Well Depth (ft):</b>	17.44	<b>Pumping Rate (gal/min):</b>	0.18
<b>Water Column Height (ft):</b>	6.71	<b>Calculated Pump Run Time (min):</b>	18.02
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	53
<b>Final Depth to Water (ft):</b>	10.79	<b>Total Volume Purged (gal):</b>	9.64


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	11.12	0.91	10.6	1,240	0.05	6.26	52.8	2.8	
10	11.15	1.82	10.6	1,253	0	6.25	31.1	1.43	
20	11.15	3.64	10.6	1,255	0	6.3	2.5	0.72	
30	11.15	5.46	10.6	1,255	0	6.32	-12.5	1.12	
40	11.15	7.28	10.6	1,258	0	6.35	-20.7	1.12	
45	11.15	8.19	10.6	1,257	0	6.35	-21.7	1.01	
50	11.15	9.1	10.6	1,257	0	6.35	-23	1.23	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>			<b>SAMPLE TIME</b>
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	
	August 22, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-08A2
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 18, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	11:10
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza, J. Rhodes
<b>Field Conditions</b>	75F, partly sunny, windy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	11.59	<b>Calculated Purge Volume (gal):</b>	7.2
<b>Total Well Depth (ft):</b>	26.41	<b>Pumping Rate (gal/min):</b>	1
<b>Water Column Height (ft):</b>	14.82	<b>Calculated Pump Run Time (min):</b>	7.2
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	12
<b>Final Depth to Water (ft):</b>	11.76	<b>Total Volume Purged (gal):</b>	12


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	11.76	5	9.4	717	1.67	6.41	210.4	0.58	Clear
8	11.76	8	9.3	705	1.62	6.44	210	0.27	Clear
11	11.76	11	9.4	703	1.58	6.44	209.9	0.41	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	August 18, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-08B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 18, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	10:45
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza, J. Rhodes
<b>Field Conditions</b>	75 F, sunny	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	11.74	<b>Calculated Purge Volume (gal):</b>	15
<b>Total Well Depth (ft):</b>	42.48	<b>Pumping Rate (gal/min):</b>	1
<b>Water Column Height (ft):</b>	30.74	<b>Calculated Pump Run Time (min):</b>	15
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	20
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	20

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	12.02	5	9.8	1,547	2.15	6.35	211	1	Clear
10	12.03	10	9.7	1,514	2.02	6.37	216.8	0.38	Clear
15	12.04	15	9.8	1,500	1.98	6.34	218.7	0.41	Clear
18	12.04	18	9.7	1,496	1.95	6.35	220	0.31	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	August 18, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-09A
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 17, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	15:40
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza, J. Rhodes
<b>Field Conditions</b>	89F, sunny	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.48	<b>Calculated Purge Volume (gal):</b>	10.75
<b>Total Well Depth (ft):</b>	32.48	<b>Pumping Rate (gal/min):</b>	1
<b>Water Column Height (ft):</b>	22	<b>Calculated Pump Run Time (min):</b>	10.75
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	15
<b>Final Depth to Water (ft):</b>	10.76	<b>Total Volume Purged (gal):</b>	15

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	10.76	5	8.8	1,286	2.39	7.01	226.8	1.47	Clear
8	10.76	8	8.8	1,286	1.84	6.95	226.9	0.61	Clear
11	10.76	11	8.8	1,284	1.81	6.97	226.8	0.38	Clear
14	10.77	14	8.8	1,282	1.72	6.93	226.7	0.25	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	August 17, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-09B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	August 21, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	16:10
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	74F, PC	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	8.22	<b>Calculated Purge Volume (gal):</b>	21.69
<b>Total Well Depth (ft):</b>	52.59	<b>Pumping Rate (gal/min):</b>	0.18
<b>Water Column Height (ft):</b>	44.37	<b>Calculated Pump Run Time (min):</b>	117.28
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	123
<b>Final Depth to Water (ft):</b>	9.22	<b>Total Volume Purged (gal):</b>	22.75


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
20	10.58	3.7	8.7	1,001	0.5	6.64	111.3	1.65	
40	9.77	7.4	9	1,078	0.78	6.7	111.7	0.97	
60	10.82	11.1	9.1	1,182	1.45	6.75	112.8	0.98	
80	10.53	14.8	9	1,223	1.59	6.8	114.3	0.7	
90	10.67	16.65	9	1,237	1.6	6.8	114.8	0.63	
100	10.72	18.5	8.9	1,249	1.73	6.79	115.5	0.54	
110	10.63	20.35	8.9	1,257	1.77	6.78	116	0.61	
118	10.62	21.83	8.9	1,259	1.81	6.8	116.1	0.65	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	August 21, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-10A
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 21, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:33
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza, J. Rhodes
<b>Field Conditions</b>	74F, partly cloudy, windy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	3.56	<b>Calculated Purge Volume (gal):</b>	6.2
<b>Total Well Depth (ft):</b>	16.29	<b>Pumping Rate (gal/min):</b>	1
<b>Water Column Height (ft):</b>	12.73	<b>Calculated Pump Run Time (min):</b>	6.2
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	13
<b>Final Depth to Water (ft):</b>	3.67	<b>Total Volume Purged (gal):</b>	13

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	3.7	5	11.4	333.7	2.2	6.97	104.2	4.58	Clear
8	3.7	8	11.3	329.1	2.26	6.91	104.8	2.53	Clear
11	3.7	11	11.4	326.1	2.27	6.94	105.3	2.26	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID	SAMPLE TIME		
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	<p>August 21, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-10B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 21, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:10
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza, J. Rhodes
<b>Field Conditions</b>	74F, mostly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	1.72	<b>Calculated Purge Volume (gal):</b>	24.4
<b>Total Well Depth (ft):</b>	51.63	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	49.91	<b>Calculated Pump Run Time (min):</b>	12.2
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	21
<b>Final Depth to Water (ft):</b>	3.08	<b>Total Volume Purged (gal):</b>	42


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
4	3.09	8	10.7	524	3.34	6.85	93.5	32.9	Started turbid brown, clear by reading.
8	3.12	16	10.7	528	3.11	6.81	99.6	12.1	Clear
12	3.12	24	10.7	529	2.97	6.84	99.9	4.38	
16	3.13	32	10.7	530	2.88	6.84	101.7	4.94	Clear
20	3.15	40	10.7	531	2.86	6.85	103.5	4.72	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID	SAMPLE TIME		
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	<p align="right">August 21, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-11A
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	August 17, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	11:45
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	J. Garza, J. Rhodes
<b>Field Conditions</b>	76 F, Sunny	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	13.66	<b>Calculated Purge Volume (gal):</b>	9
<b>Total Well Depth (ft):</b>	32.08	<b>Pumping Rate (gal/min):</b>	1
<b>Water Column Height (ft):</b>	18.42	<b>Calculated Pump Run Time (min):</b>	9
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	13
<b>Final Depth to Water (ft):</b>	13.88	<b>Total Volume Purged (gal):</b>	13

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	13.89	5	8.3	274	3.52	7.36	143.2	0.67	Clear
8	13.89	8	8.3	272.6	3.48	7.36	144.3	0.33	Clear
11	13.89	11	8.3	272.3	3.34	7.31	145.5	0.35	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	August 17, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-11B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	August 17, 2023
<b>Decon Method</b>	Dedicated	<b>Sample Time</b>	15:26
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	89F, smoky	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	13.78	<b>Calculated Purge Volume (gal):</b>	17.63
<b>Total Well Depth (ft):</b>	49.85	<b>Pumping Rate (gal/min):</b>	0.21
<b>Water Column Height (ft):</b>	36.07	<b>Calculated Pump Run Time (min):</b>	83.59
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	89
<b>Final Depth to Water (ft):</b>	13.88	<b>Total Volume Purged (gal):</b>	18.77


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
10	13.89	2.11	9.5	287.6	5.93	8.11	25.9	5.28	
25	13.89	5.275	9	268.5	6.01	7.23	35.7	2.53	
40	13.89	8.44	9.1	266.9	5.96	7.16	34.1	0.42	
55	13.89	11.605	9.1	268	5.67	7.15	43.2	0.02	
70	13.89	14.77	9.2	267.2	5.75	7.16	41.2	0.02	
85	13.89	17.935	9.1	266.4	5.83	7.16	43.7	0.02	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>		<b>SAMPLE TIME</b>	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	August 17, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-12
<b>Sampling Method</b>	Other	<b>Sample Date</b>	August 23, 2023
<b>Decon Method</b>	NA	<b>Sample Time</b>	10:45
<b>Water Disposal</b>	NA	<b>Sampler(s) Initials</b>	J. Garza, J. Rhodes
<b>Field Conditions</b>	65F, sunny	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	3.91	<b>Calculated Purge Volume (gal):</b>	
<b>Total Well Depth (ft):</b>		<b>Pumping Rate (gal/min):</b>	
<b>Water Column Height (ft):</b>		<b>Calculated Pump Run Time (min):</b>	
<b>Well Diameter (in):</b>		<b>Actual Pump Run Time (min):</b>	
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
			16.9	402.5	4.92	7.35	206.4	15.1	Turbid brown

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	<p style="text-align: right;">August 23, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	SS-04
<b>Sampling Method</b>	Other	<b>Sample Date</b>	August 23, 2023
<b>Decon Method</b>	NA	<b>Sample Time</b>	11:10
<b>Water Disposal</b>	NA	<b>Sampler(s) Initials</b>	J. Garza, J. Rhodes
<b>Field Conditions</b>	65F, sunny	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	1.52	<b>Calculated Purge Volume (gal):</b>	
<b>Total Well Depth (ft):</b>		<b>Pumping Rate (gal/min):</b>	
<b>Water Column Height (ft):</b>		<b>Calculated Pump Run Time (min):</b>	
<b>Well Diameter (in):</b>		<b>Actual Pump Run Time (min):</b>	
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
			14.3	289.9	9.95	7.68	128.5	4.14	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>	DUP-5	11:15
<b>Field Blank</b>	FB-5	11:25
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	August 23, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMC-23B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	November 15, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	12:27
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	IS
<b>Field Conditions</b>	Sunny, 35	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	7.07	<b>Calculated Purge Volume (gal):</b>	51.06
<b>Total Well Depth (ft):</b>	111.5	<b>Pumping Rate (gal/min):</b>	0.26
<b>Water Column Height (ft):</b>	104.43	<b>Calculated Pump Run Time (min):</b>	196.40
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	200
<b>Final Depth to Water (ft):</b>	18.52	<b>Total Volume Purged (gal):</b>	52

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
30	17.71	7.8	6.9	1,042	7.56	6.48	236.4	3.9	
60	17.04	15.6	7	1,043	3.35	6.61	245.7	1.3	
90	17.62	23.4	7.2	1,042	3.15	6.63	253.1	1.97	
120	18.72	31.2	7.5	1,040	3.11	6.63	258.5	1.44	
150	18.08	39	7.5	1,066	2.7	6.64	262.5	2.54	
180	18.08	46.8	7.04	1,082	2.63	6.63	268.9	2.25	
190	18.29	49.4	7.2	1,083	2.82	6.64	271.8	1.97	
193	18.3	50.18	7.2	1,079	2.83	6.65	272.1	1.54	
196	18.31	50.96	7.2	1,076	2.84	6.65	272.6	1.77	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	<p align="right">November 15, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMC-24B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	November 16, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	10:46
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	IS
<b>Field Conditions</b>	Sunny, 37F	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.72	<b>Calculated Purge Volume (gal):</b>	19.82
<b>Total Well Depth (ft):</b>	51.27	<b>Pumping Rate (gal/min):</b>	0.22
<b>Water Column Height (ft):</b>	40.55	<b>Calculated Pump Run Time (min):</b>	90.13
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	102
<b>Final Depth to Water (ft):</b>	10.78	<b>Total Volume Purged (gal):</b>	22.44

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
30	11.77	6.6	7.5	1,524	4.06	6.1	131.3	2.5	
60	10.78	13.2	7.5	1,559	3.01	6.18	195.5	2.56	
75	10.78	16.5	7.5	1,564	2.99	6.21	214.7	3.26	
85	10.78	18.7	7.6	1,563	2.94	6.22	222.4	4.51	
90	10.78	19.8	7.6	1,565	0.95	6.22	224.4	3.59	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	November 16, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMC-24C
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 15, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	11:03
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	JG, JR
<b>Field Conditions</b>	45F, partly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	8.99	<b>Calculated Purge Volume (gal):</b>	35.92
<b>Total Well Depth (ft):</b>	82.45	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	73.46	<b>Calculated Pump Run Time (min):</b>	17.96
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	20
<b>Final Depth to Water (ft):</b>	11.16	<b>Total Volume Purged (gal):</b>	40

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
6	11.03	12	8.8	972	1.91	6.49	231.1	0.79	Clear
12	11.12	24	8.8	972	1.73	6.52	225.6	0.66	Clear
15	11.14	30	8.8	972	1.66	6.53	224.1	0.38	Clear
18	11.16	36	8.8	971	1.63	6.53	223	0.58	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

		November 15, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMW-01A
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	November 16, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	09:41
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	JG, JR
<b>Field Conditions</b>	32F, partly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	11.35	<b>Calculated Purge Volume (gal):</b>	3
<b>Total Well Depth (ft):</b>	12.95	<b>Pumping Rate (gal/min):</b>	0.25
<b>Water Column Height (ft):</b>	1.6	<b>Calculated Pump Run Time (min):</b>	12
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	15
<b>Final Depth to Water (ft):</b>	12.2	<b>Total Volume Purged (gal):</b>	3.75

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
4	11.35	1	10.3	2,377	2.42	5.61	143.5	4.7	Clear
8	11.35	2	10.3	2,350	2.38	5.59	146.8	4.09	Clear
12	11.9	3	10.2	2,325	2.39	5.6	147.9	3.98	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	November 16, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMW-01B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 15, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	10:47
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Lb, Gm
<b>Field Conditions</b>	Partly cloudy	<b>Well Condition</b>	No bolts

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.97	<b>Calculated Purge Volume (gal):</b>	60.70
<b>Total Well Depth (ft):</b>	41.96	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	30.99	<b>Calculated Pump Run Time (min):</b>	30.35
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	32
<b>Final Depth to Water (ft):</b>	11.18	<b>Total Volume Purged (gal):</b>	64

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
10	11.18	20	11.5	3,324	0.17	4.03	240.5	1.11	Black particulates
20	11.18	40	11.5	3,324	0.05	4.01	239.1	1.36	Black particulates
24	11.18	48	11.5	3,320	0.08	4.03	238.5	1.82	Black particulates
28	11.18	56	11.5	3,319	0.02	4.04	237.8	1.12	Black particulates
31	11.18	62	11.6	3,320	0.01	4.05	237.4	0.88	Black particulates

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	November 15, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMW-01C
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 15, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	00:56
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Lb, Gm
<b>Field Conditions</b>	Windy	<b>Well Condition</b>	No bolts, broken ear

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.47	<b>Calculated Purge Volume (gal):</b>	183.22
<b>Total Well Depth (ft):</b>	104	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	93.53	<b>Calculated Pump Run Time (min):</b>	91.61
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	93
<b>Final Depth to Water (ft):</b>	15.72	<b>Total Volume Purged (gal):</b>	186

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
30	15.22	60	11.4	2,492	0.63	5.45	236.4	0.73	Clear
62	15.58	124	11.3	2,450	0.09	5.44	227.4	1.1	Clear
72	15.6	144	11.4	2,449	0	5.44	225	0.42	Clear
82	15.66	164	11.4	2,448	0	5.44	223.2	0.43	Clear
92	15.7	184	11.4	2,448	0	5.44	221.7	0.56	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	<p style="text-align: right;">November 15, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMW-08
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 15, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	15:46
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	JG, JR
<b>Field Conditions</b>	55F, partly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	42.16	<b>Calculated Purge Volume (gal):</b>	10.10
<b>Total Well Depth (ft):</b>	47.32	<b>Pumping Rate (gal/min):</b>	1
<b>Water Column Height (ft):</b>	5.16	<b>Calculated Pump Run Time (min):</b>	10.10
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	12
<b>Final Depth to Water (ft):</b>	44.35	<b>Total Volume Purged (gal):</b>	12

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	43.79	5	9.4	4,808	0.49	3.3	372.4	3.02	Clear
8	44.14	8	9.4	4,814	0.47	3.34	371.8	2.34	Clear
11	44.35	11	9.3	4,822	0.45	3.37	368.7	2.1	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	<p align="right">November 15, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMW-09
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 15, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	15:14
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	JG, JR
<b>Field Conditions</b>	55F, mostly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	24.56	<b>Calculated Purge Volume (gal):</b>	29.34
<b>Total Well Depth (ft):</b>	39.54	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	14.98	<b>Calculated Pump Run Time (min):</b>	14.67
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	17
<b>Final Depth to Water (ft):</b>	25.5	<b>Total Volume Purged (gal):</b>	34

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	25.49	10	8.7	1,115	0.34	3.92	219.4	0.9	Clear
10	26.18	20	8.7	1,103	0.23	4.05	224.1	0.67	Clear
13	25.99	26	8.7	1,102	0.22	4.09	227.5	0.55	Clear
16	25.96	32	8.6	1,099	0.16	4.11	229.8	0.95	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID	SAMPLE TIME		
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	November 15, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMW-13A
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	November 14, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	12:25
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	IS, CE
<b>Field Conditions</b>	Partly sunny, 45	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.82	<b>Calculated Purge Volume (gal):</b>	12.51
<b>Total Well Depth (ft):</b>	17.21	<b>Pumping Rate (gal/min):</b>	0.16
<b>Water Column Height (ft):</b>	6.39	<b>Calculated Pump Run Time (min):</b>	78.23
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	82
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	13.12

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
15	11.61	2.4	9.8	1,090	1.08	6.62	278.6	3.37	
30	14.71	4.8	9.6	1,013	1.9	6.65	281	1.71	
45	15.36	7.2	9.4	1,011	2.29	6.66	202.7	2.39	
60	15.86	9.6	9.3	1,026	1.44	6.69	92.4	2.01	
75	16.22	12	9.2	1,015	1.5	6.7	89.8	1.63	
79	16.26	12.64	9.2	1,022	1.36	6.7	86	1.8	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	November 14, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMW-13B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 13, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	13:26
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	JG, JR
<b>Field Conditions</b>	45F, mostly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.82	<b>Calculated Purge Volume (gal):</b>	12.92
<b>Total Well Depth (ft):</b>	37.25	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	26.43	<b>Calculated Pump Run Time (min):</b>	6.46
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	19
<b>Final Depth to Water (ft):</b>	10.82	<b>Total Volume Purged (gal):</b>	38


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	10.8	10	8.7	265.8	4.6	6.65	142.6	3.15	Clear
11	10.8	22	8.7	266	3.81	6.74	137.9	2.33	Clear
14	10.82	28	8.7	266.1	3.62	6.82	132	2.46	Clear
17	10.82	34	8.7	266.2	3.5	6.86	128.9	1.49	Clear
20	10.82	40	8.7	266.3	3.37	6.89	125.5	0.62	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	November 13, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMW-13B2
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 13, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	13:47
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	JG, JR
<b>Field Conditions</b>	45F, partly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	11.73	<b>Calculated Purge Volume (gal):</b>	18.17
<b>Total Well Depth (ft):</b>	48.9	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	37.17	<b>Calculated Pump Run Time (min):</b>	9.08
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	12
<b>Final Depth to Water (ft):</b>	12.04	<b>Total Volume Purged (gal):</b>	24


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	12.03	10	8.8	321.3	3.27	6.79	137.8	0.81	Clear
8	12.04	16	8.8	322.9	3.18	6.81	134.9	1.14	Clear
11	12.04	22	8.8	324.3	3.11	6.82	131.5	0.38	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID	SAMPLE TIME		
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	<p align="right">November 13, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMW-13C
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 13, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:23
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	JG, JR
<b>Field Conditions</b>	45F, partly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.51	<b>Calculated Purge Volume (gal):</b>	35.30
<b>Total Well Depth (ft):</b>	81.7	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	72.19	<b>Calculated Pump Run Time (min):</b>	17.65
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	19
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	38


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
6	11.29	12	9.2	605.6	0.86	6.53	128.2	19.5	Clear
12	11.38	24	9.2	602.2	0.86	6.55	126.7	4.85	Clear
15	11.38	30	9.2	605.6	0.88	6.55	126.2	4.43	Clear
18	11.38	36	9.2	606.2	0.89	6.56	125.6	2.01	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	November 13, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	AMW-20
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 16, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	11:02
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Lb, Gm
<b>Field Conditions</b>	Sunny	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	27.94	<b>Calculated Purge Volume (gal):</b>	27.23
<b>Total Well Depth (ft):</b>	41.84	<b>Pumping Rate (gal/min):</b>	1.5
<b>Water Column Height (ft):</b>	13.9	<b>Calculated Pump Run Time (min):</b>	18.15
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	27
<b>Final Depth to Water (ft):</b>	32.21	<b>Total Volume Purged (gal):</b>	40.5

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	32.27	7.5	9	1,900	1.55	5.88	245.8	2.91	Clear
10	32.18	15	9.1	1,880	1.11	5.62	245	4.04	Clear
15	32.22	22.5	9.2	1,858	1.42	5.46	237	1.91	Clear
18	32.22	27	9.2	1,850	1.37	5.39	225.1	1.37	Clear
21	32.28	31.5	9.2	1,834	1.34	5.36	223.6	0.86	Clear
24	32.31	36	9.2	1,819	1.32	5.37	217.8	0.75	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	<p align="right">November 16, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS07-07
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	November 13, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	11:54
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	CE, IS
<b>Field Conditions</b>	44F	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	5.27	<b>Calculated Purge Volume (gal):</b>	1.42
<b>Total Well Depth (ft):</b>	16.83	<b>Pumping Rate (gal/min):</b>	0.16
<b>Water Column Height (ft):</b>	11.56	<b>Calculated Pump Run Time (min):</b>	8.88
<b>Well Diameter (in):</b>	1	<b>Actual Pump Run Time (min):</b>	23
<b>Final Depth to Water (ft):</b>	5.27	<b>Total Volume Purged (gal):</b>	3.68

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
3		0.48	7.8	234.2	0.65	6.58	92.1	11.8	
6		0.96	7.9	233.3	0.52	6.57	84.1	7.74	
9		1.44	7.9	240.1	0.48	6.58	71.2	3.94	
12		1.92	7.9	243.8	0.46	6.58	68.9	4.12	
15		2.4	7.9	243.3	0.46	6.58	67.1	2.37	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Unable to fit water tape in riser with sample line

November 13, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS07-07B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	November 13, 2023
<b>Decon Method</b>	Dedicated equipment	<b>Sample Time</b>	11:26
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	CE
<b>Field Conditions</b>	43F, PC	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	6.45	<b>Calculated Purge Volume (gal):</b>	18.88
<b>Total Well Depth (ft):</b>	45.06	<b>Pumping Rate (gal/min):</b>	0.28
<b>Water Column Height (ft):</b>	38.61	<b>Calculated Pump Run Time (min):</b>	67.42
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	71
<b>Final Depth to Water (ft):</b>	6.82	<b>Total Volume Purged (gal):</b>	19.88

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
17	6.79	4.76	7.9	708.6	1.74	6.72	229	3.95	
32	6.77	8.96	7.8	654.9	1.85	6.72	233.8	0.85	
47	6.77	13.16	7.8	602.1	1.92	6.75	239.8	0.85	
57	6.82	15.96	7.9	591.6	2	6.76	241.6	0.33	
62	6.82	17.36	7.8	580.4	2.04	6.77	242.9	0.35	
67	6.82	18.76	7.8	573.6	2.02	6.78	244.4	0.35	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	November 13, 2023
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**Consulting Scientists and Engineers**  
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 Fax: 406-723-1537

**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS07-11A
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 15, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	09:28
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	GM, LB
<b>Field Conditions</b>	Cloudy, 35F	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	13.42	<b>Calculated Purge Volume (gal):</b>	5.19
<b>Total Well Depth (ft):</b>	24.04	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	10.62	<b>Calculated Pump Run Time (min):</b>	2.59
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	21
<b>Final Depth to Water (ft):</b>	14	<b>Total Volume Purged (gal):</b>	42


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	14.4	10	10.4	555.5	2.92	5.79	178.3	1.34	Black Particulate
8	14.4	16	10.4	466.4	2.88	5.66	177.4	0.69	Black Particulate
13	14.4	26	10.4	432.7	2.69	5.58	178.2	0.61	Black Particulate
16	14.4	32	10.4	433.2	2.63	5.57	178.6	0.48	Black Particulate
19	14.4	38	10.4	433.8	2.57	5.56	179	0.62	Black Particulate

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>		<b>SAMPLE TIME</b>	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	<p>November 15, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS07-11B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 15, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	09:51
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	GM, LB
<b>Field Conditions</b>	Cloudy, 35F	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	13.25	<b>Calculated Purge Volume (gal):</b>	15.36
<b>Total Well Depth (ft):</b>	44.67	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	31.42	<b>Calculated Pump Run Time (min):</b>	7.68
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	
<b>Final Depth to Water (ft):</b>	13.4	<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	13.5	10	9.8	1,276	0.5	5.04	175.3	4.64	Clear
8	13.5	16	9.9	1,276	0.34	5.03	173.2	2.41	Clear
11	13.5	22	9.9	1,276	0.18	5.02	170.6	1.49	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	<p align="right">November 15, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS07-23
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	November 13, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	12:34
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	CE, IS
<b>Field Conditions</b>	43 F, some clouds	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	7.95	<b>Calculated Purge Volume (gal):</b>	1.08
<b>Total Well Depth (ft):</b>	16.8	<b>Pumping Rate (gal/min):</b>	0.17
<b>Water Column Height (ft):</b>	8.85	<b>Calculated Pump Run Time (min):</b>	6.40
<b>Well Diameter (in):</b>	1	<b>Actual Pump Run Time (min):</b>	16
<b>Final Depth to Water (ft):</b>	7.98	<b>Total Volume Purged (gal):</b>	2.72


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		0.85	7.1	1,180	0.5	6.97	-43.1	192	Grey water
8		1.36	7.1	1,214	0.47	6.99	-46.1	191	
11		1.87	7.1	1,206	0.46	7.99	-47.7	184	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
Duplicate				
Field Blank				
Equipment Blank				

**COMMENTS/OBSERVATIONS**

	November 13, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-10A
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 14, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	11:03
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	JG, JR
<b>Field Conditions</b>	36F, partly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	12.21	<b>Calculated Purge Volume (gal):</b>	5.77
<b>Total Well Depth (ft):</b>	24.02	<b>Pumping Rate (gal/min):</b>	1
<b>Water Column Height (ft):</b>	11.81	<b>Calculated Pump Run Time (min):</b>	5.77
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	23
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	28

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	15.89	10	8.7	1,647	1.16	6.56	12.7	82.4	Turbid
10	13.29	15	8.6	1,410	0.65	6.58	-0.1	7.11	Clear
15	13.26	20	8.5	1,394	0.67	6.62	-9	4.4	Clear
18	13.25	23	8.6	1,378	0.68	6.64	-11.7	4.2	Clear
21		26	8.6	1,368	0.66	6.65	-13	3.9	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Reduced pump rate from 2 to 1 gpm at 5 min.

November 14, 2023





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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-10B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 14, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	11:30
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	JG, JR
<b>Field Conditions</b>	37F, cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	12.26	<b>Calculated Purge Volume (gal):</b>	17.83
<b>Total Well Depth (ft):</b>	48.73	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	36.47	<b>Calculated Pump Run Time (min):</b>	8.91
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	13
<b>Final Depth to Water (ft):</b>	12.71	<b>Total Volume Purged (gal):</b>	26

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	12.71	10	8.3	1,082	2.48	6.39	114.3	3.09	Clear
8	12.71	16	8.3	1,082	2.48	6.4	114.7	1.46	Clear
11	12.71	22	8.3	1,082	2.47	6.41	115.2	0.88	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
Duplicate		
Field Blank		
Equipment Blank		

**COMMENTS/OBSERVATIONS**

	November 14, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-10C
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 14, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	12:08
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	JG, JR
<b>Field Conditions</b>	40F, partly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.46	<b>Calculated Purge Volume (gal):</b>	54.05
<b>Total Well Depth (ft):</b>	120	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	110.54	<b>Calculated Pump Run Time (min):</b>	27.02
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	29
<b>Final Depth to Water (ft):</b>	13.42	<b>Total Volume Purged (gal):</b>	58


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
9	13.37	18	8.8	957	2.58	6.67	118.9	0.32	Clear
18	13.42	36	8.9	956	2.62	6.69	117	0.26	Clear
21	13.42	42	8.9	956	2.63	6.7	116.6	0.27	Clear
24	13.42	48	8.9	956	2.6	6.7	116.4	0.17	Clear
27	13.42	54	8.9	958	2.59	6.71	116.2	0.19	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>		<b>SAMPLE TIME</b>	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	November 14, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-11A1
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 14, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:32
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	JG, JR
<b>Field Conditions</b>	51F, mostly cloudy	<b>Well Condition</b>	GOOD

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	5.86	<b>Calculated Purge Volume (gal):</b>	4.99
<b>Total Well Depth (ft):</b>	16.07	<b>Pumping Rate (gal/min):</b>	1
<b>Water Column Height (ft):</b>	10.21	<b>Calculated Pump Run Time (min):</b>	4.99
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	15
<b>Final Depth to Water (ft):</b>	6	<b>Total Volume Purged (gal):</b>	21

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	6.1	5	11	317.7	1.82	6.65	145	0.36	Clear
8	5.99	13	10.9	316.4	1.59	6.64	141.3	0.3	Clear
11	5.99	16	10.9	317.5	1.55	6.64	138.7	0.3	Clear
14	6	19	10.9	318.2	1.58	6.65	137.3	0.48	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

Reduced pump rate from 2 to 1 gpm at 5 min.

*JG*

November 14, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-11A2
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 14, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:51
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	JG, JR
<b>Field Conditions</b>	51F, mostly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	5.79	<b>Calculated Purge Volume (gal):</b>	14.42
<b>Total Well Depth (ft):</b>	35.28	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	29.49	<b>Calculated Pump Run Time (min):</b>	7.21
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	13
<b>Final Depth to Water (ft):</b>	5.95	<b>Total Volume Purged (gal):</b>	26

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	5.95	10	9.1	308.8	2.23	7.03	128.8	2.21	Clear
8	5.95	16	9.2	308.6	2.18	7.04	128.1	1.14	Clear
11	5.95	22	9.1	308.4	2.19	7.05	127.5	0.76	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>		<b>SAMPLE TIME</b>	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	November 14, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-11B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 14, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	15:18
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	JG, JR
<b>Field Conditions</b>	51F, mostly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	4.22	<b>Calculated Purge Volume (gal):</b>	35.12
<b>Total Well Depth (ft):</b>	76.05	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	71.83	<b>Calculated Pump Run Time (min):</b>	17.56
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	21
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	42

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
6	6.59	12	9.6	859	2.75	6.52	173.9	0.4	Clear
12	6.61	24	9.6	859	2.69	6.56	168.7	0.35	Clear
15	6.61	30	9.6	859	2.7	6.57	167.7	0.38	Clear
18	6.61	36	9.6	859	2.74	6.58	167.2	0.32	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID	SAMPLE TIME		
<b>Duplicate</b>	DUP-1	15:19		
<b>Field Blank</b>	FB-1	15:45		
<b>Equipment Blank</b>	EB-1	15:30		

**COMMENTS/OBSERVATIONS**

	November 14, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-11C
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 14, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	16:13
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	JG, JR
<b>Field Conditions</b>	52F, partly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	3.84	<b>Calculated Purge Volume (gal):</b>	71.96
<b>Total Well Depth (ft):</b>	151	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	147.16	<b>Calculated Pump Run Time (min):</b>	35.98
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	38
<b>Final Depth to Water (ft):</b>	12.4	<b>Total Volume Purged (gal):</b>	76


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
12	12.6	24	10.1	838	0.08	6.88	120.4	0.64	Clear
24	12.61	48	10.2	827	0.15	6.88	115.3	0.48	Clear
28	12.63	56	10.2	825	0.15	6.89	114.4	0.24	Clear
32	12.65	64	10.2	823	0.15	6.89	113.3	0.41	Clear
36	12.66	72	10.2	822	0.13	6.89	112.5	0.4	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>			<b>SAMPLE TIME</b>
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	<p style="text-align: right;">November 14, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-14A
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 15, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	11:52
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	JG, JR
<b>Field Conditions</b>	46F, partly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.09	<b>Calculated Purge Volume (gal):</b>	7.63
<b>Total Well Depth (ft):</b>	24.7	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	15.61	<b>Calculated Pump Run Time (min):</b>	3.81
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	13
<b>Final Depth to Water (ft):</b>	9.39	<b>Total Volume Purged (gal):</b>	26


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	9.39	10	8.8	488.8	0.89	6.49	222	0.45	Clear
8	9.39	16	8.8	490.7	0.85	6.49	220.6	0.38	Clear
11	9.39	22	8.8	491.8	0.84	6.5	218.6	0.38	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>		<b>SAMPLE TIME</b>	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

		<p>November 15, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-14B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 15, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	12:16
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	JG, JR
<b>Field Conditions</b>	46F, partly cloudy, breezy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	8.9	<b>Calculated Purge Volume (gal):</b>	28.75
<b>Total Well Depth (ft):</b>	67.7	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	58.8	<b>Calculated Pump Run Time (min):</b>	14.37
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	18
<b>Final Depth to Water (ft):</b>	13.23	<b>Total Volume Purged (gal):</b>	36


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	13.21	10	8.7	1,770	0.51	6.21	240.2	1.03	Clear
10	15.24	20	8.7	1,772	0.29	6.29	235.4	0.64	Clear
13	13.26	26	8.7	1,771	0.26	6.3	234.3	0.83	Clear
16	13.28	32	8.7	1,771	0.25	6.31	233.7	0.29	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
Duplicate				
Field Blank				
Equipment Blank				

**COMMENTS/OBSERVATIONS**

	November 15, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-17C
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 14, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	13:39
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Lb, Gm
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	7.16	<b>Calculated Purge Volume (gal):</b>	30.43
<b>Total Well Depth (ft):</b>	69.4	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	62.24	<b>Calculated Pump Run Time (min):</b>	15.21
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	25
<b>Final Depth to Water (ft):</b>	10.1	<b>Total Volume Purged (gal):</b>	50

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	9.77	10	9.7	1,851	0.66	6.47	261.9	0.42	Clear
11	9.95	22	9.8	1,801	0.27	6.49	250.1	0.45	Clear
14	10	28	9.8	1,788	0.2	6.49	245.9	0.28	Clear
17	10.02	34	9.8	1,783	0.17	6.48	241.9	0.25	Clear
20	10.05	40	9.8	1,781	0.13	6.48	239.6	0.24	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
Duplicate				
Field Blank				
Equipment Blank				

**COMMENTS/OBSERVATIONS**

	November 14, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-18B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 14, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	09:41
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Lb
<b>Field Conditions</b>	Sunny, cold	<b>Well Condition</b>	2 broken ears

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.24	<b>Calculated Purge Volume (gal):</b>	17.86
<b>Total Well Depth (ft):</b>	45.78	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	36.54	<b>Calculated Pump Run Time (min):</b>	8.93
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	21
<b>Final Depth to Water (ft):</b>	10.06	<b>Total Volume Purged (gal):</b>	42

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	10.05	10	10.1	3,170	0.83	4.38	207	1.51	Clear
8	10.06	16	10.2	3,181	0.43	4.34	197.2	1.28	Clear
11	10.06	22	10.2	3,188	0.31	4.37	187.5	0.98	Clear
14	10.06	28	10.2	3,188	0.23	4.36	184	0.87	Clear
17	10.06	34	10.2	3,189	0.18	4.34	180.1	0.84	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

November 14, 2023

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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	BPS11-18C
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 14, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	10:22
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Lb, Gm
<b>Field Conditions</b>	Cold, clear	<b>Well Condition</b>	1 ear broken, 1 bolt

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.14	<b>Calculated Purge Volume (gal):</b>	26.45
<b>Total Well Depth (ft):</b>	63.25	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	54.11	<b>Calculated Pump Run Time (min):</b>	13.22
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	21
<b>Final Depth to Water (ft):</b>	9.5	<b>Total Volume Purged (gal):</b>	42


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	9.5	10	10.5	1,627	0.31	5.77	240.2	0.74	Clear
10	9.5	20	10.6	1,622	0.01	5.77	230.4	0.64	Clear
13	9.5	26	10.6	1,616	0	5.79	225.6	0.64	Clear
16	9.5	32	10.6	1,614	0	5.79	221.8	0.55	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>		<b>SAMPLE TIME</b>	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	November 14, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	GS-28
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	November 14, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:00
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	IS, CE
<b>Field Conditions</b>	Cloudy, 40	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	4.93	<b>Calculated Purge Volume (gal):</b>	3.96
<b>Total Well Depth (ft):</b>	13.03	<b>Pumping Rate (gal/min):</b>	0.16
<b>Water Column Height (ft):</b>	8.1	<b>Calculated Pump Run Time (min):</b>	24.75
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	29
<b>Final Depth to Water (ft):</b>	11.98	<b>Total Volume Purged (gal):</b>	4.64

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
10	10.01	1.6	8.8	368.6	1.08	6.82	-43.3	17.6	
15	10.83	2.4	8.9	377.4	0.62	6.77	-41.5	4.67	
20		3.2	8.9	389.6	0.59	6.75	-45.2	4.62	
24	11.59	3.84	8.9	404.4	0.58	6.72	-43.5	3.33	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>		<b>SAMPLE TIME</b>	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	GS-28B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	November 14, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	15:13
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	IS, CE
<b>Field Conditions</b>	Cloudy, 40	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	4.32	<b>Calculated Purge Volume (gal):</b>	17.29
<b>Total Well Depth (ft):</b>	39.68	<b>Pumping Rate (gal/min):</b>	0.264
<b>Water Column Height (ft):</b>	35.36	<b>Calculated Pump Run Time (min):</b>	65.49
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	69
<b>Final Depth to Water (ft):</b>	4.35	<b>Total Volume Purged (gal):</b>	18.21

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
15	4.62	3.96	7.8	270.1	2.18	7.08	72.1	4.88	
30	4.62	7.92	7.8	271.5	2.16	7.08	87.2	4.39	
45	4.62	11.88	7.9	273.5	2.15	7.09	96.9	2.28	
60	4.49	15.84	8	274.2	2.24	7.09	99.7	2.7	
65	4.49	17.16	8	271.8	2.22	7.09	101.9	3.83	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID	SAMPLE TIME		
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	November 14, 2023
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**Consulting Scientists and Engineers**  
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**Butte, Montana 59701**  
**Phone: 406-782-5220**  
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	GS-29SR
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 15, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	09:29
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	JG, JR
<b>Field Conditions</b>	37F, partly cloudy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	6.16	<b>Calculated Purge Volume (gal):</b>	40.68
<b>Total Well Depth (ft):</b>	26.93	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	20.77	<b>Calculated Pump Run Time (min):</b>	20.34
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	13
<b>Final Depth to Water (ft):</b>	7.95	<b>Total Volume Purged (gal):</b>	26

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	8	10	8	368.2	3.84	6.49	232.3	0.51	Clear
8	8.01	16	8	364.6	3.72	6.54	229.4	0.33	Clear
11	8.03	22	8	362.9	3.63	6.57	226.5	0.55	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	<p align="right">November 15, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	GS-40R
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 15, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:44
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	JG, JR
<b>Field Conditions</b>	55F, mostly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	23.39	<b>Calculated Purge Volume (gal):</b>	19.51
<b>Total Well Depth (ft):</b>	63.3	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	39.91	<b>Calculated Pump Run Time (min):</b>	9.75
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	15
<b>Final Depth to Water (ft):</b>	23.53	<b>Total Volume Purged (gal):</b>	30

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	23.5	10	8.7	1,952	0.8	5.56	158.8	2.34	Clear
8	23.79	16	8.7	2,012	0.49	5.57	141.8	1.28	Clear
11	23.79	22	8.7	2,027	0.47	5.59	137.4	0.75	Clear
14	23.8	28	8.7	2,039	0.45	5.59	132.7	0.77	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	<p align="right">November 15, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	MF-07
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 14, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:25
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Lb, Gm
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.17	<b>Calculated Purge Volume (gal):</b>	12.20
<b>Total Well Depth (ft):</b>	16.4	<b>Pumping Rate (gal/min):</b>	1
<b>Water Column Height (ft):</b>	6.23	<b>Calculated Pump Run Time (min):</b>	12.20
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	18
<b>Final Depth to Water (ft):</b>	10.49	<b>Total Volume Purged (gal):</b>	18

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	10.47	5	10.8	1,382	1.21	6.42	232.5	0.62	Clear
10	10.49	10	11	1,388	0.35	6.46	223.4	0.46	Clear
13	10.49	13	11	1,388	0.24	6.47	219.7	0.49	Clear
16	10.49	16	11	1,387	0.17	6.46	216.2	0.45	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	MF-07B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 14, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:50
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Lb, Gm
<b>Field Conditions</b>	Cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.49	<b>Calculated Purge Volume (gal):</b>	14.99
<b>Total Well Depth (ft):</b>	40.15	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	30.66	<b>Calculated Pump Run Time (min):</b>	7.49
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	15
<b>Final Depth to Water (ft):</b>	12.17	<b>Total Volume Purged (gal):</b>	30

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	12.11	10	9.6	1,010	0	6.39	218	9.08	Black particulates
8	12.15	16	9.6	1,008	0	6.38	217.9	3.85	Black particulates
11	12.17	22	9.6	1,005	0	6.38	217.4	2.51	Black particulates
14	12.17	28	9.6	1,005	0	6.37	216.7	1.54	Black particulates

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	MF-11
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 13, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	13:42
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Lb, Gm
<b>Field Conditions</b>	Sunny	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	8.7	<b>Calculated Purge Volume (gal):</b>	9.95
<b>Total Well Depth (ft):</b>	13.78	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	5.08	<b>Calculated Pump Run Time (min):</b>	4.97
<b>Well Diameter (in):</b>	4	<b>Actual Pump Run Time (min):</b>	14
<b>Final Depth to Water (ft):</b>	9.65	<b>Total Volume Purged (gal):</b>	28


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	9.65	10	11.1	697.5	3.07	7.12	108.6	1.4	Clear
8	9.65	16	11.1	685.6	2.96	7.12	106	1.33	Clear
11	9.65	22	11.1	680.9	2.96	7.13	104.7	2.13	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	<p align="right">November 13, 2023</p>
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**Field Sample Data Sheet**

Project Name: Loading Study

Piezometer/Station: PM-MH-MSD108-111423 11/14/2023 Arival Time 9:53  
 Sampling Personnel: \_\_\_\_\_ Weather Conditions \_\_\_\_\_  
 Sketch on Back: Yes No Photographs: Yes  No

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Purge Data:  
 Purge Method Peristaltic Piezometer Depth \_\_\_\_\_ Feet  
 Start Purging 9:56 Depth to Water 5.67 Feet  
 Purge Rate \_\_\_\_\_ Column Head \_\_\_\_\_ Feet  
 Rate Change 1) Time \_\_\_\_\_ Rate \_\_\_\_\_ Casing Diameter \_\_\_\_\_ Inch  
 2) Time \_\_\_\_\_ Rate \_\_\_\_\_ 3 Well Volumes \_\_\_\_\_ Gal.  
 Sample Time \_\_\_\_\_ Total Purge Volume \_\_\_\_\_ Gal.

**Sample Data:**

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
PM-MH-MSD108-111423	250 ml		HNO3	Al, As, B, Cd, Ca, Cu, Fe, Pb, Li, Mg, Ag, U, Zn Hardness, Low level Hg
PM-MH-MSD108-111423	250ml	✓	HNO3	Al, As, B, Cd, Ca, Cu, Fe, Pb, Li, Mg, Ag, U, Zn Hardness, Low level Hg
PM-MH-MSD108-111423	250ml		Raw	Alkalinity, TDS, TSS, Sulfate
PM-MH-MSD108-111423	250 ml		H2SO4	NO2/NO3

**Field Parameter:**

Time	pH	Temp (°C)	S.C. (µhos/cm)	ORP(mV)	D.O. (mg/L)	Turb. NTU
10:00	6.19	8.3	1148	88.3	1.97	
10:03	6.20	8.3	1148	86.6	1.80	
10:06	6.19	8.2	1148	85.8	1.68	
*****Final Field Parameters Prior to Sampling*****						
10:09	6.20	8.4	1151	85.3	1.70	7.72

Field Equipment Q/A and Calibration: Recorded in field Logbook

Field Remarks: Collected Split samples w/WET  
collected clove @ this location

**Field Sample Data Sheet**

Page 1 of 1

Project Name: Loading Study

Piezometer/Station: PM-MH-MSD113-111423 11/14/2023 Arival Time 10:53

Sampling Personnel: \_\_\_\_\_ Weather Conditions 41° P, Cloudy  
 Sketch on Back: Yes    No    Photographs: Yes    No   

**Purge Data:**

Purge Method Peristaltic Piezometer Depth \_\_\_\_\_ Feet  
 Start Purging 10:58 Depth to Water 5.70 Feet  
 Purge Rate \_\_\_\_\_ Column Head \_\_\_\_\_ Feet  
 Rate Change 1) Time \_\_\_\_\_ Rate \_\_\_\_\_ Casing Diameter \_\_\_\_\_ Inch  
 2) Time \_\_\_\_\_ Rate \_\_\_\_\_ 3 Well Volumes \_\_\_\_\_ Gal.  
 Sample Time 11:15 Total Purge Volume \_\_\_\_\_ Gal.

**Sample Data:**

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
PM-MH-MSD113-111423	250 ml		HNO3	Al, As, B, Cd, Ca, Cu, Fe, Pb, Li, Mg, Ag, U, Zn Hardness, Low level Hg
PM-MH-MSD113-111423	250ml	✓	HNO3	Al, As, B, Cd, Ca, Cu, Fe, Pb, Li, Mg, Ag, U, Zn Hardness, Low level Hg
PM-MH-MSD113-111423	250ml		Raw	Alkalinity, TDS, TSS, Sulfate
PM-MH-MSD113-111423	250 ml		H2SO4	NO2/NO3

**Field Parameter:**

Time	pH	Temp(°C)	S.C. (µhos/cm)	ORP(mV)	D.O. (mg/L)	Turb. NTU
11:02	5.79	9.3	1726	112.5	2.53	
11:05	5.78	9.6	1754	114.2	1.75	
11:08	5.77	9.5	1758	114.5	1.60	
*****Final Field Parameters Prior to Sampling*****						
11-11	5.78	9.6	1761	114.3	1.65	5.62

Field Equipment Q/A and Calibration: Recorded in field Logbook

Field Remarks: Collected Split samples W/WET



**Field Sample Data Sheet**

Page 1 of 1

Project Name: Loading Study

Piezometer/Station: PM-MH-MSD116-111423 11/14/2023 Arival Time 11:28  
 Sampling Personnel: \_\_\_\_\_ Weather Conditions 42° P. Cloudy  
 Sketch on Back: Yes \_\_\_ No \_\_\_ Photographs: Yes \_\_\_ No \_\_\_

**Purge Data:**

Purge Method Peristaltic Piezometer Depth \_\_\_\_\_ Feet  
 Start Purging 11:33 Depth to Water 3.30 Feet  
 Purge Rate \_\_\_\_\_ Column Head \_\_\_\_\_ Feet  
 Rate Change 1) Time \_\_\_\_\_ Rate \_\_\_\_\_ Casing Diameter \_\_\_\_\_ Inch  
 2) Time \_\_\_\_\_ Rate \_\_\_\_\_ 3 Well Volumes \_\_\_\_\_ Gal.  
 Sample Time 11:53 Total Purge Volume \_\_\_\_\_ Gal.

**Sample Data:**

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
PM-MH-MSD116-111423	250 ml		HNO3	Al, As, B, Cd, Ca, Cu, Fe, Pb, Li, Mg, Ag, U, Zn Hardness, Low level Hg
PM-MH-MSD116-111423	250ml	v	HNO3	Al, As, B, Cd, Ca, Cu, Fe, Pb, Li, Mg, Ag, U, Zn Hardness, Low level Hg
PM-MH-MSD116-111423	250ml		Raw	Alkalinity, TDS, TSS, Sulfate
PM-MH-MSD116-111423	250 ml		H2SO4	NO2/NO3

**Field Parameter:**

Time	pH	Temp (C)	S.C. (µhos/cm)	ORP(mV)	D.O. (mg/L)	Turb. NTU
11:38	4.42	9.4	3156	118.4	0.56	
11:41	4.45	9.1	3116	127.8	1.02	
11:44	4.45	8.9	3103	122.3	0.57	
11:47	4.45	9.0	3108	118.3	0.49	
*****Final Field Parameters Prior to Sampling*****						
11:50	4.45	9.1	3124	119.1	0.50	0.99

Field Equipment Q/A and Calibration: Recorded in field Logbook

Field Remarks: Collected Split Samples W/WET





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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	MSD-02A
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	November 16, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	10:19
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	JG, JR
<b>Field Conditions</b>	33F, partly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	8.57	<b>Calculated Purge Volume (gal):</b>	2.59
<b>Total Well Depth (ft):</b>	13.88	<b>Pumping Rate (gal/min):</b>	0.25
<b>Water Column Height (ft):</b>	5.31	<b>Calculated Pump Run Time (min):</b>	10.38
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	15
<b>Final Depth to Water (ft):</b>	9.53	<b>Total Volume Purged (gal):</b>	3.75


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
4	9.11	1	10.4	739	0.5	5.1	169.3	2.11	Clear
8	9.28	2	10.4	746	0.46	5.04	174.4	3.1	Clear
12	9.44	3	10.4	748	0.43	5.03	178.1	1.13	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	<p align="right">November 16, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	MSD-02B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 13, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	16:16
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	GMulholland, LBitterman
<b>Field Conditions</b>	Sunny, 47F	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.29	<b>Calculated Purge Volume (gal):</b>	18.33
<b>Total Well Depth (ft):</b>	47.78	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	37.49	<b>Calculated Pump Run Time (min):</b>	9.16
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	24
<b>Final Depth to Water (ft):</b>	10.5	<b>Total Volume Purged (gal):</b>	48


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	10.76	10	10.2	4,424	0.56	4.35	190.9	0.76	Clear
10	10.76	20	10.2	4,425	0.29	4.35	173.2	0.34	Clear
13	10.76	26	10.2	4,422	0.18	4.35	164.5	0.55	Clear
16	10.76	32	10.2	4,421	0.12	4.35	160.7	0.39	Clear
19	10.76	38	10.2	4,421	0.1	4.35	158.2	0.77	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID	SAMPLE TIME		
Duplicate	DUP-2	16:17		
Field Blank	FB-2	16:02		
Equipment Blank	EB-2	16:30		

**COMMENTS/OBSERVATIONS**

	November 13, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	MSD-03
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 13, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	12:55
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	GMulholland, LBitterman
<b>Field Conditions</b>	Cloudy, 35F	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	8.22	<b>Calculated Purge Volume (gal):</b>	20.60
<b>Total Well Depth (ft):</b>	50.36	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	42.14	<b>Calculated Pump Run Time (min):</b>	10.30
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	18
<b>Final Depth to Water (ft):</b>	8.45	<b>Total Volume Purged (gal):</b>	36

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	8.8	10	10.5	2,532	0.6	5.8	131	0.73	Clear
8	8.8	16	10.5	2,535	0.41	5.8	129.6	0.43	Clear
11	8.8	22	10.5	2,554	0.36	5.81	129.2	0.44	Clear
14	8.8	28	10.5	2,570	0.35	5.82	129	0.35	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	<p align="right">November 13, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	MSD-04
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 13, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:10
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Lb, Gm
<b>Field Conditions</b>	Sunny	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.45	<b>Calculated Purge Volume (gal):</b>	21.12
<b>Total Well Depth (ft):</b>	52.65	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	43.2	<b>Calculated Pump Run Time (min):</b>	10.56
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	20
<b>Final Depth to Water (ft):</b>	9.97	<b>Total Volume Purged (gal):</b>	40

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	9.95	10	9.1	874	0.64	6.45	128.9	3	Clear
8	9.96	16	9.1	871	0.28	6.49	126.3	1.52	Clear
11	9.97	22	9.1	873	0.14	6.48	124	0.93	Clear
14	9.97	28	9.1	879	0.1	6.45	123	0.68	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	November 13, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	MSDSG-02
<b>Sampling Method</b>	Other	<b>Sample Date</b>	November 16, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:19
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Lb, Gm
<b>Field Conditions</b>	Sunny, windy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	0	<b>Calculated Purge Volume (gal):</b>	
<b>Total Well Depth (ft):</b>		<b>Pumping Rate (gal/min):</b>	
<b>Water Column Height (ft):</b>		<b>Calculated Pump Run Time (min):</b>	
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	0
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	

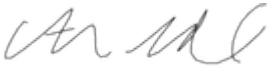
**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
			5.9	287.9	7.85	7.77	215	81.5	Yellow tint

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	November 16, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	MSDSG-03
<b>Sampling Method</b>	Other	<b>Sample Date</b>	November 16, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	15:20
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Lb, Gm
<b>Field Conditions</b>	Sunny, windy	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	0	<b>Calculated Purge Volume (gal):</b>	
<b>Total Well Depth (ft):</b>		<b>Pumping Rate (gal/min):</b>	
<b>Water Column Height (ft):</b>		<b>Calculated Pump Run Time (min):</b>	
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	0
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
1,519			5.9	294.8	7.714	7.72	203.6	6.79	Plant debris in water

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>		<b>SAMPLE TIME</b>	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	MSDSG-05
<b>Sampling Method</b>	Other	<b>Sample Date</b>	November 16, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:41
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	GM, LB
<b>Field Conditions</b>	Sunny, breezy, 45F	<b>Well Condition</b>	

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	0	<b>Calculated Purge Volume (gal):</b>	
<b>Total Well Depth (ft):</b>		<b>Pumping Rate (gal/min):</b>	
<b>Water Column Height (ft):</b>		<b>Calculated Pump Run Time (min):</b>	
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
1,440			6.1	260	12.08	7.72	178.7	3.97	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	<p style="text-align: right;">November 16, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-01A
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	November 16, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	13:21
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	JG, JR
<b>Field Conditions</b>	43F, mostly sunny	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	12.74	<b>Calculated Purge Volume (gal):</b>	4.78
<b>Total Well Depth (ft):</b>	22.52	<b>Pumping Rate (gal/min):</b>	0.5
<b>Water Column Height (ft):</b>	9.78	<b>Calculated Pump Run Time (min):</b>	9.56
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	20
<b>Final Depth to Water (ft):</b>	13.02	<b>Total Volume Purged (gal):</b>	10

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	13.02	2.5	9	1,148	0.76	4.96	260.2	4.23	Clear
8	13.02	4	9	1,191	0.69	4.95	259.1	1.43	Clear
11	13.02	5.5	9	1,225	0.49	4.88	258	1.58	Clear
14	13.02	7	9	1,247	0.47	4.84	256.3	0.86	Clear
17		8.5	9	1,258	0.4	4.82	255	0.76	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	<p align="right">November 16, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-01B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 15, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	15:02
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Lb, Gm
<b>Field Conditions</b>	Partly cloudy, windy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	13.65	<b>Calculated Purge Volume (gal):</b>	17.02
<b>Total Well Depth (ft):</b>	48.46	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	34.81	<b>Calculated Pump Run Time (min):</b>	8.51
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	23
<b>Final Depth to Water (ft):</b>	18.3	<b>Total Volume Purged (gal):</b>	46

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	18.29	10	10	1,317	0.49	5.75	162.9	29.3	Clear
10	18.41	20	10	1,350	0.22	5.77	163.6	6.69	Clear
13	18.35	26	10	1,351	0.19	5.76	163.9	4.49	Clear
16	18.4	32	10	1,345	0.13	5.74	164.5	2.66	Clear
19	18.41	38	10	1,334	0	5.75	164.8	1.89	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID	SAMPLE TIME		
<b>Duplicate</b>	DUP-3	15:03		
<b>Field Blank</b>	FB-3	14:45		
<b>Equipment Blank</b>	EB-3	15:15		

**COMMENTS/OBSERVATIONS**

	November 15, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-02A
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	November 16, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	11:50
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	JG, JR
<b>Field Conditions</b>	40F, mostly sunny	<b>Well Condition</b>	No bolts

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	12.02	<b>Calculated Purge Volume (gal):</b>	1.45
<b>Total Well Depth (ft):</b>	15	<b>Pumping Rate (gal/min):</b>	0.25
<b>Water Column Height (ft):</b>	2.98	<b>Calculated Pump Run Time (min):</b>	5.82
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	13
<b>Final Depth to Water (ft):</b>	12.86	<b>Total Volume Purged (gal):</b>	3.25

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
3	12.38	0.75	10.5	2,087	0.46	3.95	219.4	13	Clear
6	12.61	1.5	10.7	2,061	0.41	3.9	217.9	13.2	Clear
9	12.7	2.25	10.7	2,054	0.39	3.88	220.1	13.7	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
Duplicate		
Field Blank		
Equipment Blank		

**COMMENTS/OBSERVATIONS**

	November 16, 2023
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**Consulting Scientists and Engineers**  
**480 East Park Street**  
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**Phone: 406-782-5220**  
**Fax: 406-723-1537**

**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-02B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	November 16, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	11:29
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	JG, JR
<b>Field Conditions</b>	JG, JR	<b>Well Condition</b>	No bolts

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.61	<b>Calculated Purge Volume (gal):</b>	16.2
<b>Total Well Depth (ft):</b>	43.76	<b>Pumping Rate (gal/min):</b>	0.5
<b>Water Column Height (ft):</b>	33.15	<b>Calculated Pump Run Time (min):</b>	32.4
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	36
<b>Final Depth to Water (ft):</b>	10.68	<b>Total Volume Purged (gal):</b>	18


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
11	10.67	5.5	8.8	4,216	0.48	4.65	145.8	2.09	Blue tint
22	10.68	11	8.9	5,133	0.95	4.31	163.4	3.73	Blue tint
26	10.68	13	8.9	5,159	0.98	4.31	162.3	3.46	Blue tint
30	10.68	15	8.9	5,166	0.99	4.31	161.6	3.65	Blue tint
33	10.68	16.5	8.9	5,163	1.01	4.32	161.6	3.84	Blue tint

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>	<b>SAMPLE TIME</b>		
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	<div align="right">November 16, 2023</div>
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**Consulting Scientists and Engineers**  
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-03A
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 15, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	14:26
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Lb, Gm
<b>Field Conditions</b>	Sunny, windy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	14.31	<b>Calculated Purge Volume (gal):</b>	4.29
<b>Total Well Depth (ft):</b>	23.09	<b>Pumping Rate (gal/min):</b>	1
<b>Water Column Height (ft):</b>	8.78	<b>Calculated Pump Run Time (min):</b>	4.29
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	18
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	18

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5		5	11.4	3,324	0.4	5.15	118.8	11.9	Particulates
10		10	11.4	3,275	0.2	5.13	93.1	4.82	Particulates
13		13	11.2	3,226	0.09	5.17	94.6	3.57	Particulates
16		16	11.2	3,217	0.02	5.18	95.7	3.1	Particulates

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID	SAMPLE TIME		
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

DTW at top of pump for all readings and for final

November 15, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-04B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	November 16, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	15:42
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	IS
<b>Field Conditions</b>	Sunny, 45	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	14.32	<b>Calculated Purge Volume (gal):</b>	18.72
<b>Total Well Depth (ft):</b>	52.61	<b>Pumping Rate (gal/min):</b>	0.23
<b>Water Column Height (ft):</b>	38.29	<b>Calculated Pump Run Time (min):</b>	81.40
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	84
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	19.32

**FIELD PARAMETERS**

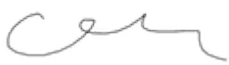
TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
30	14.46	6.9	8.7	2,004	1.83	4.84	165.9	5.85	
60	14.47	13.8	8.5	1,980	0.31	4.89	152.1	4.44	
75	14.48	17.25	8.5	1,977	0.29	4.89	146.7	2.34	
80	14.49	18.4	8.5	1,975	0.3	4.89	145.3	2.65	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	<p align="right">November 16, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-05A
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 14, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	11:07
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Lb,Gm
<b>Field Conditions</b>	Partlycloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	12.44	<b>Calculated Purge Volume (gal):</b>	5.88
<b>Total Well Depth (ft):</b>	24.48	<b>Pumping Rate (gal/min):</b>	1
<b>Water Column Height (ft):</b>	12.04	<b>Calculated Pump Run Time (min):</b>	5.88
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	29
<b>Final Depth to Water (ft):</b>	15.2	<b>Total Volume Purged (gal):</b>	29


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	15.95	5	11.1	1,420	0.69	6.14	176.5	11.2	Black particulates
8	16.05	8	10.9	1,893	0.3	5.94	164.9	9.56	Black particulates
13	15.6	13	10.9	1,818	0.11	6.06	154.6	2.83	Black particulates
20	15.4	20	11	1,727	0.21	6.09	148.1	2.03	Black particulates
23	15.38	23	10.9	1,723	0.2	6.11	146	1.41	Black particulates
26	15.35	26	11	1,720	0.21	6.09	144	1.53	Black particulates

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID	SAMPLE TIME		
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	November 14, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-05BR
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 14, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	11:33
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Lb, Gm
<b>Field Conditions</b>	Mostly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	11.05	<b>Calculated Purge Volume (gal):</b>	17.83
<b>Total Well Depth (ft):</b>	47.53	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	36.48	<b>Calculated Pump Run Time (min):</b>	8.91
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	18
<b>Final Depth to Water (ft):</b>	13.75	<b>Total Volume Purged (gal):</b>	36

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	13.62	10	10.4	3,016	0.04	4.22	181.1	2.42	Black particulates
10	13.69	20	10.3	3,067	0.02	4.24	194.4	0.89	Black particulates
13	13.72	26	10.3	3,091	0.02	4.26	201.2	0.72	Black particulates
16	13.74	32	10.4	3,112	0.03	4.28	204.2	0.18	Black particulates

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
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**COMMENTS/OBSERVATIONS**

	<p align="right">November 14, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-06A
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 14, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	15:19
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	LB,GM
<b>Field Conditions</b>	Overcast, 46F	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	12.85	<b>Calculated Purge Volume (gal):</b>	6.55
<b>Total Well Depth (ft):</b>	26.25	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	13.4	<b>Calculated Pump Run Time (min):</b>	3.27
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	18
<b>Final Depth to Water (ft):</b>	13.86	<b>Total Volume Purged (gal):</b>	36

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	15.82	10	10.5	1,322	0.65	6.41	216.3	2.68	Clear
8	15.9	16	10.5	1,319	0.25	6.43	210.2	2.06	Clear
11	15.93	22	10.6	1,321	0.1	6.42	204.5	0.93	Clear
14	15.93	28	10.5	1,325	0.07	6.43	200.8	1.09	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	November 14, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-06B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 14, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	15:50
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	GM, LB
<b>Field Conditions</b>	Overcast, 46F	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.58	<b>Calculated Purge Volume (gal):</b>	18.37
<b>Total Well Depth (ft):</b>	48.16	<b>Pumping Rate (gal/min):</b>	1.5
<b>Water Column Height (ft):</b>	37.58	<b>Calculated Pump Run Time (min):</b>	12.25
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	23
<b>Final Depth to Water (ft):</b>	26.49	<b>Total Volume Purged (gal):</b>	34.5

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	26.6	7.5	10.4	970	0.81	5.74	192.1	12.1	Clear
10	26.6	15	10.3	960	0.78	6.06	190.6	4.68	Clear
13	26.8	19.5	10.2	957	0.14	6.06	191.5	2.08	Clear
16	26.99	24	10.2	972	0.07	6.06	192.2	1.31	Clear
19	27.15	28.5	10.2	968	0.05	6.04	192.6	0.85	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	November 14, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-07A
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 13, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	15:07
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	Lb, Gm
<b>Field Conditions</b>	Sunny	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	8.69	<b>Calculated Purge Volume (gal):</b>	6.27
<b>Total Well Depth (ft):</b>	21.53	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	12.84	<b>Calculated Pump Run Time (min):</b>	3.13
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	31
<b>Final Depth to Water (ft):</b>	9.93	<b>Total Volume Purged (gal):</b>	62

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	9.9	10	10.5	836	1.85	6.92	134.8	1.16	Clear
8	9.9	16	10.5	821	1.5	6.94	131.2	0.83	Clear
15	9.9	30	10.5	804	0.99	6.94	126.7	0.59	Clear
22	9.92	44	10.5	798	0.67	6.92	124	0.54	Clear
25	9.93	50	10.5	796	0.63	6.93	123.5	0.41	Clear
28	9.93	56	10.5	791	0.64	6.91	122.8	0.38	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

<p align="center"><i>LB</i></p>	<p align="right">November 13, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-07B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	November 16, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	13:14
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	IS
<b>Field Conditions</b>	Sunny, 40	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.34	<b>Calculated Purge Volume (gal):</b>	25.96
<b>Total Well Depth (ft):</b>	62.44	<b>Pumping Rate (gal/min):</b>	0.21
<b>Water Column Height (ft):</b>	53.1	<b>Calculated Pump Run Time (min):</b>	123.64
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	125
<b>Final Depth to Water (ft):</b>		<b>Total Volume Purged (gal):</b>	26.25

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
30	10.04	6.3	7.6	3,827	3.21	5.92	297.6	0.74	
60	9.98	12.6	7.5	3,716	0.79	5.94	220.1	0.56	
90		18.9	7.5	3,694	0.35	5.95	205.8	1.2	
105	9.99	22.05	7.5	3,680	0.34	5.95	202.2	0.88	
120	10.1	25.2	7.5	3,676	0.32	5.94	200.5	0.66	
123	10.1	25.83	7.5	3,682	0.33	5.96	199.6	1.49	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	<p align="right">November 16, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-08A
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	November 14, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	15:43
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	IS
<b>Field Conditions</b>	Some clouds, 49	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	11.42	<b>Calculated Purge Volume (gal):</b>	2.94
<b>Total Well Depth (ft):</b>	17.44	<b>Pumping Rate (gal/min):</b>	0.25
<b>Water Column Height (ft):</b>	6.02	<b>Calculated Pump Run Time (min):</b>	11.77
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	15
<b>Final Depth to Water (ft):</b>	12.94	<b>Total Volume Purged (gal):</b>	3.75


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	12.08	1.25	8.7	1,185	0.35	6.36	-6.4	3.36	
8	12.03	2	8.7	1,200	0.35	6.39	-6.6	2.6	
12	12.04	3	8.7	1,220	0.36	6.4	-6.8	1.95	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
<b>QA SAMPLE</b>	<b>SAMPLE ID</b>	<b>SAMPLE TIME</b>		
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**



November 14, 2023



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GROUNDWATER SAMPLING FORM

Project Name	Parrot Tailings Groundwater	Project Location	Butte, MT
Job number(s)	NRDPM16 TO 2   Task 001	Sample ID	PMP-08A2
Sampling Method	12-volt submersible	Sample Date	November 14, 2023
Decon Method	3-stage (soap/tap, HCl, DI)	Sample Time	10:02
Water Disposal	Containerized and disposed at Belmont drain	Sampler(s) Initials	JG, JR
Field Conditions	35F, partly cloudy	Well Condition	Good

WELL AND PURGE DATA

Initial Depth to Water (ft):	11.96	Calculated Purge Volume (gal):	7.06
Total Well Depth (ft):	26.41	Pumping Rate (gal/min):	2
Water Column Height (ft):	14.45	Calculated Pump Run Time (min):	3.53
Well Diameter (in):	2	Actual Pump Run Time (min):	12.36
Final Depth to Water (ft):		Total Volume Purged (gal):	24.72

FIELD PARAMETERS

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	12.36	10	8.3	588.5	0.7	6.36	203.3	0.85	Clear
8	12.36	16	8.3	587.1	0.69	6.34	202.2	0.59	Clear
11	12.36	22	8.4	585.7	0.68	6.34	201	0.38	Clear

SAMPLE COLLECTION

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID			SAMPLE TIME
Duplicate				
Field Blank				
Equipment Blank				

COMMENTS/OBSERVATIONS

*JG*

November 14, 2023



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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-08B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 14, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	09:42
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	JG, JR
<b>Field Conditions</b>	34F, partly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	12.19	<b>Calculated Purge Volume (gal):</b>	14.81
<b>Total Well Depth (ft):</b>	42.48	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	30.29	<b>Calculated Pump Run Time (min):</b>	7.40
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	25
<b>Final Depth to Water (ft):</b>	13.18	<b>Total Volume Purged (gal):</b>	50

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	13.17	10	8.1	1,375	3.33	6.14	224.9	1.64	Clear
8	13.17	16	8.1	1,367	2.95	6.19	219.7	1.06	Clear
11	13.17	22	8.1	1,361	2.68	6.23	216.1	0.97	Clear
14	13.18	28	8.2	1,357	2.26	6.26	213.6	0.73	Clear
17	13.18	34	8.2	1,354	2.11	6.27	212	0.65	Clear
20	13.18	40	8.2	1,352	2.07	6.29	210.7	0.49	Clear
23	13.18	46	8.1	1,350	2.04	6.3	209.9	0.486	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	<p align="right">November 14, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-09A
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 13, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	15:02
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	JG, JR
<b>Field Conditions</b>	48F, partly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	10.97	<b>Calculated Purge Volume (gal):</b>	10.51
<b>Total Well Depth (ft):</b>	32.48	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	21.51	<b>Calculated Pump Run Time (min):</b>	5.25
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	13
<b>Final Depth to Water (ft):</b>	11.48	<b>Total Volume Purged (gal):</b>	26

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	11.54	10	7.8	1,263	0.75	6.56	151	4.71	Clear
8	11.48	16	7.8	1,261	0.74	6.58	149.3	2.52	Clear
11	11.48	22	7.8	1,260	0.73	6.59	147.9	1.13	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

		November 13, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-09B
<b>Sampling Method</b>	Peristaltic	<b>Sample Date</b>	November 15, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	15:37
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	IS
<b>Field Conditions</b>	Sunny, 45	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	9.12	<b>Calculated Purge Volume (gal):</b>	21.25
<b>Total Well Depth (ft):</b>	52.59	<b>Pumping Rate (gal/min):</b>	0.19
<b>Water Column Height (ft):</b>	43.47	<b>Calculated Pump Run Time (min):</b>	111.87
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	115
<b>Final Depth to Water (ft):</b>	11.66	<b>Total Volume Purged (gal):</b>	21.85

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
30	11.16	5.7	7.2	976	3.65	6.43	318.3	1.45	
60	11.32	11.4	7.2	1,117	1.79	6.57	315.8	1.56	
90	11.49	17.1	7.1	1,210	2.2	6.62	318.8	1.26	
105	11.58	19.95	7.1	1,224	2.19	6.63	318.6	1	
110	11.59	20.9	7.1	1,231	2.2	6.63	320.1	1.14	

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	November 15, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-10A
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 15, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	10:03
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	JG, JR
<b>Field Conditions</b>	37F, partly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	3.72	<b>Calculated Purge Volume (gal):</b>	6.14
<b>Total Well Depth (ft):</b>	16.29	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	12.57	<b>Calculated Pump Run Time (min):</b>	3.07
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	18
<b>Final Depth to Water (ft):</b>	4.09	<b>Total Volume Purged (gal):</b>	36

**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	4.09	10	10.6	289	2.49	6.46	212.5	8.23	Clear
8	4.09	16	10.7	285.7	2.22	6.49	208.5	6.43	Clear
11	4.1	22	10.7	284.6	2.16	6.5	206.6	3.59	Clear
14	4.1	28	10.7	283.4	2.12	6.53	203.3	2.93	Clear
17	4.1	34	10.8	282	2.14	6.56	200.6	1.79	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
<b>Duplicate</b>		
<b>Field Blank</b>		
<b>Equipment Blank</b>		

**COMMENTS/OBSERVATIONS**

	<p align="right">November 15, 2023</p>
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-10B
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 15, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	10:26
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	JG, JR
<b>Field Conditions</b>	40F, partly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	1.93	<b>Calculated Purge Volume (gal):</b>	24.30
<b>Total Well Depth (ft):</b>	51.63	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	49.7	<b>Calculated Pump Run Time (min):</b>	12.15
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	16
<b>Final Depth to Water (ft):</b>	3.75	<b>Total Volume Purged (gal):</b>	32


**FIELD PARAMETERS**

TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	3.76	10	9.1	481.8	2.57	6.7	195.7	2.44	Clear
8	3.76	16	9.1	485.4	2.54	6.71	194.7	1.91	Clear
11	3.74	22	9.2	487	2.56	6.72	194.1	1.32	Clear
14	3.75	28	9.2	490.2	2.56	6.72	193.5	0.86	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon
QA SAMPLE	SAMPLE ID		SAMPLE TIME	
<b>Duplicate</b>				
<b>Field Blank</b>				
<b>Equipment Blank</b>				

**COMMENTS/OBSERVATIONS**

	November 15, 2023
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**GROUNDWATER SAMPLING FORM**

<b>Project Name</b>	Parrot Tailings Groundwater	<b>Project Location</b>	Butte, MT
<b>Job number(s)</b>	NRDPM16 TO 2   Task 001	<b>Sample ID</b>	PMP-11A
<b>Sampling Method</b>	12-volt submersible	<b>Sample Date</b>	November 13, 2023
<b>Decon Method</b>	3-stage (soap/tap, HCl, DI)	<b>Sample Time</b>	11:13
<b>Water Disposal</b>	Containerized and disposed at Belmont drain	<b>Sampler(s) Initials</b>	JG, JR
<b>Field Conditions</b>	40F, partly cloudy	<b>Well Condition</b>	Good

**WELL AND PURGE DATA**

<b>Initial Depth to Water (ft):</b>	13.73	<b>Calculated Purge Volume (gal):</b>	8.97
<b>Total Well Depth (ft):</b>	32.08	<b>Pumping Rate (gal/min):</b>	2
<b>Water Column Height (ft):</b>	18.35	<b>Calculated Pump Run Time (min):</b>	4.48
<b>Well Diameter (in):</b>	2	<b>Actual Pump Run Time (min):</b>	15
<b>Final Depth to Water (ft):</b>	14.38	<b>Total Volume Purged (gal):</b>	30

**FIELD PARAMETERS**


TIME (min)	DEPTH TO WATER (ft)	VOLUME PURGED (gal)	WATER TEMP (C)	SC (uS)	DO (mg/l)	pH (s.u.)	ORP (mv)	TURBIDITY (NTU)	COLOR AND OBSERVATIONS
5	14.38	10	7	281.3	3.24	6.67	142.1	1.53	Clear
8		16	7	281	2.98	6.66	136	0.73	Clear
11	14.38	22	7	279.7	2.88	6.66	131.7	0.56	Clear
14	14.38	28	7	280.1	2.81	6.67	128.4	0.46	Clear

**SAMPLE COLLECTION**

CONTAINERS	COLLECTED	PRESERVATIVES	FILTERED	ANALYTES
1L poly - white	YES	Raw	NO	pH, SC, Alkalinity Anions, TDS, An-Cat Balance
250 ml poly - yellow	YES	H2SO4	NO	Nitrate + Nitrate
250 ml poly - red	YES	HNO3	YES	Dissolved Metals, Hardness
250 ml poly - red	YES	HNO3	YES	Dissolved Rare Earth Metals
250 ml poly amber glass	YES	H3PO4	YES	Total Dissolved Carbon
250 ml poly amber glass	YES	H3PO4	NO	Total Organic Carbon

QA SAMPLE	SAMPLE ID	SAMPLE TIME
Duplicate		
Field Blank		
Equipment Blank		

**COMMENTS/OBSERVATIONS**

	November 13, 2023
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## **ATTACHMENT F**

### Laboratory Reports



## ANALYTICAL SUMMARY REPORT

February 21, 2023

MT Dept of Justice  
Natural Resource Damage Program  
Helena, MT 59620-1425

Work Order: H23010433      Quote ID: H2187

Project Name: NRDPM02 T08

Energy Laboratories Inc Helena MT received the following 39 samples for MT Dept of Justice on 1/20/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H23010433-001	GS-28B	01/17/23 14:26	01/20/23	Groundwater	Rare Earth Metals, Dissolved Metals by ICP/ICPMS, Dissolved Alkalinity to pH 4.5 Anion - Cation Balance Carbon, Dissolved Organic Conductivity Carbon, Total Organic Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Solids, Total Dissolved
H23010433-002	AMW-13A	01/17/23 15:23	01/20/23	Groundwater	Same As Above
H23010433-003	PMP-11B	01/17/23 16:16	01/20/23	Groundwater	Same As Above
H23010433-004	BSP07-07	01/18/23 10:38	01/20/23	Groundwater	Same As Above
H23010433-005	BPS07-07B	01/17/23 16:51	01/20/23	Groundwater	Same As Above
H23010433-006	BPS07-23	01/18/23 11:15	01/20/23	Groundwater	Same As Above
H23010433-007	DUP-1	01/17/23 14:30	01/20/23	Groundwater	Same As Above
H23010433-008	FB-1	01/17/23 14:35	01/20/23	Groundwater	Same As Above
H23010433-009	EB-1	01/17/23 14:40	01/20/23	Groundwater	Same As Above
H23010433-010	GS-28	01/17/23 11:04	01/20/23	Groundwater	Same As Above
H23010433-011	AMW-13B	01/19/23 16:00	01/20/23	Groundwater	Same As Above
H23010433-012	AMW-13B2	01/19/23 16:20	01/20/23	Groundwater	Same As Above
H23010433-013	AMW-13C	01/19/23 16:40	01/20/23	Groundwater	Same As Above
H23010433-014	PMP-11A	01/18/23 13:15	01/20/23	Groundwater	Same As Above
H23010433-015	GS-29SR	01/18/23 13:45	01/20/23	Groundwater	Same As Above
H23010433-016	AMC-23B	01/18/23 12:30	01/20/23	Groundwater	Same As Above
H23010433-017	PMP-09B	01/19/23 9:52	01/20/23	Groundwater	Same As Above
H23010433-018	AMC-24B	01/18/23 13:05	01/20/23	Groundwater	Same As Above
H23010433-019	PMP-08A	01/19/23 14:35	01/20/23	Groundwater	Same As Above
H23010433-020	PMP-10A	01/18/23 14:15	01/20/23	Groundwater	Same As Above
H23010433-021	BPS11-11A1	01/19/23 14:00	01/20/23	Groundwater	Same As Above

## ANALYTICAL SUMMARY REPORT

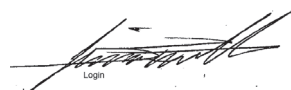
H23010433-022	BPS11-11A2	01/19/23 14:30	01/20/23	Groundwater	Same As Above
H23010433-023	BPS11-11B	01/19/23 15:00	01/20/23	Groundwater	Same As Above
H23010433-024	BPS11-11C	01/19/23 15:30	01/20/23	Groundwater	Same As Above
H23010433-025	AMC-24C	01/19/23 17:00	01/20/23	Groundwater	Same As Above
H23010433-026	BPS11-10A	01/19/23 17:30	01/20/23	Groundwater	Same As Above
H23010433-027	BPS11-10B	01/19/23 17:50	01/20/23	Groundwater	Same As Above
H23010433-028	BPS11-10C	01/19/23 18:10	01/20/23	Groundwater	Same As Above
H23010433-029	PMP-08A2	01/20/23 10:30	01/20/23	Groundwater	Same As Above
H23010433-030	PMP-08B	01/20/23 11:30	01/20/23	Groundwater	Same As Above
H23010433-031	PMP-09A	01/20/23 12:00	01/20/23	Groundwater	Same As Above
H23010433-032	BPS11-14A	01/20/23 12:30	01/20/23	Groundwater	Same As Above
H23010433-033	BPS11-14B	01/20/23 13:00	01/20/23	Groundwater	Same As Above
H23010433-034	DUP-2	01/20/23 12:05	01/20/23	Groundwater	Same As Above
H23010433-035	FB-2	01/20/23 12:10	01/20/23	Groundwater	Same As Above
H23010433-036	EB-2	01/20/23 12:15	01/20/23	Groundwater	Same As Above
H23010433-037	MH-MSD108	01/17/23 10:30	01/20/23	Surface Water	Rare Earth Metals, Dissolved Rare Earth Metals, Total Recoverable Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity to pH 4.5 Anion - Cation Balance Carbon, Dissolved Organic Conductivity Carbon, Total Organic Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Metals Digestion by E200.2 Rare Metals Digestion by E200.2 Solids, Total Dissolved
H23010433-038	MH-MSD113	01/17/23 11:40	01/20/23	Surface Water	Same As Above
H23010433-039	MH-MSD116	01/17/23 12:10	01/20/23	Surface Water	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:



Digitally signed by  
Jessica C. Smith  
Date: 2023.02.21 14:20:35 -07:00



**CLIENT:** MT Dept of Justice  
**Project:** NRDPM02 T08  
**Work Order:** H23010433

**Report Date:** 02/21/23

## **CASE NARRATIVE**

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Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002.





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-28B  
**Lab ID:** H23010433-001  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/17/23 14:26  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.4	s.u.	H	0.1		A4500-H B	01/23/23 10:57 / ljs		PHSC_101-H_230123A : 7		R181770
pH Measurement Temp	11.5	°C				A4500-H B	01/23/23 10:57 / ljs		PHSC_101-H_230123A : 7		R181770
Conductivity @ 25 C	318	umhos/cm		5		A2510 B	01/23/23 10:57 / ljs		PHSC_101-H_230123A : 8		R181770
Solids, Total Dissolved TDS @ 180 C	185	mg/L	D	20		A2540 C	01/23/23 13:42 / JAR		-124 (14410200)_230123A : 3		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	91	mg/L		4		A2320 B	01/24/23 19:50 / ljs		PHSC_101-H_230124A : 147		R181801
Bicarbonate as HCO3	110	mg/L		4		A2320 B	01/24/23 19:50 / ljs		PHSC_101-H_230124A : 147		R181801
Carbonate as CO3	ND	mg/L		4		A2320 B	01/24/23 19:50 / ljs		PHSC_101-H_230124A : 147		R181801
Chloride	7	mg/L		1		E300.0	01/26/23 00:34 / ljs		IC METROHM_230125A : 41		R181878
Sulfate	52	mg/L		1		E300.0	01/26/23 00:34 / ljs		IC METROHM_230125A : 41		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 00:34 / ljs		IC METROHM_230125A : 41		R181878
Fluoride	0.5	mg/L		0.1		E300.0	01/26/23 00:34 / ljs		IC METROHM_230125A : 41		R181878
Hardness as CaCO3	101	mg/L		1		A2340 B	01/24/23 12:40 / SR		CALC_230201A : 47		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	01/26/23 13:17 / eli-c		SUB-C291699 : 4		C_R291699
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	01/25/23 16:58 / eli-c		SUB-C291646 : 10		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.42	mg/L		0.01		E353.2	01/26/23 15:06 / JAR		FIA203-HE_230126A : 21		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/26/23 18:53 / dck		ICPMS205-H_230126B : 51		R181895
Antimony	ND	mg/L		0.0005		E200.8	01/24/23 21:11 / dck		ICPMS205-H_230124A : 173		R181811
Arsenic	0.002	mg/L		0.001		E200.8	01/24/23 21:11 / dck		ICPMS205-H_230124A : 173		R181811
Barium	0.030	mg/L		0.003		E200.8	01/24/23 21:11 / dck		ICPMS205-H_230124A : 173		R181811
Beryllium	ND	mg/L		0.0008		E200.8	01/24/23 21:11 / dck		ICPMS205-H_230124A : 173		R181811
Boron	ND	mg/L		0.05		E200.7	01/24/23 12:40 / slj		ICP2-HE_230124B : 63		R181807
Cadmium	0.00019	mg/L		0.00003		E200.8	01/24/23 21:11 / dck		ICPMS205-H_230124A : 173		R181811
Cesium	ND	mg/L		0.01		E200.8	01/25/23 16:33 / dck		ICPMS205-H_230125A : 24		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-28B  
**Lab ID:** H23010433-001  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/17/23 14:26  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	29	mg/L		1		E200.7	01/24/23 12:40 / slj		ICP2-HE_230124B : 63		R181807
Chromium	ND	mg/L		0.005		E200.8	01/24/23 21:11 / dck		ICPMS205-H_230124A : 173		R181811
Cobalt	ND	mg/L		0.005		E200.8	01/24/23 21:11 / dck		ICPMS205-H_230124A : 173		R181811
Copper	ND	mg/L		0.002		E200.8	01/24/23 21:11 / dck		ICPMS205-H_230124A : 173		R181811
Gallium	ND	mg/L		0.01		E200.8	01/25/23 16:33 / dck		ICPMS205-H_230125A : 24		R181863
Iron	ND	mg/L		0.02		E200.8	01/24/23 21:11 / dck		ICPMS205-H_230124A : 173		R181811
Lead	ND	mg/L		0.0003		E200.8	01/24/23 21:11 / dck		ICPMS205-H_230124A : 173		R181811
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 16:33 / dck		ICPMS205-H_230125A : 24		R181863
Lithium	ND	mg/L		0.1		E200.8	01/24/23 21:11 / dck		ICPMS205-H_230124A : 173		R181811
Magnesium	7	mg/L		1		E200.7	01/24/23 12:40 / slj		ICP2-HE_230124B : 63		R181807
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 16:33 / dck		ICPMS205-H_230125A : 24		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 16:33 / dck		ICPMS205-H_230125A : 24		R181863
Manganese	ND	mg/L		0.001		E200.8	01/24/23 21:11 / dck		ICPMS205-H_230124A : 173		R181811
Molybdenum	0.014	mg/L		0.001		E200.8	01/24/23 21:11 / dck		ICPMS205-H_230124A : 173		R181811
Nickel	ND	mg/L		0.002		E200.8	01/24/23 21:11 / dck		ICPMS205-H_230124A : 173		R181811
Palladium	ND	mg/L		0.01		E200.8	01/25/23 16:33 / dck		ICPMS205-H_230125A : 24		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 16:33 / dck		ICPMS205-H_230125A : 24		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 16:33 / dck		ICPMS205-H_230125A : 24		R181863
Potassium	3	mg/L		1		E200.7	01/24/23 12:40 / slj		ICP2-HE_230124B : 63		R181807
Selenium	ND	mg/L		0.001		E200.8	01/24/23 21:11 / dck		ICPMS205-H_230124A : 173		R181811
Silver	ND	mg/L		0.0002		E200.8	01/24/23 21:11 / dck		ICPMS205-H_230124A : 173		R181811
Sodium	22	mg/L		1		E200.7	01/24/23 12:40 / slj		ICP2-HE_230124B : 63		R181807
Strontium	0.21	mg/L		0.01		E200.8	01/24/23 21:11 / dck		ICPMS205-H_230124A : 173		R181811
Thallium	ND	mg/L		0.0002		E200.8	01/24/23 21:11 / dck		ICPMS205-H_230124A : 173		R181811
Thorium	ND	mg/L		0.005		E200.8	01/24/23 21:11 / dck		ICPMS205-H_230124A : 173		R181811
Tin	ND	mg/L		0.05		E200.8	01/24/23 21:11 / dck		ICPMS205-H_230124A : 173		R181811
Titanium	ND	mg/L		0.005		E200.8	01/24/23 21:11 / dck		ICPMS205-H_230124A : 173		R181811
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 16:33 / dck		ICPMS205-H_230125A : 24		R181863
Uranium	0.0033	mg/L		0.0002		E200.8	01/24/23 21:11 / dck		ICPMS205-H_230124A : 173		R181811
Vanadium	ND	mg/L		0.01		E200.8	01/24/23 21:11 / dck		ICPMS205-H_230124A : 173		R181811
Zinc	0.010	mg/L		0.008		E200.8	01/24/23 21:11 / dck		ICPMS205-H_230124A : 173		R181811
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 16:33 / dck		ICPMS205-H_230125A : 24		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-28B  
**Lab ID:** H23010433-001  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/17/23 14:26      **DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.64	%				A1030 E	02/01/23 08:02 / SR		CALC_230201A : 45		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13A  
**Lab ID:** H23010433-002  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/17/23 15:23  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.8	s.u.	H	0.1		A4500-H B	01/23/23 11:02 / ljs		PHSC_101-H_230123A : 11		R181770
pH Measurement Temp	10.8	°C				A4500-H B	01/23/23 11:02 / ljs		PHSC_101-H_230123A : 11		R181770
Conductivity @ 25 C	1120	umhos/cm		5		A2510 B	01/23/23 11:02 / ljs		PHSC_101-H_230123A : 12		R181770
Solids, Total Dissolved TDS @ 180 C	793	mg/L	D	20		A2540 C	01/23/23 13:42 / JAR		-124 (14410200)_230123A : 5		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	360	mg/L		4		A2320 B	01/24/23 19:55 / ljs		PHSC_101-H_230124A : 149		R181801
Bicarbonate as HCO3	440	mg/L		4		A2320 B	01/24/23 19:55 / ljs		PHSC_101-H_230124A : 149		R181801
Carbonate as CO3	ND	mg/L		4		A2320 B	01/24/23 19:55 / ljs		PHSC_101-H_230124A : 149		R181801
Chloride	12	mg/L		1		E300.0	01/26/23 01:18 / ljs		IC METROHM_230125A : 44		R181878
Sulfate	259	mg/L		1		E300.0	01/26/23 01:18 / ljs		IC METROHM_230125A : 44		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 01:18 / ljs		IC METROHM_230125A : 44		R181878
Fluoride	0.3	mg/L		0.1		E300.0	01/26/23 01:18 / ljs		IC METROHM_230125A : 44		R181878
Hardness as CaCO3	552	mg/L		1		A2340 B	01/24/23 12:55 / SR		CALC_230201A : 58		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	4.5	mg/L		0.5		A5310 C	01/26/23 14:09 / eli-c		SUB-C291699 : 7		C_R291699
Organic Carbon, Total (TOC)	4.2	mg/L		0.5		A5310 C	01/25/23 17:19 / eli-c		SUB-C291646 : 11		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.53	mg/L		0.01		E353.2	01/26/23 15:08 / JAR		FIA203-HE_230126A : 22		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/26/23 18:58 / dck		ICPMS205-H_230126B : 52		R181895
Antimony	0.0006	mg/L		0.0005		E200.8	01/24/23 21:13 / dck		ICPMS205-H_230124A : 174		R181811
Arsenic	ND	mg/L		0.001		E200.8	01/24/23 21:13 / dck		ICPMS205-H_230124A : 174		R181811
Barium	0.052	mg/L		0.003		E200.8	01/24/23 21:13 / dck		ICPMS205-H_230124A : 174		R181811
Beryllium	ND	mg/L		0.0008		E200.8	01/24/23 21:13 / dck		ICPMS205-H_230124A : 174		R181811
Boron	0.56	mg/L		0.05		E200.7	01/24/23 12:55 / slj		ICP2-HE_230124B : 67		R181807
Cadmium	0.00130	mg/L		0.00003		E200.8	01/24/23 21:13 / dck		ICPMS205-H_230124A : 174		R181811
Cesium	ND	mg/L		0.01		E200.8	01/25/23 16:34 / dck		ICPMS205-H_230125A : 25		R181863

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** D - Reporting Limit (RL) increased due to sample matrix

H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13A  
**Lab ID:** H23010433-002  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/17/23 15:23  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	178	mg/L		1		E200.7	01/24/23 12:55 / slj		ICP2-HE_230124B : 67		R181807
Chromium	ND	mg/L		0.005		E200.8	01/24/23 21:13 / dck		ICPMS205-H_230124A : 174		R181811
Cobalt	ND	mg/L		0.005		E200.8	01/24/23 21:13 / dck		ICPMS205-H_230124A : 174		R181811
Copper	0.015	mg/L		0.002		E200.8	01/24/23 21:13 / dck		ICPMS205-H_230124A : 174		R181811
Gallium	ND	mg/L		0.01		E200.8	01/25/23 16:34 / dck		ICPMS205-H_230125A : 25		R181863
Iron	1.01	mg/L		0.02		E200.7	01/24/23 12:55 / slj		ICP2-HE_230124B : 67		R181807
Lead	ND	mg/L		0.0003		E200.8	01/24/23 21:13 / dck		ICPMS205-H_230124A : 174		R181811
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 16:34 / dck		ICPMS205-H_230125A : 25		R181863
Lithium	ND	mg/L		0.1		E200.8	01/24/23 21:13 / dck		ICPMS205-H_230124A : 174		R181811
Magnesium	26	mg/L		1		E200.7	01/24/23 12:55 / slj		ICP2-HE_230124B : 67		R181807
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 16:34 / dck		ICPMS205-H_230125A : 25		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 16:34 / dck		ICPMS205-H_230125A : 25		R181863
Manganese	0.452	mg/L		0.001		E200.8	01/24/23 21:13 / dck		ICPMS205-H_230124A : 174		R181811
Molybdenum	0.001	mg/L		0.001		E200.8	01/24/23 21:13 / dck		ICPMS205-H_230124A : 174		R181811
Nickel	0.002	mg/L		0.002		E200.8	01/24/23 21:13 / dck		ICPMS205-H_230124A : 174		R181811
Palladium	ND	mg/L		0.01		E200.8	01/25/23 16:34 / dck		ICPMS205-H_230125A : 25		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 16:34 / dck		ICPMS205-H_230125A : 25		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 16:34 / dck		ICPMS205-H_230125A : 25		R181863
Potassium	19	mg/L		1		E200.7	01/24/23 12:55 / slj		ICP2-HE_230124B : 67		R181807
Selenium	ND	mg/L		0.001		E200.8	01/24/23 21:13 / dck		ICPMS205-H_230124A : 174		R181811
Silver	ND	mg/L		0.0002		E200.8	01/24/23 21:13 / dck		ICPMS205-H_230124A : 174		R181811
Sodium	29	mg/L		1		E200.7	01/24/23 12:55 / slj		ICP2-HE_230124B : 67		R181807
Strontium	1.31	mg/L		0.01		E200.7	01/24/23 12:55 / slj		ICP2-HE_230124B : 67		R181807
Thallium	ND	mg/L		0.0002		E200.8	01/24/23 21:13 / dck		ICPMS205-H_230124A : 174		R181811
Thorium	ND	mg/L		0.005		E200.8	01/24/23 21:13 / dck		ICPMS205-H_230124A : 174		R181811
Tin	ND	mg/L		0.05		E200.8	01/24/23 21:13 / dck		ICPMS205-H_230124A : 174		R181811
Titanium	ND	mg/L		0.005		E200.8	01/24/23 21:13 / dck		ICPMS205-H_230124A : 174		R181811
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 16:34 / dck		ICPMS205-H_230125A : 25		R181863
Uranium	0.0008	mg/L		0.0002		E200.8	01/24/23 21:13 / dck		ICPMS205-H_230124A : 174		R181811
Vanadium	ND	mg/L		0.01		E200.8	01/24/23 21:13 / dck		ICPMS205-H_230124A : 174		R181811
Zinc	0.288	mg/L		0.008		E200.8	01/24/23 21:13 / dck		ICPMS205-H_230124A : 174		R181811
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 16:34 / dck		ICPMS205-H_230125A : 25		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13A  
**Lab ID:** H23010433-002  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/17/23 15:23      **DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-0.63	%				A1030 E	02/01/23 08:03 / SR		CALC_230201A : 56		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-11B  
**Lab ID:** H23010433-003  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/17/23 16:16  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.4	s.u.	H	0.1		A4500-H B	01/23/23 11:04 / ljs		PHSC_101-H_230123A : 13		R181770
pH Measurement Temp	11.1	°C				A4500-H B	01/23/23 11:04 / ljs		PHSC_101-H_230123A : 13		R181770
Conductivity @ 25 C	287	umhos/cm		5		A2510 B	01/23/23 11:04 / ljs		PHSC_101-H_230123A : 14		R181770
Solids, Total Dissolved TDS @ 180 C	185	mg/L	D	20		A2540 C	01/23/23 13:42 / JAR		-124 (14410200)_230123A : 6		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	87	mg/L		4		A2320 B	01/24/23 20:04 / ljs		PHSC_101-H_230124A : 151		R181801
Bicarbonate as HCO3	110	mg/L		4		A2320 B	01/24/23 20:04 / ljs		PHSC_101-H_230124A : 151		R181801
Carbonate as CO3	ND	mg/L		4		A2320 B	01/24/23 20:04 / ljs		PHSC_101-H_230124A : 151		R181801
Chloride	8	mg/L		1		E300.0	01/26/23 01:32 / ljs		IC METROHM_230125A : 45		R181878
Sulfate	39	mg/L		1		E300.0	01/26/23 01:32 / ljs		IC METROHM_230125A : 45		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 01:32 / ljs		IC METROHM_230125A : 45		R181878
Fluoride	1.1	mg/L		0.1		E300.0	01/26/23 01:32 / ljs		IC METROHM_230125A : 45		R181878
Hardness as CaCO3	88	mg/L		1		A2340 B	01/24/23 12:58 / SR		CALC_230201A : 69		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.6	mg/L		0.5		A5310 C	01/26/23 14:25 / eli-c		SUB-C291699 : 8		C_R291699
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	01/25/23 17:34 / eli-c		SUB-C291646 : 12		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.94	mg/L		0.01		E353.2	01/26/23 15:09 / JAR		FIA203-HE_230126A : 23		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/26/23 19:03 / dck		ICPMS205-H_230126B : 53		R181895
Antimony	ND	mg/L		0.0005		E200.8	01/24/23 21:16 / dck		ICPMS205-H_230124A : 175		R181811
Arsenic	0.005	mg/L		0.001		E200.8	01/24/23 21:16 / dck		ICPMS205-H_230124A : 175		R181811
Barium	0.031	mg/L		0.003		E200.8	01/24/23 21:16 / dck		ICPMS205-H_230124A : 175		R181811
Beryllium	ND	mg/L		0.0008		E200.8	01/24/23 21:16 / dck		ICPMS205-H_230124A : 175		R181811
Boron	ND	mg/L		0.05		E200.7	01/24/23 12:58 / slj		ICP2-HE_230124B : 68		R181807
Cadmium	0.00037	mg/L		0.00003		E200.8	01/24/23 21:16 / dck		ICPMS205-H_230124A : 175		R181811
Cesium	ND	mg/L		0.01		E200.8	01/25/23 16:36 / dck		ICPMS205-H_230125A : 26		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-11B  
**Lab ID:** H23010433-003  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/17/23 16:16  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	25	mg/L		1		E200.7	01/24/23 12:58 / slj		ICP2-HE_230124B : 68		R181807
Chromium	ND	mg/L		0.005		E200.8	01/24/23 21:16 / dck		ICPMS205-H_230124A : 175		R181811
Cobalt	ND	mg/L		0.005		E200.8	01/24/23 21:16 / dck		ICPMS205-H_230124A : 175		R181811
Copper	0.003	mg/L		0.002		E200.8	01/24/23 21:16 / dck		ICPMS205-H_230124A : 175		R181811
Gallium	ND	mg/L		0.01		E200.8	01/25/23 16:36 / dck		ICPMS205-H_230125A : 26		R181863
Iron	ND	mg/L		0.02		E200.8	01/24/23 21:16 / dck		ICPMS205-H_230124A : 175		R181811
Lead	ND	mg/L		0.0003		E200.8	01/24/23 21:16 / dck		ICPMS205-H_230124A : 175		R181811
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 16:36 / dck		ICPMS205-H_230125A : 26		R181863
Lithium	ND	mg/L		0.1		E200.8	01/24/23 21:16 / dck		ICPMS205-H_230124A : 175		R181811
Magnesium	6	mg/L		1		E200.7	01/24/23 12:58 / slj		ICP2-HE_230124B : 68		R181807
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 16:36 / dck		ICPMS205-H_230125A : 26		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 16:36 / dck		ICPMS205-H_230125A : 26		R181863
Manganese	ND	mg/L		0.001		E200.8	01/24/23 21:16 / dck		ICPMS205-H_230124A : 175		R181811
Molybdenum	0.019	mg/L		0.001		E200.8	01/24/23 21:16 / dck		ICPMS205-H_230124A : 175		R181811
Nickel	ND	mg/L		0.002		E200.8	01/24/23 21:16 / dck		ICPMS205-H_230124A : 175		R181811
Palladium	ND	mg/L		0.01		E200.8	01/25/23 16:36 / dck		ICPMS205-H_230125A : 26		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 16:36 / dck		ICPMS205-H_230125A : 26		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 16:36 / dck		ICPMS205-H_230125A : 26		R181863
Potassium	3	mg/L		1		E200.7	01/24/23 12:58 / slj		ICP2-HE_230124B : 68		R181807
Selenium	ND	mg/L		0.001		E200.8	01/24/23 21:16 / dck		ICPMS205-H_230124A : 175		R181811
Silver	ND	mg/L		0.0002		E200.8	01/24/23 21:16 / dck		ICPMS205-H_230124A : 175		R181811
Sodium	22	mg/L		1		E200.7	01/24/23 12:58 / slj		ICP2-HE_230124B : 68		R181807
Strontium	0.20	mg/L		0.01		E200.8	01/24/23 21:16 / dck		ICPMS205-H_230124A : 175		R181811
Thallium	ND	mg/L		0.0002		E200.8	01/24/23 21:16 / dck		ICPMS205-H_230124A : 175		R181811
Thorium	ND	mg/L		0.005		E200.8	01/24/23 21:16 / dck		ICPMS205-H_230124A : 175		R181811
Tin	ND	mg/L		0.05		E200.8	01/24/23 21:16 / dck		ICPMS205-H_230124A : 175		R181811
Titanium	ND	mg/L		0.005		E200.8	01/24/23 21:16 / dck		ICPMS205-H_230124A : 175		R181811
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 16:36 / dck		ICPMS205-H_230125A : 26		R181863
Uranium	0.0037	mg/L		0.0002		E200.8	01/24/23 21:16 / dck		ICPMS205-H_230124A : 175		R181811
Vanadium	ND	mg/L		0.01		E200.8	01/24/23 21:16 / dck		ICPMS205-H_230124A : 175		R181811
Zinc	0.050	mg/L		0.008		E200.8	01/24/23 21:16 / dck		ICPMS205-H_230124A : 175		R181811
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 16:36 / dck		ICPMS205-H_230125A : 26		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-11B  
**Lab ID:** H23010433-003  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/17/23 16:16      **DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.95	%				A1030 E	02/01/23 08:03 / SR		CALC_230201A : 67		R181986
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BSP07-07  
**Lab ID:** H23010433-004  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/18/23 10:38  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.9	s.u.	H	0.1		A4500-H B	01/23/23 11:06 / ljs		PHSC_101-H_230123A : 15		R181770
pH Measurement Temp	11.3	°C				A4500-H B	01/23/23 11:06 / ljs		PHSC_101-H_230123A : 15		R181770
Conductivity @ 25 C	276	umhos/cm		5		A2510 B	01/23/23 11:06 / ljs		PHSC_101-H_230123A : 16		R181770
Solids, Total Dissolved TDS @ 180 C	163	mg/L	D	20		A2540 C	01/23/23 13:42 / JAR		-124 (14410200)_230123A : 7		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	82	mg/L		4		A2320 B	01/24/23 20:09 / ljs		PHSC_101-H_230124A : 153		R181801
Bicarbonate as HCO3	100	mg/L		4		A2320 B	01/24/23 20:09 / ljs		PHSC_101-H_230124A : 153		R181801
Carbonate as CO3	ND	mg/L		4		A2320 B	01/24/23 20:09 / ljs		PHSC_101-H_230124A : 153		R181801
Chloride	12	mg/L		1		E300.0	01/26/23 01:47 / ljs		IC METROHM_230125A : 46		R181878
Sulfate	32	mg/L		1		E300.0	01/26/23 01:47 / ljs		IC METROHM_230125A : 46		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 01:47 / ljs		IC METROHM_230125A : 46		R181878
Fluoride	1.9	mg/L		0.1		E300.0	01/26/23 01:47 / ljs		IC METROHM_230125A : 46		R181878
Hardness as CaCO3	78	mg/L		1		A2340 B	01/24/23 13:02 / SR		CALC_230201A : 80		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.0	mg/L		0.5		A5310 C	01/26/23 14:45 / eli-c		SUB-C291699 : 9		C_R291699
Organic Carbon, Total (TOC)	1.0	mg/L		0.5		A5310 C	01/25/23 17:55 / eli-c		SUB-C291646 : 13		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	01/26/23 15:10 / JAR		FIA203-HE_230126A : 24		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/26/23 19:07 / dck		ICPMS205-H_230126B : 54		R181895
Antimony	ND	mg/L		0.0005		E200.8	01/24/23 21:18 / dck		ICPMS205-H_230124A : 176		R181811
Arsenic	0.008	mg/L		0.001		E200.8	01/24/23 21:18 / dck		ICPMS205-H_230124A : 176		R181811
Barium	0.025	mg/L		0.003		E200.8	01/24/23 21:18 / dck		ICPMS205-H_230124A : 176		R181811
Beryllium	ND	mg/L		0.0008		E200.8	01/24/23 21:18 / dck		ICPMS205-H_230124A : 176		R181811
Boron	ND	mg/L		0.05		E200.7	01/25/23 11:35 / slj		ICP2-HE_230125A : 23		R181835
Cadmium	0.00005	mg/L		0.00003		E200.8	01/24/23 21:18 / dck		ICPMS205-H_230124A : 176		R181811
Cesium	ND	mg/L		0.01		E200.8	01/25/23 16:37 / dck		ICPMS205-H_230125A : 27		R181863

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** D - Reporting Limit (RL) increased due to sample matrix

H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BSP07-07  
**Lab ID:** H23010433-004  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/18/23 10:38  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	21	mg/L		1		E200.7	01/24/23 13:02 / slj		ICP2-HE_230124B : 69		R181807
Chromium	ND	mg/L		0.005		E200.8	01/24/23 21:18 / dck		ICPMS205-H_230124A : 176		R181811
Cobalt	ND	mg/L		0.005		E200.8	01/24/23 21:18 / dck		ICPMS205-H_230124A : 176		R181811
Copper	ND	mg/L		0.002		E200.8	01/24/23 21:18 / dck		ICPMS205-H_230124A : 176		R181811
Gallium	ND	mg/L		0.01		E200.8	01/25/23 16:37 / dck		ICPMS205-H_230125A : 27		R181863
Iron	0.71	mg/L		0.02		E200.8	01/24/23 21:18 / dck		ICPMS205-H_230124A : 176		R181811
Lead	ND	mg/L		0.0003		E200.8	01/24/23 21:18 / dck		ICPMS205-H_230124A : 176		R181811
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 16:37 / dck		ICPMS205-H_230125A : 27		R181863
Lithium	ND	mg/L		0.1		E200.8	01/24/23 21:18 / dck		ICPMS205-H_230124A : 176		R181811
Magnesium	6	mg/L		1		E200.7	01/24/23 13:02 / slj		ICP2-HE_230124B : 69		R181807
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 16:37 / dck		ICPMS205-H_230125A : 27		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 16:37 / dck		ICPMS205-H_230125A : 27		R181863
Manganese	0.311	mg/L		0.001		E200.8	01/24/23 21:18 / dck		ICPMS205-H_230124A : 176		R181811
Molybdenum	0.010	mg/L		0.001		E200.8	01/24/23 21:18 / dck		ICPMS205-H_230124A : 176		R181811
Nickel	ND	mg/L		0.002		E200.8	01/24/23 21:18 / dck		ICPMS205-H_230124A : 176		R181811
Palladium	ND	mg/L		0.01		E200.8	01/25/23 16:37 / dck		ICPMS205-H_230125A : 27		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 16:37 / dck		ICPMS205-H_230125A : 27		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 16:37 / dck		ICPMS205-H_230125A : 27		R181863
Potassium	4	mg/L		1		E200.7	01/24/23 13:02 / slj		ICP2-HE_230124B : 69		R181807
Selenium	ND	mg/L		0.001		E200.8	01/24/23 21:18 / dck		ICPMS205-H_230124A : 176		R181811
Silver	ND	mg/L		0.0002		E200.8	01/24/23 21:18 / dck		ICPMS205-H_230124A : 176		R181811
Sodium	24	mg/L		1		E200.7	01/24/23 13:02 / slj		ICP2-HE_230124B : 69		R181807
Strontium	0.20	mg/L		0.01		E200.8	01/24/23 21:18 / dck		ICPMS205-H_230124A : 176		R181811
Thallium	ND	mg/L		0.0002		E200.8	01/24/23 21:18 / dck		ICPMS205-H_230124A : 176		R181811
Thorium	ND	mg/L		0.005		E200.8	01/24/23 21:18 / dck		ICPMS205-H_230124A : 176		R181811
Tin	ND	mg/L		0.05		E200.8	01/24/23 21:18 / dck		ICPMS205-H_230124A : 176		R181811
Titanium	ND	mg/L		0.005		E200.8	01/24/23 21:18 / dck		ICPMS205-H_230124A : 176		R181811
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 16:37 / dck		ICPMS205-H_230125A : 27		R181863
Uranium	0.0005	mg/L		0.0002		E200.8	01/24/23 21:18 / dck		ICPMS205-H_230124A : 176		R181811
Vanadium	ND	mg/L		0.01		E200.8	01/24/23 21:18 / dck		ICPMS205-H_230124A : 176		R181811
Zinc	0.021	mg/L		0.008		E200.8	01/24/23 21:18 / dck		ICPMS205-H_230124A : 176		R181811
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 16:37 / dck		ICPMS205-H_230125A : 27		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BSP07-07  
**Lab ID:** H23010433-004  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/18/23 10:38  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-0.73	%				A1030 E	02/01/23 08:03 / SR		CALC_230201A : 78		R181986
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-07B  
**Lab ID:** H23010433-005  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/17/23 16:51  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.2	s.u.	H	0.1		A4500-H B	01/23/23 11:09 / ljs		PHSC_101-H_230123A : 17		R181770
pH Measurement Temp	11.4	°C				A4500-H B	01/23/23 11:09 / ljs		PHSC_101-H_230123A : 17		R181770
Conductivity @ 25 C	825	umhos/cm		5		A2510 B	01/23/23 11:09 / ljs		PHSC_101-H_230123A : 18		R181770
Solids, Total Dissolved TDS @ 180 C	591	mg/L	D	20		A2540 C	01/23/23 13:42 / JAR		-124 (14410200)_230123A : 8		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	72	mg/L		4		A2320 B	01/24/23 20:23 / ljs		PHSC_101-H_230124A : 157		R181801
Bicarbonate as HCO3	88	mg/L		4		A2320 B	01/24/23 20:23 / ljs		PHSC_101-H_230124A : 157		R181801
Carbonate as CO3	ND	mg/L		4		A2320 B	01/24/23 20:23 / ljs		PHSC_101-H_230124A : 157		R181801
Chloride	10	mg/L		1		E300.0	01/26/23 02:01 / ljs		IC METROHM_230125A : 47		R181878
Sulfate	325	mg/L		1		E300.0	01/26/23 02:01 / ljs		IC METROHM_230125A : 47		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 02:01 / ljs		IC METROHM_230125A : 47		R181878
Fluoride	1.5	mg/L		0.1		E300.0	01/26/23 02:01 / ljs		IC METROHM_230125A : 47		R181878
Hardness as CaCO3	281	mg/L		1		A2340 B	01/24/23 13:13 / SR		CALC_230201A : 91		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.6	mg/L		0.5		A5310 C	01/26/23 15:01 / eli-c		SUB-C291699 : 10		C_R291699
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	01/25/23 18:10 / eli-c		SUB-C291646 : 14		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.30	mg/L		0.01		E353.2	01/26/23 15:11 / JAR		FIA203-HE_230126A : 25		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/26/23 19:12 / dck		ICPMS205-H_230126B : 55		R181895
Antimony	ND	mg/L		0.0005		E200.8	01/24/23 21:21 / dck		ICPMS205-H_230124A : 177		R181811
Arsenic	0.011	mg/L		0.001		E200.8	01/24/23 21:21 / dck		ICPMS205-H_230124A : 177		R181811
Barium	0.014	mg/L		0.003		E200.8	01/24/23 21:21 / dck		ICPMS205-H_230124A : 177		R181811
Beryllium	ND	mg/L		0.0008		E200.8	01/24/23 21:21 / dck		ICPMS205-H_230124A : 177		R181811
Boron	0.09	mg/L		0.05		E200.7	01/24/23 13:13 / slj		ICP2-HE_230124B : 72		R181807
Cadmium	0.00341	mg/L		0.00003		E200.8	01/24/23 21:21 / dck		ICPMS205-H_230124A : 177		R181811
Cesium	ND	mg/L		0.01		E200.8	01/25/23 16:39 / dck		ICPMS205-H_230125A : 28		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-07B  
**Lab ID:** H23010433-005  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/17/23 16:51  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	81	mg/L		1		E200.7	01/24/23 13:13 / slj		ICP2-HE_230124B : 72		R181807
Chromium	ND	mg/L		0.005		E200.8	01/24/23 21:21 / dck		ICPMS205-H_230124A : 177		R181811
Cobalt	ND	mg/L		0.005		E200.8	01/24/23 21:21 / dck		ICPMS205-H_230124A : 177		R181811
Copper	ND	mg/L		0.002		E200.8	01/24/23 21:21 / dck		ICPMS205-H_230124A : 177		R181811
Gallium	ND	mg/L		0.01		E200.8	01/25/23 16:39 / dck		ICPMS205-H_230125A : 28		R181863
Iron	ND	mg/L		0.02		E200.8	01/24/23 21:21 / dck		ICPMS205-H_230124A : 177		R181811
Lead	ND	mg/L		0.0003		E200.8	01/24/23 21:21 / dck		ICPMS205-H_230124A : 177		R181811
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 16:39 / dck		ICPMS205-H_230125A : 28		R181863
Lithium	0.2	mg/L		0.1		E200.8	01/24/23 21:21 / dck		ICPMS205-H_230124A : 177		R181811
Magnesium	19	mg/L		1		E200.7	01/24/23 13:13 / slj		ICP2-HE_230124B : 72		R181807
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 16:39 / dck		ICPMS205-H_230125A : 28		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 16:39 / dck		ICPMS205-H_230125A : 28		R181863
Manganese	ND	mg/L		0.001		E200.8	01/24/23 21:21 / dck		ICPMS205-H_230124A : 177		R181811
Molybdenum	0.079	mg/L		0.001		E200.8	01/24/23 21:21 / dck		ICPMS205-H_230124A : 177		R181811
Nickel	ND	mg/L		0.002		E200.8	01/24/23 21:21 / dck		ICPMS205-H_230124A : 177		R181811
Palladium	ND	mg/L		0.01		E200.8	01/25/23 16:39 / dck		ICPMS205-H_230125A : 28		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 16:39 / dck		ICPMS205-H_230125A : 28		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 16:39 / dck		ICPMS205-H_230125A : 28		R181863
Potassium	10	mg/L		1		E200.7	01/24/23 13:13 / slj		ICP2-HE_230124B : 72		R181807
Selenium	ND	mg/L		0.001		E200.8	01/24/23 21:21 / dck		ICPMS205-H_230124A : 177		R181811
Silver	ND	mg/L		0.0002		E200.8	01/24/23 21:21 / dck		ICPMS205-H_230124A : 177		R181811
Sodium	64	mg/L		1		E200.7	01/24/23 13:13 / slj		ICP2-HE_230124B : 72		R181807
Strontium	0.89	mg/L		0.01		E200.8	01/24/23 21:21 / dck		ICPMS205-H_230124A : 177		R181811
Thallium	ND	mg/L		0.0002		E200.8	01/24/23 21:21 / dck		ICPMS205-H_230124A : 177		R181811
Thorium	ND	mg/L		0.005		E200.8	01/24/23 21:21 / dck		ICPMS205-H_230124A : 177		R181811
Tin	ND	mg/L		0.05		E200.8	01/24/23 21:21 / dck		ICPMS205-H_230124A : 177		R181811
Titanium	ND	mg/L		0.005		E200.8	01/24/23 21:21 / dck		ICPMS205-H_230124A : 177		R181811
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 16:39 / dck		ICPMS205-H_230125A : 28		R181863
Uranium	0.0022	mg/L		0.0002		E200.8	01/24/23 21:21 / dck		ICPMS205-H_230124A : 177		R181811
Vanadium	ND	mg/L		0.01		E200.8	01/24/23 21:21 / dck		ICPMS205-H_230124A : 177		R181811
Zinc	0.278	mg/L		0.008		E200.8	01/24/23 21:21 / dck		ICPMS205-H_230124A : 177		R181811
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 16:39 / dck		ICPMS205-H_230125A : 28		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-07B  
**Lab ID:** H23010433-005  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/17/23 16:51  
**DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	0.15	%				A1030 E	02/01/23 08:03 / SR		CALC_230201A : 89		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-23  
**Lab ID:** H23010433-006  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/18/23 11:15  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.1	s.u.	H	0.1		A4500-H B	01/23/23 11:11 / ljs		PHSC_101-H_230123A : 19		R181770
pH Measurement Temp	11.6	°C				A4500-H B	01/23/23 11:11 / ljs		PHSC_101-H_230123A : 19		R181770
Conductivity @ 25 C	1130	umhos/cm		5		A2510 B	01/23/23 11:11 / ljs		PHSC_101-H_230123A : 20		R181770
Solids, Total Dissolved TDS @ 180 C	753	mg/L	D	20		A2540 C	01/23/23 13:43 / JAR		-124 (14410200)_230123A : 9		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	340	mg/L		4		A2320 B	01/24/23 20:30 / ljs		PHSC_101-H_230124A : 159		R181801
Bicarbonate as HCO3	410	mg/L		4		A2320 B	01/24/23 20:30 / ljs		PHSC_101-H_230124A : 159		R181801
Carbonate as CO3	ND	mg/L		4		A2320 B	01/24/23 20:30 / ljs		PHSC_101-H_230124A : 159		R181801
Chloride	57	mg/L		1		E300.0	01/26/23 02:16 / ljs		IC METROHM_230125A : 48		R181878
Sulfate	216	mg/L		1		E300.0	01/26/23 02:16 / ljs		IC METROHM_230125A : 48		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 02:16 / ljs		IC METROHM_230125A : 48		R181878
Fluoride	1.1	mg/L		0.1		E300.0	01/26/23 02:16 / ljs		IC METROHM_230125A : 48		R181878
Hardness as CaCO3	464	mg/L		1		A2340 B	01/24/23 13:17 / SR		CALC_230201A : 102		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	4.0	mg/L		0.5		A5310 C	01/26/23 15:18 / eli-c		SUB-C291699 : 11		C_R291699
Organic Carbon, Total (TOC)	3.7	mg/L		0.5		A5310 C	01/25/23 18:31 / eli-c		SUB-C291646 : 15		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	01/26/23 15:15 / JAR		FIA203-HE_230126A : 28		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/26/23 19:17 / dck		ICPMS205-H_230126B : 56		R181895
Antimony	ND	mg/L		0.0005		E200.8	01/24/23 21:23 / dck		ICPMS205-H_230124A : 178		R181811
Arsenic	0.119	mg/L		0.001		E200.8	01/24/23 21:23 / dck		ICPMS205-H_230124A : 178		R181811
Barium	0.053	mg/L		0.003		E200.8	01/24/23 21:23 / dck		ICPMS205-H_230124A : 178		R181811
Beryllium	ND	mg/L		0.0008		E200.8	01/24/23 21:23 / dck		ICPMS205-H_230124A : 178		R181811
Boron	0.36	mg/L		0.05		E200.7	01/24/23 13:17 / slj		ICP2-HE_230124B : 73		R181807
Cadmium	ND	mg/L		0.00003		E200.8	01/24/23 21:23 / dck		ICPMS205-H_230124A : 178		R181811
Cesium	ND	mg/L		0.01		E200.8	01/25/23 16:40 / dck		ICPMS205-H_230125A : 29		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-23  
**Lab ID:** H23010433-006  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/18/23 11:15  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	128	mg/L		1		E200.7	01/24/23 13:17 / slj		ICP2-HE_230124B : 73		R181807
Chromium	ND	mg/L		0.005		E200.8	01/24/23 21:23 / dck		ICPMS205-H_230124A : 178		R181811
Cobalt	ND	mg/L		0.005		E200.8	01/24/23 21:23 / dck		ICPMS205-H_230124A : 178		R181811
Copper	ND	mg/L		0.002		E200.8	01/24/23 21:23 / dck		ICPMS205-H_230124A : 178		R181811
Gallium	ND	mg/L		0.01		E200.8	01/25/23 16:40 / dck		ICPMS205-H_230125A : 29		R181863
Iron	6.56	mg/L		0.02		E200.7	01/24/23 13:17 / slj		ICP2-HE_230124B : 73		R181807
Lead	ND	mg/L		0.0003		E200.8	01/24/23 21:23 / dck		ICPMS205-H_230124A : 178		R181811
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 16:40 / dck		ICPMS205-H_230125A : 29		R181863
Lithium	0.1	mg/L		0.1		E200.8	01/24/23 21:23 / dck		ICPMS205-H_230124A : 178		R181811
Magnesium	35	mg/L		1		E200.7	01/24/23 13:17 / slj		ICP2-HE_230124B : 73		R181807
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 16:40 / dck		ICPMS205-H_230125A : 29		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 16:40 / dck		ICPMS205-H_230125A : 29		R181863
Manganese	1.92	mg/L		0.001		E200.7	01/24/23 13:17 / slj		ICP2-HE_230124B : 73		R181807
Molybdenum	0.020	mg/L		0.001		E200.8	01/24/23 21:23 / dck		ICPMS205-H_230124A : 178		R181811
Nickel	ND	mg/L		0.002		E200.8	01/24/23 21:23 / dck		ICPMS205-H_230124A : 178		R181811
Palladium	ND	mg/L		0.01		E200.8	01/25/23 16:40 / dck		ICPMS205-H_230125A : 29		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 16:40 / dck		ICPMS205-H_230125A : 29		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 16:40 / dck		ICPMS205-H_230125A : 29		R181863
Potassium	12	mg/L		1		E200.7	01/24/23 13:17 / slj		ICP2-HE_230124B : 73		R181807
Selenium	ND	mg/L		0.001		E200.8	01/24/23 21:23 / dck		ICPMS205-H_230124A : 178		R181811
Silver	ND	mg/L		0.0002		E200.8	01/24/23 21:23 / dck		ICPMS205-H_230124A : 178		R181811
Sodium	74	mg/L		1		E200.7	01/24/23 13:17 / slj		ICP2-HE_230124B : 73		R181807
Strontium	1.29	mg/L		0.01		E200.7	01/24/23 13:17 / slj		ICP2-HE_230124B : 73		R181807
Thallium	ND	mg/L		0.0002		E200.8	01/24/23 21:23 / dck		ICPMS205-H_230124A : 178		R181811
Thorium	ND	mg/L		0.005		E200.8	01/24/23 21:23 / dck		ICPMS205-H_230124A : 178		R181811
Tin	ND	mg/L		0.05		E200.8	01/24/23 21:23 / dck		ICPMS205-H_230124A : 178		R181811
Titanium	ND	mg/L		0.005		E200.8	01/24/23 21:23 / dck		ICPMS205-H_230124A : 178		R181811
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 16:40 / dck		ICPMS205-H_230125A : 29		R181863
Uranium	0.0136	mg/L		0.0002		E200.8	01/24/23 21:23 / dck		ICPMS205-H_230124A : 178		R181811
Vanadium	ND	mg/L		0.01		E200.8	01/24/23 21:23 / dck		ICPMS205-H_230124A : 178		R181811
Zinc	0.023	mg/L		0.008		E200.8	01/24/23 21:23 / dck		ICPMS205-H_230124A : 178		R181811
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 16:40 / dck		ICPMS205-H_230125A : 29		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-23  
**Lab ID:** H23010433-006  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/18/23 11:15  
**DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-0.34	%				A1030 E	02/01/23 08:04 / SR		CALC_230201A : 100		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-1  
**Lab ID:** H23010433-007  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/17/23 14:30  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.3	s.u.	H	0.1		A4500-H B	01/23/23 11:13 / ljs		PHSC_101-H_230123A : 21		R181770
pH Measurement Temp	11.8	°C				A4500-H B	01/23/23 11:13 / ljs		PHSC_101-H_230123A : 21		R181770
Conductivity @ 25 C	308	umhos/cm		5		A2510 B	01/23/23 11:13 / ljs		PHSC_101-H_230123A : 22		R181770
Solids, Total Dissolved TDS @ 180 C	189	mg/L	D	20		A2540 C	01/23/23 13:43 / JAR		I24 (14410200)_230123A : 10		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	90	mg/L		4		A2320 B	01/25/23 15:33 / ljs		PHSC_101-H_230125A : 153		R181823
Bicarbonate as HCO3	110	mg/L		4		A2320 B	01/25/23 15:33 / ljs		PHSC_101-H_230125A : 153		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 15:33 / ljs		PHSC_101-H_230125A : 153		R181823
Chloride	7	mg/L		1		E300.0	01/26/23 02:30 / ljs		IC METROHM_230125A : 49		R181878
Sulfate	53	mg/L		1		E300.0	01/26/23 02:30 / ljs		IC METROHM_230125A : 49		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 02:30 / ljs		IC METROHM_230125A : 49		R181878
Fluoride	0.5	mg/L		0.1		E300.0	01/26/23 02:30 / ljs		IC METROHM_230125A : 49		R181878
Hardness as CaCO3	100	mg/L		1		A2340 B	01/24/23 13:21 / SR		CALC_230201A : 113		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	01/26/23 15:34 / eli-c		SUB-C291699 : 12		C_R291699
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	01/25/23 19:22 / eli-c		SUB-C291646 : 17		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.43	mg/L		0.01		E353.2	01/26/23 15:18 / JAR		FIA203-HE_230126A : 31		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/26/23 19:21 / dck		ICPMS205-H_230126B : 57		R181895
Antimony	ND	mg/L		0.0005		E200.8	01/24/23 21:26 / dck		ICPMS205-H_230124A : 179		R181811
Arsenic	0.002	mg/L		0.001		E200.8	01/24/23 21:26 / dck		ICPMS205-H_230124A : 179		R181811
Barium	0.031	mg/L		0.003		E200.8	01/24/23 21:26 / dck		ICPMS205-H_230124A : 179		R181811
Beryllium	ND	mg/L		0.0008		E200.8	01/24/23 21:26 / dck		ICPMS205-H_230124A : 179		R181811
Boron	ND	mg/L		0.05		E200.7	01/24/23 13:21 / slj		ICP2-HE_230124B : 74		R181807
Cadmium	0.00021	mg/L		0.00003		E200.8	01/24/23 21:26 / dck		ICPMS205-H_230124A : 179		R181811
Cesium	ND	mg/L		0.01		E200.8	01/25/23 16:42 / dck		ICPMS205-H_230125A : 30		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-1  
**Lab ID:** H23010433-007  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/17/23 14:30  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	28	mg/L		1		E200.7	01/24/23 13:21 / slj		ICP2-HE_230124B : 74		R181807
Chromium	ND	mg/L		0.005		E200.8	01/24/23 21:26 / dck		ICPMS205-H_230124A : 179		R181811
Cobalt	ND	mg/L		0.005		E200.8	01/24/23 21:26 / dck		ICPMS205-H_230124A : 179		R181811
Copper	ND	mg/L		0.002		E200.8	01/24/23 21:26 / dck		ICPMS205-H_230124A : 179		R181811
Gallium	ND	mg/L		0.01		E200.8	01/25/23 16:42 / dck		ICPMS205-H_230125A : 30		R181863
Iron	ND	mg/L		0.02		E200.8	01/24/23 21:26 / dck		ICPMS205-H_230124A : 179		R181811
Lead	ND	mg/L		0.0003		E200.8	01/24/23 21:26 / dck		ICPMS205-H_230124A : 179		R181811
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 16:42 / dck		ICPMS205-H_230125A : 30		R181863
Lithium	ND	mg/L		0.1		E200.8	01/24/23 21:26 / dck		ICPMS205-H_230124A : 179		R181811
Magnesium	7	mg/L		1		E200.7	01/24/23 13:21 / slj		ICP2-HE_230124B : 74		R181807
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 16:42 / dck		ICPMS205-H_230125A : 30		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 16:42 / dck		ICPMS205-H_230125A : 30		R181863
Manganese	ND	mg/L		0.001		E200.8	01/24/23 21:26 / dck		ICPMS205-H_230124A : 179		R181811
Molybdenum	0.014	mg/L		0.001		E200.8	01/24/23 21:26 / dck		ICPMS205-H_230124A : 179		R181811
Nickel	ND	mg/L		0.002		E200.8	01/24/23 21:26 / dck		ICPMS205-H_230124A : 179		R181811
Palladium	ND	mg/L		0.01		E200.8	01/25/23 16:42 / dck		ICPMS205-H_230125A : 30		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 16:42 / dck		ICPMS205-H_230125A : 30		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 16:42 / dck		ICPMS205-H_230125A : 30		R181863
Potassium	3	mg/L		1		E200.7	01/24/23 13:21 / slj		ICP2-HE_230124B : 74		R181807
Selenium	ND	mg/L		0.001		E200.8	01/24/23 21:26 / dck		ICPMS205-H_230124A : 179		R181811
Silver	ND	mg/L		0.0002		E200.8	01/24/23 21:26 / dck		ICPMS205-H_230124A : 179		R181811
Sodium	22	mg/L		1		E200.7	01/24/23 13:21 / slj		ICP2-HE_230124B : 74		R181807
Strontium	0.21	mg/L		0.01		E200.8	01/24/23 21:26 / dck		ICPMS205-H_230124A : 179		R181811
Thallium	ND	mg/L		0.0002		E200.8	01/24/23 21:26 / dck		ICPMS205-H_230124A : 179		R181811
Thorium	ND	mg/L		0.005		E200.8	01/24/23 21:26 / dck		ICPMS205-H_230124A : 179		R181811
Tin	ND	mg/L		0.05		E200.8	01/24/23 21:26 / dck		ICPMS205-H_230124A : 179		R181811
Titanium	ND	mg/L		0.005		E200.8	01/24/23 21:26 / dck		ICPMS205-H_230124A : 179		R181811
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 16:42 / dck		ICPMS205-H_230125A : 30		R181863
Uranium	0.0033	mg/L		0.0002		E200.8	01/24/23 21:26 / dck		ICPMS205-H_230124A : 179		R181811
Vanadium	ND	mg/L		0.01		E200.8	01/24/23 21:26 / dck		ICPMS205-H_230124A : 179		R181811
Zinc	0.010	mg/L		0.008		E200.8	01/24/23 21:26 / dck		ICPMS205-H_230124A : 179		R181811
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 16:42 / dck		ICPMS205-H_230125A : 30		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-1  
**Lab ID:** H23010433-007  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/17/23 14:30  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.48	%				A1030 E	02/01/23 08:04 / SR		CALC_230201A : 111		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-1  
**Lab ID:** H23010433-008  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/17/23 14:35  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.6	s.u.	H	0.1		A4500-H B	01/23/23 11:15 / ljs		PHSC_101-H_230123A : 23		R181770
pH Measurement Temp	12.0	°C				A4500-H B	01/23/23 11:15 / ljs		PHSC_101-H_230123A : 23		R181770
Conductivity @ 25 C	6	umhos/cm		5		A2510 B	01/23/23 11:15 / ljs		PHSC_101-H_230123A : 24		R181770
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	D	20		A2540 C	01/23/23 13:43 / JAR		I24 (14410200)_230123A : 11		TDS230123A
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.											
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	01/25/23 15:40 / ljs		PHSC_101-H_230125A : 155		R181823
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	01/25/23 15:40 / ljs		PHSC_101-H_230125A : 155		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 15:40 / ljs		PHSC_101-H_230125A : 155		R181823
Chloride	ND	mg/L		1		E300.0	01/26/23 02:44 / ljs		IC METROHM_230125A : 50		R181878
Sulfate	ND	mg/L		1		E300.0	01/26/23 02:44 / ljs		IC METROHM_230125A : 50		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 02:44 / ljs		IC METROHM_230125A : 50		R181878
Fluoride	ND	mg/L		0.1		E300.0	01/26/23 02:44 / ljs		IC METROHM_230125A : 50		R181878
Hardness as CaCO3	ND	mg/L		1		A2340 B	01/24/23 13:25 / SR		CALC_230201A : 124		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	01/26/23 15:54 / eli-c		SUB-C291699 : 13		C_R291699
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	01/25/23 20:13 / eli-c		SUB-C291646 : 20		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	01/26/23 15:19 / JAR		FIA203-HE_230126A : 32		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/26/23 19:26 / dck		ICPMS205-H_230126B : 58		R181895
Antimony	ND	mg/L		0.0005		E200.8	01/26/23 19:26 / dck		ICPMS205-H_230126B : 58		R181895
Arsenic	ND	mg/L		0.001		E200.8	01/26/23 19:26 / dck		ICPMS205-H_230126B : 58		R181895
Barium	ND	mg/L		0.003		E200.8	01/26/23 19:26 / dck		ICPMS205-H_230126B : 58		R181895
Beryllium	ND	mg/L		0.0008		E200.8	01/26/23 19:26 / dck		ICPMS205-H_230126B : 58		R181895
Boron	ND	mg/L		0.05		E200.7	01/24/23 13:25 / slj		ICP2-HE_230124B : 75		R181807
Cadmium	ND	mg/L		0.00003		E200.8	01/26/23 19:26 / dck		ICPMS205-H_230126B : 58		R181895
Cesium	ND	mg/L		0.01		E200.8	01/25/23 16:43 / dck		ICPMS205-H_230125A : 31		R181863

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** D - Reporting Limit (RL) increased due to sample matrix

H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-1  
**Lab ID:** H23010433-008  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/17/23 14:35  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	ND	mg/L		1		E200.7	01/24/23 13:25 / slj		ICP2-HE_230124B : 75		R181807
Chromium	ND	mg/L		0.005		E200.8	01/26/23 19:26 / dck		ICPMS205-H_230126B : 58		R181895
Cobalt	ND	mg/L		0.005		E200.8	01/26/23 19:26 / dck		ICPMS205-H_230126B : 58		R181895
Copper	ND	mg/L		0.002		E200.8	01/26/23 19:26 / dck		ICPMS205-H_230126B : 58		R181895
Gallium	ND	mg/L		0.01		E200.8	01/25/23 16:43 / dck		ICPMS205-H_230125A : 31		R181863
Iron	ND	mg/L		0.02		E200.8	01/26/23 19:26 / dck		ICPMS205-H_230126B : 58		R181895
Lead	ND	mg/L		0.0003		E200.8	01/26/23 19:26 / dck		ICPMS205-H_230126B : 58		R181895
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 16:43 / dck		ICPMS205-H_230125A : 31		R181863
Lithium	ND	mg/L		0.1		E200.8	01/26/23 19:26 / dck		ICPMS205-H_230126B : 58		R181895
Magnesium	ND	mg/L		1		E200.7	01/24/23 13:25 / slj		ICP2-HE_230124B : 75		R181807
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 16:43 / dck		ICPMS205-H_230125A : 31		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 16:43 / dck		ICPMS205-H_230125A : 31		R181863
Manganese	ND	mg/L		0.001		E200.8	01/26/23 19:26 / dck		ICPMS205-H_230126B : 58		R181895
Molybdenum	ND	mg/L		0.001		E200.8	01/26/23 19:26 / dck		ICPMS205-H_230126B : 58		R181895
Nickel	ND	mg/L		0.002		E200.8	01/26/23 19:26 / dck		ICPMS205-H_230126B : 58		R181895
Palladium	ND	mg/L		0.01		E200.8	01/25/23 16:43 / dck		ICPMS205-H_230125A : 31		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 16:43 / dck		ICPMS205-H_230125A : 31		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 16:43 / dck		ICPMS205-H_230125A : 31		R181863
Potassium	ND	mg/L		1		E200.7	01/24/23 13:25 / slj		ICP2-HE_230124B : 75		R181807
Selenium	ND	mg/L		0.001		E200.8	01/26/23 19:26 / dck		ICPMS205-H_230126B : 58		R181895
Silver	ND	mg/L		0.0002		E200.8	01/26/23 19:26 / dck		ICPMS205-H_230126B : 58		R181895
Sodium	ND	mg/L		1		E200.7	01/24/23 13:25 / slj		ICP2-HE_230124B : 75		R181807
Strontium	ND	mg/L		0.01		E200.8	01/26/23 19:26 / dck		ICPMS205-H_230126B : 58		R181895
Thallium	ND	mg/L		0.0002		E200.8	01/26/23 19:26 / dck		ICPMS205-H_230126B : 58		R181895
Thorium	ND	mg/L		0.005		E200.8	01/26/23 19:26 / dck		ICPMS205-H_230126B : 58		R181895
Tin	ND	mg/L		0.05		E200.8	01/26/23 19:26 / dck		ICPMS205-H_230126B : 58		R181895
Titanium	ND	mg/L		0.005		E200.8	01/26/23 19:26 / dck		ICPMS205-H_230126B : 58		R181895
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 16:43 / dck		ICPMS205-H_230125A : 31		R181863
Uranium	ND	mg/L		0.0002		E200.8	01/26/23 19:26 / dck		ICPMS205-H_230126B : 58		R181895
Vanadium	ND	mg/L		0.01		E200.8	01/26/23 19:26 / dck		ICPMS205-H_230126B : 58		R181895
Zinc	ND	mg/L		0.008		E200.8	01/26/23 19:26 / dck		ICPMS205-H_230126B : 58		R181895
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 16:43 / dck		ICPMS205-H_230125A : 31		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-1  
**Lab ID:** H23010433-008  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/17/23 14:35  
**DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	ND	%				A1030 E	02/01/23 08:04 / SR		CALC_230201A : 122		R181986
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-1  
**Lab ID:** H23010433-009  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/17/23 14:40  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.5	s.u.	H	0.1		A4500-H B	01/23/23 11:18 / ljs		PHSC_101-H_230123A : 25		R181770
pH Measurement Temp	12.2	°C				A4500-H B	01/23/23 11:18 / ljs		PHSC_101-H_230123A : 25		R181770
Conductivity @ 25 C	5	umhos/cm		5		A2510 B	01/23/23 11:18 / ljs		PHSC_101-H_230123A : 26		R181770
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	D	20		A2540 C	01/23/23 13:43 / JAR		I24 (14410200)_230123A : 12		TDS230123A
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.											
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	01/25/23 15:45 / ljs		PHSC_101-H_230125A : 157		R181823
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	01/25/23 15:45 / ljs		PHSC_101-H_230125A : 157		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 15:45 / ljs		PHSC_101-H_230125A : 157		R181823
Chloride	ND	mg/L		1		E300.0	01/26/23 02:59 / ljs		IC METROHM_230125A : 51		R181878
Sulfate	ND	mg/L		1		E300.0	01/26/23 02:59 / ljs		IC METROHM_230125A : 51		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 02:59 / ljs		IC METROHM_230125A : 51		R181878
Fluoride	ND	mg/L		0.1		E300.0	01/26/23 02:59 / ljs		IC METROHM_230125A : 51		R181878
Hardness as CaCO3	ND	mg/L		1		A2340 B	01/23/23 22:57 / SR		CALC_230201A : 135		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	01/26/23 16:09 / eli-c		SUB-C291699 : 14		C_R291699
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	01/25/23 20:32 / eli-c		SUB-C291646 : 21		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	01/26/23 15:21 / JAR		FIA203-HE_230126A : 33		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/23/23 22:57 / dck		ICPMS205-H_230123B : 65		R181803
Antimony	ND	mg/L		0.0005		E200.8	01/23/23 22:57 / dck		ICPMS205-H_230123B : 65		R181803
Arsenic	ND	mg/L		0.001		E200.8	01/23/23 22:57 / dck		ICPMS205-H_230123B : 65		R181803
Barium	ND	mg/L		0.003		E200.8	01/23/23 22:57 / dck		ICPMS205-H_230123B : 65		R181803
Beryllium	ND	mg/L		0.0008		E200.8	01/23/23 22:57 / dck		ICPMS205-H_230123B : 65		R181803
Boron	ND	mg/L		0.05		E200.8	01/23/23 22:57 / dck		ICPMS205-H_230123B : 65		R181803
Cadmium	ND	mg/L		0.00003		E200.8	01/23/23 22:57 / dck		ICPMS205-H_230123B : 65		R181803
Cesium	ND	mg/L		0.01		E200.8	01/25/23 16:45 / dck		ICPMS205-H_230125A : 32		R181863

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** D - Reporting Limit (RL) increased due to sample matrix

H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-1  
**Lab ID:** H23010433-009  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/17/23 14:40  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	ND	mg/L		1		E200.8	01/23/23 22:57 / dck		ICPMS205-H_230123B : 65		R181803
Chromium	ND	mg/L		0.005		E200.8	01/23/23 22:57 / dck		ICPMS205-H_230123B : 65		R181803
Cobalt	ND	mg/L		0.005		E200.8	01/23/23 22:57 / dck		ICPMS205-H_230123B : 65		R181803
Copper	ND	mg/L		0.002		E200.8	01/23/23 22:57 / dck		ICPMS205-H_230123B : 65		R181803
Gallium	ND	mg/L		0.01		E200.8	01/25/23 16:45 / dck		ICPMS205-H_230125A : 32		R181863
Iron	ND	mg/L		0.02		E200.8	01/23/23 22:57 / dck		ICPMS205-H_230123B : 65		R181803
Lead	ND	mg/L		0.0003		E200.8	01/23/23 22:57 / dck		ICPMS205-H_230123B : 65		R181803
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 16:45 / dck		ICPMS205-H_230125A : 32		R181863
Lithium	ND	mg/L		0.1		E200.8	01/23/23 22:57 / dck		ICPMS205-H_230123B : 65		R181803
Magnesium	ND	mg/L		1		E200.8	01/23/23 22:57 / dck		ICPMS205-H_230123B : 65		R181803
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 16:45 / dck		ICPMS205-H_230125A : 32		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 16:45 / dck		ICPMS205-H_230125A : 32		R181863
Manganese	ND	mg/L		0.001		E200.8	01/24/23 21:31 / dck		ICPMS205-H_230124A : 181		R181811
Molybdenum	ND	mg/L		0.001		E200.8	01/23/23 22:57 / dck		ICPMS205-H_230123B : 65		R181803
Nickel	ND	mg/L		0.002		E200.8	01/23/23 22:57 / dck		ICPMS205-H_230123B : 65		R181803
Palladium	ND	mg/L		0.01		E200.8	01/25/23 16:45 / dck		ICPMS205-H_230125A : 32		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 16:45 / dck		ICPMS205-H_230125A : 32		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 16:45 / dck		ICPMS205-H_230125A : 32		R181863
Potassium	ND	mg/L		1		E200.8	01/23/23 22:57 / dck		ICPMS205-H_230123B : 65		R181803
Selenium	ND	mg/L		0.001		E200.8	01/23/23 22:57 / dck		ICPMS205-H_230123B : 65		R181803
Silver	ND	mg/L		0.0002		E200.8	01/23/23 22:57 / dck		ICPMS205-H_230123B : 65		R181803
Sodium	ND	mg/L		1		E200.8	01/23/23 22:57 / dck		ICPMS205-H_230123B : 65		R181803
Strontium	ND	mg/L		0.01		E200.8	01/23/23 22:57 / dck		ICPMS205-H_230123B : 65		R181803
Thallium	ND	mg/L		0.0002		E200.8	01/23/23 22:57 / dck		ICPMS205-H_230123B : 65		R181803
Thorium	ND	mg/L		0.005		E200.8	01/23/23 22:57 / dck		ICPMS205-H_230123B : 65		R181803
Tin	ND	mg/L		0.05		E200.8	01/23/23 22:57 / dck		ICPMS205-H_230123B : 65		R181803
Titanium	ND	mg/L		0.005		E200.8	01/23/23 22:57 / dck		ICPMS205-H_230123B : 65		R181803
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 16:45 / dck		ICPMS205-H_230125A : 32		R181863
Uranium	ND	mg/L		0.0002		E200.8	01/23/23 22:57 / dck		ICPMS205-H_230123B : 65		R181803
Vanadium	ND	mg/L		0.01		E200.8	01/23/23 22:57 / dck		ICPMS205-H_230123B : 65		R181803
Zinc	ND	mg/L		0.008		E200.8	01/24/23 21:31 / dck		ICPMS205-H_230124A : 181		R181811
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 16:45 / dck		ICPMS205-H_230125A : 32		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-1  
**Lab ID:** H23010433-009  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/17/23 14:40  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	ND	%				A1030 E	02/01/23 08:04 / SR		CALC_230201A : 133		R181986
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-28  
**Lab ID:** H23010433-010  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/17/23 11:04  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.0	s.u.	H	0.1		A4500-H B	01/23/23 11:21 / ljs		PHSC_101-H_230123A : 27		R181770
pH Measurement Temp	12.3	°C				A4500-H B	01/23/23 11:21 / ljs		PHSC_101-H_230123A : 27		R181770
Conductivity @ 25 C	385	umhos/cm		5		A2510 B	01/23/23 11:21 / ljs		PHSC_101-H_230123A : 28		R181770
Solids, Total Dissolved TDS @ 180 C	218	mg/L	D	20		A2540 C	01/23/23 13:43 / JAR		I24 (14410200)_230123A : 13		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	190	mg/L		4		A2320 B	01/25/23 15:50 / ljs		PHSC_101-H_230125A : 159		R181823
Bicarbonate as HCO3	230	mg/L		4		A2320 B	01/25/23 15:50 / ljs		PHSC_101-H_230125A : 159		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 15:50 / ljs		PHSC_101-H_230125A : 159		R181823
Chloride	10	mg/L		1		E300.0	01/26/23 03:13 / ljs		IC METROHM_230125A : 52		R181878
Sulfate	6	mg/L		1		E300.0	01/26/23 03:13 / ljs		IC METROHM_230125A : 52		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 03:13 / ljs		IC METROHM_230125A : 52		R181878
Fluoride	0.5	mg/L		0.1		E300.0	01/26/23 03:13 / ljs		IC METROHM_230125A : 52		R181878
Hardness as CaCO3	155	mg/L		1		A2340 B	01/23/23 22:59 / SR		CALC_230201A : 146		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.8	mg/L		0.5		A5310 C	01/26/23 16:25 / eli-c		SUB-C291699 : 15		C_R291699
Organic Carbon, Total (TOC)	1.3	mg/L		0.5		A5310 C	01/25/23 20:47 / eli-c		SUB-C291646 : 22		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	01/26/23 15:24 / JAR		FIA203-HE_230126A : 36		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/23/23 22:59 / dck		ICPMS205-H_230123B : 66		R181803
Antimony	ND	mg/L		0.0005		E200.8	01/23/23 22:59 / dck		ICPMS205-H_230123B : 66		R181803
Arsenic	0.002	mg/L		0.001		E200.8	01/23/23 22:59 / dck		ICPMS205-H_230123B : 66		R181803
Barium	0.062	mg/L		0.003		E200.8	01/23/23 22:59 / dck		ICPMS205-H_230123B : 66		R181803
Beryllium	ND	mg/L		0.0008		E200.8	01/23/23 22:59 / dck		ICPMS205-H_230123B : 66		R181803
Boron	ND	mg/L		0.05		E200.8	01/23/23 22:59 / dck		ICPMS205-H_230123B : 66		R181803
Cadmium	ND	mg/L		0.00003		E200.8	01/23/23 22:59 / dck		ICPMS205-H_230123B : 66		R181803
Cesium	ND	mg/L		0.01		E200.8	01/25/23 16:46 / dck		ICPMS205-H_230125A : 33		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-28  
**Lab ID:** H23010433-010  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/17/23 11:04  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	44	mg/L		1		E200.8	01/23/23 22:59 / dck		ICPMS205-H_230123B : 66		R181803
Chromium	ND	mg/L		0.005		E200.8	01/23/23 22:59 / dck		ICPMS205-H_230123B : 66		R181803
Cobalt	ND	mg/L		0.005		E200.8	01/23/23 22:59 / dck		ICPMS205-H_230123B : 66		R181803
Copper	ND	mg/L		0.002		E200.8	01/23/23 22:59 / dck		ICPMS205-H_230123B : 66		R181803
Gallium	ND	mg/L		0.01		E200.8	01/25/23 16:46 / dck		ICPMS205-H_230125A : 33		R181863
Iron	3.72	mg/L		0.02		E200.8	01/23/23 22:59 / dck		ICPMS205-H_230123B : 66		R181803
Lead	ND	mg/L		0.0003		E200.8	01/23/23 22:59 / dck		ICPMS205-H_230123B : 66		R181803
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 16:46 / dck		ICPMS205-H_230125A : 33		R181863
Lithium	ND	mg/L		0.1		E200.8	01/23/23 22:59 / dck		ICPMS205-H_230123B : 66		R181803
Magnesium	11	mg/L		1		E200.8	01/23/23 22:59 / dck		ICPMS205-H_230123B : 66		R181803
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 16:46 / dck		ICPMS205-H_230125A : 33		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 16:46 / dck		ICPMS205-H_230125A : 33		R181863
Manganese	0.220	mg/L		0.001		E200.8	01/23/23 22:59 / dck		ICPMS205-H_230123B : 66		R181803
Molybdenum	0.007	mg/L		0.001		E200.8	01/23/23 22:59 / dck		ICPMS205-H_230123B : 66		R181803
Nickel	ND	mg/L		0.002		E200.8	01/23/23 22:59 / dck		ICPMS205-H_230123B : 66		R181803
Palladium	ND	mg/L		0.01		E200.8	01/25/23 16:46 / dck		ICPMS205-H_230125A : 33		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 16:46 / dck		ICPMS205-H_230125A : 33		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 16:46 / dck		ICPMS205-H_230125A : 33		R181863
Potassium	4	mg/L		1		E200.8	01/23/23 22:59 / dck		ICPMS205-H_230123B : 66		R181803
Selenium	ND	mg/L		0.001		E200.8	01/23/23 22:59 / dck		ICPMS205-H_230123B : 66		R181803
Silver	ND	mg/L		0.0002		E200.8	01/23/23 22:59 / dck		ICPMS205-H_230123B : 66		R181803
Sodium	21	mg/L		1		E200.8	01/23/23 22:59 / dck		ICPMS205-H_230123B : 66		R181803
Strontium	0.34	mg/L		0.01		E200.8	01/23/23 22:59 / dck		ICPMS205-H_230123B : 66		R181803
Thallium	ND	mg/L		0.0002		E200.8	01/23/23 22:59 / dck		ICPMS205-H_230123B : 66		R181803
Thorium	ND	mg/L		0.005		E200.8	01/23/23 22:59 / dck		ICPMS205-H_230123B : 66		R181803
Tin	ND	mg/L		0.05		E200.8	01/23/23 22:59 / dck		ICPMS205-H_230123B : 66		R181803
Titanium	ND	mg/L		0.005		E200.8	01/23/23 22:59 / dck		ICPMS205-H_230123B : 66		R181803
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 16:46 / dck		ICPMS205-H_230125A : 33		R181863
Uranium	0.0039	mg/L		0.0002		E200.8	01/23/23 22:59 / dck		ICPMS205-H_230123B : 66		R181803
Vanadium	ND	mg/L		0.01		E200.8	01/23/23 22:59 / dck		ICPMS205-H_230123B : 66		R181803
Zinc	ND	mg/L		0.008		E200.8	01/24/23 21:33 / dck		ICPMS205-H_230124A : 182		R181811
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 16:46 / dck		ICPMS205-H_230125A : 33		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-28  
**Lab ID:** H23010433-010  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/17/23 11:04  
**DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-0.51	%				A1030 E	02/01/23 08:05 / SR		CALC_230201A : 144		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13B  
**Lab ID:** H23010433-011  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/19/23 16:00  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.4	s.u.	H	0.1		A4500-H B	01/23/23 11:23 / ljs		PHSC_101-H_230123A : 29		R181770
pH Measurement Temp	12.8	°C				A4500-H B	01/23/23 11:23 / ljs		PHSC_101-H_230123A : 29		R181770
Conductivity @ 25 C	294	umhos/cm		5		A2510 B	01/23/23 11:23 / ljs		PHSC_101-H_230123A : 30		R181770
Solids, Total Dissolved TDS @ 180 C	187	mg/L	D	20		A2540 C	01/23/23 13:44 / JAR		I24 (14410200)_230123A : 14		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	91	mg/L		4		A2320 B	01/25/23 15:58 / ljs		PHSC_101-H_230125A : 161		R181823
Bicarbonate as HCO3	110	mg/L		4		A2320 B	01/25/23 15:58 / ljs		PHSC_101-H_230125A : 161		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 15:58 / ljs		PHSC_101-H_230125A : 161		R181823
Chloride	7	mg/L		1		E300.0	01/26/23 04:11 / ljs		IC METROHM_230125A : 55		R181878
Sulfate	44	mg/L		1		E300.0	01/26/23 04:11 / ljs		IC METROHM_230125A : 55		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 04:11 / ljs		IC METROHM_230125A : 55		R181878
Fluoride	1.4	mg/L		0.1		E300.0	01/26/23 04:11 / ljs		IC METROHM_230125A : 55		R181878
Hardness as CaCO3	85	mg/L		1		A2340 B	01/23/23 23:12 / SR		CALC_230201A : 157		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	01/26/23 17:20 / eli-c		SUB-C291699 : 17		C_R291699
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	01/25/23 21:08 / eli-c		SUB-C291646 : 23		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.54	mg/L		0.01		E353.2	01/26/23 15:25 / JAR		FIA203-HE_230126A : 37		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/23/23 23:12 / dck		ICPMS205-H_230123B : 71		R181803
Antimony	ND	mg/L		0.0005		E200.8	01/23/23 23:12 / dck		ICPMS205-H_230123B : 71		R181803
Arsenic	0.004	mg/L		0.001		E200.8	01/23/23 23:12 / dck		ICPMS205-H_230123B : 71		R181803
Barium	0.032	mg/L		0.003		E200.8	01/23/23 23:12 / dck		ICPMS205-H_230123B : 71		R181803
Beryllium	ND	mg/L		0.0008		E200.8	01/23/23 23:12 / dck		ICPMS205-H_230123B : 71		R181803
Boron	ND	mg/L		0.05		E200.7	01/24/23 13:36 / slj		ICP2-HE_230124B : 78		R181807
Cadmium	0.00027	mg/L		0.00003		E200.8	01/23/23 23:12 / dck		ICPMS205-H_230123B : 71		R181803
Cesium	ND	mg/L		0.01		E200.8	01/25/23 16:54 / dck		ICPMS205-H_230125A : 38		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13B  
**Lab ID:** H23010433-011  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/19/23 16:00  
**DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	24	mg/L		1		E200.8	01/23/23 23:12 / dck		ICPMS205-H_230123B : 71		R181803
Chromium	ND	mg/L		0.005		E200.8	01/23/23 23:12 / dck		ICPMS205-H_230123B : 71		R181803
Cobalt	ND	mg/L		0.005		E200.8	01/23/23 23:12 / dck		ICPMS205-H_230123B : 71		R181803
Copper	ND	mg/L		0.002		E200.8	01/23/23 23:12 / dck		ICPMS205-H_230123B : 71		R181803
Gallium	ND	mg/L		0.01		E200.8	01/25/23 16:54 / dck		ICPMS205-H_230125A : 38		R181863
Iron	ND	mg/L		0.02		E200.8	01/23/23 23:12 / dck		ICPMS205-H_230123B : 71		R181803
Lead	ND	mg/L		0.0003		E200.8	01/23/23 23:12 / dck		ICPMS205-H_230123B : 71		R181803
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 16:54 / dck		ICPMS205-H_230125A : 38		R181863
Lithium	ND	mg/L		0.1		E200.8	01/23/23 23:12 / dck		ICPMS205-H_230123B : 71		R181803
Magnesium	6	mg/L		1		E200.8	01/23/23 23:12 / dck		ICPMS205-H_230123B : 71		R181803
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 16:54 / dck		ICPMS205-H_230125A : 38		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 16:54 / dck		ICPMS205-H_230125A : 38		R181863
Manganese	ND	mg/L		0.001		E200.8	01/24/23 21:46 / dck		ICPMS205-H_230124A : 187		R181811
Molybdenum	0.038	mg/L		0.001		E200.8	01/23/23 23:12 / dck		ICPMS205-H_230123B : 71		R181803
Nickel	ND	mg/L		0.002		E200.8	01/23/23 23:12 / dck		ICPMS205-H_230123B : 71		R181803
Palladium	ND	mg/L		0.01		E200.8	01/25/23 16:54 / dck		ICPMS205-H_230125A : 38		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 16:54 / dck		ICPMS205-H_230125A : 38		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 16:54 / dck		ICPMS205-H_230125A : 38		R181863
Potassium	3	mg/L		1		E200.8	01/23/23 23:12 / dck		ICPMS205-H_230123B : 71		R181803
Selenium	ND	mg/L		0.001		E200.8	01/23/23 23:12 / dck		ICPMS205-H_230123B : 71		R181803
Silver	ND	mg/L		0.0002		E200.8	01/23/23 23:12 / dck		ICPMS205-H_230123B : 71		R181803
Sodium	27	mg/L		1		E200.8	01/23/23 23:12 / dck		ICPMS205-H_230123B : 71		R181803
Strontium	0.17	mg/L		0.01		E200.8	01/23/23 23:12 / dck		ICPMS205-H_230123B : 71		R181803
Thallium	ND	mg/L		0.0002		E200.8	01/23/23 23:12 / dck		ICPMS205-H_230123B : 71		R181803
Thorium	ND	mg/L		0.005		E200.8	01/23/23 23:12 / dck		ICPMS205-H_230123B : 71		R181803
Tin	ND	mg/L		0.05		E200.8	01/23/23 23:12 / dck		ICPMS205-H_230123B : 71		R181803
Titanium	ND	mg/L		0.005		E200.8	01/24/23 21:46 / dck		ICPMS205-H_230124A : 187		R181811
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 16:54 / dck		ICPMS205-H_230125A : 38		R181863
Uranium	0.0037	mg/L		0.0002		E200.8	01/23/23 23:12 / dck		ICPMS205-H_230123B : 71		R181803
Vanadium	ND	mg/L		0.01		E200.8	01/23/23 23:12 / dck		ICPMS205-H_230123B : 71		R181803
Zinc	0.024	mg/L		0.008		E200.8	01/23/23 23:12 / dck		ICPMS205-H_230123B : 71		R181803
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 16:54 / dck		ICPMS205-H_230125A : 38		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13B  
**Lab ID:** H23010433-011  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/19/23 16:00      **DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.55	%				A1030 E	02/01/23 08:05 / SR		CALC_230201A : 155		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13B2  
**Lab ID:** H23010433-012  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/19/23 16:20  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.4	s.u.	H	0.1		A4500-H B	01/23/23 11:25 / ljs		PHSC_101-H_230123A : 31		R181770
pH Measurement Temp	11.8	°C				A4500-H B	01/23/23 11:25 / ljs		PHSC_101-H_230123A : 31		R181770
Conductivity @ 25 C	306	umhos/cm		5		A2510 B	01/23/23 11:25 / ljs		PHSC_101-H_230123A : 32		R181770
Solids, Total Dissolved TDS @ 180 C	197	mg/L	D	20		A2540 C	01/23/23 13:44 / JAR		I24 (14410200)_230123A : 15		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	90	mg/L		4		A2320 B	01/25/23 16:04 / ljs		PHSC_101-H_230125A : 163		R181823
Bicarbonate as HCO3	110	mg/L		4		A2320 B	01/25/23 16:04 / ljs		PHSC_101-H_230125A : 163		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 16:04 / ljs		PHSC_101-H_230125A : 163		R181823
Chloride	7	mg/L		1		E300.0	01/26/23 04:54 / ljs		IC METROHM_230125A : 58		R181878
Sulfate	50	mg/L		1		E300.0	01/26/23 04:54 / ljs		IC METROHM_230125A : 58		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 04:54 / ljs		IC METROHM_230125A : 58		R181878
Fluoride	1.6	mg/L		0.1		E300.0	01/26/23 04:54 / ljs		IC METROHM_230125A : 58		R181878
Hardness as CaCO3	86	mg/L		1		A2340 B	01/23/23 23:14 / SR		CALC_230201A : 168		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	01/26/23 18:07 / eli-c		SUB-C291699 : 20		C_R291699
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	01/25/23 21:28 / eli-c		SUB-C291646 : 24		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.53	mg/L		0.01		E353.2	01/26/23 15:27 / JAR		FIA203-HE_230126A : 38		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/23/23 23:14 / dck		ICPMS205-H_230123B : 72		R181803
Antimony	ND	mg/L		0.0005		E200.8	01/23/23 23:14 / dck		ICPMS205-H_230123B : 72		R181803
Arsenic	0.005	mg/L		0.001		E200.8	01/23/23 23:14 / dck		ICPMS205-H_230123B : 72		R181803
Barium	0.027	mg/L		0.003		E200.8	01/23/23 23:14 / dck		ICPMS205-H_230123B : 72		R181803
Beryllium	ND	mg/L		0.0008		E200.8	01/23/23 23:14 / dck		ICPMS205-H_230123B : 72		R181803
Boron	ND	mg/L		0.05		E200.7	01/24/23 13:58 / slj		ICP2-HE_230124B : 84		R181807
Cadmium	0.00048	mg/L		0.00003		E200.8	01/23/23 23:14 / dck		ICPMS205-H_230123B : 72		R181803
Cesium	ND	mg/L		0.01		E200.8	01/25/23 16:55 / dck		ICPMS205-H_230125A : 39		R181863

**Report** RL - Analyte Reporting Limit

**Definitions:** D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level

H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13B2  
**Lab ID:** H23010433-012  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/19/23 16:20  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	25	mg/L		1		E200.8	01/23/23 23:14 / dck		ICPMS205-H_230123B : 72		R181803
Chromium	ND	mg/L		0.005		E200.8	01/23/23 23:14 / dck		ICPMS205-H_230123B : 72		R181803
Cobalt	ND	mg/L		0.005		E200.8	01/23/23 23:14 / dck		ICPMS205-H_230123B : 72		R181803
Copper	0.002	mg/L		0.002		E200.8	01/23/23 23:14 / dck		ICPMS205-H_230123B : 72		R181803
Gallium	ND	mg/L		0.01		E200.8	01/25/23 16:55 / dck		ICPMS205-H_230125A : 39		R181863
Iron	ND	mg/L		0.02		E200.8	01/23/23 23:14 / dck		ICPMS205-H_230123B : 72		R181803
Lead	ND	mg/L		0.0003		E200.8	01/23/23 23:14 / dck		ICPMS205-H_230123B : 72		R181803
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 16:55 / dck		ICPMS205-H_230125A : 39		R181863
Lithium	ND	mg/L		0.1		E200.8	01/23/23 23:14 / dck		ICPMS205-H_230123B : 72		R181803
Magnesium	6	mg/L		1		E200.8	01/23/23 23:14 / dck		ICPMS205-H_230123B : 72		R181803
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 16:55 / dck		ICPMS205-H_230125A : 39		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 16:55 / dck		ICPMS205-H_230125A : 39		R181863
Manganese	ND	mg/L		0.001		E200.8	01/27/23 21:12 / dck		ICPMS205-H_230127A : 95		R181901
Molybdenum	0.042	mg/L		0.001		E200.8	01/23/23 23:14 / dck		ICPMS205-H_230123B : 72		R181803
Nickel	ND	mg/L		0.002		E200.8	01/23/23 23:14 / dck		ICPMS205-H_230123B : 72		R181803
Palladium	ND	mg/L		0.01		E200.8	01/25/23 16:55 / dck		ICPMS205-H_230125A : 39		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 16:55 / dck		ICPMS205-H_230125A : 39		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 16:55 / dck		ICPMS205-H_230125A : 39		R181863
Potassium	3	mg/L		1		E200.8	01/23/23 23:14 / dck		ICPMS205-H_230123B : 72		R181803
Selenium	ND	mg/L		0.001		E200.8	01/23/23 23:14 / dck		ICPMS205-H_230123B : 72		R181803
Silver	ND	mg/L		0.0002		E200.8	01/23/23 23:14 / dck		ICPMS205-H_230123B : 72		R181803
Sodium	28	mg/L		1		E200.8	01/23/23 23:14 / dck		ICPMS205-H_230123B : 72		R181803
Strontium	0.18	mg/L		0.01		E200.8	01/23/23 23:14 / dck		ICPMS205-H_230123B : 72		R181803
Thallium	ND	mg/L		0.0002		E200.8	01/23/23 23:14 / dck		ICPMS205-H_230123B : 72		R181803
Thorium	ND	mg/L		0.005		E200.8	01/23/23 23:14 / dck		ICPMS205-H_230123B : 72		R181803
Tin	ND	mg/L		0.05		E200.8	01/23/23 23:14 / dck		ICPMS205-H_230123B : 72		R181803
Titanium	ND	mg/L		0.005		E200.8	01/24/23 21:49 / dck		ICPMS205-H_230124A : 188		R181811
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 16:55 / dck		ICPMS205-H_230125A : 39		R181863
Uranium	0.0037	mg/L		0.0002		E200.8	01/23/23 23:14 / dck		ICPMS205-H_230123B : 72		R181803
Vanadium	ND	mg/L		0.01		E200.8	01/23/23 23:14 / dck		ICPMS205-H_230123B : 72		R181803
Zinc	0.048	mg/L		0.008		E200.8	01/23/23 23:14 / dck		ICPMS205-H_230123B : 72		R181803
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 16:55 / dck		ICPMS205-H_230125A : 39		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13B2  
**Lab ID:** H23010433-012  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/19/23 16:20      **DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-2.33	%				A1030 E	02/01/23 08:05 / SR		CALC_230201A : 166		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13C  
**Lab ID:** H23010433-013  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/19/23 16:40  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.9	s.u.	H	0.1		A4500-H B	01/23/23 11:27 / ljs		PHSC_101-H_230123A : 33		R181770
pH Measurement Temp	11.9	°C				A4500-H B	01/23/23 11:27 / ljs		PHSC_101-H_230123A : 33		R181770
Conductivity @ 25 C	644	umhos/cm		5		A2510 B	01/23/23 11:27 / ljs		PHSC_101-H_230123A : 34		R181770
Solids, Total Dissolved TDS @ 180 C	468	mg/L	D	20		A2540 C	01/23/23 13:44 / JAR		I24 (14410200)_230123A : 16		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	60	mg/L		4		A2320 B	01/25/23 16:11 / ljs		PHSC_101-H_230125A : 165		R181823
Bicarbonate as HCO3	72	mg/L		4		A2320 B	01/25/23 16:11 / ljs		PHSC_101-H_230125A : 165		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 16:11 / ljs		PHSC_101-H_230125A : 165		R181823
Chloride	7	mg/L		1		E300.0	01/26/23 05:08 / ljs		IC METROHM_230125A : 59		R181878
Sulfate	251	mg/L		1		E300.0	01/26/23 05:08 / ljs		IC METROHM_230125A : 59		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 05:08 / ljs		IC METROHM_230125A : 59		R181878
Fluoride	1.2	mg/L		0.1		E300.0	01/26/23 05:08 / ljs		IC METROHM_230125A : 59		R181878
Hardness as CaCO3	220	mg/L		1		A2340 B	01/23/23 23:17 / SR		CALC_230201A : 179		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	01/26/23 18:27 / eli-c		SUB-C291699 : 21		C_R291699
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	01/25/23 21:48 / eli-c		SUB-C291646 : 25		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.16	mg/L		0.01		E353.2	01/26/23 15:28 / JAR		FIA203-HE_230126A : 39		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/23/23 23:17 / dck		ICPMS205-H_230123B : 73		R181803
Antimony	ND	mg/L		0.0005		E200.8	01/23/23 23:17 / dck		ICPMS205-H_230123B : 73		R181803
Arsenic	0.006	mg/L		0.001		E200.8	01/23/23 23:17 / dck		ICPMS205-H_230123B : 73		R181803
Barium	0.008	mg/L		0.003		E200.8	01/23/23 23:17 / dck		ICPMS205-H_230123B : 73		R181803
Beryllium	ND	mg/L		0.0008		E200.8	01/23/23 23:17 / dck		ICPMS205-H_230123B : 73		R181803
Boron	ND	mg/L		0.05		E200.7	01/24/23 14:02 / slj		ICP2-HE_230124B : 85		R181807
Cadmium	0.00193	mg/L		0.00003		E200.8	01/23/23 23:17 / dck		ICPMS205-H_230123B : 73		R181803
Cesium	ND	mg/L		0.01		E200.8	01/25/23 16:57 / dck		ICPMS205-H_230125A : 40		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13C  
**Lab ID:** H23010433-013  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/19/23 16:40  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	64	mg/L		1		E200.8	01/23/23 23:17 / dck		ICPMS205-H_230123B : 73		R181803
Chromium	ND	mg/L		0.005		E200.8	01/23/23 23:17 / dck		ICPMS205-H_230123B : 73		R181803
Cobalt	ND	mg/L		0.005		E200.8	01/23/23 23:17 / dck		ICPMS205-H_230123B : 73		R181803
Copper	ND	mg/L		0.002		E200.8	01/23/23 23:17 / dck		ICPMS205-H_230123B : 73		R181803
Gallium	ND	mg/L		0.01		E200.8	01/25/23 16:57 / dck		ICPMS205-H_230125A : 40		R181863
Iron	ND	mg/L		0.02		E200.8	01/23/23 23:17 / dck		ICPMS205-H_230123B : 73		R181803
Lead	ND	mg/L		0.0003		E200.8	01/23/23 23:17 / dck		ICPMS205-H_230123B : 73		R181803
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 16:57 / dck		ICPMS205-H_230125A : 40		R181863
Lithium	ND	mg/L		0.1		E200.8	01/23/23 23:17 / dck		ICPMS205-H_230123B : 73		R181803
Magnesium	15	mg/L		1		E200.8	01/23/23 23:17 / dck		ICPMS205-H_230123B : 73		R181803
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 16:57 / dck		ICPMS205-H_230125A : 40		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 16:57 / dck		ICPMS205-H_230125A : 40		R181863
Manganese	ND	mg/L		0.001		E200.8	01/24/23 21:51 / dck		ICPMS205-H_230124A : 189		R181811
Molybdenum	0.169	mg/L		0.001		E200.8	01/23/23 23:17 / dck		ICPMS205-H_230123B : 73		R181803
Nickel	ND	mg/L		0.002		E200.8	01/23/23 23:17 / dck		ICPMS205-H_230123B : 73		R181803
Palladium	ND	mg/L		0.01		E200.8	01/25/23 16:57 / dck		ICPMS205-H_230125A : 40		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 16:57 / dck		ICPMS205-H_230125A : 40		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 16:57 / dck		ICPMS205-H_230125A : 40		R181863
Potassium	7	mg/L		1		E200.8	01/23/23 23:17 / dck		ICPMS205-H_230123B : 73		R181803
Selenium	ND	mg/L		0.001		E200.8	01/23/23 23:17 / dck		ICPMS205-H_230123B : 73		R181803
Silver	ND	mg/L		0.0002		E200.8	01/23/23 23:17 / dck		ICPMS205-H_230123B : 73		R181803
Sodium	45	mg/L		1		E200.8	01/23/23 23:17 / dck		ICPMS205-H_230123B : 73		R181803
Strontium	0.44	mg/L		0.01		E200.8	01/23/23 23:17 / dck		ICPMS205-H_230123B : 73		R181803
Thallium	ND	mg/L		0.0002		E200.8	01/23/23 23:17 / dck		ICPMS205-H_230123B : 73		R181803
Thorium	ND	mg/L		0.005		E200.8	01/23/23 23:17 / dck		ICPMS205-H_230123B : 73		R181803
Tin	ND	mg/L		0.05		E200.8	01/23/23 23:17 / dck		ICPMS205-H_230123B : 73		R181803
Titanium	ND	mg/L		0.005		E200.8	01/24/23 21:51 / dck		ICPMS205-H_230124A : 189		R181811
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 16:57 / dck		ICPMS205-H_230125A : 40		R181863
Uranium	0.0015	mg/L		0.0002		E200.8	01/23/23 23:17 / dck		ICPMS205-H_230123B : 73		R181803
Vanadium	ND	mg/L		0.01		E200.8	01/23/23 23:17 / dck		ICPMS205-H_230123B : 73		R181803
Zinc	0.162	mg/L		0.008		E200.8	01/23/23 23:17 / dck		ICPMS205-H_230123B : 73		R181803
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 16:57 / dck		ICPMS205-H_230125A : 40		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13C  
**Lab ID:** H23010433-013  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/19/23 16:40      **DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.01	%				A1030 E	02/01/23 08:05 / SR		CALC_230201A : 177		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-11A  
**Lab ID:** H23010433-014  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/18/23 13:15  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.2	s.u.	H	0.1		A4500-H B	01/23/23 11:30 / ljs		PHSC_101-H_230123A : 35		R181770
pH Measurement Temp	12.2	°C				A4500-H B	01/23/23 11:30 / ljs		PHSC_101-H_230123A : 35		R181770
Conductivity @ 25 C	312	umhos/cm		5		A2510 B	01/23/23 11:30 / ljs		PHSC_101-H_230123A : 36		R181770
Solids, Total Dissolved TDS @ 180 C	195	mg/L	D	20		A2540 C	01/23/23 13:44 / JAR		I24 (14410200)_230123A : 17		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	98	mg/L		4		A2320 B	01/25/23 16:18 / ljs		PHSC_101-H_230125A : 167		R181823
Bicarbonate as HCO3	120	mg/L		4		A2320 B	01/25/23 16:18 / ljs		PHSC_101-H_230125A : 167		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 16:18 / ljs		PHSC_101-H_230125A : 167		R181823
Chloride	14	mg/L		1		E300.0	01/26/23 05:23 / ljs		IC METROHM_230125A : 60		R181878
Sulfate	37	mg/L		1		E300.0	01/26/23 05:23 / ljs		IC METROHM_230125A : 60		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 05:23 / ljs		IC METROHM_230125A : 60		R181878
Fluoride	1.2	mg/L		0.1		E300.0	01/26/23 05:23 / ljs		IC METROHM_230125A : 60		R181878
Hardness as CaCO3	101	mg/L		1		A2340 B	01/23/23 23:20 / SR		CALC_230201A : 190		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	01/26/23 18:47 / eli-c		SUB-C291699 : 22		C_R291699
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	01/25/23 22:07 / eli-c		SUB-C291646 : 26		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	1.03	mg/L		0.01		E353.2	01/26/23 15:29 / JAR		FIA203-HE_230126A : 40		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/23/23 23:20 / dck		ICPMS205-H_230123B : 74		R181803
Antimony	ND	mg/L		0.0005		E200.8	01/23/23 23:20 / dck		ICPMS205-H_230123B : 74		R181803
Arsenic	0.002	mg/L		0.001		E200.8	01/23/23 23:20 / dck		ICPMS205-H_230123B : 74		R181803
Barium	0.051	mg/L		0.003		E200.8	01/23/23 23:20 / dck		ICPMS205-H_230123B : 74		R181803
Beryllium	ND	mg/L		0.0008		E200.8	01/23/23 23:20 / dck		ICPMS205-H_230123B : 74		R181803
Boron	ND	mg/L		0.05		E200.7	01/24/23 14:06 / slj		ICP2-HE_230124B : 86		R181807
Cadmium	0.00028	mg/L		0.00003		E200.8	01/23/23 23:20 / dck		ICPMS205-H_230123B : 74		R181803
Cesium	ND	mg/L		0.01		E200.8	01/25/23 16:58 / dck		ICPMS205-H_230125A : 41		R181863

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** D - Reporting Limit (RL) increased due to sample matrix

H - Analysis performed past the method holding time





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-11A  
**Lab ID:** H23010433-014  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/18/23 13:15  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	29	mg/L		1		E200.8	01/23/23 23:20 / dck		ICPMS205-H_230123B : 74		R181803
Chromium	ND	mg/L		0.005		E200.8	01/23/23 23:20 / dck		ICPMS205-H_230123B : 74		R181803
Cobalt	ND	mg/L		0.005		E200.8	01/23/23 23:20 / dck		ICPMS205-H_230123B : 74		R181803
Copper	ND	mg/L		0.002		E200.8	01/23/23 23:20 / dck		ICPMS205-H_230123B : 74		R181803
Gallium	ND	mg/L		0.01		E200.8	01/25/23 16:58 / dck		ICPMS205-H_230125A : 41		R181863
Iron	ND	mg/L		0.02		E200.8	01/23/23 23:20 / dck		ICPMS205-H_230123B : 74		R181803
Lead	ND	mg/L		0.0003		E200.8	01/23/23 23:20 / dck		ICPMS205-H_230123B : 74		R181803
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 16:58 / dck		ICPMS205-H_230125A : 41		R181863
Lithium	ND	mg/L		0.1		E200.8	01/23/23 23:20 / dck		ICPMS205-H_230123B : 74		R181803
Magnesium	7	mg/L		1		E200.8	01/23/23 23:20 / dck		ICPMS205-H_230123B : 74		R181803
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 16:58 / dck		ICPMS205-H_230125A : 41		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 16:58 / dck		ICPMS205-H_230125A : 41		R181863
Manganese	0.002	mg/L		0.001		E200.8	01/24/23 21:54 / dck		ICPMS205-H_230124A : 190		R181811
Molybdenum	0.025	mg/L		0.001		E200.8	01/23/23 23:20 / dck		ICPMS205-H_230123B : 74		R181803
Nickel	ND	mg/L		0.002		E200.8	01/23/23 23:20 / dck		ICPMS205-H_230123B : 74		R181803
Palladium	ND	mg/L		0.01		E200.8	01/25/23 16:58 / dck		ICPMS205-H_230125A : 41		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 16:58 / dck		ICPMS205-H_230125A : 41		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 16:58 / dck		ICPMS205-H_230125A : 41		R181863
Potassium	3	mg/L		1		E200.8	01/23/23 23:20 / dck		ICPMS205-H_230123B : 74		R181803
Selenium	ND	mg/L		0.001		E200.8	01/23/23 23:20 / dck		ICPMS205-H_230123B : 74		R181803
Silver	ND	mg/L		0.0002		E200.8	01/23/23 23:20 / dck		ICPMS205-H_230123B : 74		R181803
Sodium	24	mg/L		1		E200.8	01/23/23 23:20 / dck		ICPMS205-H_230123B : 74		R181803
Strontium	0.24	mg/L		0.01		E200.8	01/23/23 23:20 / dck		ICPMS205-H_230123B : 74		R181803
Thallium	ND	mg/L		0.0002		E200.8	01/23/23 23:20 / dck		ICPMS205-H_230123B : 74		R181803
Thorium	ND	mg/L		0.005		E200.8	01/23/23 23:20 / dck		ICPMS205-H_230123B : 74		R181803
Tin	ND	mg/L		0.05		E200.8	01/23/23 23:20 / dck		ICPMS205-H_230123B : 74		R181803
Titanium	ND	mg/L		0.005		E200.8	01/24/23 21:54 / dck		ICPMS205-H_230124A : 190		R181811
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 16:58 / dck		ICPMS205-H_230125A : 41		R181863
Uranium	0.0043	mg/L		0.0002		E200.8	01/23/23 23:20 / dck		ICPMS205-H_230123B : 74		R181803
Vanadium	ND	mg/L		0.01		E200.8	01/23/23 23:20 / dck		ICPMS205-H_230123B : 74		R181803
Zinc	0.053	mg/L		0.008		E200.8	01/23/23 23:20 / dck		ICPMS205-H_230123B : 74		R181803
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 16:58 / dck		ICPMS205-H_230125A : 41		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-11A  
**Lab ID:** H23010433-014  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/18/23 13:15      **DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.57	%				A1030 E	02/01/23 08:06 / SR		CALC_230201A : 188		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-29SR  
**Lab ID:** H23010433-015  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/18/23 13:45  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.2	s.u.	H	0.1		A4500-H B	01/23/23 11:32 / ljs		PHSC_101-H_230123A : 37		R181770
pH Measurement Temp	12.2	°C				A4500-H B	01/23/23 11:32 / ljs		PHSC_101-H_230123A : 37		R181770
Conductivity @ 25 C	423	umhos/cm		5		A2510 B	01/23/23 11:32 / ljs		PHSC_101-H_230123A : 38		R181770
Solids, Total Dissolved TDS @ 180 C	265	mg/L	D	20		A2540 C	01/23/23 13:44 / JAR		I24 (14410200)_230123A : 18		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	01/25/23 16:25 / ljs		PHSC_101-H_230125A : 169		R181823
Bicarbonate as HCO3	130	mg/L		4		A2320 B	01/25/23 16:25 / ljs		PHSC_101-H_230125A : 169		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 16:25 / ljs		PHSC_101-H_230125A : 169		R181823
Chloride	20	mg/L		1		E300.0	01/26/23 05:37 / ljs		IC METROHM_230125A : 61		R181878
Sulfate	64	mg/L		1		E300.0	01/26/23 05:37 / ljs		IC METROHM_230125A : 61		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 05:37 / ljs		IC METROHM_230125A : 61		R181878
Fluoride	1.4	mg/L		0.1		E300.0	01/26/23 05:37 / ljs		IC METROHM_230125A : 61		R181878
Hardness as CaCO3	136	mg/L		1		A2340 B	01/23/23 23:22 / SR		CALC_230201A : 201		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.7	mg/L		0.5		A5310 C	01/26/23 19:08 / eli-c		SUB-C291699 : 23		C_R291699
Organic Carbon, Total (TOC)	0.6	mg/L		0.5		A5310 C	01/25/23 22:28 / eli-c		SUB-C291646 : 27		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	2.12	mg/L	D	0.02		E353.2	01/26/23 16:08 / JAR		FIA203-HE_230126A : 73		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/23/23 23:22 / dck		ICPMS205-H_230123B : 75		R181803
Antimony	ND	mg/L		0.0005		E200.8	01/23/23 23:22 / dck		ICPMS205-H_230123B : 75		R181803
Arsenic	0.003	mg/L		0.001		E200.8	01/23/23 23:22 / dck		ICPMS205-H_230123B : 75		R181803
Barium	0.054	mg/L		0.003		E200.8	01/23/23 23:22 / dck		ICPMS205-H_230123B : 75		R181803
Beryllium	ND	mg/L		0.0008		E200.8	01/23/23 23:22 / dck		ICPMS205-H_230123B : 75		R181803
Boron	0.05	mg/L		0.05		E200.7	01/25/23 11:39 / slj		ICP2-HE_230125A : 24		R181835
Cadmium	0.00171	mg/L		0.00003		E200.8	01/23/23 23:22 / dck		ICPMS205-H_230123B : 75		R181803
Cesium	ND	mg/L		0.01		E200.8	01/25/23 17:00 / dck		ICPMS205-H_230125A : 42		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-29SR  
**Lab ID:** H23010433-015  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/18/23 13:45  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	39	mg/L		1		E200.8	01/23/23 23:22 / dck		ICPMS205-H_230123B : 75		R181803
Chromium	ND	mg/L		0.005		E200.8	01/23/23 23:22 / dck		ICPMS205-H_230123B : 75		R181803
Cobalt	ND	mg/L		0.005		E200.8	01/23/23 23:22 / dck		ICPMS205-H_230123B : 75		R181803
Copper	0.033	mg/L		0.002		E200.8	01/23/23 23:22 / dck		ICPMS205-H_230123B : 75		R181803
Gallium	ND	mg/L		0.01		E200.8	01/25/23 17:00 / dck		ICPMS205-H_230125A : 42		R181863
Iron	ND	mg/L		0.02		E200.8	01/23/23 23:22 / dck		ICPMS205-H_230123B : 75		R181803
Lead	ND	mg/L		0.0003		E200.8	01/23/23 23:22 / dck		ICPMS205-H_230123B : 75		R181803
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 17:00 / dck		ICPMS205-H_230125A : 42		R181863
Lithium	ND	mg/L		0.1		E200.8	01/23/23 23:22 / dck		ICPMS205-H_230123B : 75		R181803
Magnesium	9	mg/L		1		E200.8	01/23/23 23:22 / dck		ICPMS205-H_230123B : 75		R181803
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 17:00 / dck		ICPMS205-H_230125A : 42		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 17:00 / dck		ICPMS205-H_230125A : 42		R181863
Manganese	0.001	mg/L		0.001		E200.8	01/27/23 21:17 / dck		ICPMS205-H_230127A : 96		R181901
Molybdenum	0.014	mg/L		0.001		E200.8	01/23/23 23:22 / dck		ICPMS205-H_230123B : 75		R181803
Nickel	ND	mg/L		0.002		E200.8	01/23/23 23:22 / dck		ICPMS205-H_230123B : 75		R181803
Palladium	ND	mg/L		0.01		E200.8	01/25/23 17:00 / dck		ICPMS205-H_230125A : 42		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 17:00 / dck		ICPMS205-H_230125A : 42		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 17:00 / dck		ICPMS205-H_230125A : 42		R181863
Potassium	4	mg/L		1		E200.8	01/23/23 23:22 / dck		ICPMS205-H_230123B : 75		R181803
Selenium	ND	mg/L		0.001		E200.8	01/23/23 23:22 / dck		ICPMS205-H_230123B : 75		R181803
Silver	ND	mg/L		0.0002		E200.8	01/23/23 23:22 / dck		ICPMS205-H_230123B : 75		R181803
Sodium	33	mg/L		1		E200.8	01/23/23 23:22 / dck		ICPMS205-H_230123B : 75		R181803
Strontium	0.32	mg/L		0.01		E200.8	01/23/23 23:22 / dck		ICPMS205-H_230123B : 75		R181803
Thallium	ND	mg/L		0.0002		E200.8	01/23/23 23:22 / dck		ICPMS205-H_230123B : 75		R181803
Thorium	ND	mg/L		0.005		E200.8	01/23/23 23:22 / dck		ICPMS205-H_230123B : 75		R181803
Tin	ND	mg/L		0.05		E200.8	01/23/23 23:22 / dck		ICPMS205-H_230123B : 75		R181803
Titanium	ND	mg/L		0.005		E200.8	01/24/23 21:56 / dck		ICPMS205-H_230124A : 191		R181811
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 17:00 / dck		ICPMS205-H_230125A : 42		R181863
Uranium	0.0083	mg/L		0.0002		E200.8	01/23/23 23:22 / dck		ICPMS205-H_230123B : 75		R181803
Vanadium	ND	mg/L		0.01		E200.8	01/23/23 23:22 / dck		ICPMS205-H_230123B : 75		R181803
Zinc	0.158	mg/L		0.008		E200.8	01/23/23 23:22 / dck		ICPMS205-H_230123B : 75		R181803
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 17:00 / dck		ICPMS205-H_230125A : 42		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-29SR  
**Lab ID:** H23010433-015  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/18/23 13:45  
**DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.42	%				A1030 E	02/01/23 08:06 / SR		CALC_230201A : 199		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-23B  
**Lab ID:** H23010433-016  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/18/23 12:30  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.9	s.u.	H	0.1		A4500-H B	01/23/23 11:34 / ljs		PHSC_101-H_230123A : 39		R181770
pH Measurement Temp	12.6	°C				A4500-H B	01/23/23 11:34 / ljs		PHSC_101-H_230123A : 39		R181770
Conductivity @ 25 C	1170	umhos/cm		5		A2510 B	01/23/23 11:34 / ljs		PHSC_101-H_230123A : 40		R181770
Solids, Total Dissolved TDS @ 180 C	877	mg/L	D	20		A2540 C	01/23/23 13:44 / JAR		I24 (14410200)_230123A : 19		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	87	mg/L		4		A2320 B	01/25/23 16:32 / ljs		PHSC_101-H_230125A : 171		R181823
Bicarbonate as HCO3	110	mg/L		4		A2320 B	01/25/23 16:32 / ljs		PHSC_101-H_230125A : 171		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 16:32 / ljs		PHSC_101-H_230125A : 171		R181823
Chloride	37	mg/L		1		E300.0	01/26/23 05:51 / ljs		IC METROHM_230125A : 62		R181878
Sulfate	480	mg/L		1		E300.0	01/26/23 05:51 / ljs		IC METROHM_230125A : 62		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 05:51 / ljs		IC METROHM_230125A : 62		R181878
Fluoride	1.1	mg/L		0.1		E300.0	01/26/23 05:51 / ljs		IC METROHM_230125A : 62		R181878
Hardness as CaCO3	429	mg/L		1		A2340 B	01/23/23 23:25 / SR		CALC_230201A : 212		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.5	mg/L		0.5		A5310 C	01/26/23 19:28 / eli-c		SUB-C291699 : 24		C_R291699
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	01/25/23 22:48 / eli-c		SUB-C291646 : 28		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	2.74	mg/L	D	0.02		E353.2	01/26/23 16:07 / JAR		FIA203-HE_230126A : 72		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/23/23 23:25 / dck		ICPMS205-H_230123B : 76		R181803
Antimony	ND	mg/L		0.0005		E200.8	01/23/23 23:25 / dck		ICPMS205-H_230123B : 76		R181803
Arsenic	0.007	mg/L		0.001		E200.8	01/23/23 23:25 / dck		ICPMS205-H_230123B : 76		R181803
Barium	0.019	mg/L		0.003		E200.8	01/23/23 23:25 / dck		ICPMS205-H_230123B : 76		R181803
Beryllium	ND	mg/L		0.0008		E200.8	01/23/23 23:25 / dck		ICPMS205-H_230123B : 76		R181803
Boron	0.14	mg/L		0.05		E200.7	01/24/23 14:13 / slj		ICP2-HE_230124B : 88		R181807
Cadmium	0.0101	mg/L		0.00003		E200.8	01/23/23 23:25 / dck		ICPMS205-H_230123B : 76		R181803
Cesium	ND	mg/L		0.01		E200.8	01/25/23 17:01 / dck		ICPMS205-H_230125A : 43		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-23B  
**Lab ID:** H23010433-016  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/18/23 12:30  
**DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	128	mg/L		1		E200.8	01/23/23 23:25 / dck		ICPMS205-H_230123B : 76		R181803
Chromium	ND	mg/L		0.005		E200.8	01/23/23 23:25 / dck		ICPMS205-H_230123B : 76		R181803
Cobalt	ND	mg/L		0.005		E200.8	01/23/23 23:25 / dck		ICPMS205-H_230123B : 76		R181803
Copper	ND	mg/L		0.002		E200.8	01/23/23 23:25 / dck		ICPMS205-H_230123B : 76		R181803
Gallium	ND	mg/L		0.01		E200.8	01/25/23 17:01 / dck		ICPMS205-H_230125A : 43		R181863
Iron	ND	mg/L		0.02		E200.8	01/23/23 23:25 / dck		ICPMS205-H_230123B : 76		R181803
Lead	ND	mg/L		0.0003		E200.8	01/23/23 23:25 / dck		ICPMS205-H_230123B : 76		R181803
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 17:01 / dck		ICPMS205-H_230125A : 43		R181863
Lithium	0.4	mg/L		0.1		E200.8	01/23/23 23:25 / dck		ICPMS205-H_230123B : 76		R181803
Magnesium	27	mg/L		1		E200.8	01/23/23 23:25 / dck		ICPMS205-H_230123B : 76		R181803
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 17:01 / dck		ICPMS205-H_230125A : 43		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 17:01 / dck		ICPMS205-H_230125A : 43		R181863
Manganese	ND	mg/L		0.001		E200.8	01/24/23 21:59 / dck		ICPMS205-H_230124A : 192		R181811
Molybdenum	0.003	mg/L		0.001		E200.8	01/23/23 23:25 / dck		ICPMS205-H_230123B : 76		R181803
Nickel	0.003	mg/L		0.002		E200.8	01/23/23 23:25 / dck		ICPMS205-H_230123B : 76		R181803
Palladium	ND	mg/L		0.01		E200.8	01/25/23 17:01 / dck		ICPMS205-H_230125A : 43		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 17:01 / dck		ICPMS205-H_230125A : 43		R181863
Rubidium	0.01	mg/L		0.01		E200.8	01/25/23 17:01 / dck		ICPMS205-H_230125A : 43		R181863
Potassium	12	mg/L		1		E200.8	01/23/23 23:25 / dck		ICPMS205-H_230123B : 76		R181803
Selenium	ND	mg/L		0.001		E200.8	01/23/23 23:25 / dck		ICPMS205-H_230123B : 76		R181803
Silver	ND	mg/L		0.0002		E200.8	01/23/23 23:25 / dck		ICPMS205-H_230123B : 76		R181803
Sodium	93	mg/L		1		E200.8	01/23/23 23:25 / dck		ICPMS205-H_230123B : 76		R181803
Strontium	1.80	mg/L		0.01		E200.8	01/23/23 23:25 / dck		ICPMS205-H_230123B : 76		R181803
Thallium	ND	mg/L		0.0002		E200.8	01/23/23 23:25 / dck		ICPMS205-H_230123B : 76		R181803
Thorium	ND	mg/L		0.005		E200.8	01/23/23 23:25 / dck		ICPMS205-H_230123B : 76		R181803
Tin	ND	mg/L		0.05		E200.8	01/23/23 23:25 / dck		ICPMS205-H_230123B : 76		R181803
Titanium	ND	mg/L		0.005		E200.8	01/24/23 21:59 / dck		ICPMS205-H_230124A : 192		R181811
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 17:01 / dck		ICPMS205-H_230125A : 43		R181863
Uranium	0.0041	mg/L		0.0002		E200.8	01/23/23 23:25 / dck		ICPMS205-H_230123B : 76		R181803
Vanadium	ND	mg/L		0.01		E200.8	01/23/23 23:25 / dck		ICPMS205-H_230123B : 76		R181803
Zinc	0.794	mg/L		0.008		E200.8	01/23/23 23:25 / dck		ICPMS205-H_230123B : 76		R181803
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 17:01 / dck		ICPMS205-H_230125A : 43		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-23B  
**Lab ID:** H23010433-016  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/18/23 12:30  
**DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-0.53	%				A1030 E	02/01/23 08:06 / SR		CALC_230201A : 210		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-09B  
**Lab ID:** H23010433-017  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/19/23 09:52  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.0	s.u.	H	0.1		A4500-H B	01/23/23 11:36 / ljs		PHSC_101-H_230123A : 41		R181770
pH Measurement Temp	13.0	°C				A4500-H B	01/23/23 11:36 / ljs		PHSC_101-H_230123A : 41		R181770
Conductivity @ 25 C	1100	umhos/cm		5		A2510 B	01/23/23 11:36 / ljs		PHSC_101-H_230123A : 42		R181770
Solids, Total Dissolved TDS @ 180 C	861	mg/L	D	20		A2540 C	01/23/23 13:45 / JAR		I24 (14410200)_230123A : 20		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	75	mg/L		4		A2320 B	01/25/23 16:39 / ljs		PHSC_101-H_230125A : 173		R181823
Bicarbonate as HCO3	91	mg/L		4		A2320 B	01/25/23 16:39 / ljs		PHSC_101-H_230125A : 173		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 16:39 / ljs		PHSC_101-H_230125A : 173		R181823
Chloride	30	mg/L		1		E300.0	01/26/23 06:06 / ljs		IC METROHM_230125A : 63		R181878
Sulfate	471	mg/L		1		E300.0	01/26/23 06:06 / ljs		IC METROHM_230125A : 63		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 06:06 / ljs		IC METROHM_230125A : 63		R181878
Fluoride	0.7	mg/L		0.1		E300.0	01/26/23 06:06 / ljs		IC METROHM_230125A : 63		R181878
Hardness as CaCO3	415	mg/L		1		A2340 B	01/23/23 23:27 / SR		CALC_230201A : 223		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	01/26/23 19:44 / eli-c		SUB-C291699 : 25		C_R291699
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	01/25/23 23:39 / eli-c		SUB-C291646 : 30		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.28	mg/L		0.01		E353.2	01/26/23 15:35 / JAR		FIA203-HE_230126A : 45		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/23/23 23:27 / dck		ICPMS205-H_230123B : 77		R181803
Antimony	ND	mg/L		0.0005		E200.8	01/23/23 23:27 / dck		ICPMS205-H_230123B : 77		R181803
Arsenic	0.012	mg/L		0.001		E200.8	01/23/23 23:27 / dck		ICPMS205-H_230123B : 77		R181803
Barium	0.023	mg/L		0.003		E200.8	01/23/23 23:27 / dck		ICPMS205-H_230123B : 77		R181803
Beryllium	ND	mg/L		0.0008		E200.8	01/23/23 23:27 / dck		ICPMS205-H_230123B : 77		R181803
Boron	0.13	mg/L		0.05		E200.7	01/24/23 14:17 / slj		ICP2-HE_230124B : 89		R181807
Cadmium	0.0120	mg/L		0.00003		E200.8	01/23/23 23:27 / dck		ICPMS205-H_230123B : 77		R181803
Cesium	ND	mg/L		0.01		E200.8	01/25/23 17:03 / dck		ICPMS205-H_230125A : 44		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-09B  
**Lab ID:** H23010433-017  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/19/23 09:52  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	126	mg/L		1		E200.8	01/23/23 23:27 / dck		ICPMS205-H_230123B : 77		R181803
Chromium	ND	mg/L		0.005		E200.8	01/23/23 23:27 / dck		ICPMS205-H_230123B : 77		R181803
Cobalt	ND	mg/L		0.005		E200.8	01/23/23 23:27 / dck		ICPMS205-H_230123B : 77		R181803
Copper	0.002	mg/L		0.002		E200.8	01/23/23 23:27 / dck		ICPMS205-H_230123B : 77		R181803
Gallium	ND	mg/L		0.01		E200.8	01/25/23 17:03 / dck		ICPMS205-H_230125A : 44		R181863
Iron	ND	mg/L		0.02		E200.8	01/23/23 23:27 / dck		ICPMS205-H_230123B : 77		R181803
Lead	ND	mg/L		0.0003		E200.8	01/23/23 23:27 / dck		ICPMS205-H_230123B : 77		R181803
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 17:03 / dck		ICPMS205-H_230125A : 44		R181863
Lithium	0.3	mg/L		0.1		E200.8	01/23/23 23:27 / dck		ICPMS205-H_230123B : 77		R181803
Magnesium	25	mg/L		1		E200.8	01/23/23 23:27 / dck		ICPMS205-H_230123B : 77		R181803
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 17:03 / dck		ICPMS205-H_230125A : 44		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 17:03 / dck		ICPMS205-H_230125A : 44		R181863
Manganese	ND	mg/L		0.001		E200.8	01/23/23 23:27 / dck		ICPMS205-H_230123B : 77		R181803
Molybdenum	0.002	mg/L		0.001		E200.8	01/23/23 23:27 / dck		ICPMS205-H_230123B : 77		R181803
Nickel	0.005	mg/L		0.002		E200.8	01/23/23 23:27 / dck		ICPMS205-H_230123B : 77		R181803
Palladium	ND	mg/L		0.01		E200.8	01/25/23 17:03 / dck		ICPMS205-H_230125A : 44		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 17:03 / dck		ICPMS205-H_230125A : 44		R181863
Rubidium	0.01	mg/L		0.01		E200.8	01/25/23 17:03 / dck		ICPMS205-H_230125A : 44		R181863
Potassium	12	mg/L		1		E200.8	01/23/23 23:27 / dck		ICPMS205-H_230123B : 77		R181803
Selenium	ND	mg/L		0.001		E200.8	01/23/23 23:27 / dck		ICPMS205-H_230123B : 77		R181803
Silver	ND	mg/L		0.0002		E200.8	01/23/23 23:27 / dck		ICPMS205-H_230123B : 77		R181803
Sodium	77	mg/L		1		E200.8	01/23/23 23:27 / dck		ICPMS205-H_230123B : 77		R181803
Strontium	1.63	mg/L		0.01		E200.8	01/23/23 23:27 / dck		ICPMS205-H_230123B : 77		R181803
Thallium	ND	mg/L		0.0002		E200.8	01/23/23 23:27 / dck		ICPMS205-H_230123B : 77		R181803
Thorium	ND	mg/L		0.005		E200.8	01/23/23 23:27 / dck		ICPMS205-H_230123B : 77		R181803
Tin	ND	mg/L		0.05		E200.8	01/23/23 23:27 / dck		ICPMS205-H_230123B : 77		R181803
Titanium	ND	mg/L		0.005		E200.8	01/24/23 22:01 / dck		ICPMS205-H_230124A : 193		R181811
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 17:03 / dck		ICPMS205-H_230125A : 44		R181863
Uranium	0.0024	mg/L		0.0002		E200.8	01/23/23 23:27 / dck		ICPMS205-H_230123B : 77		R181803
Vanadium	ND	mg/L		0.01		E200.8	01/23/23 23:27 / dck		ICPMS205-H_230123B : 77		R181803
Zinc	1.43	mg/L		0.008		E200.8	01/23/23 23:27 / dck		ICPMS205-H_230123B : 77		R181803
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 17:03 / dck		ICPMS205-H_230125A : 44		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-09B  
**Lab ID:** H23010433-017  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/19/23 09:52      **DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.07	%				A1030 E	02/01/23 08:06 / SR		CALC_230201A : 221		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-24B  
**Lab ID:** H23010433-018  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/18/23 13:05  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.1	s.u.	H	0.1		A4500-H B	01/23/23 11:39 / ljs		PHSC_101-H_230123A : 43		R181770
pH Measurement Temp	13.4	°C				A4500-H B	01/23/23 11:39 / ljs		PHSC_101-H_230123A : 43		R181770
Conductivity @ 25 C	1050	umhos/cm		5		A2510 B	01/23/23 11:39 / ljs		PHSC_101-H_230123A : 44		R181770
Solids, Total Dissolved TDS @ 180 C	815	mg/L	D	20		A2540 C	01/23/23 13:45 / JAR		I24 (14410200)_230123A : 21		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	75	mg/L		4		A2320 B	01/25/23 16:46 / ljs		PHSC_101-H_230125A : 175		R181823
Bicarbonate as HCO3	91	mg/L		4		A2320 B	01/25/23 16:46 / ljs		PHSC_101-H_230125A : 175		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 16:46 / ljs		PHSC_101-H_230125A : 175		R181823
Chloride	17	mg/L		1		E300.0	01/26/23 06:20 / ljs		IC METROHM_230125A : 64		R181878
Sulfate	470	mg/L		1		E300.0	01/26/23 06:20 / ljs		IC METROHM_230125A : 64		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 06:20 / ljs		IC METROHM_230125A : 64		R181878
Fluoride	0.5	mg/L		0.1		E300.0	01/26/23 06:20 / ljs		IC METROHM_230125A : 64		R181878
Hardness as CaCO3	404	mg/L		1		A2340 B	01/23/23 23:30 / SR		CALC_230201A : 234		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.0	mg/L		0.5		A5310 C	01/26/23 20:00 / eli-c		SUB-C291699 : 26		C_R291699
Organic Carbon, Total (TOC)	0.5	mg/L		0.5		A5310 C	01/26/23 00:26 / eli-c		SUB-C291646 : 33		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.27	mg/L		0.01		E353.2	01/26/23 15:38 / JAR		FIA203-HE_230126A : 48		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/23/23 23:30 / dck		ICPMS205-H_230123B : 78		R181803
Antimony	0.0063	mg/L		0.0005		E200.8	01/23/23 23:30 / dck		ICPMS205-H_230123B : 78		R181803
Arsenic	0.003	mg/L		0.001		E200.8	01/23/23 23:30 / dck		ICPMS205-H_230123B : 78		R181803
Barium	0.019	mg/L		0.003		E200.8	01/23/23 23:30 / dck		ICPMS205-H_230123B : 78		R181803
Beryllium	ND	mg/L		0.0008		E200.8	01/23/23 23:30 / dck		ICPMS205-H_230123B : 78		R181803
Boron	0.09	mg/L		0.05		E200.7	01/24/23 14:21 / slj		ICP2-HE_230124B : 90		R181807
Cadmium	0.00471	mg/L		0.00003		E200.8	01/23/23 23:30 / dck		ICPMS205-H_230123B : 78		R181803
Cesium	ND	mg/L		0.01		E200.8	01/25/23 17:04 / dck		ICPMS205-H_230125A : 45		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-24B  
**Lab ID:** H23010433-018  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/18/23 13:05  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	118	mg/L		1		E200.8	01/23/23 23:30 / dck		ICPMS205-H_230123B : 78		R181803
Chromium	ND	mg/L		0.005		E200.8	01/23/23 23:30 / dck		ICPMS205-H_230123B : 78		R181803
Cobalt	ND	mg/L		0.005		E200.8	01/23/23 23:30 / dck		ICPMS205-H_230123B : 78		R181803
Copper	0.073	mg/L		0.002		E200.8	01/23/23 23:30 / dck		ICPMS205-H_230123B : 78		R181803
Gallium	ND	mg/L		0.01		E200.8	01/25/23 17:04 / dck		ICPMS205-H_230125A : 45		R181863
Iron	ND	mg/L		0.02		E200.8	01/23/23 23:30 / dck		ICPMS205-H_230123B : 78		R181803
Lead	ND	mg/L		0.0003		E200.8	01/23/23 23:30 / dck		ICPMS205-H_230123B : 78		R181803
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 17:04 / dck		ICPMS205-H_230125A : 45		R181863
Lithium	0.2	mg/L		0.1		E200.8	01/23/23 23:30 / dck		ICPMS205-H_230123B : 78		R181803
Magnesium	27	mg/L		1		E200.8	01/23/23 23:30 / dck		ICPMS205-H_230123B : 78		R181803
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 17:04 / dck		ICPMS205-H_230125A : 45		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 17:04 / dck		ICPMS205-H_230125A : 45		R181863
Manganese	0.016	mg/L		0.001		E200.8	01/23/23 23:30 / dck		ICPMS205-H_230123B : 78		R181803
Molybdenum	0.003	mg/L		0.001		E200.8	01/23/23 23:30 / dck		ICPMS205-H_230123B : 78		R181803
Nickel	0.004	mg/L		0.002		E200.8	01/23/23 23:30 / dck		ICPMS205-H_230123B : 78		R181803
Palladium	ND	mg/L		0.01		E200.8	01/25/23 17:04 / dck		ICPMS205-H_230125A : 45		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 17:04 / dck		ICPMS205-H_230125A : 45		R181863
Rubidium	0.01	mg/L		0.01		E200.8	01/25/23 17:04 / dck		ICPMS205-H_230125A : 45		R181863
Potassium	11	mg/L		1		E200.8	01/23/23 23:30 / dck		ICPMS205-H_230123B : 78		R181803
Selenium	ND	mg/L		0.001		E200.8	01/23/23 23:30 / dck		ICPMS205-H_230123B : 78		R181803
Silver	ND	mg/L		0.0002		E200.8	01/23/23 23:30 / dck		ICPMS205-H_230123B : 78		R181803
Sodium	80	mg/L		1		E200.8	01/23/23 23:30 / dck		ICPMS205-H_230123B : 78		R181803
Strontium	1.35	mg/L		0.01		E200.8	01/23/23 23:30 / dck		ICPMS205-H_230123B : 78		R181803
Thallium	ND	mg/L		0.0002		E200.8	01/23/23 23:30 / dck		ICPMS205-H_230123B : 78		R181803
Thorium	ND	mg/L		0.005		E200.8	01/23/23 23:30 / dck		ICPMS205-H_230123B : 78		R181803
Tin	ND	mg/L		0.05		E200.8	01/23/23 23:30 / dck		ICPMS205-H_230123B : 78		R181803
Titanium	ND	mg/L		0.005		E200.8	01/24/23 22:04 / dck		ICPMS205-H_230124A : 194		R181811
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 17:04 / dck		ICPMS205-H_230125A : 45		R181863
Uranium	0.0016	mg/L		0.0002		E200.8	01/23/23 23:30 / dck		ICPMS205-H_230123B : 78		R181803
Vanadium	ND	mg/L		0.01		E200.8	01/23/23 23:30 / dck		ICPMS205-H_230123B : 78		R181803
Zinc	0.820	mg/L		0.008		E200.8	01/23/23 23:30 / dck		ICPMS205-H_230123B : 78		R181803
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 17:04 / dck		ICPMS205-H_230125A : 45		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-24B  
**Lab ID:** H23010433-018  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/18/23 13:05  
**DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	0.06	%				A1030 E	02/01/23 08:07 / SR		CALC_230201A : 232		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08A  
**Lab ID:** H23010433-019  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/19/23 14:35  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.4	s.u.	H	0.1		A4500-H B	01/23/23 11:41 / ljs		PHSC_101-H_230123A : 45		R181770
pH Measurement Temp	14.0	°C				A4500-H B	01/23/23 11:41 / ljs		PHSC_101-H_230123A : 45		R181770
Conductivity @ 25 C	1020	umhos/cm		5		A2510 B	01/23/23 11:41 / ljs		PHSC_101-H_230123A : 46		R181770
Solids, Total Dissolved TDS @ 180 C	731	mg/L	D	20		A2540 C	01/23/23 13:45 / JAR		I24 (14410200)_230123A : 22		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	01/25/23 16:53 / ljs		PHSC_101-H_230125A : 177		R181823
Bicarbonate as HCO3	130	mg/L		4		A2320 B	01/25/23 16:53 / ljs		PHSC_101-H_230125A : 177		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 16:53 / ljs		PHSC_101-H_230125A : 177		R181823
Chloride	72	mg/L		1		E300.0	01/26/23 06:35 / ljs		IC METROHM_230125A : 65		R181878
Sulfate	329	mg/L		1		E300.0	01/26/23 06:35 / ljs		IC METROHM_230125A : 65		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 06:35 / ljs		IC METROHM_230125A : 65		R181878
Fluoride	4.3	mg/L	*	0.1		E300.0	01/26/23 06:35 / ljs		IC METROHM_230125A : 65		R181878
Hardness as CaCO3	370	mg/L		1		A2340 B	01/23/23 23:32 / SR		CALC_230201A : 960		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	3.3	mg/L		0.5		A5310 C	01/26/23 20:17 / eli-c		SUB-C291699 : 27		C_R291699
Organic Carbon, Total (TOC)	3.3	mg/L		0.5		A5310 C	01/26/23 00:47 / eli-c		SUB-C291646 : 34		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	01/26/23 15:40 / JAR		FIA203-HE_230126A : 49		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	0.052	mg/L		0.009		E200.8	01/23/23 23:32 / dck		ICPMS205-H_230123B : 79		R181803
Antimony	ND	mg/L		0.0005		E200.8	01/23/23 23:32 / dck		ICPMS205-H_230123B : 79		R181803
Arsenic	0.886	mg/L		0.001		E200.8	01/23/23 23:32 / dck		ICPMS205-H_230123B : 79		R181803
Barium	0.021	mg/L		0.003		E200.8	01/23/23 23:32 / dck		ICPMS205-H_230123B : 79		R181803
Beryllium	ND	mg/L		0.0008		E200.8	01/23/23 23:32 / dck		ICPMS205-H_230123B : 79		R181803
Boron	0.36	mg/L		0.05		E200.7	01/24/23 14:25 / slj		ICP2-HE_230124B : 91		R181807
Cadmium	0.00025	mg/L		0.00003		E200.8	01/23/23 23:32 / dck		ICPMS205-H_230123B : 79		R181803
Cesium	ND	mg/L		0.01		E200.8	01/25/23 17:06 / dck		ICPMS205-H_230125A : 46		R181863

**Report Definitions:**  
 RL - Analyte Reporting Limit  
 \* - The result exceeds the Maximum Contaminant Level (MCL)

MCL - Maximum Contaminant Level  
 D - Reporting Limit (RL) increased due to sample matrix

ND - Not detected at the Reporting Limit (RL)  
 H - Analysis performed past the method holding time





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08A  
**Lab ID:** H23010433-019  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/19/23 14:35  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	108	mg/L		1		E200.8	01/23/23 23:32 / dck		ICPMS205-H_230123B : 79		R181803
Chromium	ND	mg/L		0.005		E200.8	01/23/23 23:32 / dck		ICPMS205-H_230123B : 79		R181803
Cobalt	0.011	mg/L		0.005		E200.8	01/23/23 23:32 / dck		ICPMS205-H_230123B : 79		R181803
Copper	0.003	mg/L		0.002		E200.8	01/23/23 23:32 / dck		ICPMS205-H_230123B : 79		R181803
Gallium	ND	mg/L		0.01		E200.8	01/25/23 17:06 / dck		ICPMS205-H_230125A : 46		R181863
Iron	65.1	mg/L		0.02		E200.7	01/24/23 14:25 / slj		ICP2-HE_230124B : 91		R181807
Lead	0.0006	mg/L		0.0003		E200.8	01/23/23 23:32 / dck		ICPMS205-H_230123B : 79		R181803
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 17:06 / dck		ICPMS205-H_230125A : 46		R181863
Lithium	ND	mg/L		0.1		E200.8	01/23/23 23:32 / dck		ICPMS205-H_230123B : 79		R181803
Magnesium	24	mg/L		1		E200.8	01/23/23 23:32 / dck		ICPMS205-H_230123B : 79		R181803
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 17:06 / dck		ICPMS205-H_230125A : 46		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 17:06 / dck		ICPMS205-H_230125A : 46		R181863
Manganese	6.47	mg/L		0.001		E200.8	01/23/23 23:32 / dck		ICPMS205-H_230123B : 79		R181803
Molybdenum	0.010	mg/L		0.001		E200.8	01/23/23 23:32 / dck		ICPMS205-H_230123B : 79		R181803
Nickel	0.006	mg/L		0.002		E200.8	01/23/23 23:32 / dck		ICPMS205-H_230123B : 79		R181803
Palladium	ND	mg/L		0.01		E200.8	01/25/23 17:06 / dck		ICPMS205-H_230125A : 46		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 17:06 / dck		ICPMS205-H_230125A : 46		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 17:06 / dck		ICPMS205-H_230125A : 46		R181863
Potassium	11	mg/L		1		E200.8	01/23/23 23:32 / dck		ICPMS205-H_230123B : 79		R181803
Selenium	ND	mg/L		0.001		E200.8	01/23/23 23:32 / dck		ICPMS205-H_230123B : 79		R181803
Silver	ND	mg/L		0.0002		E200.8	01/23/23 23:32 / dck		ICPMS205-H_230123B : 79		R181803
Sodium	33	mg/L		1		E200.8	01/23/23 23:32 / dck		ICPMS205-H_230123B : 79		R181803
Strontium	0.43	mg/L		0.01		E200.8	01/23/23 23:32 / dck		ICPMS205-H_230123B : 79		R181803
Thallium	ND	mg/L		0.0002		E200.8	01/23/23 23:32 / dck		ICPMS205-H_230123B : 79		R181803
Thorium	ND	mg/L		0.005		E200.8	01/23/23 23:32 / dck		ICPMS205-H_230123B : 79		R181803
Tin	ND	mg/L		0.05		E200.8	01/23/23 23:32 / dck		ICPMS205-H_230123B : 79		R181803
Titanium	ND	mg/L		0.005		E200.8	01/24/23 22:06 / dck		ICPMS205-H_230124A : 195		R181811
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 17:06 / dck		ICPMS205-H_230125A : 46		R181863
Uranium	0.0035	mg/L		0.0002		E200.8	01/23/23 23:32 / dck		ICPMS205-H_230123B : 79		R181803
Vanadium	ND	mg/L		0.01		E200.8	01/23/23 23:32 / dck		ICPMS205-H_230123B : 79		R181803
Zinc	7.97	mg/L		0.008		E200.8	01/23/23 23:32 / dck		ICPMS205-H_230123B : 79		R181803
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 17:06 / dck		ICPMS205-H_230125A : 46		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08A  
**Lab ID:** H23010433-019  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/19/23 14:35  
**DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	4.33	%				A1030 E	02/01/23 08:28 / SR		CALC_230201A : 958		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-10A  
**Lab ID:** H23010433-020  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/18/23 14:15  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.1	s.u.	H	0.1		A4500-H B	01/23/23 11:43 / ljs		PHSC_101-H_230123A : 47		R181770
pH Measurement Temp	14.4	°C				A4500-H B	01/23/23 11:43 / ljs		PHSC_101-H_230123A : 47		R181770
Conductivity @ 25 C	303	umhos/cm		5		A2510 B	01/23/23 11:43 / ljs		PHSC_101-H_230123A : 48		R181770
Solids, Total Dissolved TDS @ 180 C	192	mg/L	D	20		A2540 C	01/23/23 13:45 / JAR		I24 (14410200)_230123A : 23		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	01/25/23 17:01 / ljs		PHSC_101-H_230125A : 179		R181823
Bicarbonate as HCO3	130	mg/L		4		A2320 B	01/25/23 17:01 / ljs		PHSC_101-H_230125A : 179		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 17:01 / ljs		PHSC_101-H_230125A : 179		R181823
Chloride	9	mg/L		1		E300.0	01/26/23 06:49 / ljs		IC METROHM_230125A : 66		R181878
Sulfate	36	mg/L		1		E300.0	01/26/23 06:49 / ljs		IC METROHM_230125A : 66		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 06:49 / ljs		IC METROHM_230125A : 66		R181878
Fluoride	0.6	mg/L		0.1		E300.0	01/26/23 06:49 / ljs		IC METROHM_230125A : 66		R181878
Hardness as CaCO3	114	mg/L		1		A2340 B	01/23/23 23:35 / SR		CALC_230201A : 245		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.8	mg/L		0.5		A5310 C	01/26/23 20:33 / eli-c		SUB-C291699 : 28		C_R291699
Organic Carbon, Total (TOC)	0.9	mg/L		0.5		A5310 C	01/26/23 01:03 / eli-c		SUB-C291646 : 35		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.60	mg/L		0.01		E353.2	01/26/23 15:41 / JAR		FIA203-HE_230126A : 50		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/23/23 23:35 / dck		ICPMS205-H_230123B : 80		R181803
Antimony	ND	mg/L		0.0005		E200.8	01/23/23 23:35 / dck		ICPMS205-H_230123B : 80		R181803
Arsenic	0.002	mg/L		0.001		E200.8	01/23/23 23:35 / dck		ICPMS205-H_230123B : 80		R181803
Barium	0.027	mg/L		0.003		E200.8	01/23/23 23:35 / dck		ICPMS205-H_230123B : 80		R181803
Beryllium	ND	mg/L		0.0008		E200.8	01/23/23 23:35 / dck		ICPMS205-H_230123B : 80		R181803
Boron	ND	mg/L		0.05		E200.7	01/24/23 14:28 / slj		ICP2-HE_230124B : 92		R181807
Cadmium	0.00032	mg/L		0.00003		E200.8	01/23/23 23:35 / dck		ICPMS205-H_230123B : 80		R181803
Cesium	ND	mg/L		0.01		E200.8	01/25/23 17:07 / dck		ICPMS205-H_230125A : 47		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-10A  
**Lab ID:** H23010433-020  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/18/23 14:15  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	33	mg/L		1		E200.8	01/23/23 23:35 / dck		ICPMS205-H_230123B : 80		R181803
Chromium	ND	mg/L		0.005		E200.8	01/23/23 23:35 / dck		ICPMS205-H_230123B : 80		R181803
Cobalt	ND	mg/L		0.005		E200.8	01/23/23 23:35 / dck		ICPMS205-H_230123B : 80		R181803
Copper	ND	mg/L		0.002		E200.8	01/23/23 23:35 / dck		ICPMS205-H_230123B : 80		R181803
Gallium	ND	mg/L		0.01		E200.8	01/25/23 17:07 / dck		ICPMS205-H_230125A : 47		R181863
Iron	0.02	mg/L		0.02		E200.8	01/23/23 23:35 / dck		ICPMS205-H_230123B : 80		R181803
Lead	ND	mg/L		0.0003		E200.8	01/23/23 23:35 / dck		ICPMS205-H_230123B : 80		R181803
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 17:07 / dck		ICPMS205-H_230125A : 47		R181863
Lithium	ND	mg/L		0.1		E200.8	01/23/23 23:35 / dck		ICPMS205-H_230123B : 80		R181803
Magnesium	7	mg/L		1		E200.8	01/23/23 23:35 / dck		ICPMS205-H_230123B : 80		R181803
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 17:07 / dck		ICPMS205-H_230125A : 47		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 17:07 / dck		ICPMS205-H_230125A : 47		R181863
Manganese	0.127	mg/L		0.001		E200.8	01/23/23 23:35 / dck		ICPMS205-H_230123B : 80		R181803
Molybdenum	0.014	mg/L		0.001		E200.8	01/23/23 23:35 / dck		ICPMS205-H_230123B : 80		R181803
Nickel	ND	mg/L		0.002		E200.8	01/23/23 23:35 / dck		ICPMS205-H_230123B : 80		R181803
Palladium	ND	mg/L		0.01		E200.8	01/25/23 17:07 / dck		ICPMS205-H_230125A : 47		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 17:07 / dck		ICPMS205-H_230125A : 47		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 17:07 / dck		ICPMS205-H_230125A : 47		R181863
Potassium	3	mg/L		1		E200.8	01/23/23 23:35 / dck		ICPMS205-H_230123B : 80		R181803
Selenium	ND	mg/L		0.001		E200.8	01/23/23 23:35 / dck		ICPMS205-H_230123B : 80		R181803
Silver	ND	mg/L		0.0002		E200.8	01/23/23 23:35 / dck		ICPMS205-H_230123B : 80		R181803
Sodium	17	mg/L		1		E200.8	01/23/23 23:35 / dck		ICPMS205-H_230123B : 80		R181803
Strontium	0.20	mg/L		0.01		E200.8	01/23/23 23:35 / dck		ICPMS205-H_230123B : 80		R181803
Thallium	ND	mg/L		0.0002		E200.8	01/23/23 23:35 / dck		ICPMS205-H_230123B : 80		R181803
Thorium	ND	mg/L		0.005		E200.8	01/23/23 23:35 / dck		ICPMS205-H_230123B : 80		R181803
Tin	ND	mg/L		0.05		E200.8	01/23/23 23:35 / dck		ICPMS205-H_230123B : 80		R181803
Titanium	ND	mg/L		0.005		E200.8	01/24/23 22:09 / dck		ICPMS205-H_230124A : 196		R181811
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 17:07 / dck		ICPMS205-H_230125A : 47		R181863
Uranium	0.0049	mg/L		0.0002		E200.8	01/23/23 23:35 / dck		ICPMS205-H_230123B : 80		R181803
Vanadium	ND	mg/L		0.01		E200.8	01/23/23 23:35 / dck		ICPMS205-H_230123B : 80		R181803
Zinc	0.084	mg/L		0.008		E200.8	01/23/23 23:35 / dck		ICPMS205-H_230123B : 80		R181803
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 17:07 / dck		ICPMS205-H_230125A : 47		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-10A  
**Lab ID:** H23010433-020  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/18/23 14:15  
**DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.44	%				A1030 E	02/01/23 08:07 / SR		CALC_230201A : 243		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11A1  
**Lab ID:** H23010433-021  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/19/23 14:00  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.1	s.u.	H	0.1		A4500-H B	01/23/23 11:55 / ljs		PHSC_101-H_230123A : 54		R181770
pH Measurement Temp	15.6	°C				A4500-H B	01/23/23 11:55 / ljs		PHSC_101-H_230123A : 54		R181770
Conductivity @ 25 C	285	umhos/cm		5		A2510 B	01/23/23 11:55 / ljs		PHSC_101-H_230123A : 55		R181770
Solids, Total Dissolved TDS @ 180 C	176	mg/L	D	20		A2540 C	01/23/23 13:46 / JAR		I24 (14410200)_230123A : 26		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	94	mg/L		4		A2320 B	01/25/23 17:08 / ljs		PHSC_101-H_230125A : 181		R181823
Bicarbonate as HCO3	110	mg/L		4		A2320 B	01/25/23 17:08 / ljs		PHSC_101-H_230125A : 181		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 17:08 / ljs		PHSC_101-H_230125A : 181		R181823
Chloride	7	mg/L		1		E300.0	01/26/23 09:34 / ljs		IC METROHM_230125A : 69		R181878
Sulfate	38	mg/L		1		E300.0	01/26/23 09:34 / ljs		IC METROHM_230125A : 69		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 09:34 / ljs		IC METROHM_230125A : 69		R181878
Fluoride	0.5	mg/L		0.1		E300.0	01/26/23 09:34 / ljs		IC METROHM_230125A : 69		R181878
Hardness as CaCO3	100	mg/L		1		A2340 B	01/23/23 23:47 / SR		CALC_230201A : 256		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.7	mg/L		0.5		A5310 C	01/26/23 21:28 / eli-c		SUB-C291699 : 30		C_R291699
Organic Carbon, Total (TOC)	0.7	mg/L		0.5		A5310 C	01/26/23 01:19 / eli-c		SUB-C291646 : 36		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.62	mg/L		0.01		E353.2	01/26/23 15:42 / JAR		FIA203-HE_230126A : 51		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/23/23 23:47 / dck		ICPMS205-H_230123B : 85		R181803
Antimony	ND	mg/L		0.0005		E200.8	01/23/23 23:47 / dck		ICPMS205-H_230123B : 85		R181803
Arsenic	0.003	mg/L		0.001		E200.8	01/23/23 23:47 / dck		ICPMS205-H_230123B : 85		R181803
Barium	0.014	mg/L		0.003		E200.8	01/23/23 23:47 / dck		ICPMS205-H_230123B : 85		R181803
Beryllium	ND	mg/L		0.0008		E200.8	01/23/23 23:47 / dck		ICPMS205-H_230123B : 85		R181803
Boron	ND	mg/L		0.05		E200.7	01/24/23 14:32 / slj		ICP2-HE_230124B : 93		R181807
Cadmium	0.00063	mg/L		0.00003		E200.8	01/23/23 23:47 / dck		ICPMS205-H_230123B : 85		R181803
Cesium	ND	mg/L		0.01		E200.8	01/25/23 17:15 / dck		ICPMS205-H_230125A : 52		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11A1  
**Lab ID:** H23010433-021  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/19/23 14:00  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	29	mg/L		1		E200.8	01/23/23 23:47 / dck		ICPMS205-H_230123B : 85		R181803
Chromium	ND	mg/L		0.005		E200.8	01/23/23 23:47 / dck		ICPMS205-H_230123B : 85		R181803
Cobalt	ND	mg/L		0.005		E200.8	01/23/23 23:47 / dck		ICPMS205-H_230123B : 85		R181803
Copper	0.002	mg/L		0.002		E200.8	01/23/23 23:47 / dck		ICPMS205-H_230123B : 85		R181803
Gallium	ND	mg/L		0.01		E200.8	01/25/23 17:15 / dck		ICPMS205-H_230125A : 52		R181863
Iron	ND	mg/L		0.02		E200.8	01/23/23 23:47 / dck		ICPMS205-H_230123B : 85		R181803
Lead	ND	mg/L		0.0003		E200.8	01/23/23 23:47 / dck		ICPMS205-H_230123B : 85		R181803
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 17:15 / dck		ICPMS205-H_230125A : 52		R181863
Lithium	ND	mg/L		0.1		E200.8	01/23/23 23:47 / dck		ICPMS205-H_230123B : 85		R181803
Magnesium	7	mg/L		1		E200.8	01/23/23 23:47 / dck		ICPMS205-H_230123B : 85		R181803
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 17:15 / dck		ICPMS205-H_230125A : 52		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 17:15 / dck		ICPMS205-H_230125A : 52		R181863
Manganese	0.122	mg/L		0.001		E200.8	01/23/23 23:47 / dck		ICPMS205-H_230123B : 85		R181803
Molybdenum	0.019	mg/L		0.001		E200.8	01/23/23 23:47 / dck		ICPMS205-H_230123B : 85		R181803
Nickel	ND	mg/L		0.002		E200.8	01/23/23 23:47 / dck		ICPMS205-H_230123B : 85		R181803
Palladium	ND	mg/L		0.01		E200.8	01/25/23 17:15 / dck		ICPMS205-H_230125A : 52		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 17:15 / dck		ICPMS205-H_230125A : 52		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 17:15 / dck		ICPMS205-H_230125A : 52		R181863
Potassium	4	mg/L		1		E200.8	01/23/23 23:47 / dck		ICPMS205-H_230123B : 85		R181803
Selenium	ND	mg/L		0.001		E200.8	01/23/23 23:47 / dck		ICPMS205-H_230123B : 85		R181803
Silver	ND	mg/L		0.0002		E200.8	01/23/23 23:47 / dck		ICPMS205-H_230123B : 85		R181803
Sodium	17	mg/L		1		E200.8	01/23/23 23:47 / dck		ICPMS205-H_230123B : 85		R181803
Strontium	0.18	mg/L		0.01		E200.8	01/23/23 23:47 / dck		ICPMS205-H_230123B : 85		R181803
Thallium	ND	mg/L		0.0002		E200.8	01/23/23 23:47 / dck		ICPMS205-H_230123B : 85		R181803
Thorium	ND	mg/L		0.005		E200.8	01/23/23 23:47 / dck		ICPMS205-H_230123B : 85		R181803
Tin	ND	mg/L		0.05		E200.8	01/23/23 23:47 / dck		ICPMS205-H_230123B : 85		R181803
Titanium	ND	mg/L		0.005		E200.8	01/24/23 22:21 / dck		ICPMS205-H_230124A : 201		R181811
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 17:15 / dck		ICPMS205-H_230125A : 52		R181863
Uranium	0.0027	mg/L		0.0002		E200.8	01/23/23 23:47 / dck		ICPMS205-H_230123B : 85		R181803
Vanadium	ND	mg/L		0.01		E200.8	01/23/23 23:47 / dck		ICPMS205-H_230123B : 85		R181803
Zinc	0.060	mg/L		0.008		E200.8	01/23/23 23:47 / dck		ICPMS205-H_230123B : 85		R181803
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 17:15 / dck		ICPMS205-H_230125A : 52		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11A1  
**Lab ID:** H23010433-021  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/19/23 14:00  
**DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.96	%				A1030 E	02/01/23 08:07 / SR		CALC_230201A : 254		R181986
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11A2  
**Lab ID:** H23010433-022  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/19/23 14:30  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.3	s.u.	H	0.1		A4500-H B	01/23/23 12:00 / ljs		PHSC_101-H_230123A : 58		R181770
pH Measurement Temp	14.3	°C				A4500-H B	01/23/23 12:00 / ljs		PHSC_101-H_230123A : 58		R181770
Conductivity @ 25 C	332	umhos/cm		5		A2510 B	01/23/23 12:00 / ljs		PHSC_101-H_230123A : 59		R181770
Solids, Total Dissolved TDS @ 180 C	216	mg/L	D	20		A2540 C	01/23/23 13:46 / JAR		I24 (14410200)_230123A : 28		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	91	mg/L		4		A2320 B	01/25/23 17:15 / ljs		PHSC_101-H_230125A : 183		R181823
Bicarbonate as HCO3	110	mg/L		4		A2320 B	01/25/23 17:15 / ljs		PHSC_101-H_230125A : 183		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 17:15 / ljs		PHSC_101-H_230125A : 183		R181823
Chloride	7	mg/L		1		E300.0	01/26/23 10:17 / ljs		IC METROHM_230125A : 72		R181878
Sulfate	68	mg/L		1		E300.0	01/26/23 10:17 / ljs		IC METROHM_230125A : 72		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 10:17 / ljs		IC METROHM_230125A : 72		R181878
Fluoride	0.4	mg/L		0.1		E300.0	01/26/23 10:17 / ljs		IC METROHM_230125A : 72		R181878
Hardness as CaCO3	124	mg/L		1		A2340 B	01/23/23 23:50 / SR		CALC_230201A : 267		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	01/26/23 22:20 / eli-c		SUB-C291699 : 33		C_R291699
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	01/26/23 01:35 / eli-c		SUB-C291646 : 37		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.39	mg/L		0.01		E353.2	01/26/23 15:43 / JAR		FIA203-HE_230126A : 52		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/23/23 23:50 / dck		ICPMS205-H_230123B : 86		R181803
Antimony	ND	mg/L		0.0005		E200.8	01/23/23 23:50 / dck		ICPMS205-H_230123B : 86		R181803
Arsenic	0.002	mg/L		0.001		E200.8	01/23/23 23:50 / dck		ICPMS205-H_230123B : 86		R181803
Barium	0.014	mg/L		0.003		E200.8	01/23/23 23:50 / dck		ICPMS205-H_230123B : 86		R181803
Beryllium	ND	mg/L		0.0008		E200.8	01/23/23 23:50 / dck		ICPMS205-H_230123B : 86		R181803
Boron	ND	mg/L		0.05		E200.7	01/24/23 15:43 / slj		ICP2-HE_230124B : 112		R181807
Cadmium	0.00039	mg/L		0.00003		E200.8	01/23/23 23:50 / dck		ICPMS205-H_230123B : 86		R181803
Cesium	ND	mg/L		0.01		E200.8	01/25/23 17:16 / dck		ICPMS205-H_230125A : 53		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11A2  
**Lab ID:** H23010433-022  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/19/23 14:30  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	36	mg/L		1		E200.8	01/23/23 23:50 / dck		ICPMS205-H_230123B : 86		R181803
Chromium	ND	mg/L		0.005		E200.8	01/23/23 23:50 / dck		ICPMS205-H_230123B : 86		R181803
Cobalt	ND	mg/L		0.005		E200.8	01/23/23 23:50 / dck		ICPMS205-H_230123B : 86		R181803
Copper	ND	mg/L		0.002		E200.8	01/23/23 23:50 / dck		ICPMS205-H_230123B : 86		R181803
Gallium	ND	mg/L		0.01		E200.8	01/25/23 17:16 / dck		ICPMS205-H_230125A : 53		R181863
Iron	ND	mg/L		0.02		E200.8	01/23/23 23:50 / dck		ICPMS205-H_230123B : 86		R181803
Lead	ND	mg/L		0.0003		E200.8	01/23/23 23:50 / dck		ICPMS205-H_230123B : 86		R181803
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 17:16 / dck		ICPMS205-H_230125A : 53		R181863
Lithium	ND	mg/L		0.1		E200.8	01/23/23 23:50 / dck		ICPMS205-H_230123B : 86		R181803
Magnesium	8	mg/L		1		E200.8	01/23/23 23:50 / dck		ICPMS205-H_230123B : 86		R181803
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 17:16 / dck		ICPMS205-H_230125A : 53		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 17:16 / dck		ICPMS205-H_230125A : 53		R181863
Manganese	0.001	mg/L		0.001		E200.8	01/27/23 21:22 / dck		ICPMS205-H_230127A : 97		R181901
Molybdenum	0.025	mg/L		0.001		E200.8	01/23/23 23:50 / dck		ICPMS205-H_230123B : 86		R181803
Nickel	ND	mg/L		0.002		E200.8	01/23/23 23:50 / dck		ICPMS205-H_230123B : 86		R181803
Palladium	ND	mg/L		0.01		E200.8	01/25/23 17:16 / dck		ICPMS205-H_230125A : 53		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 17:16 / dck		ICPMS205-H_230125A : 53		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 17:16 / dck		ICPMS205-H_230125A : 53		R181863
Potassium	3	mg/L		1		E200.8	01/23/23 23:50 / dck		ICPMS205-H_230123B : 86		R181803
Selenium	ND	mg/L		0.001		E200.8	01/23/23 23:50 / dck		ICPMS205-H_230123B : 86		R181803
Silver	ND	mg/L		0.0002		E200.8	01/23/23 23:50 / dck		ICPMS205-H_230123B : 86		R181803
Sodium	19	mg/L		1		E200.8	01/23/23 23:50 / dck		ICPMS205-H_230123B : 86		R181803
Strontium	0.24	mg/L		0.01		E200.8	01/23/23 23:50 / dck		ICPMS205-H_230123B : 86		R181803
Thallium	ND	mg/L		0.0002		E200.8	01/23/23 23:50 / dck		ICPMS205-H_230123B : 86		R181803
Thorium	ND	mg/L		0.005		E200.8	01/23/23 23:50 / dck		ICPMS205-H_230123B : 86		R181803
Tin	ND	mg/L		0.05		E200.8	01/23/23 23:50 / dck		ICPMS205-H_230123B : 86		R181803
Titanium	ND	mg/L		0.005		E200.8	01/24/23 22:24 / dck		ICPMS205-H_230124A : 202		R181811
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 17:16 / dck		ICPMS205-H_230125A : 53		R181863
Uranium	0.0066	mg/L		0.0002		E200.8	01/23/23 23:50 / dck		ICPMS205-H_230123B : 86		R181803
Vanadium	ND	mg/L		0.01		E200.8	01/23/23 23:50 / dck		ICPMS205-H_230123B : 86		R181803
Zinc	0.017	mg/L		0.008		E200.8	01/23/23 23:50 / dck		ICPMS205-H_230123B : 86		R181803
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 17:16 / dck		ICPMS205-H_230125A : 53		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11A2  
**Lab ID:** H23010433-022  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/19/23 14:30  
**DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.47	%				A1030 E	02/01/23 08:07 / SR		CALC_230201A : 265		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11B  
**Lab ID:** H23010433-023  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/19/23 15:00  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.7	s.u.	H	0.1		A4500-H B	01/23/23 12:02 / ljs		PHSC_101-H_230123A : 60		R181770
pH Measurement Temp	13.8	°C				A4500-H B	01/23/23 12:02 / ljs		PHSC_101-H_230123A : 60		R181770
Conductivity @ 25 C	904	umhos/cm		5		A2510 B	01/23/23 12:02 / ljs		PHSC_101-H_230123A : 61		R181770
Solids, Total Dissolved TDS @ 180 C	712	mg/L	D	20		A2540 C	01/23/23 13:46 / JAR		I24 (14410200)_230123A : 29		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	55	mg/L		4		A2320 B	01/25/23 17:22 / ljs		PHSC_101-H_230125A : 185		R181823
Bicarbonate as HCO3	67	mg/L		4		A2320 B	01/25/23 17:22 / ljs		PHSC_101-H_230125A : 185		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 17:22 / ljs		PHSC_101-H_230125A : 185		R181823
Chloride	12	mg/L		1		E300.0	01/26/23 10:32 / ljs		IC METROHM_230125A : 73		R181878
Sulfate	411	mg/L		1		E300.0	01/26/23 10:32 / ljs		IC METROHM_230125A : 73		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 10:32 / ljs		IC METROHM_230125A : 73		R181878
Fluoride	0.6	mg/L		0.1		E300.0	01/26/23 10:32 / ljs		IC METROHM_230125A : 73		R181878
Hardness as CaCO3	383	mg/L		1		A2340 B	01/23/23 23:52 / SR		CALC_230201A : 278		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	01/26/23 22:35 / eli-c		SUB-C291699 : 34		C_R291699
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	01/26/23 01:55 / eli-c		SUB-C291646 : 38		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.22	mg/L		0.01		E353.2	01/26/23 15:44 / JAR		FIA203-HE_230126A : 53		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/23/23 23:52 / dck		ICPMS205-H_230123B : 87		R181803
Antimony	ND	mg/L		0.0005		E200.8	01/23/23 23:52 / dck		ICPMS205-H_230123B : 87		R181803
Arsenic	0.003	mg/L		0.001		E200.8	01/23/23 23:52 / dck		ICPMS205-H_230123B : 87		R181803
Barium	0.012	mg/L		0.003		E200.8	01/23/23 23:52 / dck		ICPMS205-H_230123B : 87		R181803
Beryllium	ND	mg/L		0.0008		E200.8	01/23/23 23:52 / dck		ICPMS205-H_230123B : 87		R181803
Boron	ND	mg/L		0.05		E200.7	01/24/23 15:55 / slj		ICP2-HE_230124B : 115		R181807
Cadmium	0.00242	mg/L		0.00003		E200.8	01/23/23 23:52 / dck		ICPMS205-H_230123B : 87		R181803
Cesium	ND	mg/L		0.01		E200.8	01/25/23 17:18 / dck		ICPMS205-H_230125A : 54		R181863

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** D - Reporting Limit (RL) increased due to sample matrix

H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11B  
**Lab ID:** H23010433-023  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/19/23 15:00  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	110	mg/L		1		E200.8	01/23/23 23:52 / dck		ICPMS205-H_230123B : 87		R181803
Chromium	ND	mg/L		0.005		E200.8	01/23/23 23:52 / dck		ICPMS205-H_230123B : 87		R181803
Cobalt	ND	mg/L		0.005		E200.8	01/23/23 23:52 / dck		ICPMS205-H_230123B : 87		R181803
Copper	0.010	mg/L		0.002		E200.8	01/23/23 23:52 / dck		ICPMS205-H_230123B : 87		R181803
Gallium	ND	mg/L		0.01		E200.8	01/25/23 17:18 / dck		ICPMS205-H_230125A : 54		R181863
Iron	ND	mg/L		0.02		E200.8	01/23/23 23:52 / dck		ICPMS205-H_230123B : 87		R181803
Lead	ND	mg/L		0.0003		E200.8	01/23/23 23:52 / dck		ICPMS205-H_230123B : 87		R181803
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 17:18 / dck		ICPMS205-H_230125A : 54		R181863
Lithium	ND	mg/L		0.1		E200.8	01/23/23 23:52 / dck		ICPMS205-H_230123B : 87		R181803
Magnesium	26	mg/L		1		E200.8	01/23/23 23:52 / dck		ICPMS205-H_230123B : 87		R181803
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 17:18 / dck		ICPMS205-H_230125A : 54		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 17:18 / dck		ICPMS205-H_230125A : 54		R181863
Manganese	ND	mg/L		0.001		E200.8	01/24/23 22:26 / dck		ICPMS205-H_230124A : 203		R181811
Molybdenum	0.055	mg/L		0.001		E200.8	01/23/23 23:52 / dck		ICPMS205-H_230123B : 87		R181803
Nickel	ND	mg/L		0.002		E200.8	01/23/23 23:52 / dck		ICPMS205-H_230123B : 87		R181803
Palladium	ND	mg/L		0.01		E200.8	01/25/23 17:18 / dck		ICPMS205-H_230125A : 54		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 17:18 / dck		ICPMS205-H_230125A : 54		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 17:18 / dck		ICPMS205-H_230125A : 54		R181863
Potassium	9	mg/L		1		E200.8	01/23/23 23:52 / dck		ICPMS205-H_230123B : 87		R181803
Selenium	ND	mg/L		0.001		E200.8	01/23/23 23:52 / dck		ICPMS205-H_230123B : 87		R181803
Silver	ND	mg/L		0.0002		E200.8	01/23/23 23:52 / dck		ICPMS205-H_230123B : 87		R181803
Sodium	48	mg/L		1		E200.8	01/23/23 23:52 / dck		ICPMS205-H_230123B : 87		R181803
Strontium	0.74	mg/L		0.01		E200.8	01/23/23 23:52 / dck		ICPMS205-H_230123B : 87		R181803
Thallium	ND	mg/L		0.0002		E200.8	01/23/23 23:52 / dck		ICPMS205-H_230123B : 87		R181803
Thorium	ND	mg/L		0.005		E200.8	01/23/23 23:52 / dck		ICPMS205-H_230123B : 87		R181803
Tin	ND	mg/L		0.05		E200.8	01/23/23 23:52 / dck		ICPMS205-H_230123B : 87		R181803
Titanium	ND	mg/L		0.005		E200.8	01/24/23 22:26 / dck		ICPMS205-H_230124A : 203		R181811
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 17:18 / dck		ICPMS205-H_230125A : 54		R181863
Uranium	0.0015	mg/L		0.0002		E200.8	01/23/23 23:52 / dck		ICPMS205-H_230123B : 87		R181803
Vanadium	ND	mg/L		0.01		E200.8	01/23/23 23:52 / dck		ICPMS205-H_230123B : 87		R181803
Zinc	0.193	mg/L		0.008		E200.8	01/23/23 23:52 / dck		ICPMS205-H_230123B : 87		R181803
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 17:18 / dck		ICPMS205-H_230125A : 54		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11B  
**Lab ID:** H23010433-023  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/19/23 15:00  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-0.44	%				A1030 E	02/01/23 08:08 / SR		CALC_230201A : 276		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11C  
**Lab ID:** H23010433-024  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/19/23 15:30  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.0	s.u.	H	0.1		A4500-H B	01/23/23 12:04 / ljs		PHSC_101-H_230123A : 62		R181770
pH Measurement Temp	13.9	°C				A4500-H B	01/23/23 12:04 / ljs		PHSC_101-H_230123A : 62		R181770
Conductivity @ 25 C	865	umhos/cm		5		A2510 B	01/23/23 12:04 / ljs		PHSC_101-H_230123A : 63		R181770
Solids, Total Dissolved TDS @ 180 C	642	mg/L	D	20		A2540 C	01/23/23 13:46 / JAR		I24 (14410200)_230123A : 30		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	73	mg/L		4		A2320 B	01/25/23 17:28 / ljs		PHSC_101-H_230125A : 187		R181823
Bicarbonate as HCO3	89	mg/L		4		A2320 B	01/25/23 17:28 / ljs		PHSC_101-H_230125A : 187		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 17:28 / ljs		PHSC_101-H_230125A : 187		R181823
Chloride	9	mg/L		1		E300.0	01/26/23 10:46 / ljs		IC METROHM_230125A : 74		R181878
Sulfate	360	mg/L		1		E300.0	01/26/23 10:46 / ljs		IC METROHM_230125A : 74		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 10:46 / ljs		IC METROHM_230125A : 74		R181878
Fluoride	2.2	mg/L		0.1		E300.0	01/26/23 10:46 / ljs		IC METROHM_230125A : 74		R181878
Hardness as CaCO3	245	mg/L		1		A2340 B	01/23/23 23:55 / SR		CALC_230201A : 289		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	01/26/23 22:55 / eli-c		SUB-C291699 : 35		C_R291699
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	01/26/23 02:15 / eli-c		SUB-C291646 : 39		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.03	mg/L		0.01		E353.2	01/26/23 15:46 / JAR		FIA203-HE_230126A : 54		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/23/23 23:55 / dck		ICPMS205-H_230123B : 88		R181803
Antimony	ND	mg/L		0.0005		E200.8	01/23/23 23:55 / dck		ICPMS205-H_230123B : 88		R181803
Arsenic	0.003	mg/L		0.001		E200.8	01/23/23 23:55 / dck		ICPMS205-H_230123B : 88		R181803
Barium	0.012	mg/L		0.003		E200.8	01/23/23 23:55 / dck		ICPMS205-H_230123B : 88		R181803
Beryllium	ND	mg/L		0.0008		E200.8	01/23/23 23:55 / dck		ICPMS205-H_230123B : 88		R181803
Boron	0.09	mg/L		0.05		E200.7	01/24/23 15:58 / slj		ICP2-HE_230124B : 116		R181807
Cadmium	0.00041	mg/L		0.00003		E200.8	01/23/23 23:55 / dck		ICPMS205-H_230123B : 88		R181803
Cesium	ND	mg/L		0.01		E200.8	01/25/23 17:19 / dck		ICPMS205-H_230125A : 55		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11C  
**Lab ID:** H23010433-024  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/19/23 15:30  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	70	mg/L		1		E200.8	01/23/23 23:55 / dck		ICPMS205-H_230123B : 88		R181803
Chromium	ND	mg/L		0.005		E200.8	01/23/23 23:55 / dck		ICPMS205-H_230123B : 88		R181803
Cobalt	ND	mg/L		0.005		E200.8	01/23/23 23:55 / dck		ICPMS205-H_230123B : 88		R181803
Copper	ND	mg/L		0.002		E200.8	01/23/23 23:55 / dck		ICPMS205-H_230123B : 88		R181803
Gallium	ND	mg/L		0.01		E200.8	01/25/23 17:19 / dck		ICPMS205-H_230125A : 55		R181863
Iron	0.04	mg/L		0.02		E200.8	01/23/23 23:55 / dck		ICPMS205-H_230123B : 88		R181803
Lead	ND	mg/L		0.0003		E200.8	01/23/23 23:55 / dck		ICPMS205-H_230123B : 88		R181803
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 17:19 / dck		ICPMS205-H_230125A : 55		R181863
Lithium	0.1	mg/L		0.1		E200.8	01/23/23 23:55 / dck		ICPMS205-H_230123B : 88		R181803
Magnesium	17	mg/L		1		E200.8	01/23/23 23:55 / dck		ICPMS205-H_230123B : 88		R181803
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 17:19 / dck		ICPMS205-H_230125A : 55		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 17:19 / dck		ICPMS205-H_230125A : 55		R181863
Manganese	0.071	mg/L		0.001		E200.8	01/23/23 23:55 / dck		ICPMS205-H_230123B : 88		R181803
Molybdenum	0.159	mg/L		0.001		E200.8	01/23/23 23:55 / dck		ICPMS205-H_230123B : 88		R181803
Nickel	ND	mg/L		0.002		E200.8	01/23/23 23:55 / dck		ICPMS205-H_230123B : 88		R181803
Palladium	ND	mg/L		0.01		E200.8	01/25/23 17:19 / dck		ICPMS205-H_230125A : 55		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 17:19 / dck		ICPMS205-H_230125A : 55		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 17:19 / dck		ICPMS205-H_230125A : 55		R181863
Potassium	10	mg/L		1		E200.8	01/23/23 23:55 / dck		ICPMS205-H_230123B : 88		R181803
Selenium	ND	mg/L		0.001		E200.8	01/23/23 23:55 / dck		ICPMS205-H_230123B : 88		R181803
Silver	ND	mg/L		0.0002		E200.8	01/23/23 23:55 / dck		ICPMS205-H_230123B : 88		R181803
Sodium	89	mg/L		1		E200.8	01/23/23 23:55 / dck		ICPMS205-H_230123B : 88		R181803
Strontium	0.68	mg/L		0.01		E200.8	01/23/23 23:55 / dck		ICPMS205-H_230123B : 88		R181803
Thallium	ND	mg/L		0.0002		E200.8	01/23/23 23:55 / dck		ICPMS205-H_230123B : 88		R181803
Thorium	ND	mg/L		0.005		E200.8	01/23/23 23:55 / dck		ICPMS205-H_230123B : 88		R181803
Tin	ND	mg/L		0.05		E200.8	01/23/23 23:55 / dck		ICPMS205-H_230123B : 88		R181803
Titanium	ND	mg/L		0.005		E200.8	01/24/23 22:29 / dck		ICPMS205-H_230124A : 204		R181811
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 17:19 / dck		ICPMS205-H_230125A : 55		R181863
Uranium	0.0017	mg/L		0.0002		E200.8	01/23/23 23:55 / dck		ICPMS205-H_230123B : 88		R181803
Vanadium	ND	mg/L		0.01		E200.8	01/23/23 23:55 / dck		ICPMS205-H_230123B : 88		R181803
Zinc	0.014	mg/L		0.008		E200.8	01/23/23 23:55 / dck		ICPMS205-H_230123B : 88		R181803
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 17:19 / dck		ICPMS205-H_230125A : 55		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11C  
**Lab ID:** H23010433-024  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/19/23 15:30  
**DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.65	%				A1030 E	02/01/23 08:08 / SR		CALC_230201A : 287		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-24C  
**Lab ID:** H23010433-025  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/19/23 17:00  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.7	s.u.	H	0.1		A4500-H B	01/23/23 12:07 / ljs		PHSC_101-H_230123A : 64		R181770
pH Measurement Temp	14.0	°C				A4500-H B	01/23/23 12:07 / ljs		PHSC_101-H_230123A : 64		R181770
Conductivity @ 25 C	1090	umhos/cm		5		A2510 B	01/23/23 12:07 / ljs		PHSC_101-H_230123A : 65		R181770
Solids, Total Dissolved TDS @ 180 C	851	mg/L	D	20		A2540 C	01/23/23 13:46 / JAR		I24 (14410200)_230123A : 31		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	70	mg/L		4		A2320 B	01/25/23 17:35 / ljs		PHSC_101-H_230125A : 189		R181823
Bicarbonate as HCO3	85	mg/L		4		A2320 B	01/25/23 17:35 / ljs		PHSC_101-H_230125A : 189		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 17:35 / ljs		PHSC_101-H_230125A : 189		R181823
Chloride	27	mg/L		1		E300.0	01/26/23 11:00 / ljs		IC METROHM_230125A : 75		R181878
Sulfate	494	mg/L		1		E300.0	01/26/23 11:00 / ljs		IC METROHM_230125A : 75		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 11:00 / ljs		IC METROHM_230125A : 75		R181878
Fluoride	0.5	mg/L		0.1		E300.0	01/26/23 11:00 / ljs		IC METROHM_230125A : 75		R181878
Hardness as CaCO3	414	mg/L		1		A2340 B	01/23/23 23:57 / SR		CALC_230201A : 300		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	01/26/23 23:15 / eli-c		SUB-C291699 : 36		C_R291699
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	01/26/23 02:35 / eli-c		SUB-C291646 : 40		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.13	mg/L		0.01		E353.2	01/26/23 15:47 / JAR		FIA203-HE_230126A : 55		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/23/23 23:57 / dck		ICPMS205-H_230123B : 89		R181803
Antimony	ND	mg/L		0.0005		E200.8	01/23/23 23:57 / dck		ICPMS205-H_230123B : 89		R181803
Arsenic	0.007	mg/L		0.001		E200.8	01/23/23 23:57 / dck		ICPMS205-H_230123B : 89		R181803
Barium	0.014	mg/L		0.003		E200.8	01/23/23 23:57 / dck		ICPMS205-H_230123B : 89		R181803
Beryllium	ND	mg/L		0.0008		E200.8	01/23/23 23:57 / dck		ICPMS205-H_230123B : 89		R181803
Boron	0.10	mg/L		0.05		E200.7	01/24/23 16:02 / slj		ICP2-HE_230124B : 117		R181807
Cadmium	0.00412	mg/L		0.00003		E200.8	01/23/23 23:57 / dck		ICPMS205-H_230123B : 89		R181803
Cesium	ND	mg/L		0.01		E200.8	01/25/23 17:21 / dck		ICPMS205-H_230125A : 56		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-24C  
**Lab ID:** H23010433-025  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/19/23 17:00  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	124	mg/L		1		E200.8	01/23/23 23:57 / dck		ICPMS205-H_230123B : 89		R181803
Chromium	ND	mg/L		0.005		E200.8	01/23/23 23:57 / dck		ICPMS205-H_230123B : 89		R181803
Cobalt	ND	mg/L		0.005		E200.8	01/23/23 23:57 / dck		ICPMS205-H_230123B : 89		R181803
Copper	0.056	mg/L		0.002		E200.8	01/23/23 23:57 / dck		ICPMS205-H_230123B : 89		R181803
Gallium	ND	mg/L		0.01		E200.8	01/25/23 17:21 / dck		ICPMS205-H_230125A : 56		R181863
Iron	ND	mg/L		0.02		E200.8	01/23/23 23:57 / dck		ICPMS205-H_230123B : 89		R181803
Lead	ND	mg/L		0.0003		E200.8	01/23/23 23:57 / dck		ICPMS205-H_230123B : 89		R181803
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 17:21 / dck		ICPMS205-H_230125A : 56		R181863
Lithium	0.2	mg/L		0.1		E200.8	01/23/23 23:57 / dck		ICPMS205-H_230123B : 89		R181803
Magnesium	25	mg/L		1		E200.8	01/23/23 23:57 / dck		ICPMS205-H_230123B : 89		R181803
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 17:21 / dck		ICPMS205-H_230125A : 56		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 17:21 / dck		ICPMS205-H_230125A : 56		R181863
Manganese	0.017	mg/L		0.001		E200.8	01/24/23 22:32 / dck		ICPMS205-H_230124A : 205		R181811
Molybdenum	0.004	mg/L		0.001		E200.8	01/23/23 23:57 / dck		ICPMS205-H_230123B : 89		R181803
Nickel	ND	mg/L		0.002		E200.8	01/23/23 23:57 / dck		ICPMS205-H_230123B : 89		R181803
Palladium	ND	mg/L		0.01		E200.8	01/25/23 17:21 / dck		ICPMS205-H_230125A : 56		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 17:21 / dck		ICPMS205-H_230125A : 56		R181863
Rubidium	0.01	mg/L		0.01		E200.8	01/25/23 17:21 / dck		ICPMS205-H_230125A : 56		R181863
Potassium	11	mg/L		1		E200.8	01/23/23 23:57 / dck		ICPMS205-H_230123B : 89		R181803
Selenium	ND	mg/L		0.001		E200.8	01/23/23 23:57 / dck		ICPMS205-H_230123B : 89		R181803
Silver	ND	mg/L		0.0002		E200.8	01/23/23 23:57 / dck		ICPMS205-H_230123B : 89		R181803
Sodium	82	mg/L		1		E200.8	01/23/23 23:57 / dck		ICPMS205-H_230123B : 89		R181803
Strontium	1.49	mg/L		0.01		E200.8	01/23/23 23:57 / dck		ICPMS205-H_230123B : 89		R181803
Thallium	ND	mg/L		0.0002		E200.8	01/23/23 23:57 / dck		ICPMS205-H_230123B : 89		R181803
Thorium	ND	mg/L		0.005		E200.8	01/23/23 23:57 / dck		ICPMS205-H_230123B : 89		R181803
Tin	ND	mg/L		0.05		E200.8	01/23/23 23:57 / dck		ICPMS205-H_230123B : 89		R181803
Titanium	ND	mg/L		0.005		E200.8	01/24/23 22:32 / dck		ICPMS205-H_230124A : 205		R181811
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 17:21 / dck		ICPMS205-H_230125A : 56		R181863
Uranium	0.0026	mg/L		0.0002		E200.8	01/23/23 23:57 / dck		ICPMS205-H_230123B : 89		R181803
Vanadium	ND	mg/L		0.01		E200.8	01/23/23 23:57 / dck		ICPMS205-H_230123B : 89		R181803
Zinc	0.441	mg/L		0.008		E200.8	01/23/23 23:57 / dck		ICPMS205-H_230123B : 89		R181803
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 17:21 / dck		ICPMS205-H_230125A : 56		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-24C  
**Lab ID:** H23010433-025  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/19/23 17:00  
**DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.36	%				A1030 E	02/01/23 08:08 / SR		CALC_230201A : 298		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10A  
**Lab ID:** H23010433-026  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/19/23 17:30  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.6	s.u.	H	0.1		A4500-H B	01/23/23 12:09 / ljs		PHSC_101-H_230123A : 66		R181770
pH Measurement Temp	14.2	°C				A4500-H B	01/23/23 12:09 / ljs		PHSC_101-H_230123A : 66		R181770
Conductivity @ 25 C	1350	umhos/cm		5		A2510 B	01/23/23 12:09 / ljs		PHSC_101-H_230123A : 67		R181770
Solids, Total Dissolved TDS @ 180 C	982	mg/L	D	20		A2540 C	01/23/23 13:47 / JAR		I24 (14410200)_230123A : 32		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	260	mg/L		4		A2320 B	01/25/23 18:06 / ljs		PHSC_101-H_230125A : 195		R181823
Bicarbonate as HCO3	320	mg/L		4		A2320 B	01/25/23 18:06 / ljs		PHSC_101-H_230125A : 195		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 18:06 / ljs		PHSC_101-H_230125A : 195		R181823
Chloride	55	mg/L		1		E300.0	01/26/23 11:15 / ljs		IC METROHM_230125A : 76		R181878
Sulfate	415	mg/L		1		E300.0	01/26/23 11:15 / ljs		IC METROHM_230125A : 76		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 11:15 / ljs		IC METROHM_230125A : 76		R181878
Fluoride	5.4	mg/L	*	0.1		E300.0	01/26/23 11:15 / ljs		IC METROHM_230125A : 76		R181878
Hardness as CaCO3	519	mg/L		1		A2340 B	01/24/23 00:40 / SR		CALC_230201A : 971		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	6.5	mg/L		0.5		A5310 C	01/26/23 23:36 / eli-c		SUB-C291699 : 37		C_R291699
Organic Carbon, Total (TOC)	6.6	mg/L		0.5		A5310 C	01/26/23 02:56 / eli-c		SUB-C291646 : 41		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.82	mg/L		0.01		E353.2	02/03/23 11:41 / JAR		FIA203-HE_230203A : 86		R182063
<b>METALS, DISSOLVED</b>											
Aluminum	0.044	mg/L		0.009		E200.8	01/24/23 00:00 / dck		ICPMS205-H_230123B : 90		R181803
Antimony	ND	mg/L		0.0005		E200.8	01/24/23 00:00 / dck		ICPMS205-H_230123B : 90		R181803
Arsenic	0.980	mg/L		0.001		E200.8	01/24/23 00:00 / dck		ICPMS205-H_230123B : 90		R181803
Barium	0.023	mg/L		0.003		E200.8	01/24/23 00:00 / dck		ICPMS205-H_230123B : 90		R181803
Beryllium	ND	mg/L		0.0008		E200.8	01/24/23 00:00 / dck		ICPMS205-H_230123B : 90		R181803
Boron	0.27	mg/L		0.05		E200.7	01/24/23 16:06 / slj		ICP2-HE_230124B : 118		R181807
Cadmium	0.00016	mg/L		0.00003		E200.8	01/24/23 00:00 / dck		ICPMS205-H_230123B : 90		R181803
Cesium	ND	mg/L		0.01		E200.8	01/25/23 17:22 / dck		ICPMS205-H_230125A : 57		R181863

**Report Definitions:**  
 RL - Analyte Reporting Limit  
 \* - The result exceeds the Maximum Contaminant Level (MCL)

MCL - Maximum Contaminant Level  
 D - Reporting Limit (RL) increased due to sample matrix

ND - Not detected at the Reporting Limit (RL)  
 H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10A  
**Lab ID:** H23010433-026  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/19/23 17:30  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	138	mg/L		1		E200.8	01/24/23 00:00 / dck		ICPMS205-H_230123B : 90		R181803
Chromium	ND	mg/L		0.005		E200.8	01/24/23 00:00 / dck		ICPMS205-H_230123B : 90		R181803
Cobalt	0.010	mg/L		0.005		E200.8	01/24/23 00:00 / dck		ICPMS205-H_230123B : 90		R181803
Copper	ND	mg/L		0.002		E200.8	01/24/23 00:00 / dck		ICPMS205-H_230123B : 90		R181803
Gallium	ND	mg/L		0.01		E200.8	01/25/23 17:22 / dck		ICPMS205-H_230125A : 57		R181863
Iron	51.1	mg/L		0.02		E200.7	01/24/23 16:06 / slj		ICP2-HE_230124B : 118		R181807
Lead	0.0053	mg/L		0.0003		E200.8	01/24/23 00:00 / dck		ICPMS205-H_230123B : 90		R181803
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 17:22 / dck		ICPMS205-H_230125A : 57		R181863
Lithium	ND	mg/L		0.1		E200.8	01/24/23 00:00 / dck		ICPMS205-H_230123B : 90		R181803
Magnesium	43	mg/L		1		E200.8	01/24/23 00:00 / dck		ICPMS205-H_230123B : 90		R181803
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 17:22 / dck		ICPMS205-H_230125A : 57		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 17:22 / dck		ICPMS205-H_230125A : 57		R181863
Manganese	11.7	mg/L		0.001		E200.7	01/24/23 16:06 / slj		ICP2-HE_230124B : 118		R181807
Molybdenum	0.010	mg/L		0.001		E200.8	01/24/23 00:00 / dck		ICPMS205-H_230123B : 90		R181803
Nickel	0.004	mg/L		0.002		E200.8	01/24/23 00:00 / dck		ICPMS205-H_230123B : 90		R181803
Palladium	ND	mg/L		0.01		E200.8	01/25/23 17:22 / dck		ICPMS205-H_230125A : 57		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 17:22 / dck		ICPMS205-H_230125A : 57		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 17:22 / dck		ICPMS205-H_230125A : 57		R181863
Potassium	13	mg/L		1		E200.8	01/24/23 00:00 / dck		ICPMS205-H_230123B : 90		R181803
Selenium	ND	mg/L		0.001		E200.8	01/24/23 00:00 / dck		ICPMS205-H_230123B : 90		R181803
Silver	ND	mg/L		0.0002		E200.8	01/24/23 00:00 / dck		ICPMS205-H_230123B : 90		R181803
Sodium	75	mg/L		1		E200.8	01/24/23 00:00 / dck		ICPMS205-H_230123B : 90		R181803
Strontium	0.69	mg/L		0.01		E200.8	01/24/23 00:00 / dck		ICPMS205-H_230123B : 90		R181803
Thallium	ND	mg/L		0.0002		E200.8	01/24/23 00:00 / dck		ICPMS205-H_230123B : 90		R181803
Thorium	ND	mg/L		0.005		E200.8	01/24/23 00:00 / dck		ICPMS205-H_230123B : 90		R181803
Tin	ND	mg/L		0.05		E200.8	01/24/23 00:00 / dck		ICPMS205-H_230123B : 90		R181803
Titanium	ND	mg/L		0.005		E200.8	01/24/23 22:44 / dck		ICPMS205-H_230124A : 210		R181811
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 17:22 / dck		ICPMS205-H_230125A : 57		R181863
Uranium	0.0096	mg/L		0.0002		E200.8	01/24/23 00:00 / dck		ICPMS205-H_230123B : 90		R181803
Vanadium	ND	mg/L		0.01		E200.8	01/24/23 00:00 / dck		ICPMS205-H_230123B : 90		R181803
Zinc	4.13	mg/L		0.008		E200.8	01/24/23 00:00 / dck		ICPMS205-H_230123B : 90		R181803
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 17:22 / dck		ICPMS205-H_230125A : 57		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10A  
**Lab ID:** H23010433-026  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/19/23 17:30  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	2.66	%				A1030 E	02/01/23 08:28 / SR		CALC_230201A : 969		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10B  
**Lab ID:** H23010433-027  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/19/23 17:50  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.5	s.u.	H	0.1		A4500-H B	01/23/23 12:11 / ljs		PHSC_101-H_230123A : 68		R181770
pH Measurement Temp	14.5	°C				A4500-H B	01/23/23 12:11 / ljs		PHSC_101-H_230123A : 68		R181770
Conductivity @ 25 C	1210	umhos/cm		5		A2510 B	01/23/23 12:11 / ljs		PHSC_101-H_230123A : 69		R181770
Solids, Total Dissolved TDS @ 180 C	1010	mg/L	D	20		A2540 C	01/23/23 13:47 / JAR		I24 (14410200)_230123A : 33		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	59	mg/L		4		A2320 B	01/25/23 18:24 / ljs		PHSC_101-H_230125A : 199		R181823
Bicarbonate as HCO3	71	mg/L		4		A2320 B	01/25/23 18:24 / ljs		PHSC_101-H_230125A : 199		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 18:24 / ljs		PHSC_101-H_230125A : 199		R181823
Chloride	26	mg/L		1		E300.0	01/26/23 11:29 / ljs		IC METROHM_230125A : 77		R181878
Sulfate	594	mg/L		1		E300.0	01/26/23 11:29 / ljs		IC METROHM_230125A : 77		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 11:29 / ljs		IC METROHM_230125A : 77		R181878
Fluoride	0.6	mg/L		0.1		E300.0	01/26/23 11:29 / ljs		IC METROHM_230125A : 77		R181878
Hardness as CaCO3	519	mg/L		1		A2340 B	01/24/23 00:02 / SR		CALC_230201A : 311		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	01/26/23 23:52 / eli-c		SUB-C291699 : 38		C_R291699
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	01/26/23 03:42 / eli-c		SUB-C291646 : 43		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	1.17	mg/L		0.01		E353.2	01/26/23 15:52 / JAR		FIA203-HE_230126A : 59		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/24/23 00:02 / dck		ICPMS205-H_230123B : 91		R181803
Antimony	ND	mg/L		0.0005		E200.8	01/24/23 00:02 / dck		ICPMS205-H_230123B : 91		R181803
Arsenic	0.007	mg/L		0.001		E200.8	01/24/23 00:02 / dck		ICPMS205-H_230123B : 91		R181803
Barium	0.013	mg/L		0.003		E200.8	01/24/23 00:02 / dck		ICPMS205-H_230123B : 91		R181803
Beryllium	ND	mg/L		0.0008		E200.8	01/24/23 00:02 / dck		ICPMS205-H_230123B : 91		R181803
Boron	0.09	mg/L		0.05		E200.7	01/24/23 16:09 / slj		ICP2-HE_230124B : 119		R181807
Cadmium	0.00762	mg/L		0.00003		E200.8	01/24/23 00:02 / dck		ICPMS205-H_230123B : 91		R181803
Cesium	ND	mg/L		0.01		E200.8	01/25/23 17:24 / dck		ICPMS205-H_230125A : 58		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10B  
**Lab ID:** H23010433-027  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/19/23 17:50  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	152	mg/L		1		E200.8	01/24/23 00:02 / dck		ICPMS205-H_230123B : 91		R181803
Chromium	ND	mg/L		0.005		E200.8	01/24/23 00:02 / dck		ICPMS205-H_230123B : 91		R181803
Cobalt	ND	mg/L		0.005		E200.8	01/24/23 00:02 / dck		ICPMS205-H_230123B : 91		R181803
Copper	0.170	mg/L		0.002		E200.8	01/24/23 00:02 / dck		ICPMS205-H_230123B : 91		R181803
Gallium	ND	mg/L		0.01		E200.8	01/25/23 17:24 / dck		ICPMS205-H_230125A : 58		R181863
Iron	ND	mg/L		0.02		E200.8	01/24/23 00:02 / dck		ICPMS205-H_230123B : 91		R181803
Lead	ND	mg/L		0.0003		E200.8	01/24/23 00:02 / dck		ICPMS205-H_230123B : 91		R181803
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 17:24 / dck		ICPMS205-H_230125A : 58		R181863
Lithium	0.2	mg/L		0.1		E200.8	01/24/23 00:02 / dck		ICPMS205-H_230123B : 91		R181803
Magnesium	34	mg/L		1		E200.8	01/24/23 00:02 / dck		ICPMS205-H_230123B : 91		R181803
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 17:24 / dck		ICPMS205-H_230125A : 58		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 17:24 / dck		ICPMS205-H_230125A : 58		R181863
Manganese	ND	mg/L		0.001		E200.8	01/24/23 22:34 / dck		ICPMS205-H_230124A : 206		R181811
Molybdenum	0.002	mg/L		0.001		E200.8	01/24/23 00:02 / dck		ICPMS205-H_230123B : 91		R181803
Nickel	0.005	mg/L		0.002		E200.8	01/24/23 00:02 / dck		ICPMS205-H_230123B : 91		R181803
Palladium	ND	mg/L		0.01		E200.8	01/25/23 17:24 / dck		ICPMS205-H_230125A : 58		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 17:24 / dck		ICPMS205-H_230125A : 58		R181863
Rubidium	0.02	mg/L		0.01		E200.8	01/25/23 17:24 / dck		ICPMS205-H_230125A : 58		R181863
Potassium	12	mg/L		1		E200.8	01/24/23 00:02 / dck		ICPMS205-H_230123B : 91		R181803
Selenium	ND	mg/L		0.001		E200.8	01/24/23 00:02 / dck		ICPMS205-H_230123B : 91		R181803
Silver	ND	mg/L		0.0002		E200.8	01/24/23 00:02 / dck		ICPMS205-H_230123B : 91		R181803
Sodium	82	mg/L		1		E200.8	01/24/23 00:02 / dck		ICPMS205-H_230123B : 91		R181803
Strontium	1.72	mg/L		0.01		E200.8	01/24/23 00:02 / dck		ICPMS205-H_230123B : 91		R181803
Thallium	ND	mg/L		0.0002		E200.8	01/24/23 00:02 / dck		ICPMS205-H_230123B : 91		R181803
Thorium	ND	mg/L		0.005		E200.8	01/24/23 00:02 / dck		ICPMS205-H_230123B : 91		R181803
Tin	ND	mg/L		0.05		E200.8	01/24/23 00:02 / dck		ICPMS205-H_230123B : 91		R181803
Titanium	ND	mg/L		0.005		E200.8	01/24/23 22:34 / dck		ICPMS205-H_230124A : 206		R181811
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 17:24 / dck		ICPMS205-H_230125A : 58		R181863
Uranium	0.0014	mg/L		0.0002		E200.8	01/24/23 00:02 / dck		ICPMS205-H_230123B : 91		R181803
Vanadium	ND	mg/L		0.01		E200.8	01/24/23 00:02 / dck		ICPMS205-H_230123B : 91		R181803
Zinc	1.21	mg/L		0.008		E200.8	01/24/23 00:02 / dck		ICPMS205-H_230123B : 91		R181803
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 17:24 / dck		ICPMS205-H_230125A : 58		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10B  
**Lab ID:** H23010433-027  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/19/23 17:50  
**DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-0.50	%				A1030 E	02/01/23 08:09 / SR		CALC_230201A : 309		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10C  
**Lab ID:** H23010433-028  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/19/23 18:10  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.8	s.u.	H	0.1		A4500-H B	01/23/23 12:13 / ljs		PHSC_101-H_230123A : 70		R181770
pH Measurement Temp	14.7	°C				A4500-H B	01/23/23 12:13 / ljs		PHSC_101-H_230123A : 70		R181770
Conductivity @ 25 C	1000	umhos/cm		5		A2510 B	01/23/23 12:13 / ljs		PHSC_101-H_230123A : 71		R181770
Solids, Total Dissolved TDS @ 180 C	790	mg/L	D	20		A2540 C	01/23/23 13:47 / JAR		I24 (14410200)_230123A : 34		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	70	mg/L		4		A2320 B	01/25/23 18:31 / ljs		PHSC_101-H_230125A : 201		R181823
Bicarbonate as HCO3	85	mg/L		4		A2320 B	01/25/23 18:31 / ljs		PHSC_101-H_230125A : 201		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 18:31 / ljs		PHSC_101-H_230125A : 201		R181823
Chloride	11	mg/L		1		E300.0	01/26/23 11:44 / ljs		IC METROHM_230125A : 78		R181878
Sulfate	468	mg/L		1		E300.0	01/26/23 11:44 / ljs		IC METROHM_230125A : 78		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 11:44 / ljs		IC METROHM_230125A : 78		R181878
Fluoride	0.6	mg/L		0.1		E300.0	01/26/23 11:44 / ljs		IC METROHM_230125A : 78		R181878
Hardness as CaCO3	400	mg/L		1		A2340 B	01/24/23 00:05 / SR		CALC_230201A : 322		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	01/27/23 00:12 / eli-c		SUB-C291699 : 39		C_R291699
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	01/26/23 04:31 / eli-c		SUB-C291646 : 46		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.18	mg/L		0.01		E353.2	01/26/23 15:53 / JAR		FIA203-HE_230126A : 60		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/24/23 00:05 / dck		ICPMS205-H_230123B : 92		R181803
Antimony	ND	mg/L		0.0005		E200.8	01/24/23 00:05 / dck		ICPMS205-H_230123B : 92		R181803
Arsenic	0.003	mg/L		0.001		E200.8	01/24/23 00:05 / dck		ICPMS205-H_230123B : 92		R181803
Barium	0.012	mg/L		0.003		E200.8	01/24/23 00:05 / dck		ICPMS205-H_230123B : 92		R181803
Beryllium	ND	mg/L		0.0008		E200.8	01/24/23 00:05 / dck		ICPMS205-H_230123B : 92		R181803
Boron	0.08	mg/L		0.05		E200.7	01/24/23 16:13 / slj		ICP2-HE_230124B : 120		R181807
Cadmium	0.00210	mg/L		0.00003		E200.8	01/24/23 00:05 / dck		ICPMS205-H_230123B : 92		R181803
Cesium	ND	mg/L		0.01		E200.8	01/25/23 17:25 / dck		ICPMS205-H_230125A : 59		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10C  
**Lab ID:** H23010433-028  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/19/23 18:10  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	118	mg/L		1		E200.8	01/24/23 00:05 / dck		ICPMS205-H_230123B : 92		R181803
Chromium	ND	mg/L		0.005		E200.8	01/24/23 00:05 / dck		ICPMS205-H_230123B : 92		R181803
Cobalt	ND	mg/L		0.005		E200.8	01/24/23 00:05 / dck		ICPMS205-H_230123B : 92		R181803
Copper	ND	mg/L		0.002		E200.8	01/24/23 00:05 / dck		ICPMS205-H_230123B : 92		R181803
Gallium	ND	mg/L		0.01		E200.8	01/25/23 17:25 / dck		ICPMS205-H_230125A : 59		R181863
Iron	ND	mg/L		0.02		E200.8	01/24/23 00:05 / dck		ICPMS205-H_230123B : 92		R181803
Lead	ND	mg/L		0.0003		E200.8	01/24/23 00:05 / dck		ICPMS205-H_230123B : 92		R181803
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 17:25 / dck		ICPMS205-H_230125A : 59		R181863
Lithium	0.2	mg/L		0.1		E200.8	01/24/23 00:05 / dck		ICPMS205-H_230123B : 92		R181803
Magnesium	26	mg/L		1		E200.8	01/24/23 00:05 / dck		ICPMS205-H_230123B : 92		R181803
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 17:25 / dck		ICPMS205-H_230125A : 59		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 17:25 / dck		ICPMS205-H_230125A : 59		R181863
Manganese	ND	mg/L		0.001		E200.8	01/24/23 22:37 / dck		ICPMS205-H_230124A : 207		R181811
Molybdenum	0.011	mg/L		0.001		E200.8	01/24/23 00:05 / dck		ICPMS205-H_230123B : 92		R181803
Nickel	ND	mg/L		0.002		E200.8	01/24/23 00:05 / dck		ICPMS205-H_230123B : 92		R181803
Palladium	ND	mg/L		0.01		E200.8	01/25/23 17:25 / dck		ICPMS205-H_230125A : 59		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 17:25 / dck		ICPMS205-H_230125A : 59		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 17:25 / dck		ICPMS205-H_230125A : 59		R181863
Potassium	10	mg/L		1		E200.8	01/24/23 00:05 / dck		ICPMS205-H_230123B : 92		R181803
Selenium	ND	mg/L		0.001		E200.8	01/24/23 00:05 / dck		ICPMS205-H_230123B : 92		R181803
Silver	ND	mg/L		0.0002		E200.8	01/24/23 00:05 / dck		ICPMS205-H_230123B : 92		R181803
Sodium	67	mg/L		1		E200.8	01/24/23 00:05 / dck		ICPMS205-H_230123B : 92		R181803
Strontium	1.25	mg/L		0.01		E200.8	01/24/23 00:05 / dck		ICPMS205-H_230123B : 92		R181803
Thallium	ND	mg/L		0.0002		E200.8	01/24/23 00:05 / dck		ICPMS205-H_230123B : 92		R181803
Thorium	ND	mg/L		0.005		E200.8	01/24/23 00:05 / dck		ICPMS205-H_230123B : 92		R181803
Tin	ND	mg/L		0.05		E200.8	01/24/23 00:05 / dck		ICPMS205-H_230123B : 92		R181803
Titanium	ND	mg/L		0.005		E200.8	01/24/23 22:37 / dck		ICPMS205-H_230124A : 207		R181811
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 17:25 / dck		ICPMS205-H_230125A : 59		R181863
Uranium	0.0026	mg/L		0.0002		E200.8	01/24/23 00:05 / dck		ICPMS205-H_230123B : 92		R181803
Vanadium	ND	mg/L		0.01		E200.8	01/24/23 00:05 / dck		ICPMS205-H_230123B : 92		R181803
Zinc	0.165	mg/L		0.008		E200.8	01/24/23 00:05 / dck		ICPMS205-H_230123B : 92		R181803
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 17:25 / dck		ICPMS205-H_230125A : 59		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10C  
**Lab ID:** H23010433-028  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/19/23 18:10  
**DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.51	%				A1030 E	02/01/23 08:09 / SR		CALC_230201A : 320		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08A2  
**Lab ID:** H23010433-029  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/20/23 10:30  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.5	s.u.	H	0.1		A4500-H B	01/23/23 12:16 / ljs		PHSC_101-H_230123A : 72		R181770
pH Measurement Temp	14.9	°C				A4500-H B	01/23/23 12:16 / ljs		PHSC_101-H_230123A : 72		R181770
Conductivity @ 25 C	837	umhos/cm		5		A2510 B	01/23/23 12:16 / ljs		PHSC_101-H_230123A : 73		R181770
Solids, Total Dissolved TDS @ 180 C	626	mg/L	D	20		A2540 C	01/23/23 13:47 / JAR		I24 (14410200)_230123A : 35		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	76	mg/L		4		A2320 B	01/25/23 18:38 / ljs		PHSC_101-H_230125A : 203		R181823
Bicarbonate as HCO3	92	mg/L		4		A2320 B	01/25/23 18:38 / ljs		PHSC_101-H_230125A : 203		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 18:38 / ljs		PHSC_101-H_230125A : 203		R181823
Chloride	30	mg/L		1		E300.0	01/26/23 11:58 / ljs		IC METROHM_230125A : 79		R181878
Sulfate	310	mg/L		1		E300.0	01/26/23 11:58 / ljs		IC METROHM_230125A : 79		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 11:58 / ljs		IC METROHM_230125A : 79		R181878
Fluoride	0.4	mg/L		0.1		E300.0	01/26/23 11:58 / ljs		IC METROHM_230125A : 79		R181878
Hardness as CaCO3	356	mg/L		1		A2340 B	01/24/23 00:07 / SR		CALC_230201A : 333		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.1	mg/L		0.5		A5310 C	01/27/23 00:32 / eli-c		SUB-C291699 : 40		C_R291699
Organic Carbon, Total (TOC)	1.1	mg/L		0.5		A5310 C	01/26/23 04:51 / eli-c		SUB-C291646 : 47		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	5.64	mg/L	D	0.05		E353.2	01/26/23 15:56 / JAR		FIA203-HE_230126A : 63		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/24/23 00:07 / dck		ICPMS205-H_230123B : 93		R181803
Antimony	ND	mg/L		0.0005		E200.8	01/24/23 00:07 / dck		ICPMS205-H_230123B : 93		R181803
Arsenic	ND	mg/L		0.001		E200.8	01/24/23 00:07 / dck		ICPMS205-H_230123B : 93		R181803
Barium	0.021	mg/L		0.003		E200.8	01/24/23 00:07 / dck		ICPMS205-H_230123B : 93		R181803
Beryllium	ND	mg/L		0.0008		E200.8	01/24/23 00:07 / dck		ICPMS205-H_230123B : 93		R181803
Boron	0.09	mg/L		0.05		E200.7	01/24/23 16:17 / slj		ICP2-HE_230124B : 121		R181807
Cadmium	0.00136	mg/L		0.00003		E200.8	01/24/23 00:07 / dck		ICPMS205-H_230123B : 93		R181803
Cesium	ND	mg/L		0.01		E200.8	01/25/23 17:27 / dck		ICPMS205-H_230125A : 60		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08A2  
**Lab ID:** H23010433-029  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/20/23 10:30  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	98	mg/L		1		E200.8	01/24/23 00:07 / dck		ICPMS205-H_230123B : 93		R181803
Chromium	ND	mg/L		0.005		E200.8	01/24/23 00:07 / dck		ICPMS205-H_230123B : 93		R181803
Cobalt	ND	mg/L		0.005		E200.8	01/24/23 00:07 / dck		ICPMS205-H_230123B : 93		R181803
Copper	0.011	mg/L		0.002		E200.8	01/24/23 00:07 / dck		ICPMS205-H_230123B : 93		R181803
Gallium	ND	mg/L		0.01		E200.8	01/25/23 17:27 / dck		ICPMS205-H_230125A : 60		R181863
Iron	ND	mg/L		0.02		E200.8	01/24/23 00:07 / dck		ICPMS205-H_230123B : 93		R181803
Lead	ND	mg/L		0.0003		E200.8	01/24/23 00:07 / dck		ICPMS205-H_230123B : 93		R181803
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 17:27 / dck		ICPMS205-H_230125A : 60		R181863
Lithium	ND	mg/L		0.1		E200.8	01/24/23 00:07 / dck		ICPMS205-H_230123B : 93		R181803
Magnesium	27	mg/L		1		E200.8	01/24/23 00:07 / dck		ICPMS205-H_230123B : 93		R181803
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 17:27 / dck		ICPMS205-H_230125A : 60		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 17:27 / dck		ICPMS205-H_230125A : 60		R181863
Manganese	ND	mg/L		0.001		E200.8	01/24/23 00:07 / dck		ICPMS205-H_230123B : 93		R181803
Molybdenum	0.004	mg/L		0.001		E200.8	01/24/23 00:07 / dck		ICPMS205-H_230123B : 93		R181803
Nickel	ND	mg/L		0.002		E200.8	01/24/23 00:07 / dck		ICPMS205-H_230123B : 93		R181803
Palladium	ND	mg/L		0.01		E200.8	01/25/23 17:27 / dck		ICPMS205-H_230125A : 60		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 17:27 / dck		ICPMS205-H_230125A : 60		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 17:27 / dck		ICPMS205-H_230125A : 60		R181863
Potassium	8	mg/L		1		E200.8	01/24/23 00:07 / dck		ICPMS205-H_230123B : 93		R181803
Selenium	ND	mg/L		0.001		E200.8	01/24/23 00:07 / dck		ICPMS205-H_230123B : 93		R181803
Silver	ND	mg/L		0.0002		E200.8	01/24/23 00:07 / dck		ICPMS205-H_230123B : 93		R181803
Sodium	40	mg/L		1		E200.8	01/24/23 00:07 / dck		ICPMS205-H_230123B : 93		R181803
Strontium	0.75	mg/L		0.01		E200.8	01/24/23 00:07 / dck		ICPMS205-H_230123B : 93		R181803
Thallium	ND	mg/L		0.0002		E200.8	01/24/23 00:07 / dck		ICPMS205-H_230123B : 93		R181803
Thorium	ND	mg/L		0.005		E200.8	01/24/23 00:07 / dck		ICPMS205-H_230123B : 93		R181803
Tin	ND	mg/L		0.05		E200.8	01/24/23 00:07 / dck		ICPMS205-H_230123B : 93		R181803
Titanium	ND	mg/L		0.005		E200.8	01/24/23 22:39 / dck		ICPMS205-H_230124A : 208		R181811
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 17:27 / dck		ICPMS205-H_230125A : 60		R181863
Uranium	0.0014	mg/L		0.0002		E200.8	01/24/23 00:07 / dck		ICPMS205-H_230123B : 93		R181803
Vanadium	ND	mg/L		0.01		E200.8	01/24/23 00:07 / dck		ICPMS205-H_230123B : 93		R181803
Zinc	0.310	mg/L		0.008		E200.8	01/24/23 00:07 / dck		ICPMS205-H_230123B : 93		R181803
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 17:27 / dck		ICPMS205-H_230125A : 60		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08A2  
**Lab ID:** H23010433-029  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/20/23 10:30  
**DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.07	%				A1030 E	02/01/23 08:09 / SR		CALC_230201A : 331		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08B  
**Lab ID:** H23010433-030  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/20/23 11:30  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.4	s.u.	H	0.1		A4500-H B	01/23/23 12:18 / ljs		PHSC_101-H_230123A : 74		R181770
pH Measurement Temp	15.0	°C				A4500-H B	01/23/23 12:18 / ljs		PHSC_101-H_230123A : 74		R181770
Conductivity @ 25 C	1480	umhos/cm		5		A2510 B	01/23/23 12:18 / ljs		PHSC_101-H_230123A : 75		R181770
Solids, Total Dissolved TDS @ 180 C	1260	mg/L	D	20		A2540 C	01/23/23 13:47 / JAR		I24 (14410200)_230123A : 36		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	59	mg/L		4		A2320 B	01/25/23 18:45 / ljs		PHSC_101-H_230125A : 205		R181823
Bicarbonate as HCO3	71	mg/L		4		A2320 B	01/25/23 18:45 / ljs		PHSC_101-H_230125A : 205		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 18:45 / ljs		PHSC_101-H_230125A : 205		R181823
Chloride	31	mg/L		1		E300.0	01/26/23 12:13 / ljs		IC METROHM_230125A : 80		R181878
Sulfate	771	mg/L		1		E300.0	01/26/23 12:13 / ljs		IC METROHM_230125A : 80		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 12:13 / ljs		IC METROHM_230125A : 80		R181878
Fluoride	0.6	mg/L		0.1		E300.0	01/26/23 12:13 / ljs		IC METROHM_230125A : 80		R181878
Hardness as CaCO3	661	mg/L		1		A2340 B	01/24/23 00:10 / SR		CALC_230201A : 344		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	01/27/23 00:53 / eli-c		SUB-C291699 : 41		C_R291699
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	01/26/23 05:07 / eli-c		SUB-C291646 : 48		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	1.73	mg/L		0.01		E353.2	01/26/23 15:57 / JAR		FIA203-HE_230126A : 64		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/24/23 00:10 / dck		ICPMS205-H_230123B : 94		R181803
Antimony	ND	mg/L		0.0005		E200.8	01/24/23 00:10 / dck		ICPMS205-H_230123B : 94		R181803
Arsenic	0.006	mg/L		0.001		E200.8	01/24/23 00:10 / dck		ICPMS205-H_230123B : 94		R181803
Barium	0.014	mg/L		0.003		E200.8	01/24/23 00:10 / dck		ICPMS205-H_230123B : 94		R181803
Beryllium	ND	mg/L		0.0008		E200.8	01/24/23 00:10 / dck		ICPMS205-H_230123B : 94		R181803
Boron	0.10	mg/L		0.05		E200.7	01/24/23 16:21 / slj		ICP2-HE_230124B : 122		R181807
Cadmium	0.0101	mg/L		0.00003		E200.8	01/24/23 00:10 / dck		ICPMS205-H_230123B : 94		R181803
Cesium	ND	mg/L		0.01		E200.8	01/25/23 17:28 / dck		ICPMS205-H_230125A : 61		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08B  
**Lab ID:** H23010433-030  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/20/23 11:30  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	193	mg/L		1		E200.8	01/24/23 00:10 / dck		ICPMS205-H_230123B : 94		R181803
Chromium	ND	mg/L		0.005		E200.8	01/24/23 00:10 / dck		ICPMS205-H_230123B : 94		R181803
Cobalt	ND	mg/L		0.005		E200.8	01/24/23 00:10 / dck		ICPMS205-H_230123B : 94		R181803
Copper	0.181	mg/L		0.002		E200.8	01/24/23 00:10 / dck		ICPMS205-H_230123B : 94		R181803
Gallium	ND	mg/L		0.01		E200.8	01/25/23 17:28 / dck		ICPMS205-H_230125A : 61		R181863
Iron	ND	mg/L		0.02		E200.8	01/24/23 00:10 / dck		ICPMS205-H_230123B : 94		R181803
Lead	ND	mg/L		0.0003		E200.8	01/24/23 00:10 / dck		ICPMS205-H_230123B : 94		R181803
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 17:28 / dck		ICPMS205-H_230125A : 61		R181863
Lithium	0.2	mg/L		0.1		E200.8	01/24/23 00:10 / dck		ICPMS205-H_230123B : 94		R181803
Magnesium	44	mg/L		1		E200.8	01/24/23 00:10 / dck		ICPMS205-H_230123B : 94		R181803
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 17:28 / dck		ICPMS205-H_230125A : 61		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 17:28 / dck		ICPMS205-H_230125A : 61		R181863
Manganese	ND	mg/L		0.001		E200.8	01/24/23 22:42 / dck		ICPMS205-H_230124A : 209		R181811
Molybdenum	0.002	mg/L		0.001		E200.8	01/24/23 00:10 / dck		ICPMS205-H_230123B : 94		R181803
Nickel	0.006	mg/L		0.002		E200.8	01/24/23 00:10 / dck		ICPMS205-H_230123B : 94		R181803
Palladium	ND	mg/L		0.01		E200.8	01/25/23 17:28 / dck		ICPMS205-H_230125A : 61		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 17:28 / dck		ICPMS205-H_230125A : 61		R181863
Rubidium	0.02	mg/L		0.01		E200.8	01/25/23 17:28 / dck		ICPMS205-H_230125A : 61		R181863
Potassium	13	mg/L		1		E200.8	01/24/23 00:10 / dck		ICPMS205-H_230123B : 94		R181803
Selenium	ND	mg/L		0.001		E200.8	01/24/23 00:10 / dck		ICPMS205-H_230123B : 94		R181803
Silver	ND	mg/L		0.0002		E200.8	01/24/23 00:10 / dck		ICPMS205-H_230123B : 94		R181803
Sodium	88	mg/L		1		E200.8	01/24/23 00:10 / dck		ICPMS205-H_230123B : 94		R181803
Strontium	2.19	mg/L		0.01		E200.8	01/24/23 00:10 / dck		ICPMS205-H_230123B : 94		R181803
Thallium	ND	mg/L		0.0002		E200.8	01/24/23 00:10 / dck		ICPMS205-H_230123B : 94		R181803
Thorium	ND	mg/L		0.005		E200.8	01/24/23 00:10 / dck		ICPMS205-H_230123B : 94		R181803
Tin	ND	mg/L		0.05		E200.8	01/24/23 00:10 / dck		ICPMS205-H_230123B : 94		R181803
Titanium	ND	mg/L		0.005		E200.8	01/24/23 22:42 / dck		ICPMS205-H_230124A : 209		R181811
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 17:28 / dck		ICPMS205-H_230125A : 61		R181863
Uranium	0.0014	mg/L		0.0002		E200.8	01/24/23 00:10 / dck		ICPMS205-H_230123B : 94		R181803
Vanadium	ND	mg/L		0.01		E200.8	01/24/23 00:10 / dck		ICPMS205-H_230123B : 94		R181803
Zinc	1.47	mg/L		0.008		E200.8	01/24/23 00:10 / dck		ICPMS205-H_230123B : 94		R181803
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 17:28 / dck		ICPMS205-H_230125A : 61		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08B  
**Lab ID:** H23010433-030  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/20/23 11:30  
**DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-2.53	%				A1030 E	02/01/23 08:09 / SR		CALC_230201A : 342		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-09A  
**Lab ID:** H23010433-031  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/20/23 12:00  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.8	s.u.	H	0.1		A4500-H B	01/23/23 12:20 / ljs		PHSC_101-H_230123A : 76		R181770
pH Measurement Temp	16.5	°C				A4500-H B	01/23/23 12:20 / ljs		PHSC_101-H_230123A : 76		R181770
Conductivity @ 25 C	1360	umhos/cm		5		A2510 B	01/23/23 12:20 / ljs		PHSC_101-H_230123A : 77		R181770
Solids, Total Dissolved TDS @ 180 C	1080	mg/L	D	20		A2540 C	01/23/23 13:47 / JAR		I24 (14410200)_230123A : 37		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	200	mg/L		4		A2320 B	01/25/23 18:52 / ljs		PHSC_101-H_230125A : 207		R181823
Bicarbonate as HCO3	240	mg/L		4		A2320 B	01/25/23 18:52 / ljs		PHSC_101-H_230125A : 207		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 18:52 / ljs		PHSC_101-H_230125A : 207		R181823
Chloride	68	mg/L		1		E300.0	01/26/23 13:10 / ljs		IC METROHM_230125A : 83		R181878
Sulfate	481	mg/L		1		E300.0	01/26/23 13:10 / ljs		IC METROHM_230125A : 83		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 13:10 / ljs		IC METROHM_230125A : 83		R181878
Fluoride	0.9	mg/L		0.1		E300.0	01/26/23 13:10 / ljs		IC METROHM_230125A : 83		R181878
Hardness as CaCO3	621	mg/L		1		A2340 B	01/24/23 00:23 / SR		CALC_230201A : 355		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.3	mg/L		0.5		A5310 C	01/27/23 01:43 / eli-c		SUB-C291699 : 43		C_R291699
Organic Carbon, Total (TOC)	1.4	mg/L		0.5		A5310 C	01/26/23 05:27 / eli-c		SUB-C291646 : 49		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	5.79	mg/L	D	0.05		E353.2	01/26/23 15:59 / JAR		FIA203-HE_230126A : 65		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/24/23 00:23 / dck		ICPMS205-H_230123B : 99		R181803
Antimony	ND	mg/L		0.0005		E200.8	01/24/23 00:23 / dck		ICPMS205-H_230123B : 99		R181803
Arsenic	0.003	mg/L		0.001		E200.8	01/24/23 00:23 / dck		ICPMS205-H_230123B : 99		R181803
Barium	0.019	mg/L		0.003		E200.8	01/24/23 00:23 / dck		ICPMS205-H_230123B : 99		R181803
Beryllium	ND	mg/L		0.0008		E200.8	01/24/23 00:23 / dck		ICPMS205-H_230123B : 99		R181803
Boron	0.13	mg/L		0.05		E200.7	01/24/23 16:24 / slj		ICP2-HE_230124B : 123		R181807
Cadmium	0.00542	mg/L		0.00003		E200.8	01/24/23 00:23 / dck		ICPMS205-H_230123B : 99		R181803
Cesium	ND	mg/L		0.01		E200.8	01/25/23 17:37 / dck		ICPMS205-H_230125A : 67		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-09A  
**Lab ID:** H23010433-031  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/20/23 12:00  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	180	mg/L		1		E200.8	01/24/23 00:23 / dck		ICPMS205-H_230123B : 99		R181803
Chromium	ND	mg/L		0.005		E200.8	01/24/23 00:23 / dck		ICPMS205-H_230123B : 99		R181803
Cobalt	ND	mg/L		0.005		E200.8	01/24/23 00:23 / dck		ICPMS205-H_230123B : 99		R181803
Copper	0.049	mg/L		0.002		E200.8	01/24/23 00:23 / dck		ICPMS205-H_230123B : 99		R181803
Gallium	ND	mg/L		0.01		E200.8	01/25/23 17:37 / dck		ICPMS205-H_230125A : 67		R181863
Iron	ND	mg/L		0.02		E200.8	01/24/23 00:23 / dck		ICPMS205-H_230123B : 99		R181803
Lead	ND	mg/L		0.0003		E200.8	01/24/23 00:23 / dck		ICPMS205-H_230123B : 99		R181803
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 17:37 / dck		ICPMS205-H_230125A : 67		R181863
Lithium	0.2	mg/L		0.1		E200.8	01/24/23 00:23 / dck		ICPMS205-H_230123B : 99		R181803
Magnesium	42	mg/L		1		E200.8	01/24/23 00:23 / dck		ICPMS205-H_230123B : 99		R181803
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 17:37 / dck		ICPMS205-H_230125A : 67		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 17:37 / dck		ICPMS205-H_230125A : 67		R181863
Manganese	ND	mg/L		0.001		E200.8	01/26/23 20:03 / dck		ICPMS205-H_230126B : 66		R181895
Molybdenum	0.006	mg/L		0.001		E200.8	01/24/23 00:23 / dck		ICPMS205-H_230123B : 99		R181803
Nickel	0.003	mg/L		0.002		E200.8	01/24/23 00:23 / dck		ICPMS205-H_230123B : 99		R181803
Palladium	ND	mg/L		0.01		E200.8	01/25/23 17:37 / dck		ICPMS205-H_230125A : 67		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 17:37 / dck		ICPMS205-H_230125A : 67		R181863
Rubidium	0.01	mg/L		0.01		E200.8	01/25/23 17:37 / dck		ICPMS205-H_230125A : 67		R181863
Potassium	12	mg/L		1		E200.8	01/24/23 00:23 / dck		ICPMS205-H_230123B : 99		R181803
Selenium	ND	mg/L		0.001		E200.8	01/24/23 00:23 / dck		ICPMS205-H_230123B : 99		R181803
Silver	0.0002	mg/L		0.0002		E200.8	01/24/23 22:57 / dck		ICPMS205-H_230124A : 215		R181811
Sodium	80	mg/L		1		E200.8	01/24/23 00:23 / dck		ICPMS205-H_230123B : 99		R181803
Strontium	1.93	mg/L		0.01		E200.8	01/24/23 00:23 / dck		ICPMS205-H_230123B : 99		R181803
Thallium	ND	mg/L		0.0002		E200.8	01/24/23 00:23 / dck		ICPMS205-H_230123B : 99		R181803
Thorium	ND	mg/L		0.005		E200.8	01/24/23 00:23 / dck		ICPMS205-H_230123B : 99		R181803
Tin	ND	mg/L		0.05		E200.8	01/24/23 00:23 / dck		ICPMS205-H_230123B : 99		R181803
Titanium	ND	mg/L		0.005		E200.8	01/24/23 00:23 / dck		ICPMS205-H_230123B : 99		R181803
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 17:37 / dck		ICPMS205-H_230125A : 67		R181863
Uranium	0.0515	mg/L		0.0002		E200.8	01/24/23 00:23 / dck		ICPMS205-H_230123B : 99		R181803
Vanadium	ND	mg/L		0.01		E200.8	01/24/23 00:23 / dck		ICPMS205-H_230123B : 99		R181803
Zinc	0.727	mg/L		0.008		E200.8	01/26/23 20:03 / dck		ICPMS205-H_230126B : 66		R181895
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 17:37 / dck		ICPMS205-H_230125A : 67		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-09A  
**Lab ID:** H23010433-031  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/20/23 12:00  
**DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-0.41	%				A1030 E	02/01/23 08:10 / SR		CALC_230201A : 353		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-14A  
**Lab ID:** H23010433-032  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/20/23 12:30  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.7	s.u.	H	0.1		A4500-H B	01/23/23 12:23 / ljs		PHSC_101-H_230123A : 78		R181770
pH Measurement Temp	16.5	°C				A4500-H B	01/23/23 12:23 / ljs		PHSC_101-H_230123A : 78		R181770
Conductivity @ 25 C	572	umhos/cm		5		A2510 B	01/23/23 12:23 / ljs		PHSC_101-H_230123A : 79		R181770
Solids, Total Dissolved TDS @ 180 C	404	mg/L	D	20		A2540 C	01/23/23 13:48 / JAR		I24 (14410200)_230123A : 38		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	100	mg/L		4		A2320 B	01/25/23 19:00 / ljs		PHSC_101-H_230125A : 209		R181823
Bicarbonate as HCO3	120	mg/L		4		A2320 B	01/25/23 19:00 / ljs		PHSC_101-H_230125A : 209		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 19:00 / ljs		PHSC_101-H_230125A : 209		R181823
Chloride	26	mg/L		1		E300.0	01/26/23 13:54 / ljs		IC METROHM_230125A : 86		R181878
Sulfate	149	mg/L		1		E300.0	01/26/23 13:54 / ljs		IC METROHM_230125A : 86		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 13:54 / ljs		IC METROHM_230125A : 86		R181878
Fluoride	0.4	mg/L		0.1		E300.0	01/26/23 13:54 / ljs		IC METROHM_230125A : 86		R181878
Hardness as CaCO3	235	mg/L		1		A2340 B	01/24/23 00:25 / SR		CALC_230201A : 366		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.1	mg/L		0.5		A5310 C	01/27/23 02:31 / eli-c		SUB-C291699 : 46		C_R291699
Organic Carbon, Total (TOC)	1.1	mg/L		0.5		A5310 C	01/26/23 05:43 / eli-c		SUB-C291646 : 50		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	3.37	mg/L	D	0.02		E353.2	01/26/23 16:00 / JAR		FIA203-HE_230126A : 66		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/24/23 00:25 / dck		ICPMS205-H_230123B : 100		R181803
Antimony	ND	mg/L		0.0005		E200.8	01/24/23 00:25 / dck		ICPMS205-H_230123B : 100		R181803
Arsenic	0.001	mg/L		0.001		E200.8	01/24/23 00:25 / dck		ICPMS205-H_230123B : 100		R181803
Barium	0.029	mg/L		0.003		E200.8	01/24/23 00:25 / dck		ICPMS205-H_230123B : 100		R181803
Beryllium	ND	mg/L		0.0008		E200.8	01/24/23 00:25 / dck		ICPMS205-H_230123B : 100		R181803
Boron	0.11	mg/L		0.05		E200.7	01/24/23 16:47 / slj		ICP2-HE_230124B : 129		R181807
Cadmium	0.00023	mg/L		0.00003		E200.8	01/24/23 00:25 / dck		ICPMS205-H_230123B : 100		R181803
Cesium	ND	mg/L		0.01		E200.8	01/25/23 17:39 / dck		ICPMS205-H_230125A : 68		R181863

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** D - Reporting Limit (RL) increased due to sample matrix

H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-14A  
**Lab ID:** H23010433-032  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/20/23 12:30  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	63	mg/L		1		E200.8	01/24/23 00:25 / dck		ICPMS205-H_230123B : 100		R181803
Chromium	ND	mg/L		0.005		E200.8	01/24/23 00:25 / dck		ICPMS205-H_230123B : 100		R181803
Cobalt	ND	mg/L		0.005		E200.8	01/24/23 00:25 / dck		ICPMS205-H_230123B : 100		R181803
Copper	0.002	mg/L		0.002		E200.8	01/24/23 22:59 / dck		ICPMS205-H_230124A : 216		R181811
Gallium	ND	mg/L		0.01		E200.8	01/25/23 17:39 / dck		ICPMS205-H_230125A : 68		R181863
Iron	ND	mg/L		0.02		E200.8	01/24/23 00:25 / dck		ICPMS205-H_230123B : 100		R181803
Lead	ND	mg/L		0.0003		E200.8	01/24/23 00:25 / dck		ICPMS205-H_230123B : 100		R181803
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 17:39 / dck		ICPMS205-H_230125A : 68		R181863
Lithium	ND	mg/L		0.1		E200.8	01/24/23 00:25 / dck		ICPMS205-H_230123B : 100		R181803
Magnesium	19	mg/L		1		E200.8	01/24/23 00:25 / dck		ICPMS205-H_230123B : 100		R181803
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 17:39 / dck		ICPMS205-H_230125A : 68		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 17:39 / dck		ICPMS205-H_230125A : 68		R181863
Manganese	0.003	mg/L		0.001		E200.8	01/26/23 20:07 / dck		ICPMS205-H_230126B : 67		R181895
Molybdenum	0.005	mg/L		0.001		E200.8	01/24/23 00:25 / dck		ICPMS205-H_230123B : 100		R181803
Nickel	ND	mg/L		0.002		E200.8	01/24/23 00:25 / dck		ICPMS205-H_230123B : 100		R181803
Palladium	ND	mg/L		0.01		E200.8	01/25/23 17:39 / dck		ICPMS205-H_230125A : 68		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 17:39 / dck		ICPMS205-H_230125A : 68		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 17:39 / dck		ICPMS205-H_230125A : 68		R181863
Potassium	5	mg/L		1		E200.8	01/24/23 00:25 / dck		ICPMS205-H_230123B : 100		R181803
Selenium	ND	mg/L		0.001		E200.8	01/24/23 00:25 / dck		ICPMS205-H_230123B : 100		R181803
Silver	ND	mg/L		0.0002		E200.8	01/24/23 00:25 / dck		ICPMS205-H_230123B : 100		R181803
Sodium	26	mg/L		1		E200.8	01/24/23 00:25 / dck		ICPMS205-H_230123B : 100		R181803
Strontium	0.38	mg/L		0.01		E200.8	01/24/23 00:25 / dck		ICPMS205-H_230123B : 100		R181803
Thallium	ND	mg/L		0.0002		E200.8	01/24/23 00:25 / dck		ICPMS205-H_230123B : 100		R181803
Thorium	ND	mg/L		0.005		E200.8	01/24/23 00:25 / dck		ICPMS205-H_230123B : 100		R181803
Tin	ND	mg/L		0.05		E200.8	01/24/23 00:25 / dck		ICPMS205-H_230123B : 100		R181803
Titanium	ND	mg/L		0.005		E200.8	01/24/23 00:25 / dck		ICPMS205-H_230123B : 100		R181803
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 17:39 / dck		ICPMS205-H_230125A : 68		R181863
Uranium	0.0073	mg/L		0.0002		E200.8	01/24/23 00:25 / dck		ICPMS205-H_230123B : 100		R181803
Vanadium	ND	mg/L		0.01		E200.8	01/24/23 00:25 / dck		ICPMS205-H_230123B : 100		R181803
Zinc	0.022	mg/L		0.008		E200.8	01/26/23 20:07 / dck		ICPMS205-H_230126B : 67		R181895
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 17:39 / dck		ICPMS205-H_230125A : 68		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-14A  
**Lab ID:** H23010433-032  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/20/23 12:30  
**DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.31	%				A1030 E	02/01/23 08:10 / SR		CALC_230201A : 364		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-14B  
**Lab ID:** H23010433-033  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/20/23 13:00  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.3	s.u.	H	0.1		A4500-H B	01/23/23 12:25 / ljs		PHSC_101-H_230123A : 80		R181770
pH Measurement Temp	16.8	°C				A4500-H B	01/23/23 12:25 / ljs		PHSC_101-H_230123A : 80		R181770
Conductivity @ 25 C	1920	umhos/cm		5		A2510 B	01/23/23 12:25 / ljs		PHSC_101-H_230123A : 81		R181770
Solids, Total Dissolved TDS @ 180 C	1780	mg/L	D	50		A2540 C	01/23/23 13:48 / JAR		I24 (14410200)_230123A : 39		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	58	mg/L		4		A2320 B	01/25/23 19:07 / ljs		PHSC_101-H_230125A : 211		R181823
Bicarbonate as HCO3	71	mg/L		4		A2320 B	01/25/23 19:07 / ljs		PHSC_101-H_230125A : 211		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 19:07 / ljs		PHSC_101-H_230125A : 211		R181823
Chloride	32	mg/L		1		E300.0	01/26/23 14:08 / ljs		IC METROHM_230125A : 87		R181878
Sulfate	1160	mg/L		1		E300.0	01/26/23 14:08 / ljs		IC METROHM_230125A : 87		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 14:08 / ljs		IC METROHM_230125A : 87		R181878
Fluoride	0.5	mg/L		0.1		E300.0	01/26/23 14:08 / ljs		IC METROHM_230125A : 87		R181878
Hardness as CaCO3	995	mg/L		1		A2340 B	01/24/23 00:28 / SR		CALC_230201A : 377		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.5	mg/L		0.5		A5310 C	01/27/23 02:47 / eli-c		SUB-C291699 : 47		C_R291699
Organic Carbon, Total (TOC)	0.6	mg/L		0.5		A5310 C	01/26/23 05:59 / eli-c		SUB-C291646 : 51		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.27	mg/L		0.01		E353.2	01/26/23 16:01 / JAR		FIA203-HE_230126A : 67		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/24/23 00:28 / dck		ICPMS205-H_230123B : 101		R181803
Antimony	ND	mg/L		0.0005		E200.8	01/24/23 00:28 / dck		ICPMS205-H_230123B : 101		R181803
Arsenic	0.002	mg/L		0.001		E200.8	01/24/23 00:28 / dck		ICPMS205-H_230123B : 101		R181803
Barium	0.026	mg/L		0.003		E200.8	01/24/23 00:28 / dck		ICPMS205-H_230123B : 101		R181803
Beryllium	ND	mg/L		0.0008		E200.8	01/24/23 00:28 / dck		ICPMS205-H_230123B : 101		R181803
Boron	0.12	mg/L		0.05		E200.7	01/24/23 16:50 / slj		ICP2-HE_230124B : 130		R181807
Cadmium	0.0118	mg/L		0.00003		E200.8	01/24/23 00:28 / dck		ICPMS205-H_230123B : 101		R181803
Cesium	0.27	mg/L		0.01		E200.8	01/25/23 17:40 / dck		ICPMS205-H_230125A : 69		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-14B  
**Lab ID:** H23010433-033  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/20/23 13:00  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	292	mg/L		1		E200.8	01/24/23 00:28 / dck		ICPMS205-H_230123B : 101		R181803
Chromium	ND	mg/L		0.005		E200.8	01/24/23 00:28 / dck		ICPMS205-H_230123B : 101		R181803
Cobalt	ND	mg/L		0.005		E200.8	01/24/23 00:28 / dck		ICPMS205-H_230123B : 101		R181803
Copper	0.232	mg/L		0.002		E200.8	01/24/23 00:28 / dck		ICPMS205-H_230123B : 101		R181803
Gallium	ND	mg/L		0.01		E200.8	01/25/23 17:40 / dck		ICPMS205-H_230125A : 69		R181863
Iron	ND	mg/L		0.02		E200.8	01/24/23 00:28 / dck		ICPMS205-H_230123B : 101		R181803
Lead	ND	mg/L		0.0003		E200.8	01/24/23 00:28 / dck		ICPMS205-H_230123B : 101		R181803
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 17:40 / dck		ICPMS205-H_230125A : 69		R181863
Lithium	0.3	mg/L		0.1		E200.8	01/24/23 00:28 / dck		ICPMS205-H_230123B : 101		R181803
Magnesium	65	mg/L		1		E200.8	01/24/23 00:28 / dck		ICPMS205-H_230123B : 101		R181803
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 17:40 / dck		ICPMS205-H_230125A : 69		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 17:40 / dck		ICPMS205-H_230125A : 69		R181863
Manganese	0.016	mg/L		0.001		E200.8	01/26/23 20:12 / dck		ICPMS205-H_230126B : 68		R181895
Molybdenum	0.001	mg/L		0.001		E200.8	01/24/23 00:28 / dck		ICPMS205-H_230123B : 101		R181803
Nickel	0.012	mg/L		0.002		E200.8	01/24/23 00:28 / dck		ICPMS205-H_230123B : 101		R181803
Palladium	ND	mg/L		0.01		E200.8	01/25/23 17:40 / dck		ICPMS205-H_230125A : 69		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 17:40 / dck		ICPMS205-H_230125A : 69		R181863
Rubidium	0.02	mg/L		0.01		E200.8	01/25/23 17:40 / dck		ICPMS205-H_230125A : 69		R181863
Potassium	15	mg/L		1		E200.8	01/24/23 00:28 / dck		ICPMS205-H_230123B : 101		R181803
Selenium	ND	mg/L		0.001		E200.8	01/24/23 00:28 / dck		ICPMS205-H_230123B : 101		R181803
Silver	ND	mg/L		0.0002		E200.8	01/24/23 00:28 / dck		ICPMS205-H_230123B : 101		R181803
Sodium	117	mg/L		1		E200.8	01/24/23 00:28 / dck		ICPMS205-H_230123B : 101		R181803
Strontium	3.46	mg/L		0.01		E200.8	01/24/23 00:28 / dck		ICPMS205-H_230123B : 101		R181803
Thallium	ND	mg/L		0.0002		E200.8	01/24/23 00:28 / dck		ICPMS205-H_230123B : 101		R181803
Thorium	ND	mg/L		0.005		E200.8	01/24/23 00:28 / dck		ICPMS205-H_230123B : 101		R181803
Tin	ND	mg/L		0.05		E200.8	01/24/23 00:28 / dck		ICPMS205-H_230123B : 101		R181803
Titanium	ND	mg/L		0.005		E200.8	01/24/23 00:28 / dck		ICPMS205-H_230123B : 101		R181803
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 17:40 / dck		ICPMS205-H_230125A : 69		R181863
Uranium	0.0017	mg/L		0.0002		E200.8	01/24/23 00:28 / dck		ICPMS205-H_230123B : 101		R181803
Vanadium	ND	mg/L		0.01		E200.8	01/24/23 00:28 / dck		ICPMS205-H_230123B : 101		R181803
Zinc	2.75	mg/L		0.008		E200.7	01/25/23 15:09 / slj		ICP2-HE_230125A : 46		R181835
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 17:40 / dck		ICPMS205-H_230125A : 69		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-14B  
**Lab ID:** H23010433-033  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/20/23 13:00  
**DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.78	%				A1030 E	02/01/23 08:10 / SR		CALC_230201A : 375		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-2  
**Lab ID:** H23010433-034  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/20/23 12:05  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.8	s.u.	H	0.1		A4500-H B	01/23/23 12:27 / ljs		PHSC_101-H_230123A : 82		R181770
pH Measurement Temp	16.9	°C				A4500-H B	01/23/23 12:27 / ljs		PHSC_101-H_230123A : 82		R181770
Conductivity @ 25 C	1370	umhos/cm		5		A2510 B	01/23/23 12:27 / ljs		PHSC_101-H_230123A : 83		R181770
Solids, Total Dissolved TDS @ 180 C	1060	mg/L	D	20		A2540 C	01/23/23 13:48 / JAR		I24 (14410200)_230123A : 40		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	190	mg/L		4		A2320 B	01/25/23 19:14 / ljs		PHSC_101-H_230125A : 213		R181823
Bicarbonate as HCO3	240	mg/L		4		A2320 B	01/25/23 19:14 / ljs		PHSC_101-H_230125A : 213		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 19:14 / ljs		PHSC_101-H_230125A : 213		R181823
Chloride	69	mg/L		1		E300.0	01/26/23 14:23 / ljs		IC METROHM_230125A : 88		R181878
Sulfate	491	mg/L		1		E300.0	01/26/23 14:23 / ljs		IC METROHM_230125A : 88		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 14:23 / ljs		IC METROHM_230125A : 88		R181878
Fluoride	1.0	mg/L		0.1		E300.0	01/26/23 14:23 / ljs		IC METROHM_230125A : 88		R181878
Hardness as CaCO3	627	mg/L		1		A2340 B	01/24/23 00:30 / SR		CALC_230201A : 388		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.4	mg/L		0.5		A5310 C	01/27/23 03:03 / eli-c		SUB-C291699 : 48		C_R291699
Organic Carbon, Total (TOC)	1.3	mg/L		0.5		A5310 C	01/26/23 06:15 / eli-c		SUB-C291646 : 52		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	5.78	mg/L	D	0.05		E353.2	01/26/23 16:02 / JAR		FIA203-HE_230126A : 68		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/24/23 00:30 / dck		ICPMS205-H_230123B : 102		R181803
Antimony	ND	mg/L		0.0005		E200.8	01/24/23 00:30 / dck		ICPMS205-H_230123B : 102		R181803
Arsenic	0.003	mg/L		0.001		E200.8	01/24/23 00:30 / dck		ICPMS205-H_230123B : 102		R181803
Barium	0.019	mg/L		0.003		E200.8	01/24/23 00:30 / dck		ICPMS205-H_230123B : 102		R181803
Beryllium	ND	mg/L		0.0008		E200.8	01/24/23 00:30 / dck		ICPMS205-H_230123B : 102		R181803
Boron	0.13	mg/L		0.05		E200.7	01/24/23 16:54 / slj		ICP2-HE_230124B : 131		R181807
Cadmium	0.00540	mg/L		0.00003		E200.8	01/24/23 00:30 / dck		ICPMS205-H_230123B : 102		R181803
Cesium	ND	mg/L		0.01		E200.8	01/25/23 17:42 / dck		ICPMS205-H_230125A : 70		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



**LABORATORY ANALYTICAL REPORT**

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-2  
**Lab ID:** H23010433-034  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/20/23 12:05  
**DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	182	mg/L		1		E200.8	01/24/23 00:30 / dck		ICPMS205-H_230123B : 102		R181803
Chromium	ND	mg/L		0.005		E200.8	01/24/23 00:30 / dck		ICPMS205-H_230123B : 102		R181803
Cobalt	ND	mg/L		0.005		E200.8	01/24/23 00:30 / dck		ICPMS205-H_230123B : 102		R181803
Copper	0.050	mg/L		0.002		E200.8	01/24/23 00:30 / dck		ICPMS205-H_230123B : 102		R181803
Gallium	ND	mg/L		0.01		E200.8	01/25/23 17:42 / dck		ICPMS205-H_230125A : 70		R181863
Iron	ND	mg/L		0.02		E200.8	01/24/23 00:30 / dck		ICPMS205-H_230123B : 102		R181803
Lead	ND	mg/L		0.0003		E200.8	01/24/23 00:30 / dck		ICPMS205-H_230123B : 102		R181803
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 17:42 / dck		ICPMS205-H_230125A : 70		R181863
Lithium	0.2	mg/L		0.1		E200.8	01/24/23 00:30 / dck		ICPMS205-H_230123B : 102		R181803
Magnesium	42	mg/L		1		E200.8	01/24/23 00:30 / dck		ICPMS205-H_230123B : 102		R181803
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 17:42 / dck		ICPMS205-H_230125A : 70		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 17:42 / dck		ICPMS205-H_230125A : 70		R181863
Manganese	ND	mg/L		0.001		E200.8	01/26/23 20:17 / dck		ICPMS205-H_230126B : 69		R181895
Molybdenum	0.006	mg/L		0.001		E200.8	01/24/23 00:30 / dck		ICPMS205-H_230123B : 102		R181803
Nickel	0.003	mg/L		0.002		E200.8	01/24/23 00:30 / dck		ICPMS205-H_230123B : 102		R181803
Palladium	ND	mg/L		0.01		E200.8	01/25/23 17:42 / dck		ICPMS205-H_230125A : 70		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 17:42 / dck		ICPMS205-H_230125A : 70		R181863
Rubidium	0.01	mg/L		0.01		E200.8	01/25/23 17:42 / dck		ICPMS205-H_230125A : 70		R181863
Potassium	12	mg/L		1		E200.8	01/24/23 00:30 / dck		ICPMS205-H_230123B : 102		R181803
Selenium	ND	mg/L		0.001		E200.8	01/24/23 00:30 / dck		ICPMS205-H_230123B : 102		R181803
Silver	ND	mg/L		0.0002		E200.8	01/24/23 00:30 / dck		ICPMS205-H_230123B : 102		R181803
Sodium	81	mg/L		1		E200.8	01/24/23 00:30 / dck		ICPMS205-H_230123B : 102		R181803
Strontium	1.94	mg/L		0.01		E200.8	01/24/23 00:30 / dck		ICPMS205-H_230123B : 102		R181803
Thallium	ND	mg/L		0.0002		E200.8	01/24/23 00:30 / dck		ICPMS205-H_230123B : 102		R181803
Thorium	ND	mg/L		0.005		E200.8	01/24/23 00:30 / dck		ICPMS205-H_230123B : 102		R181803
Tin	ND	mg/L		0.05		E200.8	01/24/23 00:30 / dck		ICPMS205-H_230123B : 102		R181803
Titanium	ND	mg/L		0.005		E200.8	01/24/23 00:30 / dck		ICPMS205-H_230123B : 102		R181803
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 17:42 / dck		ICPMS205-H_230125A : 70		R181863
Uranium	0.0511	mg/L		0.0002		E200.8	01/24/23 00:30 / dck		ICPMS205-H_230123B : 102		R181803
Vanadium	ND	mg/L		0.01		E200.8	01/24/23 00:30 / dck		ICPMS205-H_230123B : 102		R181803
Zinc	0.729	mg/L		0.008		E200.8	01/26/23 20:17 / dck		ICPMS205-H_230126B : 69		R181895
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 17:42 / dck		ICPMS205-H_230125A : 70		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-2  
**Lab ID:** H23010433-034  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/20/23 12:05  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-0.38	%				A1030 E	02/01/23 08:10 / SR		CALC_230201A : 386		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-2  
**Lab ID:** H23010433-035  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/20/23 12:10  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.7	s.u.	H	0.1		A4500-H B	01/23/23 12:29 / ljs		PHSC_101-H_230123A : 84		R181770
pH Measurement Temp	17.4	°C				A4500-H B	01/23/23 12:29 / ljs		PHSC_101-H_230123A : 84		R181770
Conductivity @ 25 C	7	umhos/cm		5		A2510 B	01/23/23 12:29 / ljs		PHSC_101-H_230123A : 85		R181770
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	D	20		A2540 C	01/23/23 13:48 / JAR		I24 (14410200)_230123A : 41		TDS230123A
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.											
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	01/25/23 19:22 / ljs		PHSC_101-H_230125A : 215		R181823
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	01/25/23 19:22 / ljs		PHSC_101-H_230125A : 215		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 19:22 / ljs		PHSC_101-H_230125A : 215		R181823
Chloride	ND	mg/L		1		E300.0	01/26/23 14:37 / ljs		IC METROHM_230125A : 89		R181878
Sulfate	ND	mg/L		1		E300.0	01/26/23 14:37 / ljs		IC METROHM_230125A : 89		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 14:37 / ljs		IC METROHM_230125A : 89		R181878
Fluoride	ND	mg/L		0.1		E300.0	01/26/23 14:37 / ljs		IC METROHM_230125A : 89		R181878
Hardness as CaCO3	ND	mg/L		1		A2340 B	01/24/23 00:33 / SR		CALC_230201A : 399		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	01/27/23 03:19 / eli-c		SUB-C291699 : 49		C_R291699
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	01/26/23 06:35 / eli-c		SUB-C291646 : 53		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	01/26/23 16:03 / JAR		FIA203-HE_230126A : 69		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/24/23 00:33 / dck		ICPMS205-H_230123B : 103		R181803
Antimony	ND	mg/L		0.0005		E200.8	01/24/23 00:33 / dck		ICPMS205-H_230123B : 103		R181803
Arsenic	ND	mg/L		0.001		E200.8	01/24/23 00:33 / dck		ICPMS205-H_230123B : 103		R181803
Barium	ND	mg/L		0.003		E200.8	01/24/23 00:33 / dck		ICPMS205-H_230123B : 103		R181803
Beryllium	ND	mg/L		0.0008		E200.8	01/24/23 00:33 / dck		ICPMS205-H_230123B : 103		R181803
Boron	ND	mg/L		0.05		E200.7	01/24/23 16:58 / slj		ICP2-HE_230124B : 132		R181807
Cadmium	ND	mg/L		0.00003		E200.8	01/24/23 00:33 / dck		ICPMS205-H_230123B : 103		R181803
Cesium	ND	mg/L		0.01		E200.8	01/25/23 17:43 / dck		ICPMS205-H_230125A : 71		R181863

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** D - Reporting Limit (RL) increased due to sample matrix

H - Analysis performed past the method holding time





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-2  
**Lab ID:** H23010433-035  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/20/23 12:10  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	ND	mg/L		1		E200.8	01/24/23 00:33 / dck		ICPMS205-H_230123B : 103		R181803
Chromium	ND	mg/L		0.005		E200.8	01/24/23 00:33 / dck		ICPMS205-H_230123B : 103		R181803
Cobalt	ND	mg/L		0.005		E200.8	01/24/23 00:33 / dck		ICPMS205-H_230123B : 103		R181803
Copper	ND	mg/L		0.002		E200.8	01/24/23 00:33 / dck		ICPMS205-H_230123B : 103		R181803
Gallium	ND	mg/L		0.01		E200.8	01/25/23 17:43 / dck		ICPMS205-H_230125A : 71		R181863
Iron	ND	mg/L		0.02		E200.8	01/24/23 00:33 / dck		ICPMS205-H_230123B : 103		R181803
Lead	ND	mg/L		0.0003		E200.8	01/24/23 00:33 / dck		ICPMS205-H_230123B : 103		R181803
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 17:43 / dck		ICPMS205-H_230125A : 71		R181863
Lithium	ND	mg/L		0.1		E200.8	01/24/23 00:33 / dck		ICPMS205-H_230123B : 103		R181803
Magnesium	ND	mg/L		1		E200.8	01/24/23 00:33 / dck		ICPMS205-H_230123B : 103		R181803
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 17:43 / dck		ICPMS205-H_230125A : 71		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 17:43 / dck		ICPMS205-H_230125A : 71		R181863
Manganese	ND	mg/L		0.001		E200.8	01/26/23 20:21 / dck		ICPMS205-H_230126B : 70		R181895
Molybdenum	ND	mg/L		0.001		E200.8	01/24/23 00:33 / dck		ICPMS205-H_230123B : 103		R181803
Nickel	ND	mg/L		0.002		E200.8	01/24/23 00:33 / dck		ICPMS205-H_230123B : 103		R181803
Palladium	ND	mg/L		0.01		E200.8	01/25/23 17:43 / dck		ICPMS205-H_230125A : 71		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 17:43 / dck		ICPMS205-H_230125A : 71		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 17:43 / dck		ICPMS205-H_230125A : 71		R181863
Potassium	ND	mg/L		1		E200.8	01/24/23 00:33 / dck		ICPMS205-H_230123B : 103		R181803
Selenium	ND	mg/L		0.001		E200.8	01/24/23 00:33 / dck		ICPMS205-H_230123B : 103		R181803
Silver	ND	mg/L		0.0002		E200.8	01/24/23 00:33 / dck		ICPMS205-H_230123B : 103		R181803
Sodium	ND	mg/L		1		E200.8	01/24/23 00:33 / dck		ICPMS205-H_230123B : 103		R181803
Strontium	ND	mg/L		0.01		E200.8	01/24/23 00:33 / dck		ICPMS205-H_230123B : 103		R181803
Thallium	ND	mg/L		0.0002		E200.8	01/24/23 00:33 / dck		ICPMS205-H_230123B : 103		R181803
Thorium	ND	mg/L		0.005		E200.8	01/24/23 00:33 / dck		ICPMS205-H_230123B : 103		R181803
Tin	ND	mg/L		0.05		E200.8	01/24/23 00:33 / dck		ICPMS205-H_230123B : 103		R181803
Titanium	ND	mg/L		0.005		E200.8	01/24/23 00:33 / dck		ICPMS205-H_230123B : 103		R181803
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 17:43 / dck		ICPMS205-H_230125A : 71		R181863
Uranium	ND	mg/L		0.0002		E200.8	01/24/23 00:33 / dck		ICPMS205-H_230123B : 103		R181803
Vanadium	ND	mg/L		0.01		E200.8	01/24/23 00:33 / dck		ICPMS205-H_230123B : 103		R181803
Zinc	ND	mg/L		0.008		E200.8	01/26/23 20:21 / dck		ICPMS205-H_230126B : 70		R181895
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 17:43 / dck		ICPMS205-H_230125A : 71		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-2  
**Lab ID:** H23010433-035  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/20/23 12:10  
**DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-100	%				A1030 E	02/01/23 08:11 / SR		CALC_230201A : 397		R181986
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-2  
**Lab ID:** H23010433-036  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/20/23 12:15  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.5	s.u.	H	0.1		A4500-H B	01/23/23 12:32 / ljs		PHSC_101-H_230123A : 86		R181770
pH Measurement Temp	17.2	°C				A4500-H B	01/23/23 12:32 / ljs		PHSC_101-H_230123A : 86		R181770
Conductivity @ 25 C	7	umhos/cm		5		A2510 B	01/23/23 12:32 / ljs		PHSC_101-H_230123A : 87		R181770
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	D	20		A2540 C	01/23/23 13:48 / JAR		I24 (14410200)_230123A : 42		TDS230123A
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.											
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	01/25/23 19:28 / ljs		PHSC_101-H_230125A : 217		R181823
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	01/25/23 19:28 / ljs		PHSC_101-H_230125A : 217		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 19:28 / ljs		PHSC_101-H_230125A : 217		R181823
Chloride	ND	mg/L		1		E300.0	01/26/23 14:52 / ljs		IC METROHM_230125A : 90		R181878
Sulfate	ND	mg/L		1		E300.0	01/26/23 14:52 / ljs		IC METROHM_230125A : 90		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 14:52 / ljs		IC METROHM_230125A : 90		R181878
Fluoride	ND	mg/L		0.1		E300.0	01/26/23 14:52 / ljs		IC METROHM_230125A : 90		R181878
Hardness as CaCO3	ND	mg/L		1		A2340 B	01/24/23 00:35 / SR		CALC_230201A : 410		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	01/27/23 03:38 / eli-c		SUB-C291699 : 50		C_R291699
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	01/26/23 06:54 / eli-c		SUB-C291646 : 54		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	01/26/23 16:09 / JAR		FIA203-HE_230126A : 74		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/24/23 00:35 / dck		ICPMS205-H_230123B : 104		R181803
Antimony	ND	mg/L		0.0005		E200.8	01/24/23 00:35 / dck		ICPMS205-H_230123B : 104		R181803
Arsenic	ND	mg/L		0.001		E200.8	01/24/23 00:35 / dck		ICPMS205-H_230123B : 104		R181803
Barium	ND	mg/L		0.003		E200.8	01/24/23 00:35 / dck		ICPMS205-H_230123B : 104		R181803
Beryllium	ND	mg/L		0.0008		E200.8	01/24/23 00:35 / dck		ICPMS205-H_230123B : 104		R181803
Boron	ND	mg/L		0.05		E200.7	01/24/23 17:02 / slj		ICP2-HE_230124B : 133		R181807
Cadmium	ND	mg/L		0.00003		E200.8	01/24/23 00:35 / dck		ICPMS205-H_230123B : 104		R181803
Cesium	ND	mg/L		0.01		E200.8	01/25/23 17:45 / dck		ICPMS205-H_230125A : 72		R181863

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** D - Reporting Limit (RL) increased due to sample matrix

H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-2  
**Lab ID:** H23010433-036  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/20/23 12:15  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	ND	mg/L		1		E200.8	01/24/23 00:35 / dck		ICPMS205-H_230123B : 104		R181803
Chromium	ND	mg/L		0.005		E200.8	01/24/23 00:35 / dck		ICPMS205-H_230123B : 104		R181803
Cobalt	ND	mg/L		0.005		E200.8	01/24/23 00:35 / dck		ICPMS205-H_230123B : 104		R181803
Copper	ND	mg/L		0.002		E200.8	01/24/23 00:35 / dck		ICPMS205-H_230123B : 104		R181803
Gallium	ND	mg/L		0.01		E200.8	01/25/23 17:45 / dck		ICPMS205-H_230125A : 72		R181863
Iron	ND	mg/L		0.02		E200.8	01/24/23 00:35 / dck		ICPMS205-H_230123B : 104		R181803
Lead	ND	mg/L		0.0003		E200.8	01/24/23 00:35 / dck		ICPMS205-H_230123B : 104		R181803
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 17:45 / dck		ICPMS205-H_230125A : 72		R181863
Lithium	ND	mg/L		0.1		E200.8	01/24/23 00:35 / dck		ICPMS205-H_230123B : 104		R181803
Magnesium	ND	mg/L		1		E200.8	01/24/23 00:35 / dck		ICPMS205-H_230123B : 104		R181803
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 17:45 / dck		ICPMS205-H_230125A : 72		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 17:45 / dck		ICPMS205-H_230125A : 72		R181863
Manganese	ND	mg/L		0.001		E200.8	01/26/23 20:26 / dck		ICPMS205-H_230126B : 71		R181895
Molybdenum	ND	mg/L		0.001		E200.8	01/24/23 00:35 / dck		ICPMS205-H_230123B : 104		R181803
Nickel	ND	mg/L		0.002		E200.8	01/24/23 00:35 / dck		ICPMS205-H_230123B : 104		R181803
Palladium	ND	mg/L		0.01		E200.8	01/25/23 17:45 / dck		ICPMS205-H_230125A : 72		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 17:45 / dck		ICPMS205-H_230125A : 72		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 17:45 / dck		ICPMS205-H_230125A : 72		R181863
Potassium	ND	mg/L		1		E200.8	01/24/23 00:35 / dck		ICPMS205-H_230123B : 104		R181803
Selenium	ND	mg/L		0.001		E200.8	01/24/23 00:35 / dck		ICPMS205-H_230123B : 104		R181803
Silver	ND	mg/L		0.0002		E200.8	01/24/23 00:35 / dck		ICPMS205-H_230123B : 104		R181803
Sodium	ND	mg/L		1		E200.8	01/24/23 00:35 / dck		ICPMS205-H_230123B : 104		R181803
Strontium	ND	mg/L		0.01		E200.8	01/24/23 00:35 / dck		ICPMS205-H_230123B : 104		R181803
Thallium	ND	mg/L		0.0002		E200.8	01/24/23 00:35 / dck		ICPMS205-H_230123B : 104		R181803
Thorium	ND	mg/L		0.005		E200.8	01/24/23 00:35 / dck		ICPMS205-H_230123B : 104		R181803
Tin	ND	mg/L		0.05		E200.8	01/24/23 00:35 / dck		ICPMS205-H_230123B : 104		R181803
Titanium	ND	mg/L		0.005		E200.8	01/24/23 00:35 / dck		ICPMS205-H_230123B : 104		R181803
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 17:45 / dck		ICPMS205-H_230125A : 72		R181863
Uranium	ND	mg/L		0.0002		E200.8	01/24/23 00:35 / dck		ICPMS205-H_230123B : 104		R181803
Vanadium	ND	mg/L		0.01		E200.8	01/24/23 00:35 / dck		ICPMS205-H_230123B : 104		R181803
Zinc	ND	mg/L		0.008		E200.8	01/26/23 20:26 / dck		ICPMS205-H_230126B : 71		R181895
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 17:45 / dck		ICPMS205-H_230125A : 72		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-2  
**Lab ID:** H23010433-036  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/20/23 12:15  
**DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-100	%				A1030 E	02/01/23 08:11 / SR		CALC_230201A : 408		R181986
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD108  
**Lab ID:** H23010433-037  
**Matrix:** Surface Water

**Project:** NRDP02 T08  
**Collection Date:** 01/17/23 10:30  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.0	s.u.	H	0.1		A4500-H B	01/23/23 12:34 / ljs		PHSC_101-H_230123A : 88		R181770
pH Measurement Temp	17.2	°C				A4500-H B	01/23/23 12:34 / ljs		PHSC_101-H_230123A : 88		R181770
Conductivity @ 25 C	1530	umhos/cm		5		A2510 B	01/23/23 12:34 / ljs		PHSC_101-H_230123A : 89		R181770
Solids, Total Dissolved TDS @ 180 C	1220	mg/L	D	20		A2540 C	01/23/23 13:48 / JAR		I24 (14410200)_230123A : 43		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	52	mg/L		4		A2320 B	01/25/23 19:34 / ljs		PHSC_101-H_230125A : 219		R181823
Bicarbonate as HCO3	63	mg/L		4		A2320 B	01/25/23 19:34 / ljs		PHSC_101-H_230125A : 219		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 19:34 / ljs		PHSC_101-H_230125A : 219		R181823
Chloride	144	mg/L		1		E300.0	01/26/23 15:06 / ljs		IC METROHM_230125A : 91		R181878
Sulfate	613	mg/L		1		E300.0	01/26/23 15:06 / ljs		IC METROHM_230125A : 91		R181878
Bromide	ND	mg/L		0.5		E300.0	01/26/23 15:06 / ljs		IC METROHM_230125A : 91		R181878
Fluoride	0.6	mg/L		0.1		E300.0	01/26/23 15:06 / ljs		IC METROHM_230125A : 91		R181878
Hardness as CaCO3	696	mg/L		1		A2340 B	01/24/23 00:38 / SR		CALC_230201A : 421		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.6	mg/L		0.5		A5310 C	01/27/23 03:55 / eli-c		SUB-C291699 : 51		C_R291699
Organic Carbon, Total (TOC)	1.6	mg/L		0.5		A5310 C	01/26/23 07:46 / eli-c		SUB-C291646 : 56		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	1.65	mg/L		0.01		E353.2	01/26/23 16:13 / JAR		FIA203-HE_230126A : 77		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	0.250	mg/L		0.009		E200.8	01/24/23 00:38 / dck		ICPMS205-H_230123B : 105		R181803
Antimony	ND	mg/L		0.0005		E200.8	01/24/23 00:38 / dck		ICPMS205-H_230123B : 105		R181803
Arsenic	0.003	mg/L		0.001		E200.8	01/24/23 00:38 / dck		ICPMS205-H_230123B : 105		R181803
Barium	0.035	mg/L		0.003		E200.8	01/24/23 00:38 / dck		ICPMS205-H_230123B : 105		R181803
Beryllium	ND	mg/L		0.0008		E200.8	01/24/23 00:38 / dck		ICPMS205-H_230123B : 105		R181803
Boron	0.29	mg/L		0.05		E200.7	01/24/23 17:06 / slj		ICP2-HE_230124B : 134		R181807
Cadmium	0.0513	mg/L		0.00003		E200.8	01/24/23 00:38 / dck		ICPMS205-H_230123B : 105		R181803
Cesium	ND	mg/L		0.01		E200.8	01/25/23 17:46 / dck		ICPMS205-H_230125A : 73		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD108  
**Lab ID:** H23010433-037  
**Matrix:** Surface Water

**Project:** NRDP M02 T08  
**Collection Date:** 01/17/23 10:30  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	178	mg/L		1		E200.8	01/24/23 00:38 / dck		ICPMS205-H_230123B : 105		R181803
Chromium	ND	mg/L		0.005		E200.8	01/24/23 00:38 / dck		ICPMS205-H_230123B : 105		R181803
Cobalt	0.063	mg/L		0.005		E200.8	01/24/23 00:38 / dck		ICPMS205-H_230123B : 105		R181803
Copper	2.75	mg/L		0.002		E200.8	01/24/23 00:38 / dck		ICPMS205-H_230123B : 105		R181803
Gallium	ND	mg/L		0.01		E200.8	01/25/23 17:46 / dck		ICPMS205-H_230125A : 73		R181863
Iron	12.1	mg/L		0.02		E200.8	01/24/23 00:38 / dck		ICPMS205-H_230123B : 105		R181803
Lead	0.0005	mg/L		0.0003		E200.8	01/24/23 00:38 / dck		ICPMS205-H_230123B : 105		R181803
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 17:46 / dck		ICPMS205-H_230125A : 73		R181863
Lithium	0.2	mg/L		0.1		E200.8	01/24/23 00:38 / dck		ICPMS205-H_230123B : 105		R181803
Magnesium	61	mg/L		1		E200.8	01/24/23 00:38 / dck		ICPMS205-H_230123B : 105		R181803
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 17:46 / dck		ICPMS205-H_230125A : 73		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 17:46 / dck		ICPMS205-H_230125A : 73		R181863
Manganese	12.9	mg/L		0.001		E200.7	01/24/23 17:06 / slj		ICP2-HE_230124B : 134		R181807
Molybdenum	0.004	mg/L		0.001		E200.8	01/24/23 00:38 / dck		ICPMS205-H_230123B : 105		R181803
Nickel	0.033	mg/L		0.002		E200.8	01/24/23 00:38 / dck		ICPMS205-H_230123B : 105		R181803
Palladium	ND	mg/L		0.01		E200.8	01/25/23 17:46 / dck		ICPMS205-H_230125A : 73		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 17:46 / dck		ICPMS205-H_230125A : 73		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 17:46 / dck		ICPMS205-H_230125A : 73		R181863
Potassium	10	mg/L		1		E200.8	01/24/23 00:38 / dck		ICPMS205-H_230123B : 105		R181803
Selenium	ND	mg/L		0.001		E200.8	01/24/23 00:38 / dck		ICPMS205-H_230123B : 105		R181803
Silver	ND	mg/L		0.0002		E200.8	01/24/23 00:38 / dck		ICPMS205-H_230123B : 105		R181803
Sodium	84	mg/L		1		E200.8	01/24/23 00:38 / dck		ICPMS205-H_230123B : 105		R181803
Strontium	1.39	mg/L		0.01		E200.8	01/24/23 00:38 / dck		ICPMS205-H_230123B : 105		R181803
Thallium	ND	mg/L		0.0002		E200.8	01/24/23 00:38 / dck		ICPMS205-H_230123B : 105		R181803
Thorium	ND	mg/L		0.005		E200.8	01/24/23 00:38 / dck		ICPMS205-H_230123B : 105		R181803
Tin	ND	mg/L		0.05		E200.8	01/24/23 00:38 / dck		ICPMS205-H_230123B : 105		R181803
Titanium	ND	mg/L		0.005		E200.8	01/24/23 00:38 / dck		ICPMS205-H_230123B : 105		R181803
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 17:46 / dck		ICPMS205-H_230125A : 73		R181863
Uranium	0.0057	mg/L		0.0002		E200.8	01/24/23 00:38 / dck		ICPMS205-H_230123B : 105		R181803
Vanadium	ND	mg/L		0.01		E200.8	01/24/23 00:38 / dck		ICPMS205-H_230123B : 105		R181803
Zinc	11.0	mg/L		0.008		E200.7	01/25/23 15:39 / slj		ICP2-HE_230125A : 54		R181835
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 17:46 / dck		ICPMS205-H_230125A : 73		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD108  
**Lab ID:** H23010433-037  
**Matrix:** Surface Water

**Project:** NRDP02 T08  
**Collection Date:** 01/17/23 10:30  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	0.454	mg/L		0.009		E200.8	01/26/23 18:10 / dck	01/23/23 08:40	ICPMS205-H_230126B : 40		65182
Antimony	ND	mg/L		0.0005		E200.8	01/26/23 18:10 / dck	01/23/23 08:40	ICPMS205-H_230126B : 40		65182
Arsenic	0.005	mg/L		0.001		E200.8	01/26/23 18:10 / dck	01/23/23 08:40	ICPMS205-H_230126B : 40		65182
Barium	0.034	mg/L		0.003		E200.8	01/26/23 18:10 / dck	01/23/23 08:40	ICPMS205-H_230126B : 40		65182
Beryllium	ND	mg/L		0.0008		E200.8	01/26/23 18:10 / dck	01/23/23 08:40	ICPMS205-H_230126B : 40		65182
Cesium	ND	mg/L		0.01		E200.8	01/25/23 17:48 / dck	01/23/23 08:40	ICPMS205-H_230125A : 74		65184
Cadmium	0.0496	mg/L		0.00003		E200.8	01/26/23 18:10 / dck	01/23/23 08:40	ICPMS205-H_230126B : 40		65182
Chromium	ND	mg/L		0.005		E200.8	01/26/23 18:10 / dck	01/23/23 08:40	ICPMS205-H_230126B : 40		65182
Cobalt	0.062	mg/L		0.005		E200.8	01/26/23 18:10 / dck	01/23/23 08:40	ICPMS205-H_230126B : 40		65182
Copper	2.91	mg/L	D	0.006		E200.7	01/24/23 12:03 / slj	01/23/23 08:40	ICP2-HE_230124B : 53		65182
Gallium	ND	mg/L		0.01		E200.8	01/25/23 17:48 / dck	01/23/23 08:40	ICPMS205-H_230125A : 74		65184
Iron	12.9	mg/L		0.02		E200.7	01/24/23 12:03 / slj	01/23/23 08:40	ICP2-HE_230124B : 53		65182
Lead	0.0039	mg/L		0.0003		E200.8	01/26/23 18:10 / dck	01/23/23 08:40	ICPMS205-H_230126B : 40		65182
Lanthanum	ND	mg/L		0.1		E200.8	01/25/23 17:48 / dck	01/23/23 08:40	ICPMS205-H_230125A : 74		65184
Lithium	0.3	mg/L		0.1		E200.7	01/24/23 12:03 / slj	01/23/23 08:40	ICP2-HE_230124B : 53		65182
Neodymium	ND	mg/L		0.01		E200.8	01/25/23 17:48 / dck	01/23/23 08:40	ICPMS205-H_230125A : 74		65184
Niobium	ND	mg/L		0.01		E200.8	01/25/23 17:48 / dck	01/23/23 08:40	ICPMS205-H_230125A : 74		65184
Manganese	12.8	mg/L	D	0.002		E200.7	01/24/23 12:03 / slj	01/23/23 08:40	ICP2-HE_230124B : 53		65182
Molybdenum	0.004	mg/L		0.001		E200.8	01/26/23 18:10 / dck	01/23/23 08:40	ICPMS205-H_230126B : 40		65182
Nickel	0.032	mg/L		0.002		E200.8	01/26/23 18:10 / dck	01/23/23 08:40	ICPMS205-H_230126B : 40		65182
Palladium	ND	mg/L		0.01		E200.8	01/25/23 17:48 / dck	01/23/23 08:40	ICPMS205-H_230125A : 74		65184
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 17:48 / dck	01/23/23 08:40	ICPMS205-H_230125A : 74		65184
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 17:48 / dck	01/23/23 08:40	ICPMS205-H_230125A : 74		65184
Selenium	ND	mg/L		0.001		E200.8	01/26/23 18:10 / dck	01/23/23 08:40	ICPMS205-H_230126B : 40		65182
Silver	ND	mg/L		0.0002		E200.8	01/26/23 18:10 / dck	01/23/23 08:40	ICPMS205-H_230126B : 40		65182
Strontium	1.38	mg/L		0.01		E200.7	01/24/23 12:03 / slj	01/23/23 08:40	ICP2-HE_230124B : 53		65182
Thallium	ND	mg/L		0.0002		E200.8	01/26/23 18:10 / dck	01/23/23 08:40	ICPMS205-H_230126B : 40		65182
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 17:48 / dck	01/23/23 08:40	ICPMS205-H_230125A : 74		65184
Tin	ND	mg/L		0.05		E200.8	01/26/23 18:10 / dck	01/23/23 08:40	ICPMS205-H_230126B : 40		65182
Titanium	ND	mg/L		0.005		E200.8	01/26/23 18:10 / dck	01/23/23 08:40	ICPMS205-H_230126B : 40		65182
Thorium	ND	mg/L		0.005		E200.8	01/26/23 18:10 / dck	01/23/23 08:40	ICPMS205-H_230126B : 40		65182
Uranium	0.0066	mg/L		0.0003		E200.8	01/26/23 18:10 / dck	01/23/23 08:40	ICPMS205-H_230126B : 40		65182

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** D - Reporting Limit (RL) increased due to sample matrix





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD108  
**Lab ID:** H23010433-037  
**Matrix:** Surface Water

**Project:** NRDPM02 T08  
**Collection Date:** 01/17/23 10:30  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	01/26/23 18:10 / dck	01/23/23 08:40	ICPMS205-H_230126B : 40		65182
Zinc	10.2	mg/L		0.008		E200.7	01/24/23 12:03 / slj	01/23/23 08:40	ICP2-HE_230124B : 53		65182
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 17:48 / dck	01/23/23 08:40	ICPMS205-H_230125A : 74		65184
<b>DATA QUALITY</b>											
A/C Balance	-0.61	%				A1030 E	02/01/23 08:11 / SR		CALC_230201A : 419		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD113  
**Lab ID:** H23010433-038  
**Matrix:** Surface Water

**Project:** NRDP02 T08  
**Collection Date:** 01/17/23 11:40  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.0	s.u.	H	0.1		A4500-H B	01/23/23 12:36 / ljs		PHSC_101-H_230123A : 90		R181770
pH Measurement Temp	17.4	°C				A4500-H B	01/23/23 12:36 / ljs		PHSC_101-H_230123A : 90		R181770
Conductivity @ 25 C	3060	umhos/cm		5		A2510 B	01/23/23 12:36 / ljs		PHSC_101-H_230123A : 91		R181770
Solids, Total Dissolved TDS @ 180 C	2420	mg/L	D	50		A2540 C	01/23/23 13:49 / JAR		I24 (14410200)_230123A : 44		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	01/25/23 19:41 / ljs		PHSC_101-H_230125A : 221		R181823
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	01/25/23 19:41 / ljs		PHSC_101-H_230125A : 221		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 19:41 / ljs		PHSC_101-H_230125A : 221		R181823
Chloride	522	mg/L		1		E300.0	01/26/23 15:21 / ljs		IC METROHM_230125A : 92		R181878
Sulfate	973	mg/L		1		E300.0	01/26/23 15:21 / ljs		IC METROHM_230125A : 92		R181878
Bromide	1.5	mg/L		0.5		E300.0	01/26/23 15:21 / ljs		IC METROHM_230125A : 92		R181878
Fluoride	1.0	mg/L		0.1		E300.0	01/26/23 15:21 / ljs		IC METROHM_230125A : 92		R181878
Hardness as CaCO3	1110	mg/L		1		A2340 B	01/24/23 00:40 / SR		CALC_230201A : 982		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.3	mg/L		0.5		A5310 C	01/27/23 04:14 / eli-c		SUB-C291699 : 52		C_R291699
Organic Carbon, Total (TOC)	2.5	mg/L		0.5		A5310 C	01/26/23 08:41 / eli-c		SUB-C291646 : 59		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.08	mg/L		0.01		E353.2	02/02/23 11:27 / JAR		FIA203-HE_230202A : 16		R182042
<b>METALS, DISSOLVED</b>											
Aluminum	2.08	mg/L		0.009		E200.8	01/24/23 00:40 / dck		ICPMS205-H_230123B : 106		R181803
Antimony	ND	mg/L		0.0005		E200.8	01/24/23 00:40 / dck		ICPMS205-H_230123B : 106		R181803
Arsenic	0.018	mg/L		0.001		E200.8	01/24/23 00:40 / dck		ICPMS205-H_230123B : 106		R181803
Barium	0.085	mg/L		0.003		E200.8	01/24/23 00:40 / dck		ICPMS205-H_230123B : 106		R181803
Beryllium	0.0019	mg/L		0.0008		E200.8	01/24/23 00:40 / dck		ICPMS205-H_230123B : 106		R181803
Boron	0.59	mg/L		0.05		E200.7	01/24/23 17:09 / slj		ICP2-HE_230124B : 135		R181807
Cadmium	0.195	mg/L		0.00003		E200.8	01/24/23 00:40 / dck		ICPMS205-H_230123B : 106		R181803
Cesium	ND	mg/L		0.01		E200.8	01/25/23 17:49 / dck		ICPMS205-H_230125A : 75		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD113  
**Lab ID:** H23010433-038  
**Matrix:** Surface Water

**Project:** NRDPM02 T08  
**Collection Date:** 01/17/23 11:40  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	262	mg/L		1		E200.8	01/24/23 00:40 / dck		ICPMS205-H_230123B : 106		R181803
Chromium	ND	mg/L		0.005		E200.8	01/24/23 00:40 / dck		ICPMS205-H_230123B : 106		R181803
Cobalt	0.278	mg/L		0.005		E200.8	01/24/23 00:40 / dck		ICPMS205-H_230123B : 106		R181803
Copper	13.0	mg/L	D	0.02		E200.7	01/24/23 17:09 / slj		ICP2-HE_230124B : 135		R181807
Gallium	ND	mg/L		0.01		E200.8	01/25/23 17:49 / dck		ICPMS205-H_230125A : 75		R181863
Iron	72.8	mg/L		0.02		E200.7	01/24/23 17:09 / slj		ICP2-HE_230124B : 135		R181807
Lead	0.0143	mg/L		0.0003		E200.8	01/24/23 00:40 / dck		ICPMS205-H_230123B : 106		R181803
Lanthanum	0.02	mg/L		0.01		E200.8	01/25/23 17:49 / dck		ICPMS205-H_230125A : 75		R181863
Lithium	0.6	mg/L		0.1		E200.8	01/24/23 00:40 / dck		ICPMS205-H_230123B : 106		R181803
Magnesium	109	mg/L		1		E200.8	01/24/23 00:40 / dck		ICPMS205-H_230123B : 106		R181803
Neodymium	0.014	mg/L		0.005		E200.8	01/25/23 17:49 / dck		ICPMS205-H_230125A : 75		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 17:49 / dck		ICPMS205-H_230125A : 75		R181863
Manganese	47.9	mg/L	D	0.003		E200.7	01/24/23 17:09 / slj		ICP2-HE_230124B : 135		R181807
Molybdenum	0.004	mg/L		0.001		E200.8	01/24/23 00:40 / dck		ICPMS205-H_230123B : 106		R181803
Nickel	0.108	mg/L		0.002		E200.8	01/24/23 00:40 / dck		ICPMS205-H_230123B : 106		R181803
Palladium	ND	mg/L		0.01		E200.8	01/25/23 17:49 / dck		ICPMS205-H_230125A : 75		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 17:49 / dck		ICPMS205-H_230125A : 75		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 17:49 / dck		ICPMS205-H_230125A : 75		R181863
Potassium	12	mg/L		1		E200.8	01/24/23 00:40 / dck		ICPMS205-H_230123B : 106		R181803
Selenium	ND	mg/L		0.001		E200.8	01/24/23 00:40 / dck		ICPMS205-H_230123B : 106		R181803
Silver	ND	mg/L		0.0002		E200.8	01/24/23 00:40 / dck		ICPMS205-H_230123B : 106		R181803
Sodium	209	mg/L		1		E200.8	01/24/23 00:40 / dck		ICPMS205-H_230123B : 106		R181803
Strontium	1.59	mg/L		0.01		E200.8	01/24/23 00:40 / dck		ICPMS205-H_230123B : 106		R181803
Thallium	ND	mg/L		0.0002		E200.8	01/24/23 00:40 / dck		ICPMS205-H_230123B : 106		R181803
Thorium	ND	mg/L		0.005		E200.8	01/24/23 00:40 / dck		ICPMS205-H_230123B : 106		R181803
Tin	ND	mg/L		0.05		E200.8	01/24/23 00:40 / dck		ICPMS205-H_230123B : 106		R181803
Titanium	ND	mg/L		0.005		E200.8	01/24/23 00:40 / dck		ICPMS205-H_230123B : 106		R181803
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 17:49 / dck		ICPMS205-H_230125A : 75		R181863
Uranium	0.0153	mg/L		0.0002		E200.8	01/24/23 00:40 / dck		ICPMS205-H_230123B : 106		R181803
Vanadium	ND	mg/L		0.01		E200.8	01/24/23 00:40 / dck		ICPMS205-H_230123B : 106		R181803
Zinc	41.5	mg/L		0.008		E200.7	01/25/23 15:47 / slj		ICP2-HE_230125A : 56		R181835
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 17:49 / dck		ICPMS205-H_230125A : 75		R181863

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** D - Reporting Limit (RL) increased due to sample matrix



**LABORATORY ANALYTICAL REPORT**

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD113  
**Lab ID:** H23010433-038  
**Matrix:** Surface Water

**Project:** NRDP02 T08  
**Collection Date:** 01/17/23 11:40  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	2.63	mg/L		0.009		E200.8	01/26/23 18:13 / dck	01/23/23 08:40	ICPMS205-H_230126B : 41		65182
Antimony	ND	mg/L		0.0005		E200.8	01/26/23 18:13 / dck	01/23/23 08:40	ICPMS205-H_230126B : 41		65182
Arsenic	0.021	mg/L		0.001		E200.8	01/26/23 18:13 / dck	01/23/23 08:40	ICPMS205-H_230126B : 41		65182
Barium	0.086	mg/L		0.003		E200.8	01/26/23 18:13 / dck	01/23/23 08:40	ICPMS205-H_230126B : 41		65182
Beryllium	0.0022	mg/L		0.0008		E200.8	01/26/23 18:13 / dck	01/23/23 08:40	ICPMS205-H_230126B : 41		65182
Cesium	ND	mg/L		0.01		E200.8	01/25/23 17:51 / dck	01/23/23 09:20	ICPMS205-H_230125A : 76		65184
Cadmium	0.199	mg/L		0.00003		E200.8	01/26/23 18:13 / dck	01/23/23 08:40	ICPMS205-H_230126B : 41		65182
Chromium	ND	mg/L		0.005		E200.8	01/26/23 18:13 / dck	01/23/23 08:40	ICPMS205-H_230126B : 41		65182
Cobalt	0.291	mg/L		0.005		E200.8	01/26/23 18:13 / dck	01/23/23 08:40	ICPMS205-H_230126B : 41		65182
Copper	13.3	mg/L	D	0.01		E200.7	01/24/23 12:07 / slj	01/23/23 08:40	ICP2-HE_230124B : 54		65182
Gallium	ND	mg/L		0.01		E200.8	01/25/23 17:51 / dck	01/23/23 09:20	ICPMS205-H_230125A : 76		65184
Iron	73.4	mg/L	D	0.04		E200.7	01/24/23 12:07 / slj	01/23/23 08:40	ICP2-HE_230124B : 54		65182
Lead	0.0169	mg/L		0.0003		E200.8	01/26/23 18:13 / dck	01/23/23 08:40	ICPMS205-H_230126B : 41		65182
Lanthanum	ND	mg/L		0.1		E200.8	01/25/23 17:51 / dck	01/23/23 09:20	ICPMS205-H_230125A : 76		65184
Lithium	0.7	mg/L		0.1		E200.7	01/24/23 12:07 / slj	01/23/23 08:40	ICP2-HE_230124B : 54		65182
Neodymium	0.01	mg/L		0.01		E200.8	01/25/23 17:51 / dck	01/23/23 09:20	ICPMS205-H_230125A : 76		65184
Niobium	ND	mg/L		0.01		E200.8	01/25/23 17:51 / dck	01/23/23 09:20	ICPMS205-H_230125A : 76		65184
Manganese	47.9	mg/L	D	0.004		E200.7	01/24/23 12:07 / slj	01/23/23 08:40	ICP2-HE_230124B : 54		65182
Molybdenum	0.004	mg/L		0.001		E200.8	01/26/23 18:13 / dck	01/23/23 08:40	ICPMS205-H_230126B : 41		65182
Nickel	0.114	mg/L		0.002		E200.8	01/26/23 18:13 / dck	01/23/23 08:40	ICPMS205-H_230126B : 41		65182
Palladium	ND	mg/L		0.01		E200.8	01/25/23 17:51 / dck	01/23/23 09:20	ICPMS205-H_230125A : 76		65184
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 17:51 / dck	01/23/23 09:20	ICPMS205-H_230125A : 76		65184
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 17:51 / dck	01/23/23 09:20	ICPMS205-H_230125A : 76		65184
Selenium	ND	mg/L		0.001		E200.8	01/26/23 18:13 / dck	01/23/23 08:40	ICPMS205-H_230126B : 41		65182
Silver	0.0003	mg/L		0.0002		E200.8	01/26/23 18:13 / dck	01/23/23 08:40	ICPMS205-H_230126B : 41		65182
Strontium	1.64	mg/L		0.01		E200.7	01/24/23 12:07 / slj	01/23/23 08:40	ICP2-HE_230124B : 54		65182
Thallium	ND	mg/L		0.0002		E200.8	01/26/23 18:13 / dck	01/23/23 08:40	ICPMS205-H_230126B : 41		65182
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 17:51 / dck	01/23/23 09:20	ICPMS205-H_230125A : 76		65184
Tin	ND	mg/L		0.05		E200.8	01/26/23 18:13 / dck	01/23/23 08:40	ICPMS205-H_230126B : 41		65182
Titanium	ND	mg/L		0.005		E200.8	01/26/23 18:13 / dck	01/23/23 08:40	ICPMS205-H_230126B : 41		65182
Thorium	ND	mg/L		0.005		E200.8	01/26/23 18:13 / dck	01/23/23 08:40	ICPMS205-H_230126B : 41		65182
Uranium	0.0173	mg/L		0.0003		E200.8	01/26/23 18:13 / dck	01/23/23 08:40	ICPMS205-H_230126B : 41		65182

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** D - Reporting Limit (RL) increased due to sample matrix



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD113  
**Lab ID:** H23010433-038  
**Matrix:** Surface Water

**Project:** NRDPM02 T08  
**Collection Date:** 01/17/23 11:40 **DateReceived:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	01/26/23 18:13 / dck	01/23/23 08:40	ICPMS205-H_230126B : 41		65182
Zinc	40.3	mg/L		0.008		E200.7	01/24/23 12:07 / slj	01/23/23 08:40	ICP2-HE_230124B : 54		65182
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 17:51 / dck	01/23/23 09:20	ICPMS205-H_230125A : 76		65184
<b>DATA QUALITY</b>											
A/C Balance	2.25	%				A1030 E	02/01/23 08:29 / SR		CALC_230201A : 980		R181986
Cation/Anion Balance includes selected metals											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD116  
**Lab ID:** H23010433-039  
**Matrix:** Surface Water

**Project:** NRDP02 T08  
**Collection Date:** 01/17/23 12:10  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.2	s.u.	H	0.1		A4500-H B	01/23/23 12:39 / ljs		PHSC_101-H_230123A : 92		R181770
pH Measurement Temp	17.6	°C				A4500-H B	01/23/23 12:39 / ljs		PHSC_101-H_230123A : 92		R181770
Conductivity @ 25 C	3910	umhos/cm		5		A2510 B	01/23/23 12:39 / ljs		PHSC_101-H_230123A : 93		R181770
Solids, Total Dissolved TDS @ 180 C	4180	mg/L	D	100		A2540 C	01/23/23 13:49 / JAR		I24 (14410200)_230123A : 45		TDS230123A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	01/25/23 19:46 / ljs		PHSC_101-H_230125A : 223		R181823
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	01/25/23 19:46 / ljs		PHSC_101-H_230125A : 223		R181823
Carbonate as CO3	ND	mg/L		4		A2320 B	01/25/23 19:46 / ljs		PHSC_101-H_230125A : 223		R181823
Chloride	316	mg/L		1		E300.0	01/26/23 15:35 / ljs		IC METROHM_230125A : 93		R181878
Sulfate	2400	mg/L		1		E300.0	01/26/23 15:35 / ljs		IC METROHM_230125A : 93		R181878
Bromide	0.9	mg/L		0.5		E300.0	01/26/23 15:35 / ljs		IC METROHM_230125A : 93		R181878
Fluoride	2.7	mg/L		0.1		E300.0	01/26/23 15:35 / ljs		IC METROHM_230125A : 93		R181878
Hardness as CaCO3	1540	mg/L		1		A2340 B	01/24/23 00:43 / SR		CALC_230201A : 993		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.4	mg/L		0.5		A5310 C	01/27/23 04:44 / eli-c		SUB-C291699 : 53		C_R291699
Organic Carbon, Total (TOC)	2.5	mg/L		0.5		A5310 C	01/26/23 09:03 / eli-c		SUB-C291646 : 60		C_R291646
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	01/26/23 16:15 / JAR		FIA203-HE_230126A : 79		R181885
<b>METALS, DISSOLVED</b>											
Aluminum	4.01	mg/L		0.009		E200.8	01/24/23 00:43 / dck		ICPMS205-H_230123B : 107		R181803
Antimony	ND	mg/L		0.0005		E200.8	01/24/23 00:43 / dck		ICPMS205-H_230123B : 107		R181803
Arsenic	0.026	mg/L		0.001		E200.8	01/24/23 00:43 / dck		ICPMS205-H_230123B : 107		R181803
Barium	0.022	mg/L		0.003		E200.8	01/24/23 00:43 / dck		ICPMS205-H_230123B : 107		R181803
Beryllium	0.0045	mg/L		0.0008		E200.8	01/24/23 00:43 / dck		ICPMS205-H_230123B : 107		R181803
Boron	0.43	mg/L		0.05		E200.7	01/24/23 17:13 / slj		ICP2-HE_230124B : 136		R181807
Cadmium	0.797	mg/L		0.00003		E200.8	01/24/23 00:43 / dck		ICPMS205-H_230123B : 107		R181803
Cesium	ND	mg/L		0.01		E200.8	01/25/23 18:04 / dck		ICPMS205-H_230125A : 85		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD116  
**Lab ID:** H23010433-039  
**Matrix:** Surface Water

**Project:** NRDP M02 T08  
**Collection Date:** 01/17/23 12:10  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	398	mg/L		1		E200.8	01/24/23 00:43 / dck		ICPMS205-H_230123B : 107		R181803
Chromium	ND	mg/L		0.005		E200.8	01/24/23 00:43 / dck		ICPMS205-H_230123B : 107		R181803
Cobalt	0.846	mg/L		0.005		E200.8	01/24/23 00:43 / dck		ICPMS205-H_230123B : 107		R181803
Copper	40.0	mg/L	D	0.06		E200.7	01/24/23 17:13 / slj		ICP2-HE_230124B : 136		R181807
Gallium	ND	mg/L		0.01		E200.8	01/25/23 18:04 / dck		ICPMS205-H_230125A : 85		R181863
Iron	312	mg/L	D	0.04		E200.7	01/24/23 17:13 / slj		ICP2-HE_230124B : 136		R181807
Lead	0.0327	mg/L		0.0003		E200.8	01/24/23 00:43 / dck		ICPMS205-H_230123B : 107		R181803
Lanthanum	0.05	mg/L		0.01		E200.8	01/25/23 18:04 / dck		ICPMS205-H_230125A : 85		R181863
Lithium	0.6	mg/L		0.1		E200.8	01/24/23 00:43 / dck		ICPMS205-H_230123B : 107		R181803
Magnesium	133	mg/L		1		E200.8	01/24/23 00:43 / dck		ICPMS205-H_230123B : 107		R181803
Neodymium	0.026	mg/L		0.005		E200.8	01/25/23 18:04 / dck		ICPMS205-H_230125A : 85		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 18:04 / dck		ICPMS205-H_230125A : 85		R181863
Manganese	140	mg/L	D	0.007		E200.7	01/24/23 17:13 / slj		ICP2-HE_230124B : 136		R181807
Molybdenum	ND	mg/L		0.001		E200.8	01/24/23 00:43 / dck		ICPMS205-H_230123B : 107		R181803
Nickel	0.348	mg/L		0.002		E200.8	01/24/23 00:43 / dck		ICPMS205-H_230123B : 107		R181803
Palladium	ND	mg/L		0.01		E200.8	01/25/23 18:04 / dck		ICPMS205-H_230125A : 85		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 18:04 / dck		ICPMS205-H_230125A : 85		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 18:04 / dck		ICPMS205-H_230125A : 85		R181863
Potassium	15	mg/L		1		E200.8	01/24/23 00:43 / dck		ICPMS205-H_230123B : 107		R181803
Selenium	ND	mg/L		0.001		E200.8	01/24/23 00:43 / dck		ICPMS205-H_230123B : 107		R181803
Silver	ND	mg/L		0.0002		E200.8	01/24/23 00:43 / dck		ICPMS205-H_230123B : 107		R181803
Sodium	122	mg/L		1		E200.8	01/24/23 00:43 / dck		ICPMS205-H_230123B : 107		R181803
Strontium	2.43	mg/L		0.01		E200.8	01/24/23 00:43 / dck		ICPMS205-H_230123B : 107		R181803
Thallium	ND	mg/L		0.0002		E200.8	01/24/23 00:43 / dck		ICPMS205-H_230123B : 107		R181803
Thorium	ND	mg/L		0.005		E200.8	01/24/23 00:43 / dck		ICPMS205-H_230123B : 107		R181803
Tin	ND	mg/L		0.05		E200.8	01/24/23 00:43 / dck		ICPMS205-H_230123B : 107		R181803
Titanium	ND	mg/L		0.005		E200.8	01/24/23 00:43 / dck		ICPMS205-H_230123B : 107		R181803
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 18:04 / dck		ICPMS205-H_230125A : 85		R181863
Uranium	0.0138	mg/L		0.0002		E200.8	01/24/23 00:43 / dck		ICPMS205-H_230123B : 107		R181803
Vanadium	ND	mg/L		0.01		E200.8	01/24/23 00:43 / dck		ICPMS205-H_230123B : 107		R181803
Zinc	166	mg/L	D	0.01		E200.7	01/25/23 15:54 / slj		ICP2-HE_230125A : 58		R181835
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 18:04 / dck		ICPMS205-H_230125A : 85		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

D - Reporting Limit (RL) increased due to sample matrix





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD116  
**Lab ID:** H23010433-039  
**Matrix:** Surface Water

**Project:** NRDP02 T08  
**Collection Date:** 01/17/23 12:10  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	4.46	mg/L		0.009		E200.8	01/26/23 18:15 / dck	01/23/23 08:40	ICPMS205-H_230126B : 42		65182
Antimony	ND	mg/L		0.0005		E200.8	01/26/23 18:15 / dck	01/23/23 08:40	ICPMS205-H_230126B : 42		65182
Arsenic	0.026	mg/L		0.001		E200.8	01/26/23 18:15 / dck	01/23/23 08:40	ICPMS205-H_230126B : 42		65182
Barium	0.023	mg/L		0.003		E200.8	01/26/23 18:15 / dck	01/23/23 08:40	ICPMS205-H_230126B : 42		65182
Beryllium	0.0048	mg/L		0.0008		E200.8	01/26/23 18:15 / dck	01/23/23 08:40	ICPMS205-H_230126B : 42		65182
Cesium	ND	mg/L		0.01		E200.8	01/25/23 18:06 / dck	01/23/23 09:20	ICPMS205-H_230125A : 86		65184
Cadmium	0.824	mg/L		0.00003		E200.8	01/26/23 18:15 / dck	01/23/23 08:40	ICPMS205-H_230126B : 42		65182
Chromium	ND	mg/L		0.005		E200.8	01/26/23 18:15 / dck	01/23/23 08:40	ICPMS205-H_230126B : 42		65182
Cobalt	0.847	mg/L		0.005		E200.8	01/26/23 18:15 / dck	01/23/23 08:40	ICPMS205-H_230126B : 42		65182
Copper	40.3	mg/L	D	0.01		E200.7	01/24/23 12:32 / slj	01/23/23 08:40	ICP2-HE_230124B : 61		65182
Gallium	ND	mg/L		0.01		E200.8	01/25/23 18:06 / dck	01/23/23 09:20	ICPMS205-H_230125A : 86		65184
Iron	309	mg/L	D	0.04		E200.7	01/24/23 12:32 / slj	01/23/23 08:40	ICP2-HE_230124B : 61		65182
Lead	0.0342	mg/L		0.0003		E200.8	01/26/23 18:15 / dck	01/23/23 08:40	ICPMS205-H_230126B : 42		65182
Lanthanum	ND	mg/L		0.1		E200.8	01/25/23 18:06 / dck	01/23/23 09:20	ICPMS205-H_230125A : 86		65184
Lithium	0.7	mg/L		0.1		E200.8	01/26/23 18:15 / dck	01/23/23 08:40	ICPMS205-H_230126B : 42		65182
Neodymium	0.03	mg/L		0.01		E200.8	01/25/23 18:06 / dck	01/23/23 09:20	ICPMS205-H_230125A : 86		65184
Niobium	ND	mg/L		0.01		E200.8	01/25/23 18:06 / dck	01/23/23 09:20	ICPMS205-H_230125A : 86		65184
Manganese	136	mg/L	D	0.004		E200.7	01/24/23 12:32 / slj	01/23/23 08:40	ICP2-HE_230124B : 61		65182
Molybdenum	ND	mg/L		0.001		E200.8	01/26/23 18:15 / dck	01/23/23 08:40	ICPMS205-H_230126B : 42		65182
Nickel	0.354	mg/L		0.002		E200.8	01/26/23 18:15 / dck	01/23/23 08:40	ICPMS205-H_230126B : 42		65182
Palladium	ND	mg/L		0.01		E200.8	01/25/23 18:06 / dck	01/23/23 09:20	ICPMS205-H_230125A : 86		65184
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 18:06 / dck	01/23/23 09:20	ICPMS205-H_230125A : 86		65184
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 18:06 / dck	01/23/23 09:20	ICPMS205-H_230125A : 86		65184
Selenium	ND	mg/L		0.001		E200.8	01/26/23 18:15 / dck	01/23/23 08:40	ICPMS205-H_230126B : 42		65182
Silver	0.0003	mg/L		0.0002		E200.8	01/26/23 18:15 / dck	01/23/23 08:40	ICPMS205-H_230126B : 42		65182
Strontium	2.56	mg/L		0.01		E200.7	01/24/23 12:32 / slj	01/23/23 08:40	ICP2-HE_230124B : 61		65182
Thallium	ND	mg/L		0.0002		E200.8	01/26/23 18:15 / dck	01/23/23 08:40	ICPMS205-H_230126B : 42		65182
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 18:06 / dck	01/23/23 09:20	ICPMS205-H_230125A : 86		65184
Tin	ND	mg/L		0.05		E200.8	01/26/23 18:15 / dck	01/23/23 08:40	ICPMS205-H_230126B : 42		65182
Titanium	ND	mg/L		0.005		E200.8	01/26/23 18:15 / dck	01/23/23 08:40	ICPMS205-H_230126B : 42		65182
Thorium	ND	mg/L		0.005		E200.8	01/26/23 18:15 / dck	01/23/23 08:40	ICPMS205-H_230126B : 42		65182
Uranium	0.0152	mg/L		0.0003		E200.8	01/26/23 18:15 / dck	01/23/23 08:40	ICPMS205-H_230126B : 42		65182

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** D - Reporting Limit (RL) increased due to sample matrix



**LABORATORY ANALYTICAL REPORT**

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD116  
**Lab ID:** H23010433-039  
**Matrix:** Surface Water

**Project:** NRDPM02 T08  
**Collection Date:** 01/17/23 12:10  
**Date Received:** 01/20/23  
**Report Date:** 02/21/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	01/26/23 18:15 / dck	01/23/23 08:40	ICPMS205-H_230126B : 42		65182
Zinc	144	mg/L		0.008		E200.7	01/24/23 12:32 / slj	01/23/23 08:40	ICP2-HE_230124B : 61		65182
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 18:06 / dck	01/23/23 09:20	ICPMS205-H_230125A : 86		65184
<b>DATA QUALITY</b>											
A/C Balance	-2.73	%				A1030 E	02/01/23 08:30 / SR		CALC_230201A : 991		R181986
Cation/Anion Balance includes selected metals											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** 65182

**Date:** 21-Feb-23

Run ID :Run Order: <b>ICP2-HE_230124B: 36</b>		SampType: <b>Method Blank</b>			Lab ID: <b>MB-65182</b>				Method: <b>E200.7</b>		
Analysis Date: <b>01/24/23 10:59</b>		Units: <b>mg/L</b>			Prep Info: Prep Date: <b>1/23/2023</b>				Prep Method: <b>E200.2</b>		
Analytes <b>6</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	ND	0.006									
Iron	ND	0.02									
Lithium	ND	0.003									
Manganese	ND	0.002									
Strontium	ND	0.0003									
Zinc	ND	0.004									

Associated samples: **H23010433-037F, H23010433-038F, H23010433-039F**

Run ID :Run Order: <b>ICP2-HE_230124B: 37</b>		SampType: <b>Laboratory Control Sample</b>			Lab ID: <b>LCS-65182</b>				Method: <b>E200.7</b>		
Analysis Date: <b>01/24/23 11:03</b>		Units: <b>mg/L</b>			Prep Info: Prep Date: <b>1/23/2023</b>				Prep Method: <b>E200.2</b>		
Analytes <b>6</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.517	0.0057	0.5	0	<b>103</b>	85	115				
Iron	2.43	0.020	2.5	0	<b>97</b>	85	115				
Lithium	0.559	0.10	0.5	0	<b>112</b>	85	115				
Manganese	2.43	0.0018	2.5	0	<b>97</b>	85	115				
Strontium	0.526	0.010	0.5	0	<b>105</b>	85	115				
Zinc	0.484	0.010	0.5	0	<b>97</b>	85	115				

Associated samples: **H23010433-037F, H23010433-038F, H23010433-039F**

Run ID :Run Order: <b>ICP2-HE_230124B: 55</b>		SampType: <b>Serial Dilution</b>			Lab ID: <b>H23010433-038FDIL</b>				Method: <b>E200.7</b>		
Analysis Date: <b>01/24/23 12:11</b>		Units: <b>mg/L</b>			Prep Info: Prep Date: <b>1/23/2023</b>				Prep Method:		
Analytes <b>6</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	13.3	0.057		0		0	0	13.29	<b>0.4</b>	10	
Iron	76.5	0.18		0		0	0	73.37	<b>4.2</b>	10	
Lithium	0.687	0.10		0		0	0	0.697	<b>1.4</b>	10	
Manganese	49.7	0.018		0		0	0	47.92	<b>3.6</b>	10	
Strontium	1.67	0.010		0		0	0	1.644	<b>1.8</b>	10	
Zinc	41.3	0.040		0		0	0	40.27	<b>2.6</b>	10	

Associated samples: **H23010433-037F, H23010433-038F, H23010433-039F**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** 65182

**Date:** 21-Feb-23

Run ID :Run Order: ICP2-HE_230124B: 57	SampType: Sample Matrix Spike				Lab ID: H23010433-038FMS3				Method: E200.7		
Analysis Date: 01/24/23 12:18	Units: mg/L				Prep Info: Prep Date: 1/23/2023				Prep Method: E200.2		
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	13.8	0.011	0.5	13.29		70	130				A
Iron	75.8	0.037	2.5	73.37		70	130				A
Lithium	1.26	0.10	0.5	0.697	113	70	130				
Manganese	50.1	0.0036	2.5	47.92		70	130				A
Strontium	2.16	0.010	0.5	1.644	103	70	130				
Zinc	40.3	0.010	0.5	40.27		70	130				A

Associated samples: H23010433-037F, H23010433-038F, H23010433-039F

Run ID :Run Order: ICP2-HE_230124B: 60	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010433-038FMSD3				Method: E200.7		
Analysis Date: 01/24/23 12:29	Units: mg/L				Prep Info: Prep Date: 1/23/2023				Prep Method: E200.2		
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	13.8	0.011	0.5	13.29		70	130	13.8	0.3	20	A
Iron	76.3	0.037	2.5	73.37		70	130	75.79	0.6	20	A
Lithium	1.23	0.10	0.5	0.697	106	70	130	1.264	3.0	20	
Manganese	50.4	0.0036	2.5	47.92		70	130	50.14	0.5	20	A
Strontium	2.15	0.010	0.5	1.644	102	70	130	2.158	0.2	20	
Zinc	40.4	0.010	0.5	40.27		70	130	40.28	0.4	20	A

Associated samples: H23010433-037F, H23010433-038F, H23010433-039F



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** 65182

**Date:** 21-Feb-23

Run ID :Run Order: ICPMS205-H_230124A: 97	SampType: Method Blank				Lab ID: MB-65182				Method: E200.8		
Analysis Date: 01/24/23 17:59	Units: mg/L				Prep Info: Prep Date: 1/23/2023				Prep Method: E200.2		
Analytes <span style="color: red;">20</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.006									
Antimony	ND	0.0002									
Arsenic	ND	0.0001									
Barium	ND	0.0002									
Beryllium	ND	0.0002									
Cadmium	ND	0.00003									
Chromium	ND	0.0002									
Cobalt	ND	0.0003									
Lead	ND	0.0001									
Lithium	ND	0.001									
Molybdenum	ND	0.0002									
Nickel	ND	0.0002									
Selenium	ND	0.0001									
Silver	ND	0.00006									
Thallium	ND	0.0001									
Tin	ND	0.0004									
Thorium	ND	0.0003									
Titanium	ND	0.002									
Uranium	ND	0.00003									
Vanadium	ND	0.0001									

Associated samples: H23010433-037F, H23010433-038F, H23010433-039F

Run ID :Run Order: ICPMS205-H_230124A: 107	SampType: Laboratory Control Sample				Lab ID: LCS-65182				Method: E200.8		
Analysis Date: 01/24/23 18:24	Units: mg/L				Prep Info: Prep Date: 1/23/2023				Prep Method: E200.2		
Analytes <span style="color: red;">20</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.58	0.030	2.5	0	103	85	115				
Antimony	0.570	0.0010	0.5	0	114	85	115				
Arsenic	0.531	0.0010	0.5	0	106	85	115				
Barium	0.535	0.050	0.5	0	107	85	115				
Beryllium	0.253	0.0010	0.25	0	101	85	115				
Cadmium	0.264	0.0010	0.25	0	106	85	115				
Chromium	0.529	0.0050	0.5	0	106	85	115				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** 65182

**Date:** 21-Feb-23

Run ID :Run Order: <b>ICPMS205-H_230124A: 107</b>		SampType: <b>Laboratory Control Sample</b>			Lab ID: <b>LCS-65182</b>				Method: <b>E200.8</b>		
Analysis Date: <b>01/24/23 18:24</b>		Units: <b>mg/L</b>			Prep Info: Prep Date: <b>1/23/2023</b>				Prep Method: <b>E200.2</b>		
Analytes <b>20</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	0.523	0.0050	0.5	0	105	85	115				
Lead	0.533	0.0010	0.5	0	107	85	115				
Lithium	0.516	0.10	0.5	0	103	85	115				
Molybdenum	0.514	0.0010	0.5	0	103	85	115				
Nickel	0.524	0.0050	0.5	0	105	85	115				
Selenium	0.493	0.0010	0.5	0	99	85	115				
Silver	0.0499	0.0010	0.05	0	100	85	115				
Thallium	0.541	0.00050	0.5	0	108	85	115				
Tin	0.546	0.050	0.5	0	109	85	115				
Thorium	0.0554	0.0050	0.05	0	111	85	115				
Titanium	0.527	0.0050	0.5	0	105	85	115				
Uranium	0.542	0.00030	0.5	0	108	85	115				
Vanadium	0.528	0.010	0.5	0	105	85	115				

Associated samples: **H23010433-037F, H23010433-038F, H23010433-039F**

Run ID :Run Order: <b>ICPMS205-H_230124A: 108</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23010421-001DMS3</b>				Method: <b>E200.8</b>		
Analysis Date: <b>01/24/23 18:27</b>		Units: <b>mg/L</b>			Prep Info: Prep Date: <b>1/23/2023</b>				Prep Method: <b>E200.2</b>		
Analytes <b>20</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.61	0.030	2.5	0	104	70	130				
Antimony	0.574	0.0010	0.5	0.0002851	115	70	130				
Arsenic	0.529	0.0010	0.5	0.0003417	106	70	130				
Barium	0.597	0.050	0.5	0.05775	108	70	130				
Beryllium	0.252	0.0010	0.25	0	101	70	130				
Cadmium	0.263	0.0010	0.25	0.0001336	105	70	130				
Chromium	0.525	0.0050	0.5	0	105	70	130				
Cobalt	0.507	0.0050	0.5	0	101	70	130				
Lead	0.537	0.0010	0.5	0.0005002	107	70	130				
Lithium	0.514	0.10	0.5	0.002165	102	70	130				
Molybdenum	0.520	0.0010	0.5	0.004348	103	70	130				
Nickel	0.510	0.0050	0.5	0.0002923	102	70	130				
Selenium	0.498	0.0010	0.5	0.002822	99	70	130				
Silver	0.0496	0.0010	0.05	0	99	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** 65182

**Date:** 21-Feb-23

Run ID :Run Order: ICPMS205-H_230124A: 108	SampType: Sample Matrix Spike				Lab ID: H23010421-001DMS3				Method: E200.8		
Analysis Date: 01/24/23 18:27	Units: mg/L				Prep Info: Prep Date: 1/23/2023				Prep Method: E200.2		
Analytes <b>20</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	0.544	0.00050	0.5	0	109	70	130				
Tin	0.550	0.050	0.5	0	110	70	130				
Thorium	0.0562	0.0050	0.05	0	112	70	130				
Titanium	0.521	0.0050	0.5	0	104	70	130				
Uranium	0.552	0.00030	0.5	0.004624	109	70	130				
Vanadium	0.522	0.010	0.5	0.0005605	104	70	130				

Associated samples: H23010433-037F, H23010433-038F, H23010433-039F

Run ID :Run Order: ICPMS205-H_230124A: 109	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010421-001DMSD3				Method: E200.8		
Analysis Date: 01/24/23 18:29	Units: mg/L				Prep Info: Prep Date: 1/23/2023				Prep Method: E200.2		
Analytes <b>20</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.48	0.030	2.5	0	99	70	130	2.607	4.9	20	
Antimony	0.558	0.0010	0.5	0.0002851	112	70	130	0.5742	2.9	20	
Arsenic	0.524	0.0010	0.5	0.0003417	105	70	130	0.5293	1.0	20	
Barium	0.580	0.050	0.5	0.05775	105	70	130	0.597	2.8	20	
Beryllium	0.247	0.0010	0.25	0	99	70	130	0.2525	2.0	20	
Cadmium	0.258	0.0010	0.25	0.0001336	103	70	130	0.2634	2.0	20	
Chromium	0.514	0.0050	0.5	0	103	70	130	0.5248	2.2	20	
Cobalt	0.498	0.0050	0.5	0	100	70	130	0.5066	1.6	20	
Lead	0.519	0.0010	0.5	0.0005002	104	70	130	0.5366	3.3	20	
Lithium	0.504	0.10	0.5	0.002165	100	70	130	0.5142	2.0	20	
Molybdenum	0.511	0.0010	0.5	0.004348	101	70	130	0.5203	1.8	20	
Nickel	0.502	0.0050	0.5	0.0002923	100	70	130	0.5095	1.6	20	
Selenium	0.493	0.0010	0.5	0.002822	98	70	130	0.4975	0.9	20	
Silver	0.0483	0.0010	0.05	0	97	70	130	0.04958	2.6	20	
Thallium	0.528	0.00050	0.5	0	106	70	130	0.5443	3.0	20	
Tin	0.536	0.050	0.5	0	107	70	130	0.55	2.6	20	
Thorium	0.0544	0.0050	0.05	0	109	70	130	0.05618	3.2	20	
Titanium	0.515	0.0050	0.5	0	103	70	130	0.5211	1.2	20	
Uranium	0.536	0.00030	0.5	0.004624	106	70	130	0.5519	3.0	20	
Vanadium	0.514	0.010	0.5	0.0005605	103	70	130	0.5222	1.5	20	

Associated samples: H23010433-037F, H23010433-038F, H23010433-039F

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** 65182

**Date:** 21-Feb-23

Run ID :Run Order: ICPMS205-H_230126B: 36	SampType: Method Blank				Lab ID: MB-65182				Method: E200.8		
Analysis Date: 01/26/23 18:00	Units: mg/L			Prep Info: Prep Date: 1/23/2023				Prep Method: E200.2			
Analytes <b>20</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.006									
Antimony	ND	0.0002									
Arsenic	ND	0.0001									
Barium	ND	0.0002									
Beryllium	ND	0.0002									
Cadmium	ND	0.00003									
Chromium	ND	0.0002									
Cobalt	ND	0.0003									
Lead	ND	0.0001									
Lithium	ND	0.001									
Molybdenum	ND	0.0002									
Nickel	ND	0.0002									
Selenium	ND	0.0001									
Silver	ND	0.00006									
Thallium	ND	0.0001									
Tin	ND	0.0004									
Thorium	ND	0.0003									
Titanium	ND	0.002									
Uranium	ND	0.00003									
Vanadium	ND	0.0001									

Associated samples: H23010433-037F, H23010433-038F, H23010433-039F

Run ID :Run Order: ICPMS205-H_230126B: 45	SampType: Sample Matrix Spike				Lab ID: H23010433-038FMS3				Method: E200.8		
Analysis Date: 01/26/23 18:26	Units: mg/L			Prep Info: Prep Date: 1/23/2023				Prep Method: E200.2			
Analytes <b>20</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.09	0.030	2.5	2.631	98	70	130				
Antimony	0.551	0.0010	0.5	0.000274	110	70	130				
Arsenic	0.515	0.0010	0.5	0.02109	99	70	130				
Barium	0.606	0.050	0.5	0.086	104	70	130				
Beryllium	0.228	0.0010	0.25	0.002185	91	70	130				
Cadmium	0.450	0.0010	0.25	0.199	100	70	130				
Chromium	0.504	0.0050	0.5	0.0004012	101	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** 65182

**Date:** 21-Feb-23

Run ID :Run Order: ICPMS205-H_230126B: 45	SampType: Sample Matrix Spike				Lab ID: H23010433-038FMS3				Method: E200.8		
Analysis Date: 01/26/23 18:26	Units: mg/L				Prep Info: Prep Date: 1/23/2023				Prep Method: E200.2		
Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	0.797	0.0050	0.5	0.2909	101	70	130				
Lead	0.546	0.0010	0.5	0.01692	106	70	130				
Lithium	1.14	0.10	0.5	0.6486	99	70	130				
Molybdenum	0.532	0.0010	0.5	0.004436	106	70	130				
Nickel	0.582	0.0050	0.5	0.1135	94	70	130				
Selenium	0.478	0.0010	0.5	0.0005639	95	70	130				
Silver	0.0482	0.0010	0.05	0.0002769	96	70	130				
Thallium	0.534	0.00050	0.5	0	107	70	130				
Tin	0.540	0.050	0.5	0	108	70	130				
Titanium	0.517	0.0050	0.5	0	103	70	130				
Thorium	0.0572	0.0050	0.05	0	114	70	130				
Uranium	0.583	0.00030	0.5	0.0173	113	70	130				
Vanadium	0.508	0.010	0.5	0.001665	101	70	130				

Associated samples: H23010433-037F, H23010433-038F, H23010433-039F

Run ID :Run Order: ICPMS205-H_230126B: 47	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010433-038FMDS3				Method: E200.8		
Analysis Date: 01/26/23 18:35	Units: mg/L				Prep Info: Prep Date: 1/23/2023				Prep Method: E200.2		
Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.12	0.030	2.5	2.631	100	70	130	5.09	0.6	20	
Antimony	0.551	0.0010	0.5	0.000274	110	70	130	0.5511	0	20	
Arsenic	0.526	0.0010	0.5	0.02109	101	70	130	0.5149	2.2	20	
Barium	0.608	0.050	0.5	0.086	104	70	130	0.6056	0.3	20	
Beryllium	0.229	0.0010	0.25	0.002185	91	70	130	0.2285	0.2	20	
Cadmium	0.453	0.0010	0.25	0.199	102	70	130	0.4498	0.7	20	
Chromium	0.517	0.0050	0.5	0.0004012	103	70	130	0.5038	2.5	20	
Cobalt	0.819	0.0050	0.5	0.2909	106	70	130	0.7967	2.7	20	
Lead	0.551	0.0010	0.5	0.01692	107	70	130	0.5465	0.7	20	
Lithium	1.13	0.10	0.5	0.6486	96	70	130	1.142	1.1	20	
Molybdenum	0.531	0.0010	0.5	0.004436	105	70	130	0.5325	0.2	20	
Nickel	0.595	0.0050	0.5	0.1135	96	70	130	0.5825	2.2	20	
Selenium	0.477	0.0010	0.5	0.0005639	95	70	130	0.4778	0.2	20	
Silver	0.0490	0.0010	0.05	0.0002769	97	70	130	0.04824	1.6	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** 65182

**Date:** 21-Feb-23

Run ID :Run Order: ICPMS205-H_230126B: 47	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010433-038FMSD3				Method: E200.8		
Analysis Date: 01/26/23 18:35	Units: mg/L					Prep Info: Prep Date: 1/23/2023			Prep Method: E200.2		
Analytes <span style="color: red;">20</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	0.537	0.00050	0.5	0	107	70	130	0.5337	0.6	20	
Tin	0.538	0.050	0.5	0	108	70	130	0.5397	0.3	20	
Titanium	0.541	0.0050	0.5	0	108	70	130	0.5171	4.4	20	
Thorium	0.0570	0.0050	0.05	0	114	70	130	0.05718	0.3	20	
Uranium	0.580	0.00030	0.5	0.0173	113	70	130	0.5832	0.6	20	
Vanadium	0.520	0.010	0.5	0.001665	104	70	130	0.5082	2.3	20	

Associated samples: H23010433-037F, H23010433-038F, H23010433-039F





## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** 65184

**Date:** 21-Feb-23

Run ID :Run Order: <b>ICPMS205-H_230125A: 66</b>		SampType: <b>Method Blank</b>			Lab ID: <b>MB-65184</b>				Method: <b>E200.8</b>			
Analysis Date: <b>01/25/23 17:36</b>		Units: <b>mg/L</b>			Prep Info: Prep Date: <b>1/23/2023</b>				Prep Method: <b>E200.2</b>			
Analytes <b>10</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	ND	0.0002										
Gallium	ND	0.0001										
Lanthanum	ND	0.00009										
Neodymium	ND	0.0001										
Niobium	ND	0.0004										
Palladium	ND	0.0001										
Praseodymium	ND	0.0001										
Rubidium	ND	0.00009										
Tungsten	ND	0.0001										
Zirconium	ND	0.0008										

Associated samples: **H23010433-037F, H23010433-038F, H23010433-039F**

Run ID :Run Order: <b>ICPMS205-H_230125A: 77</b>		SampType: <b>Laboratory Control Sample</b>			Lab ID: <b>LCS-65184</b>				Method: <b>E200.8</b>			
Analysis Date: <b>01/25/23 17:52</b>		Units: <b>mg/L</b>			Prep Info: Prep Date: <b>1/23/2023</b>				Prep Method: <b>E200.2</b>			
Analytes <b>10</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0509	0.010	0.05	0		<b>102</b>	85	115				
Gallium	0.0516	0.010	0.05	0		<b>103</b>	85	115				
Lanthanum	0.0526	0.10	0.05	0		<b>105</b>	85	115				
Neodymium	0.0531	0.0010	0.05	0		<b>106</b>	85	115				
Niobium	0.0528	0.0010	0.05	0		<b>106</b>	85	115				
Palladium	0.0540	0.010	0.05	0		<b>108</b>	85	115				
Praseodymium	0.0528	0.0010	0.05	0		<b>106</b>	85	115				
Rubidium	0.0514	0.010	0.05	0		<b>103</b>	85	115				
Tungsten	0.0533	0.10	0.05	0		<b>107</b>	85	115				
Zirconium	0.0559	0.0050	0.05	0		<b>112</b>	85	115				

Associated samples: **H23010433-037F, H23010433-038F, H23010433-039F**

Run ID :Run Order: <b>ICPMS205-H_230125A: 78</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23010433-037FMS3</b>				Method: <b>E200.8</b>			
Analysis Date: <b>01/25/23 17:54</b>		Units: <b>mg/L</b>			Prep Info: Prep Date: <b>1/23/2023</b>				Prep Method: <b>E200.2</b>			
Analytes <b>10</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0516	0.010	0.05	0		<b>103</b>	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: 65184

Date: 21-Feb-23

Run ID :Run Order: ICPMS205-H_230125A: 78	SampType: Sample Matrix Spike				Lab ID: H23010433-037FMS3				Method: E200.8		
Analysis Date: 01/25/23 17:54	Units: mg/L				Prep Info: Prep Date: 1/23/2023				Prep Method: E200.2		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gallium	0.0504	0.010	0.05	0.0003797	100	70	130				
Lanthanum	0.0567	0.10	0.05	0.00391	106	70	130				
Neodymium	0.0556	0.0010	0.05	0.002394	106	70	130				
Niobium	0.0542	0.0010	0.05	0	108	70	130				
Palladium	0.0512	0.010	0.05	0	102	70	130				
Praseodymium	0.0538	0.0010	0.05	0.0006972	106	70	130				
Rubidium	0.0555	0.010	0.05	0.003792	103	70	130				
Tungsten	0.0543	0.10	0.05	0	109	70	130				
Zirconium	0.0583	0.0050	0.05	0	117	70	130				

Associated samples: H23010433-037F, H23010433-038F, H23010433-039F

Run ID :Run Order: ICPMS205-H_230125A: 79	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010433-037FMSD3				Method: E200.8		
Analysis Date: 01/25/23 17:55	Units: mg/L				Prep Info: Prep Date: 1/23/2023				Prep Method: E200.2		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0514	0.010	0.05	0	103	70	130	0.05159	0.5	20	
Gallium	0.0503	0.010	0.05	0.0003797	100	70	130	0.0504	0.3	20	
Lanthanum	0.0566	0.10	0.05	0.00391	105	70	130	0.05674		20	
Neodymium	0.0557	0.0010	0.05	0.002394	107	70	130	0.05564	0.1	20	
Niobium	0.0530	0.0010	0.05	0	106	70	130	0.05423	2.2	20	
Palladium	0.0509	0.010	0.05	0	102	70	130	0.05117	0.6	20	
Praseodymium	0.0534	0.0010	0.05	0.0006972	105	70	130	0.0538	0.7	20	
Rubidium	0.0544	0.010	0.05	0.003792	101	70	130	0.05552	2.1	20	
Tungsten	0.0539	0.10	0.05	0	108	70	130	0.05434		20	
Zirconium	0.0574	0.0050	0.05	0	115	70	130	0.05827	1.4	20	

Associated samples: H23010433-037F, H23010433-038F, H23010433-039F

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** C\_R291646

**Date:** 21-Feb-23

Run ID :Run Order: <b>SUB-C291646: 1</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MBLK</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/25/23 14:16</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	ND	0.2									

Associated samples: H23010433-001E, H23010433-002E, H23010433-003E, H23010433-004E, H23010433-005E, H23010433-006E, H23010433-007E, H23010433-008E, H23010433-009E, H23010433-010E, H23010433-011E, H23010433-012E, H23010433-013E, H23010433-014E, H23010433-015E, H23010433-016E, H23010433-017E, H23010433-018E, H23010433-019E, H23010433-020E, H23010433-021E, H23010433-022E, H23010433-023E, H23010433-024E, H23010433-025E, H23010433-026E, H23010433-027E, H23010433-028E, H23010433-029E, H23010433-030E, H23010433-031E, H23010433-032E, H23010433-033E, H23010433-034E, H23010433-035E, H23010433-036E, H23010433-037E, H23010433-038E, H23010433-039E

Run ID :Run Order: <b>SUB-C291646: 2</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS-11923</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/25/23 14:36</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.06	0.50	5	0	<b>101</b>	91	111	0			

Associated samples: H23010433-001E, H23010433-002E, H23010433-003E, H23010433-004E, H23010433-005E, H23010433-006E, H23010433-007E, H23010433-008E, H23010433-009E, H23010433-010E, H23010433-011E, H23010433-012E, H23010433-013E, H23010433-014E, H23010433-015E, H23010433-016E, H23010433-017E, H23010433-018E, H23010433-019E, H23010433-020E, H23010433-021E, H23010433-022E, H23010433-023E, H23010433-024E, H23010433-025E, H23010433-026E, H23010433-027E, H23010433-028E, H23010433-029E, H23010433-030E, H23010433-031E, H23010433-032E, H23010433-033E, H23010433-034E, H23010433-035E, H23010433-036E, H23010433-037E, H23010433-038E, H23010433-039E

Run ID :Run Order: <b>SUB-C291646: 3</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV-11940</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/25/23 14:51</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.30	0.50	5	0	<b>106</b>	90	110	0			

Associated samples: H23010433-001E, H23010433-002E, H23010433-003E, H23010433-004E, H23010433-005E, H23010433-006E, H23010433-007E, H23010433-008E, H23010433-009E, H23010433-010E, H23010433-011E, H23010433-012E, H23010433-013E, H23010433-014E, H23010433-015E, H23010433-016E, H23010433-017E, H23010433-018E, H23010433-019E, H23010433-020E, H23010433-021E, H23010433-022E, H23010433-023E, H23010433-024E, H23010433-025E, H23010433-026E, H23010433-027E, H23010433-028E, H23010433-029E, H23010433-030E, H23010433-031E, H23010433-032E, H23010433-033E, H23010433-034E, H23010433-035E, H23010433-036E, H23010433-037E, H23010433-038E, H23010433-039E

Run ID :Run Order: <b>SUB-C291646: 6</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>C23010572-001FMS</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/25/23 16:06</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.66	0.50	5	0.6107	<b>101</b>	91	111	0			

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: C\_R291646

Date: 21-Feb-23

Run ID :Run Order: SUB-C291646: 6	SampType: Sample Matrix Spike	Lab ID: C23010572-001FMS	Method: A5310 C								
Analysis Date: 01/25/23 16:06	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23010433-001E, H23010433-002E, H23010433-003E, H23010433-004E, H23010433-005E, H23010433-006E, H23010433-007E, H23010433-008E, H23010433-009E, H23010433-010E, H23010433-011E, H23010433-012E, H23010433-013E, H23010433-014E, H23010433-015E, H23010433-016E, H23010433-017E, H23010433-018E, H23010433-019E, H23010433-020E, H23010433-021E, H23010433-022E, H23010433-023E, H23010433-024E, H23010433-025E, H23010433-026E, H23010433-027E, H23010433-028E, H23010433-029E, H23010433-030E, H23010433-031E, H23010433-032E, H23010433-033E, H23010433-034E, H23010433-035E, H23010433-036E, H23010433-037E, H23010433-038E, H23010433-039E

Run ID :Run Order: SUB-C291646: 7	SampType: Sample Matrix Spike Duplicate	Lab ID: C23010572-001FMSD	Method: A5310 C								
Analysis Date: 01/25/23 16:23	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	5.75	0.50	5	0.6107	103	91	111	5.66	1.6	20
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Associated samples: H23010433-001E, H23010433-002E, H23010433-003E, H23010433-004E, H23010433-005E, H23010433-006E, H23010433-007E, H23010433-008E, H23010433-009E, H23010433-010E, H23010433-011E, H23010433-012E, H23010433-013E, H23010433-014E, H23010433-015E, H23010433-016E, H23010433-017E, H23010433-018E, H23010433-019E, H23010433-020E, H23010433-021E, H23010433-022E, H23010433-023E, H23010433-024E, H23010433-025E, H23010433-026E, H23010433-027E, H23010433-028E, H23010433-029E, H23010433-030E, H23010433-031E, H23010433-032E, H23010433-033E, H23010433-034E, H23010433-035E, H23010433-036E, H23010433-037E, H23010433-038E, H23010433-039E

Run ID :Run Order: SUB-C291646: 16	SampType: Continuing Calibration Verification Standar	Lab ID: CCV-11940	Method: A5310 C								
Analysis Date: 01/25/23 18:47	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	5.25	0.50	5	0	105	90	110	0
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Associated samples: H23010433-001E, H23010433-002E, H23010433-003E, H23010433-004E, H23010433-005E, H23010433-006E, H23010433-007E, H23010433-008E, H23010433-009E, H23010433-010E, H23010433-011E, H23010433-012E, H23010433-013E, H23010433-014E, H23010433-015E, H23010433-016E, H23010433-017E, H23010433-018E, H23010433-019E, H23010433-020E, H23010433-021E, H23010433-022E, H23010433-023E, H23010433-024E, H23010433-025E, H23010433-026E, H23010433-027E, H23010433-028E, H23010433-029E, H23010433-030E, H23010433-031E, H23010433-032E, H23010433-033E, H23010433-034E, H23010433-035E, H23010433-036E, H23010433-037E, H23010433-038E, H23010433-039E

Run ID :Run Order: SUB-C291646: 18	SampType: Sample Matrix Spike	Lab ID: H23010433-007E	Method: A5310 C								
Analysis Date: 01/25/23 19:42	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	5.30	0.50	5	0.2455	101	91	111	0
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**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** C\_R291646

**Date:** 21-Feb-23

Run ID :Run Order: <b>SUB-C291646: 18</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23010433-007E</b>	Method: <b>A5310 C</b>
Analysis Date: <b>01/25/23 19:42</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Associated samples: H23010433-001E, H23010433-002E, H23010433-003E, H23010433-004E, H23010433-005E, H23010433-006E, H23010433-007E, H23010433-008E, H23010433-009E, H23010433-010E, H23010433-011E, H23010433-012E, H23010433-013E, H23010433-014E, H23010433-015E, H23010433-016E, H23010433-017E, H23010433-018E, H23010433-019E, H23010433-020E, H23010433-021E, H23010433-022E, H23010433-023E, H23010433-024E, H23010433-025E, H23010433-026E, H23010433-027E, H23010433-028E, H23010433-029E, H23010433-030E, H23010433-031E, H23010433-032E, H23010433-033E, H23010433-034E, H23010433-035E, H23010433-036E, H23010433-037E, H23010433-038E, H23010433-039E

Run ID :Run Order: <b>SUB-C291646: 19</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23010433-007E</b>	Method: <b>A5310 C</b>
Analysis Date: <b>01/25/23 19:58</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Associated samples: H23010433-001E, H23010433-002E, H23010433-003E, H23010433-004E, H23010433-005E, H23010433-006E, H23010433-007E, H23010433-008E, H23010433-009E, H23010433-010E, H23010433-011E, H23010433-012E, H23010433-013E, H23010433-014E, H23010433-015E, H23010433-016E, H23010433-017E, H23010433-018E, H23010433-019E, H23010433-020E, H23010433-021E, H23010433-022E, H23010433-023E, H23010433-024E, H23010433-025E, H23010433-026E, H23010433-027E, H23010433-028E, H23010433-029E, H23010433-030E, H23010433-031E, H23010433-032E, H23010433-033E, H23010433-034E, H23010433-035E, H23010433-036E, H23010433-037E, H23010433-038E, H23010433-039E

Run ID :Run Order: <b>SUB-C291646: 29</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV-11940</b>	Method: <b>A5310 C</b>
Analysis Date: <b>01/25/23 23:09</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Associated samples: H23010433-001E, H23010433-002E, H23010433-003E, H23010433-004E, H23010433-005E, H23010433-006E, H23010433-007E, H23010433-008E, H23010433-009E, H23010433-010E, H23010433-011E, H23010433-012E, H23010433-013E, H23010433-014E, H23010433-015E, H23010433-016E, H23010433-017E, H23010433-018E, H23010433-019E, H23010433-020E, H23010433-021E, H23010433-022E, H23010433-023E, H23010433-024E, H23010433-025E, H23010433-026E, H23010433-027E, H23010433-028E, H23010433-029E, H23010433-030E, H23010433-031E, H23010433-032E, H23010433-033E, H23010433-034E, H23010433-035E, H23010433-036E, H23010433-037E, H23010433-038E, H23010433-039E

Run ID :Run Order: <b>SUB-C291646: 31</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23010433-017E</b>	Method: <b>A5310 C</b>
Analysis Date: <b>01/25/23 23:55</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Organic Carbon, Total (TOC) 5.24 0.50 5 0.258 100 91 111 0

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** C\_R291646

**Date:** 21-Feb-23

Run ID :Run Order: <b>SUB-C291646: 31</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23010433-017E</b>	Method: <b>A5310 C</b>
Analysis Date: <b>01/25/23 23:55</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Associated samples: H23010433-001E, H23010433-002E, H23010433-003E, H23010433-004E, H23010433-005E, H23010433-006E, H23010433-007E, H23010433-008E, H23010433-009E, H23010433-010E, H23010433-011E, H23010433-012E, H23010433-013E, H23010433-014E, H23010433-015E, H23010433-016E, H23010433-017E, H23010433-018E, H23010433-019E, H23010433-020E, H23010433-021E, H23010433-022E, H23010433-023E, H23010433-024E, H23010433-025E, H23010433-026E, H23010433-027E, H23010433-028E, H23010433-029E, H23010433-030E, H23010433-031E, H23010433-032E, H23010433-033E, H23010433-034E, H23010433-035E, H23010433-036E, H23010433-037E, H23010433-038E, H23010433-039E

Run ID :Run Order: <b>SUB-C291646: 32</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23010433-017E</b>	Method: <b>A5310 C</b>
Analysis Date: <b>01/26/23 00:10</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Associated samples: H23010433-001E, H23010433-002E, H23010433-003E, H23010433-004E, H23010433-005E, H23010433-006E, H23010433-007E, H23010433-008E, H23010433-009E, H23010433-010E, H23010433-011E, H23010433-012E, H23010433-013E, H23010433-014E, H23010433-015E, H23010433-016E, H23010433-017E, H23010433-018E, H23010433-019E, H23010433-020E, H23010433-021E, H23010433-022E, H23010433-023E, H23010433-024E, H23010433-025E, H23010433-026E, H23010433-027E, H23010433-028E, H23010433-029E, H23010433-030E, H23010433-031E, H23010433-032E, H23010433-033E, H23010433-034E, H23010433-035E, H23010433-036E, H23010433-037E, H23010433-038E, H23010433-039E

Run ID :Run Order: <b>SUB-C291646: 42</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV-11940</b>	Method: <b>A5310 C</b>
Analysis Date: <b>01/26/23 03:12</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Associated samples: H23010433-001E, H23010433-002E, H23010433-003E, H23010433-004E, H23010433-005E, H23010433-006E, H23010433-007E, H23010433-008E, H23010433-009E, H23010433-010E, H23010433-011E, H23010433-012E, H23010433-013E, H23010433-014E, H23010433-015E, H23010433-016E, H23010433-017E, H23010433-018E, H23010433-019E, H23010433-020E, H23010433-021E, H23010433-022E, H23010433-023E, H23010433-024E, H23010433-025E, H23010433-026E, H23010433-027E, H23010433-028E, H23010433-029E, H23010433-030E, H23010433-031E, H23010433-032E, H23010433-033E, H23010433-034E, H23010433-035E, H23010433-036E, H23010433-037E, H23010433-038E, H23010433-039E

Run ID :Run Order: <b>SUB-C291646: 44</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23010433-027E</b>	Method: <b>A5310 C</b>
Analysis Date: <b>01/26/23 03:59</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Organic Carbon, Total (TOC) 5.36 0.50 5 0.3009 101 91 111 0

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: C\_R291646

Date: 21-Feb-23

Run ID :Run Order: <b>SUB-C291646: 44</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23010433-027E</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/26/23 03:59</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23010433-001E, H23010433-002E, H23010433-003E, H23010433-004E, H23010433-005E, H23010433-006E, H23010433-007E, H23010433-008E, H23010433-009E, H23010433-010E, H23010433-011E, H23010433-012E, H23010433-013E, H23010433-014E, H23010433-015E, H23010433-016E, H23010433-017E, H23010433-018E, H23010433-019E, H23010433-020E, H23010433-021E, H23010433-022E, H23010433-023E, H23010433-024E, H23010433-025E, H23010433-026E, H23010433-027E, H23010433-028E, H23010433-029E, H23010433-030E, H23010433-031E, H23010433-032E, H23010433-033E, H23010433-034E, H23010433-035E, H23010433-036E, H23010433-037E, H23010433-038E, H23010433-039E

Run ID :Run Order: <b>SUB-C291646: 45</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23010433-027E</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/26/23 04:15</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	5.42	0.50	5	0.3009	102	91	111	5.365	1.0	20
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Associated samples: H23010433-001E, H23010433-002E, H23010433-003E, H23010433-004E, H23010433-005E, H23010433-006E, H23010433-007E, H23010433-008E, H23010433-009E, H23010433-010E, H23010433-011E, H23010433-012E, H23010433-013E, H23010433-014E, H23010433-015E, H23010433-016E, H23010433-017E, H23010433-018E, H23010433-019E, H23010433-020E, H23010433-021E, H23010433-022E, H23010433-023E, H23010433-024E, H23010433-025E, H23010433-026E, H23010433-027E, H23010433-028E, H23010433-029E, H23010433-030E, H23010433-031E, H23010433-032E, H23010433-033E, H23010433-034E, H23010433-035E, H23010433-036E, H23010433-037E, H23010433-038E, H23010433-039E

Run ID :Run Order: <b>SUB-C291646: 55</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV-11940</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/26/23 07:10</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	5.22	0.50	5	0	104	90	110	0
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Associated samples: H23010433-001E, H23010433-002E, H23010433-003E, H23010433-004E, H23010433-005E, H23010433-006E, H23010433-007E, H23010433-008E, H23010433-009E, H23010433-010E, H23010433-011E, H23010433-012E, H23010433-013E, H23010433-014E, H23010433-015E, H23010433-016E, H23010433-017E, H23010433-018E, H23010433-019E, H23010433-020E, H23010433-021E, H23010433-022E, H23010433-023E, H23010433-024E, H23010433-025E, H23010433-026E, H23010433-027E, H23010433-028E, H23010433-029E, H23010433-030E, H23010433-031E, H23010433-032E, H23010433-033E, H23010433-034E, H23010433-035E, H23010433-036E, H23010433-037E, H23010433-038E, H23010433-039E

Run ID :Run Order: <b>SUB-C291646: 57</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23010433-037E</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/26/23 08:04</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	6.57	0.50	5	1.596	99	91	111	0
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**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: C\_R291646

Date: 21-Feb-23

Run ID :Run Order: SUB-C291646: 57	SampType: Sample Matrix Spike	Lab ID: H23010433-037E	Method: A5310 C								
Analysis Date: 01/26/23 08:04	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23010433-001E, H23010433-002E, H23010433-003E, H23010433-004E, H23010433-005E, H23010433-006E, H23010433-007E, H23010433-008E, H23010433-009E, H23010433-010E, H23010433-011E, H23010433-012E, H23010433-013E, H23010433-014E, H23010433-015E, H23010433-016E, H23010433-017E, H23010433-018E, H23010433-019E, H23010433-020E, H23010433-021E, H23010433-022E, H23010433-023E, H23010433-024E, H23010433-025E, H23010433-026E, H23010433-027E, H23010433-028E, H23010433-029E, H23010433-030E, H23010433-031E, H23010433-032E, H23010433-033E, H23010433-034E, H23010433-035E, H23010433-036E, H23010433-037E, H23010433-038E, H23010433-039E

Run ID :Run Order: SUB-C291646: 58	SampType: Sample Matrix Spike Duplicate	Lab ID: H23010433-037E	Method: A5310 C								
Analysis Date: 01/26/23 08:21	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	6.66	0.50	5	1.596	101	91	111	6.57	1.4	20	

Associated samples: H23010433-001E, H23010433-002E, H23010433-003E, H23010433-004E, H23010433-005E, H23010433-006E, H23010433-007E, H23010433-008E, H23010433-009E, H23010433-010E, H23010433-011E, H23010433-012E, H23010433-013E, H23010433-014E, H23010433-015E, H23010433-016E, H23010433-017E, H23010433-018E, H23010433-019E, H23010433-020E, H23010433-021E, H23010433-022E, H23010433-023E, H23010433-024E, H23010433-025E, H23010433-026E, H23010433-027E, H23010433-028E, H23010433-029E, H23010433-030E, H23010433-031E, H23010433-032E, H23010433-033E, H23010433-034E, H23010433-035E, H23010433-036E, H23010433-037E, H23010433-038E, H23010433-039E

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** C\_R291699

**Date:** 21-Feb-23

Run ID :Run Order: <b>SUB-C291699: 1</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>01/26/23 12:26</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	ND	0.4									

Associated samples: H23010433-001D, H23010433-002D, H23010433-003D, H23010433-004D, H23010433-005D, H23010433-006D, H23010433-007D, H23010433-008D, H23010433-009D, H23010433-010D, H23010433-011D, H23010433-012D, H23010433-013D, H23010433-014D, H23010433-015D, H23010433-016D, H23010433-017D, H23010433-018D, H23010433-019D, H23010433-020D, H23010433-021D, H23010433-022D, H23010433-023D, H23010433-024D, H23010433-025D, H23010433-026D, H23010433-027D, H23010433-028D, H23010433-029D, H23010433-030D, H23010433-031D, H23010433-032D, H23010433-033D, H23010433-034D, H23010433-035D, H23010433-036D, H23010433-037D, H23010433-038D, H23010433-039D

Run ID :Run Order: <b>SUB-C291699: 2</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS-11923</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>01/26/23 12:46</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.98	0.50	5	0	<b>100</b>	88	112	0			

Associated samples: H23010433-001D, H23010433-002D, H23010433-003D, H23010433-004D, H23010433-005D, H23010433-006D, H23010433-007D, H23010433-008D, H23010433-009D, H23010433-010D, H23010433-011D, H23010433-012D, H23010433-013D, H23010433-014D, H23010433-015D, H23010433-016D, H23010433-017D, H23010433-018D, H23010433-019D, H23010433-020D, H23010433-021D, H23010433-022D, H23010433-023D, H23010433-024D, H23010433-025D, H23010433-026D, H23010433-027D, H23010433-028D, H23010433-029D, H23010433-030D, H23010433-031D, H23010433-032D, H23010433-033D, H23010433-034D, H23010433-035D, H23010433-036D, H23010433-037D, H23010433-038D, H23010433-039D

Run ID :Run Order: <b>SUB-C291699: 3</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV-11940</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>01/26/23 13:01</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.94	0.50	5	0	<b>99</b>	90	110	0			

Associated samples: H23010433-001D, H23010433-002D, H23010433-003D, H23010433-004D, H23010433-005D, H23010433-006D, H23010433-007D, H23010433-008D, H23010433-009D, H23010433-010D, H23010433-011D, H23010433-012D, H23010433-013D, H23010433-014D, H23010433-015D, H23010433-016D, H23010433-017D, H23010433-018D, H23010433-019D, H23010433-020D, H23010433-021D, H23010433-022D, H23010433-023D, H23010433-024D, H23010433-025D, H23010433-026D, H23010433-027D, H23010433-028D, H23010433-029D, H23010433-030D, H23010433-031D, H23010433-032D, H23010433-033D, H23010433-034D, H23010433-035D, H23010433-036D, H23010433-037D, H23010433-038D, H23010433-039D

Run ID :Run Order: <b>SUB-C291699: 5</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23010433-001D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>01/26/23 13:37</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.23	0.50	5	0	<b>105</b>	88	112	0			

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: C\_R291699

Date: 21-Feb-23

Run ID :Run Order: <b>SUB-C291699: 5</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23010433-001D</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/26/23 13:37</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23010433-001D, H23010433-002D, H23010433-003D, H23010433-004D, H23010433-005D, H23010433-006D, H23010433-007D, H23010433-008D, H23010433-009D, H23010433-010D, H23010433-011D, H23010433-012D, H23010433-013D, H23010433-014D, H23010433-015D, H23010433-016D, H23010433-017D, H23010433-018D, H23010433-019D, H23010433-020D, H23010433-021D, H23010433-022D, H23010433-023D, H23010433-024D, H23010433-025D, H23010433-026D, H23010433-027D, H23010433-028D, H23010433-029D, H23010433-030D, H23010433-031D, H23010433-032D, H23010433-033D, H23010433-034D, H23010433-035D, H23010433-036D, H23010433-037D, H23010433-038D, H23010433-039D

Run ID :Run Order: <b>SUB-C291699: 6</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23010433-001D</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/26/23 13:53</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.33	0.50	5	0	<b>107</b>	88	112	5.226	<b>1.9</b>	20	

Associated samples: H23010433-001D, H23010433-002D, H23010433-003D, H23010433-004D, H23010433-005D, H23010433-006D, H23010433-007D, H23010433-008D, H23010433-009D, H23010433-010D, H23010433-011D, H23010433-012D, H23010433-013D, H23010433-014D, H23010433-015D, H23010433-016D, H23010433-017D, H23010433-018D, H23010433-019D, H23010433-020D, H23010433-021D, H23010433-022D, H23010433-023D, H23010433-024D, H23010433-025D, H23010433-026D, H23010433-027D, H23010433-028D, H23010433-029D, H23010433-030D, H23010433-031D, H23010433-032D, H23010433-033D, H23010433-034D, H23010433-035D, H23010433-036D, H23010433-037D, H23010433-038D, H23010433-039D

Run ID :Run Order: <b>SUB-C291699: 16</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV-11940</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/26/23 16:41</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.14	0.50	5	0	<b>103</b>	90	110	0			

Associated samples: H23010433-001D, H23010433-002D, H23010433-003D, H23010433-004D, H23010433-005D, H23010433-006D, H23010433-007D, H23010433-008D, H23010433-009D, H23010433-010D, H23010433-011D, H23010433-012D, H23010433-013D, H23010433-014D, H23010433-015D, H23010433-016D, H23010433-017D, H23010433-018D, H23010433-019D, H23010433-020D, H23010433-021D, H23010433-022D, H23010433-023D, H23010433-024D, H23010433-025D, H23010433-026D, H23010433-027D, H23010433-028D, H23010433-029D, H23010433-030D, H23010433-031D, H23010433-032D, H23010433-033D, H23010433-034D, H23010433-035D, H23010433-036D, H23010433-037D, H23010433-038D, H23010433-039D

Run ID :Run Order: <b>SUB-C291699: 18</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23010433-011D</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/26/23 17:36</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.22	0.50	5	0	<b>104</b>	88	112	0			



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: C\_R291699

Date: 21-Feb-23

Run ID :Run Order: <b>SUB-C291699: 18</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23010433-011D</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/26/23 17:36</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Associated samples: <b>H23010433-001D, H23010433-002D, H23010433-003D, H23010433-004D, H23010433-005D, H23010433-006D, H23010433-007D, H23010433-008D, H23010433-009D, H23010433-010D, H23010433-011D, H23010433-012D, H23010433-013D, H23010433-014D, H23010433-015D, H23010433-016D, H23010433-017D, H23010433-018D, H23010433-019D, H23010433-020D, H23010433-021D, H23010433-022D, H23010433-023D, H23010433-024D, H23010433-025D, H23010433-026D, H23010433-027D, H23010433-028D, H23010433-029D, H23010433-030D, H23010433-031D, H23010433-032D, H23010433-033D, H23010433-034D, H23010433-035D, H23010433-036D, H23010433-037D, H23010433-038D, H23010433-039D</b>											

Run ID :Run Order: <b>SUB-C291699: 19</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23010433-011D</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/26/23 17:52</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.28	0.50	5	0	<b>106</b>	88	112	5.218	<b>1.2</b>	20	
Associated samples: <b>H23010433-001D, H23010433-002D, H23010433-003D, H23010433-004D, H23010433-005D, H23010433-006D, H23010433-007D, H23010433-008D, H23010433-009D, H23010433-010D, H23010433-011D, H23010433-012D, H23010433-013D, H23010433-014D, H23010433-015D, H23010433-016D, H23010433-017D, H23010433-018D, H23010433-019D, H23010433-020D, H23010433-021D, H23010433-022D, H23010433-023D, H23010433-024D, H23010433-025D, H23010433-026D, H23010433-027D, H23010433-028D, H23010433-029D, H23010433-030D, H23010433-031D, H23010433-032D, H23010433-033D, H23010433-034D, H23010433-035D, H23010433-036D, H23010433-037D, H23010433-038D, H23010433-039D</b>											

Run ID :Run Order: <b>SUB-C291699: 29</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV-11940</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/26/23 20:54</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.16	0.50	5	0	<b>103</b>	90	110	0			
Associated samples: <b>H23010433-001D, H23010433-002D, H23010433-003D, H23010433-004D, H23010433-005D, H23010433-006D, H23010433-007D, H23010433-008D, H23010433-009D, H23010433-010D, H23010433-011D, H23010433-012D, H23010433-013D, H23010433-014D, H23010433-015D, H23010433-016D, H23010433-017D, H23010433-018D, H23010433-019D, H23010433-020D, H23010433-021D, H23010433-022D, H23010433-023D, H23010433-024D, H23010433-025D, H23010433-026D, H23010433-027D, H23010433-028D, H23010433-029D, H23010433-030D, H23010433-031D, H23010433-032D, H23010433-033D, H23010433-034D, H23010433-035D, H23010433-036D, H23010433-037D, H23010433-038D, H23010433-039D</b>											

Run ID :Run Order: <b>SUB-C291699: 31</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23010433-021D</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/26/23 21:49</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.65	0.50	5	0.6724	<b>100</b>	88	112	0			

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: C\_R291699

Date: 21-Feb-23

Run ID :Run Order: SUB-C291699: 31	SampType: Sample Matrix Spike	Lab ID: H23010433-021D	Method: A5310 C								
Analysis Date: 01/26/23 21:49	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Associated samples: H23010433-001D, H23010433-002D, H23010433-003D, H23010433-004D, H23010433-005D, H23010433-006D, H23010433-007D, H23010433-008D, H23010433-009D, H23010433-010D, H23010433-011D, H23010433-012D, H23010433-013D, H23010433-014D, H23010433-015D, H23010433-016D, H23010433-017D, H23010433-018D, H23010433-019D, H23010433-020D, H23010433-021D, H23010433-022D, H23010433-023D, H23010433-024D, H23010433-025D, H23010433-026D, H23010433-027D, H23010433-028D, H23010433-029D, H23010433-030D, H23010433-031D, H23010433-032D, H23010433-033D, H23010433-034D, H23010433-035D, H23010433-036D, H23010433-037D, H23010433-038D, H23010433-039D											

Run ID :Run Order: SUB-C291699: 32	SampType: Sample Matrix Spike Duplicate	Lab ID: H23010433-021D	Method: A5310 C								
Analysis Date: 01/26/23 22:04	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.70	0.50	5	0.6724	100	88	112	5.648	0.9	20	
Associated samples: H23010433-001D, H23010433-002D, H23010433-003D, H23010433-004D, H23010433-005D, H23010433-006D, H23010433-007D, H23010433-008D, H23010433-009D, H23010433-010D, H23010433-011D, H23010433-012D, H23010433-013D, H23010433-014D, H23010433-015D, H23010433-016D, H23010433-017D, H23010433-018D, H23010433-019D, H23010433-020D, H23010433-021D, H23010433-022D, H23010433-023D, H23010433-024D, H23010433-025D, H23010433-026D, H23010433-027D, H23010433-028D, H23010433-029D, H23010433-030D, H23010433-031D, H23010433-032D, H23010433-033D, H23010433-034D, H23010433-035D, H23010433-036D, H23010433-037D, H23010433-038D, H23010433-039D											

Run ID :Run Order: SUB-C291699: 42	SampType: Continuing Calibration Verification Standar	Lab ID: CCV-11940	Method: A5310 C								
Analysis Date: 01/27/23 01:09	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.01	0.50	5	0	100	90	110	0			
Associated samples: H23010433-001D, H23010433-002D, H23010433-003D, H23010433-004D, H23010433-005D, H23010433-006D, H23010433-007D, H23010433-008D, H23010433-009D, H23010433-010D, H23010433-011D, H23010433-012D, H23010433-013D, H23010433-014D, H23010433-015D, H23010433-016D, H23010433-017D, H23010433-018D, H23010433-019D, H23010433-020D, H23010433-021D, H23010433-022D, H23010433-023D, H23010433-024D, H23010433-025D, H23010433-026D, H23010433-027D, H23010433-028D, H23010433-029D, H23010433-030D, H23010433-031D, H23010433-032D, H23010433-033D, H23010433-034D, H23010433-035D, H23010433-036D, H23010433-037D, H23010433-038D, H23010433-039D											

Run ID :Run Order: SUB-C291699: 44	SampType: Sample Matrix Spike	Lab ID: H23010433-031D	Method: A5310 C								
Analysis Date: 01/27/23 01:59	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	6.21	0.50	5	1.282	99	88	112	0			

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** C\_R291699

**Date:** 21-Feb-23

Run ID :Run Order: <b>SUB-C291699: 44</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23010433-031D</b>	Method: <b>A5310 C</b>
Analysis Date: <b>01/27/23 01:59</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
		LowLimit	HighLimit
		RPD Ref Val	%RPD
		RPDLimit	Qual

Associated samples: H23010433-001D, H23010433-002D, H23010433-003D, H23010433-004D, H23010433-005D, H23010433-006D, H23010433-007D, H23010433-008D, H23010433-009D, H23010433-010D, H23010433-011D, H23010433-012D, H23010433-013D, H23010433-014D, H23010433-015D, H23010433-016D, H23010433-017D, H23010433-018D, H23010433-019D, H23010433-020D, H23010433-021D, H23010433-022D, H23010433-023D, H23010433-024D, H23010433-025D, H23010433-026D, H23010433-027D, H23010433-028D, H23010433-029D, H23010433-030D, H23010433-031D, H23010433-032D, H23010433-033D, H23010433-034D, H23010433-035D, H23010433-036D, H23010433-037D, H23010433-038D, H23010433-039D

Run ID :Run Order: <b>SUB-C291699: 45</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23010433-031D</b>	Method: <b>A5310 C</b>
Analysis Date: <b>01/27/23 02:15</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
		LowLimit	HighLimit
		RPD Ref Val	%RPD
		RPDLimit	Qual

Associated samples: H23010433-001D, H23010433-002D, H23010433-003D, H23010433-004D, H23010433-005D, H23010433-006D, H23010433-007D, H23010433-008D, H23010433-009D, H23010433-010D, H23010433-011D, H23010433-012D, H23010433-013D, H23010433-014D, H23010433-015D, H23010433-016D, H23010433-017D, H23010433-018D, H23010433-019D, H23010433-020D, H23010433-021D, H23010433-022D, H23010433-023D, H23010433-024D, H23010433-025D, H23010433-026D, H23010433-027D, H23010433-028D, H23010433-029D, H23010433-030D, H23010433-031D, H23010433-032D, H23010433-033D, H23010433-034D, H23010433-035D, H23010433-036D, H23010433-037D, H23010433-038D, H23010433-039D

<b>Qualifiers:</b> ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limit	N - Analyte concentration was not sufficiently high to calculate RPD
J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181770

Date: 21-Feb-23

Run ID :Run Order: PHSC_101-H_230123A: 2	SampType: Initial Calibration Verification Standard				Lab ID: SC 150			Method: A2510 B			
Analysis Date: 01/23/23 10:44	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	149	5.0	150	0	99	90	110				

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Run ID :Run Order: PHSC_101-H_230123A: 3	SampType: Initial Calibration Verification Standard				Lab ID: SC 20000			Method: A2510 B			
Analysis Date: 01/23/23 10:47	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	18800	5.0	20000	0	94	90	110				

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Run ID :Run Order: PHSC_101-H_230123A: 4	SampType: Initial Calibration Verification Standard				Lab ID: SC 5000			Method: A2510 B			
Analysis Date: 01/23/23 10:49	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	4770	5.0	5000	0	95	90	110				

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Run ID :Run Order: PHSC_101-H_230123A: 5	SampType: Laboratory Control Sample				Lab ID: SC 1000			Method: A2510 B			
Analysis Date: 01/23/23 10:51	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	962	5.0	1000	0	96	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181770

Date: 21-Feb-23

Run ID :Run Order: PHSC_101-H_230123A: 5	SampType: Laboratory Control Sample	Lab ID: SC 1000	Method: A2510 B								
Analysis Date: 01/23/23 10:51	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Run ID :Run Order: PHSC_101-H_230123A: 6	SampType: Method Blank	Lab ID: MBLK	Method: A2510 B								
Analysis Date: 01/23/23 10:55	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Conductivity @ 25 C ND 5

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Run ID :Run Order: PHSC_101-H_230123A: 10	SampType: Sample Duplicate	Lab ID: H23010433-001ADUP	Method: A2510 B								
Analysis Date: 01/23/23 11:00	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Conductivity @ 25 C 309 5.0 0 317.8 2.7 10

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Run ID :Run Order: PHSC_101-H_230123A: 50	SampType: Sample Duplicate	Lab ID: H23010433-020ADUP	Method: A2510 B								
Analysis Date: 01/23/23 11:45	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Conductivity @ 25 C 302 5.0 0 303 0.3 10

**Qualifiers:** ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limit N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits A - Analyte concentration greater than four times the spike amount  
 Page 146 of 249



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181770

Date: 21-Feb-23

Run ID :Run Order: PHSC_101-H_230123A: 50	SampType: Sample Duplicate	Lab ID: H23010433-020ADUP	Method: A2510 B								
Analysis Date: 01/23/23 11:45	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Run ID :Run Order: PHSC_101-H_230123A: 53	SampType: Continuing Calibration Verification Standar	Lab ID: CCV - SC 1413	Method: A2510 B								
Analysis Date: 01/23/23 11:53	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Conductivity @ 25 C                      1440                      5.0                      1413                      0                      102                      90                      110

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Run ID :Run Order: PHSC_101-H_230123A: 57	SampType: Sample Duplicate	Lab ID: H23010433-021ADUP	Method: A2510 B								
Analysis Date: 01/23/23 11:58	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Conductivity @ 25 C                      284                      5.0                      0                      285.4                      0.5                      10

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

**Qualifiers:** ND - Not Detected at the Reporting Limit                      S - Spike Recovery outside accepted recovery limit                      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits                      R - RPD outside accepted recovery limits                      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181770

Date: 21-Feb-23

Run ID :Run Order: PHSC_101-H_230123A: 1	SampType: Initial Calibration Verification Standard				Lab ID: pH 7			Method: A4500-H B			
Analysis Date: 01/23/23 10:38	Units: s.u.		Prep Info:			Prep Date:		Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	20.3			0		0	0				

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Run ID :Run Order: PHSC_101-H_230123A: 9	SampType: Sample Duplicate				Lab ID: H23010433-001ADUP			Method: A4500-H B			
Analysis Date: 01/23/23 11:00	Units: s.u.		Prep Info:			Prep Date:		Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.3	0.1		0				7.45	1.5	3	
pH Measurement Temp	10.7			0				11.5			

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Run ID :Run Order: PHSC_101-H_230123A: 49	SampType: Sample Duplicate				Lab ID: H23010433-020ADUP			Method: A4500-H B			
Analysis Date: 01/23/23 11:45	Units: s.u.		Prep Info:			Prep Date:		Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.1	0.1		0				7.12	0.1	3	
pH Measurement Temp	14.7			0				14.4			

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181770

Date: 21-Feb-23

Run ID :Run Order: PHSC_101-H_230123A: 52	SampType: Continuing Calibration Verification Standar				Lab ID: CCV - pH 7				Method: A4500-H B		
Analysis Date: 01/23/23 11:50	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	18.7			0		0	0				

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Run ID :Run Order: PHSC_101-H_230123A: 56	SampType: Sample Duplicate				Lab ID: H23010433-021ADUP				Method: A4500-H B		
Analysis Date: 01/23/23 11:58	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.1	0.1		0				7.07	0.0	3	
pH Measurement Temp	15.1			0				15.6			

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181801

**Date:** 21-Feb-23

Run ID :Run Order: <b>PHSC_101-H_230124A: 80</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MBLK</b>	Method: <b>A2320 B</b>
Analysis Date: <b>01/24/23 16:29</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
	HighLimit	RPD Ref Val	%RPD
	RPDLimit	Qual	
Alkalinity, Total as CaCO3	ND	2	

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A

Run ID :Run Order: <b>PHSC_101-H_230124A: 81</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS</b>	Method: <b>A2320 B</b>
Analysis Date: <b>01/24/23 16:35</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
	HighLimit	RPD Ref Val	%RPD
	RPDLimit	Qual	
Alkalinity, Total as CaCO3	570	4.0	600
	0	96	90
			110

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A

Run ID :Run Order: <b>PHSC_101-H_230124A: 155</b>	SampType: <b>Sample Duplicate</b>	Lab ID: <b>H23010433-004ADUP</b>	Method: <b>A2320 B</b>
Analysis Date: <b>01/24/23 20:16</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>3</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
	HighLimit	RPD Ref Val	%RPD
	RPDLimit	Qual	
Alkalinity, Total as CaCO3	83	4.0	0
Bicarbonate as HCO3	100	4.0	0
Carbonate as CO3	ND	4.0	0
			82.25
			99.74
			0
			0.7
			0.7
			10
			10
			10

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181803

**Date:** 21-Feb-23

Run ID :Run Order: <b>ICPMS205-H_230123B: 12</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>01/23/23 20:43</b>	Units: <b>mg/L</b>				Prep Info:		Prep Date:		Prep Method:		
Analytes <b>30</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.292	0.10	0.3	0	97	90	110				
Antimony	0.0625	0.050	0.06	0	104	90	110				
Arsenic	0.0616	0.0050	0.06	0	103	90	110				
Barium	0.0602	0.10	0.06	0	100	90	110				
Beryllium	0.0301	0.0010	0.03	0	100	90	110				
Boron	0.0613	0.10	0.06	0	102	90	110				
Cadmium	0.0305	0.0010	0.03	0	102	90	110				
Calcium	3.03	0.50	3	0	101	90	110				
Chromium	0.0596	0.010	0.06	0	99	90	110				
Cobalt	0.0603	0.010	0.06	0	101	90	110				
Copper	0.0613	0.010	0.06	0	102	90	110				
Iron	0.305	0.020	0.3	0	102	90	110				
Lead	0.0597	0.010	0.06	0	99	90	110				
Lithium	0.0621	0.10	0.06	0	104	90	110				
Magnesium	3.02	0.50	3	0	101	90	110				
Manganese	0.300	0.010	0.3	0	100	90	110				
Molybdenum	0.0575	0.0050	0.06	0	96	90	110				
Nickel	0.0604	0.010	0.06	0	101	90	110				
Potassium	3.03	0.50	3	0	101	90	110				
Selenium	0.0615	0.0050	0.06	0	103	90	110				
Silver	0.0297	0.0050	0.03	0	99	90	110				
Sodium	3.06	0.50	3	0	102	90	110				
Strontium	0.0602	0.10	0.06	0	100	90	110				
Thallium	0.0593	0.10	0.06	0	99	90	110				
Thorium	0.0610	0.0010	0.06	0	102	90	110				
Tin	0.0600	0.10	0.06	0	100	90	110				
Titanium	0.0597	0.010	0.06	0	100	90	110				
Uranium	0.0602	0.00030	0.06	0	100	90	110				
Vanadium	0.0601	0.10	0.06	0	100	90	110				
Zinc	0.0620	0.010	0.06	0	103	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181803

Date: 21-Feb-23

Run ID :Run Order: ICPMS205-H_230123B: 12	SampType: Initial Calibration Verification Standard	Lab ID: ICV	Method: E200.8								
Analysis Date: 01/23/23 20:43	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 30	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

Run ID :Run Order: ICPMS205-H_230123B: 19	SampType: Method Blank	Lab ID: LRB	Method: E200.8								
Analysis Date: 01/23/23 21:01	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 30	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	ND	0.0002									
Arsenic	ND	0.0002									
Barium	ND	0.0002									
Beryllium	ND	0.0002									
Boron	ND	0.006									
Cadmium	ND	0.00002									
Calcium	ND	0.2									
Chromium	ND	0.0001									
Cobalt	ND	0.001									
Copper	ND	0.0001									
Iron	ND	0.004									
Lead	ND	0.0001									
Lithium	ND	0.001									
Magnesium	ND	0.01									
Manganese	ND	0.0003									
Molybdenum	ND	0.0003									
Nickel	ND	0.0002									
Potassium	ND	0.04									
Selenium	ND	0.00007									
Silver	ND	0.00008									
Sodium	ND	0.04									
Strontium	ND	0.0001									
Thallium	ND	0.00008									
Thorium	ND	0.0002									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181803

**Date:** 21-Feb-23

Run ID :Run Order: <b>ICPMS205-H_230123B: 19</b>		SampType: <b>Method Blank</b>			Lab ID: <b>LRB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>01/23/23 21:01</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>30</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tin	ND	0.0002									
Titanium	ND	0.0005									
Uranium	ND	0.00002									
Vanadium	ND	0.0001									
Zinc	ND	0.001									

Associated samples: **H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B**

Run ID :Run Order: <b>ICPMS205-H_230123B: 20</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>01/23/23 21:03</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>30</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0482	0.10	0.05	0	96	85	115				
Antimony	0.0501	0.050	0.05	0	100	85	115				
Arsenic	0.0482	0.0050	0.05	0	96	85	115				
Barium	0.0470	0.10	0.05	0	94	85	115				
Beryllium	0.0477	0.0010	0.05	0	95	85	115				
Boron	0.0468	0.10	0.05	0	94	85	115				
Cadmium	0.0481	0.0010	0.05	0	96	85	115				
Calcium	0.986	0.50	1	0	99	85	115				
Chromium	0.0485	0.010	0.05	0	97	85	115				
Cobalt	0.0490	0.010	0.05	0	98	85	115				
Copper	0.0486	0.010	0.05	0	97	85	115				
Iron	0.149	0.020	0.15	0	99	85	115				
Lead	0.0472	0.010	0.05	0	94	85	115				
Lithium	0.0484	0.10	0.05	0	97	85	115				
Magnesium	0.990	0.50	1	0	99	85	115				
Manganese	0.0478	0.010	0.05	0	96	85	115				
Molybdenum	0.0468	0.0050	0.05	0	94	85	115				
Nickel	0.0495	0.010	0.05	0	99	85	115				
Potassium	0.965	0.50	1	0	96	85	115				
Selenium	0.0491	0.0050	0.05	0	98	85	115				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181803

Date: 21-Feb-23

Run ID :Run Order: ICPMS205-H_230123B: 20		SampType: Laboratory Fortified Blank			Lab ID: LFB			Method: E200.8			
Analysis Date: 01/23/23 21:03		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 30	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0193	0.0050	0.02	0	96	85	115				
Sodium	0.980	0.50	1	0	98	85	115				
Strontium	0.0487	0.10	0.05	0	97	85	115				
Thallium	0.0466	0.10	0.05	0	93	85	115				
Thorium	0.0451	0.0010	0.05	0	90	85	115				
Tin	0.0475	0.10	0.05	0	95	85	115				
Titanium	0.0474	0.010	0.05	0	95	85	115				
Uranium	0.0463	0.00030	0.05	0	93	85	115				
Vanadium	0.0482	0.10	0.05	0	96	85	115				
Zinc	0.0510	0.010	0.05	0	102	85	115				

Associated samples: H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

Run ID :Run Order: ICPMS205-H_230123B: 47		SampType: Sample Matrix Spike			Lab ID: H23010468-001CMS			Method: E200.8			
Analysis Date: 01/23/23 22:11		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 30	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0475	0.030	0.05	0	95	70	130				
Antimony	0.0523	0.0010	0.05	0.001712	101	70	130				
Arsenic	0.0521	0.0010	0.05	0.002271	100	70	130				
Barium	0.0646	0.050	0.05	0.01749	94	70	130				
Beryllium	0.0442	0.0010	0.05	0	88	70	130				
Boron	0.0582	0.050	0.05	0.01376	89	70	130				
Cadmium	0.0856	0.0010	0.05	0.03833	95	70	130				
Calcium	192	1.0	1	192.7		70	130				A
Chromium	0.0458	0.0050	0.05	0	92	70	130				
Cobalt	0.0460	0.0050	0.05	0	92	70	130				
Copper	0.0462	0.0050	0.05	0.0004059	92	70	130				
Iron	0.240	0.020	0.15	0.1063	89	70	130				
Lead	0.0482	0.0010	0.05	0.0001446	96	70	130				
Lithium	0.0569	0.10	0.05	0.01087	92	70	130				
Magnesium	64.3	1.0	1	62.77		70	130				A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181803

Date: 21-Feb-23

Run ID :Run Order: ICPMS205-H_230123B: 47	SampType: Sample Matrix Spike				Lab ID: H23010468-001CMS				Method: E200.8		
Analysis Date: 01/23/23 22:11	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>30</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.496	0.0010	0.05	0.4709		70	130				A
Molybdenum	0.0474	0.0010	0.05	0.001092	93	70	130				
Nickel	0.0549	0.0050	0.05	0.009362	91	70	130				
Potassium	4.45	1.0	1	3.731	72	70	130				
Selenium	0.0583	0.0010	0.05	0.00406	108	70	130				
Silver	0.0188	0.0010	0.02	0	94	70	130				
Sodium	7.49	1.0	1	6.489		70	130				A
Strontium	0.727	0.010	0.05	0.703		70	130				A
Thallium	0.0475	0.00050	0.05	0	95	70	130				
Thorium	0.0467	0.0050	0.05	0	93	70	130				
Tin	0.0468	0.050	0.05	0	94	70	130				
Titanium	0.0444	0.0050	0.05	0	89	70	130				
Uranium	0.0569	0.00030	0.05	0.008345	97	70	130				
Vanadium	0.0474	0.010	0.05	0.0005591	94	70	130				
Zinc	17.0	0.010	0.05	17.59		70	130				AE

Associated samples: H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

Run ID :Run Order: ICPMS205-H_230123B: 48	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010468-001CMSD				Method: E200.8		
Analysis Date: 01/23/23 22:14	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>30</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0457	0.030	0.05	0	91	70	130	0.04751	3.9	20	
Antimony	0.0518	0.0010	0.05	0.001712	100	70	130	0.05231	0.9	20	
Arsenic	0.0521	0.0010	0.05	0.002271	100	70	130	0.05208	0.1	20	
Barium	0.0652	0.050	0.05	0.01749	95	70	130	0.06462	0.8	20	
Beryllium	0.0456	0.0010	0.05	0	91	70	130	0.04416	3.2	20	
Boron	0.0597	0.050	0.05	0.01376	92	70	130	0.05817	2.5	20	
Cadmium	0.0846	0.0010	0.05	0.03833	93	70	130	0.08561	1.1	20	
Calcium	191	1.0	1	192.7		70	130	191.6	0.4	20	A
Chromium	0.0460	0.0050	0.05	0	92	70	130	0.04581	0.4	20	
Cobalt	0.0464	0.0050	0.05	0	93	70	130	0.04597	0.8	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181803

**Date:** 21-Feb-23

Run ID :Run Order: ICPMS205-H_230123B: 48	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010468-001CMSD				Method: E200.8		
Analysis Date: 01/23/23 22:14	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>30</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0468	0.0050	0.05	0.0004059	93	70	130	0.04621	1.2	20	
Iron	0.241	0.020	0.15	0.1063	90	70	130	0.2399	0.4	20	
Lead	0.0475	0.0010	0.05	0.0001446	95	70	130	0.04816	1.3	20	
Lithium	0.0568	0.10	0.05	0.01087	92	70	130	0.05689		20	
Magnesium	61.9	1.0	1	62.77		70	130	64.31	3.8	20	A
Manganese	0.489	0.0010	0.05	0.4709		70	130	0.4955	1.3	20	A
Molybdenum	0.0473	0.0010	0.05	0.001092	92	70	130	0.04745	0.3	20	
Nickel	0.0548	0.0050	0.05	0.009362	91	70	130	0.05492	0.2	20	
Potassium	4.49	1.0	1	3.731	76	70	130	4.449	0.9	20	
Selenium	0.0594	0.0010	0.05	0.00406	111	70	130	0.05829	2.0	20	
Silver	0.0191	0.0010	0.02	0	95	70	130	0.01882	1.3	20	
Sodium	7.25	1.0	1	6.489		70	130	7.493	3.3	20	A
Strontium	0.718	0.010	0.05	0.703		70	130	0.7269	1.2	20	A
Thallium	0.0466	0.00050	0.05	0	93	70	130	0.04753	1.9	20	
Thorium	0.0469	0.0050	0.05	0	94	70	130	0.04674	0.3	20	
Tin	0.0465	0.050	0.05	0	93	70	130	0.04678		20	
Titanium	0.0438	0.0050	0.05	0	88	70	130	0.04435	1.1	20	
Uranium	0.0560	0.00030	0.05	0.008345	95	70	130	0.05686	1.5	20	
Vanadium	0.0473	0.010	0.05	0.0005591	93	70	130	0.04736	0.2	20	
Zinc	16.7	0.010	0.05	17.59		70	130	16.99	1.5	20	AE

Associated samples: H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

Run ID :Run Order: ICPMS205-H_230123B: 49	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 01/23/23 22:16	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>29</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0481	0.10	0.05	0	96	90	110				
Antimony	0.0508	0.050	0.05	0	102	90	110				
Arsenic	0.0508	0.0050	0.05	0	102	90	110				
Barium	0.0511	0.10	0.05	0	102	90	110				
Beryllium	0.0486	0.0010	0.05	0	97	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181803

**Date:** 21-Feb-23

Run ID :Run Order: <b>ICPMS205-H_230123B: 49</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>01/23/23 22:16</b>	Units: <b>mg/L</b>		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>29</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.0535	0.10	0.05	0	107	90	110				
Cadmium	0.0519	0.0010	0.05	0	104	90	110				
Calcium	12.6	0.50	12.5	0	100	90	110				
Chromium	0.0506	0.010	0.05	0	101	90	110				
Cobalt	0.0508	0.010	0.05	0	101	90	110				
Copper	0.0513	0.010	0.05	0	103	90	110				
Iron	1.32	0.020	1.3	0	102	90	110				
Lead	0.0503	0.010	0.05	0	101	90	110				
Lithium	0.619	0.10	0.625	0	99	90	110				
Magnesium	12.8	0.50	12.5	0	102	90	110				
Manganese	0.0497	0.010	0.05	0	99	90	110				
Molybdenum	0.0509	0.0050	0.05	0	102	90	110				
Nickel	0.0506	0.010	0.05	0	101	90	110				
Potassium	12.2	0.50	12.5	0	98	90	110				
Selenium	0.0525	0.0050	0.05	0	105	90	110				
Silver	0.0210	0.0050	0.02	0	105	90	110				
Sodium	12.9	0.50	12.5	0	103	90	110				
Strontium	0.0517	0.10	0.05	0	103	90	110				
Thallium	0.0503	0.10	0.05	0	101	90	110				
Thorium	0.0500	0.0010	0.05	0	100	90	110				
Tin	0.0518	0.10	0.05	0	104	90	110				
Titanium	0.0474	0.010	0.05	0	95	90	110				
Uranium	0.0506	0.00030	0.05	0	101	90	110				
Vanadium	0.0505	0.10	0.05	0	101	90	110				

Associated samples: **H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B**

Run ID :Run Order: <b>ICPMS205-H_230123B: 69</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>01/23/23 23:07</b>	Units: <b>mg/L</b>		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>30</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0492	0.10	0.05	0	98	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181803

Date: 21-Feb-23

Run ID :Run Order: ICPMS205-H_230123B: 69	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 01/23/23 23:07	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 30	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0509	0.050	0.05	0	102	90	110				
Arsenic	0.0509	0.0050	0.05	0	102	90	110				
Barium	0.0512	0.10	0.05	0	102	90	110				
Beryllium	0.0498	0.0010	0.05	0	100	90	110				
Boron	0.0542	0.10	0.05	0	108	90	110				
Cadmium	0.0521	0.0010	0.05	0	104	90	110				
Calcium	12.6	0.50	12.5	0	100	90	110				
Chromium	0.0506	0.010	0.05	0	101	90	110				
Cobalt	0.0506	0.010	0.05	0	101	90	110				
Copper	0.0513	0.010	0.05	0	103	90	110				
Iron	1.32	0.020	1.3	0	102	90	110				
Lead	0.0497	0.010	0.05	0	99	90	110				
Lithium	0.630	0.10	0.625	0	101	90	110				
Magnesium	12.6	0.50	12.5	0	101	90	110				
Manganese	0.0491	0.010	0.05	0	98	90	110				
Molybdenum	0.0516	0.0050	0.05	0	103	90	110				
Nickel	0.0510	0.010	0.05	0	102	90	110				
Potassium	12.2	0.50	12.5	0	98	90	110				
Selenium	0.0525	0.0050	0.05	0	105	90	110				
Silver	0.0204	0.0050	0.02	0	102	90	110				
Sodium	12.8	0.50	12.5	0	103	90	110				
Strontium	0.0505	0.10	0.05	0	101	90	110				
Thallium	0.0498	0.10	0.05	0	100	90	110				
Thorium	0.0495	0.0010	0.05	0	99	90	110				
Tin	0.0513	0.10	0.05	0	103	90	110				
Titanium	0.0486	0.010	0.05	0	97	90	110				
Uranium	0.0503	0.00030	0.05	0	101	90	110				
Vanadium	0.0504	0.10	0.05	0	101	90	110				
Zinc	0.0510	0.010	0.05	0	102	90	110				

Associated samples: H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181803

**Date:** 21-Feb-23

Run ID :Run Order: **ICPMS205-H\_230123B: 81**

SampType: **Sample Matrix Spike**

Lab ID: **H23010433-018BMS**

Method: **E200.8**

Analysis Date: **01/23/23 23:37**

Units: **mg/L**

Prep Info: Prep Date:

Prep Method:

Analytes <b>30</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0448	0.030	0.05	0	90	70	130				
Antimony	0.0576	0.0010	0.05	0.006281	103	70	130				
Arsenic	0.0514	0.0010	0.05	0.00311	97	70	130				
Barium	0.0665	0.050	0.05	0.019	95	70	130				
Beryllium	0.0454	0.0010	0.05	0	91	70	130				
Boron	0.133	0.050	0.05	0.08871	89	70	130				
Cadmium	0.0529	0.0010	0.05	0.004706	96	70	130				
Calcium	117	1.0	1	117.8		70	130				A
Chromium	0.0480	0.0050	0.05	0	96	70	130				
Cobalt	0.0476	0.0050	0.05	0	95	70	130				
Copper	0.120	0.0050	0.05	0.07318	93	70	130				
Iron	0.144	0.020	0.15	0	96	70	130				
Lead	0.0466	0.0010	0.05	0	93	70	130				
Lithium	0.242	0.10	0.05	0.1951	93	70	130				
Magnesium	25.9	1.0	1	26.6		70	130				A
Manganese	0.0638	0.0010	0.05	0.01642	95	70	130				
Molybdenum	0.0500	0.0010	0.05	0.003145	94	70	130				
Nickel	0.0514	0.0050	0.05	0.003572	96	70	130				
Potassium	11.3	1.0	1	10.79		70	130				A
Selenium	0.0501	0.0010	0.05	0.00018	100	70	130				
Silver	0.0193	0.0010	0.02	0	97	70	130				
Sodium	76.1	1.0	1	80.4		70	130				A
Strontium	1.36	0.010	0.05	1.354		70	130				A
Thallium	0.0457	0.00050	0.05	0	91	70	130				
Thorium	0.0454	0.0050	0.05	0	91	70	130				
Tin	0.0471	0.050	0.05	0	94	70	130				
Titanium	0.0431	0.0050	0.05	0	86	70	130				
Uranium	0.0487	0.00030	0.05	0.001572	94	70	130				
Vanadium	0.0488	0.010	0.05	0.0008898	96	70	130				
Zinc	0.844	0.010	0.05	0.8202		70	130				A

**Qualifiers:** ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limit

N - Analyte concentration was not sufficiently high to calculate RPD

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181803

**Date:** 21-Feb-23

Run ID :Run Order: <b>ICPMS205-H_230123B: 81</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23010433-018BMS</b>	Method: <b>E200.8</b>								
Analysis Date: <b>01/23/23 23:37</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>30</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B**

Run ID :Run Order: <b>ICPMS205-H_230123B: 82</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23010433-018BMSD</b>	Method: <b>E200.8</b>								
Analysis Date: <b>01/23/23 23:40</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>30</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aluminum	0.0474	0.030	0.05	0	<b>95</b>	70	130	0.04483	<b>5.7</b>	20	
Antimony	0.0574	0.0010	0.05	0.006281	<b>102</b>	70	130	0.05758	<b>0.4</b>	20	
Arsenic	0.0516	0.0010	0.05	0.00311	<b>97</b>	70	130	0.05142	<b>0.4</b>	20	
Barium	0.0672	0.050	0.05	0.019	<b>96</b>	70	130	0.06648	<b>1.0</b>	20	
Beryllium	0.0455	0.0010	0.05	0	<b>91</b>	70	130	0.04545	<b>0</b>	20	
Boron	0.136	0.050	0.05	0.08871	<b>94</b>	70	130	0.133	<b>1.9</b>	20	
Cadmium	0.0534	0.0010	0.05	0.004706	<b>97</b>	70	130	0.05286	<b>1.1</b>	20	
Calcium	117	1.0	1	117.8		70	130	116.8	<b>0.4</b>	20	A
Chromium	0.0482	0.0050	0.05	0	<b>96</b>	70	130	0.048	<b>0.4</b>	20	
Cobalt	0.0483	0.0050	0.05	0	<b>97</b>	70	130	0.04763	<b>1.3</b>	20	
Copper	0.120	0.0050	0.05	0.07318	<b>93</b>	70	130	0.1196	<b>0.2</b>	20	
Iron	0.146	0.020	0.15	0	<b>97</b>	70	130	0.1444	<b>1.1</b>	20	
Lead	0.0478	0.0010	0.05	0	<b>96</b>	70	130	0.04657	<b>2.6</b>	20	
Lithium	0.242	0.10	0.05	0.1951	<b>94</b>	70	130	0.2415	<b>0.2</b>	20	
Magnesium	26.4	1.0	1	26.6		70	130	25.86	<b>2.1</b>	20	A
Manganese	0.0644	0.0010	0.05	0.01642	<b>96</b>	70	130	0.06382	<b>0.9</b>	20	
Molybdenum	0.0510	0.0010	0.05	0.003145	<b>96</b>	70	130	0.05001	<b>1.9</b>	20	
Nickel	0.0515	0.0050	0.05	0.003572	<b>96</b>	70	130	0.05141	<b>0.2</b>	20	
Potassium	11.4	1.0	1	10.79		70	130	11.32	<b>0.3</b>	20	A
Selenium	0.0506	0.0010	0.05	0.00018	<b>101</b>	70	130	0.0501	<b>1.0</b>	20	
Silver	0.0208	0.0010	0.02	0	<b>104</b>	70	130	0.01931	<b>7.2</b>	20	
Sodium	77.7	1.0	1	80.4		70	130	76.12	<b>2.1</b>	20	A
Strontium	1.35	0.010	0.05	1.354		70	130	1.359	<b>0.4</b>	20	A
Thallium	0.0467	0.00050	0.05	0	<b>93</b>	70	130	0.04569	<b>2.2</b>	20	
Thorium	0.0473	0.0050	0.05	0	<b>95</b>	70	130	0.04543	<b>4.0</b>	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181803

**Date:** 21-Feb-23

Run ID :Run Order: ICPMS205-H_230123B: 82	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010433-018BMSD				Method: E200.8		
Analysis Date: 01/23/23 23:40	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>30</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tin	0.0479	0.050	0.05	0	96	70	130	0.04712		20	
Titanium	0.0454	0.0050	0.05	0	91	70	130	0.04311	5.1	20	
Uranium	0.0497	0.00030	0.05	0.001572	96	70	130	0.04873	2.0	20	
Vanadium	0.0495	0.010	0.05	0.0008898	97	70	130	0.04881	1.5	20	
Zinc	0.844	0.010	0.05	0.8202		70	130	0.8444	0.1	20	A

Associated samples: H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

Run ID :Run Order: ICPMS205-H_230123B: 83	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 01/23/23 23:42	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>28</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0531	0.10	0.05	0	106	90	110				
Antimony	0.0511	0.050	0.05	0	102	90	110				
Arsenic	0.0507	0.0050	0.05	0	101	90	110				
Barium	0.0511	0.10	0.05	0	102	90	110				
Beryllium	0.0507	0.0010	0.05	0	101	90	110				
Cadmium	0.0520	0.0010	0.05	0	104	90	110				
Calcium	12.6	0.50	12.5	0	101	90	110				
Chromium	0.0516	0.010	0.05	0	103	90	110				
Cobalt	0.0509	0.010	0.05	0	102	90	110				
Copper	0.0517	0.010	0.05	0	103	90	110				
Iron	1.33	0.020	1.3	0	103	90	110				
Lead	0.0504	0.010	0.05	0	101	90	110				
Lithium	0.636	0.10	0.625	0	102	90	110				
Magnesium	12.8	0.50	12.5	0	102	90	110				
Manganese	0.0489	0.010	0.05	0	98	90	110				
Molybdenum	0.0514	0.0050	0.05	0	103	90	110				
Nickel	0.0516	0.010	0.05	0	103	90	110				
Potassium	12.4	0.50	12.5	0	99	90	110				
Selenium	0.0527	0.0050	0.05	0	105	90	110				
Silver	0.0216	0.0050	0.02	0	108	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181803

Date: 21-Feb-23

Run ID :Run Order: ICPMS205-H_230123B: 83	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 01/23/23 23:42	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>28</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	13.1	0.50	12.5	0	105	90	110				
Strontium	0.0515	0.10	0.05	0	103	90	110				
Thallium	0.0505	0.10	0.05	0	101	90	110				
Thorium	0.0500	0.0010	0.05	0	100	90	110				
Tin	0.0513	0.10	0.05	0	103	90	110				
Uranium	0.0506	0.00030	0.05	0	101	90	110				
Vanadium	0.0508	0.10	0.05	0	102	90	110				
Zinc	0.0526	0.010	0.05	0	105	90	110				

Associated samples: H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

Run ID :Run Order: ICPMS205-H_230123B: 95	SampType: Sample Matrix Spike				Lab ID: H23010433-028BMS				Method: E200.8		
Analysis Date: 01/24/23 00:13	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>30</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0493	0.030	0.05	0	99	70	130				
Antimony	0.0504	0.0010	0.05	0.0002072	100	70	130				
Arsenic	0.0516	0.0010	0.05	0.003487	96	70	130				
Barium	0.0604	0.050	0.05	0.01168	97	70	130				
Beryllium	0.0445	0.0010	0.05	0	89	70	130				
Boron	0.123	0.050	0.05	0.08201	81	70	130				
Cadmium	0.0506	0.0010	0.05	0.002104	97	70	130				
Calcium	119	1.0	1	117.6		70	130				A
Chromium	0.0476	0.0050	0.05	0.0002179	95	70	130				
Cobalt	0.0476	0.0050	0.05	0	95	70	130				
Copper	0.0486	0.0050	0.05	0.00111	95	70	130				
Iron	0.142	0.020	0.15	0	95	70	130				
Lead	0.0477	0.0010	0.05	0	95	70	130				
Lithium	0.216	0.10	0.05	0.178	76	70	130				
Magnesium	26.8	1.0	1	25.9		70	130				A
Manganese	0.0471	0.0010	0.05	0	94	70	130				
Molybdenum	0.0581	0.0010	0.05	0.01098	94	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181803

Date: 21-Feb-23

Run ID :Run Order: ICPMS205-H_230123B: 95		SampType: Sample Matrix Spike			Lab ID: H23010433-028BMS				Method: E200.8		
Analysis Date: 01/24/23 00:13		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes <b>30</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	0.0482	0.0050	0.05	0.0006794	95	70	130				
Potassium	10.9	1.0	1	10		70	130				A
Selenium	0.0502	0.0010	0.05	0.0002792	100	70	130				
Silver	0.0202	0.0010	0.02	0	101	70	130				
Sodium	67.5	1.0	1	66.85		70	130				A
Strontium	1.29	0.010	0.05	1.254		70	130				A
Thallium	0.0466	0.00050	0.05	0	93	70	130				
Thorium	0.0461	0.0050	0.05	0	92	70	130				
Tin	0.0471	0.050	0.05	0	94	70	130				
Titanium	0.0434	0.0050	0.05	0	87	70	130				
Uranium	0.0504	0.00030	0.05	0.002562	96	70	130				
Vanadium	0.0503	0.010	0.05	0.002064	96	70	130				
Zinc	0.209	0.010	0.05	0.1646	90	70	130				

Associated samples: H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

Run ID :Run Order: ICPMS205-H_230123B: 96		SampType: Sample Matrix Spike Duplicate			Lab ID: H23010433-028BMSD				Method: E200.8		
Analysis Date: 01/24/23 00:15		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes <b>30</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0486	0.030	0.05	0	97	70	130	0.04932	1.5	20	
Antimony	0.0546	0.0010	0.05	0.0002072	109	70	130	0.05036	8.2	20	
Arsenic	0.0552	0.0010	0.05	0.003487	103	70	130	0.05163	6.7	20	
Barium	0.0648	0.050	0.05	0.01168	106	70	130	0.06039	7.1	20	
Beryllium	0.0485	0.0010	0.05	0	97	70	130	0.0445	8.6	20	
Boron	0.128	0.050	0.05	0.08201	91	70	130	0.1227	3.9	20	
Cadmium	0.0544	0.0010	0.05	0.002104	105	70	130	0.05056	7.4	20	
Calcium	117	1.0	1	117.6		70	130	119.2	1.8	20	A
Chromium	0.0508	0.0050	0.05	0.0002179	101	70	130	0.04764	6.4	20	
Cobalt	0.0511	0.0050	0.05	0	102	70	130	0.04756	7.2	20	
Copper	0.0525	0.0050	0.05	0.00111	103	70	130	0.04865	7.5	20	
Iron	0.153	0.020	0.15	0	102	70	130	0.1423	7.4	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181803

Date: 21-Feb-23

Run ID :Run Order: ICPMS205-H_230123B: 96	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010433-028BMSD				Method: E200.8		
Analysis Date: 01/24/23 00:15	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 30	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.0512	0.0010	0.05	0	102	70	130	0.04766	7.2	20	
Lithium	0.225	0.10	0.05	0.178	95	70	130	0.2161	4.2	20	
Magnesium	26.4	1.0	1	25.9		70	130	26.84	1.7	20	A
Manganese	0.0510	0.0010	0.05	0	102	70	130	0.04709	7.9	20	
Molybdenum	0.0619	0.0010	0.05	0.01098	102	70	130	0.05812	6.3	20	
Nickel	0.0514	0.0050	0.05	0.0006794	101	70	130	0.04822	6.4	20	
Potassium	11.0	1.0	1	10		70	130	10.88	0.7	20	A
Selenium	0.0538	0.0010	0.05	0.0002792	107	70	130	0.05025	6.8	20	
Silver	0.0216	0.0010	0.02	0	108	70	130	0.02017	6.9	20	
Sodium	66.3	1.0	1	66.85		70	130	67.49	1.8	20	A
Strontium	1.29	0.010	0.05	1.254		70	130	1.292	0.1	20	A
Thallium	0.0501	0.00050	0.05	0	100	70	130	0.04657	7.3	20	
Thorium	0.0506	0.0050	0.05	0	101	70	130	0.04607	9.4	20	
Tin	0.0511	0.050	0.05	0	102	70	130	0.04709		20	
Titanium	0.0478	0.0050	0.05	0	95	70	130	0.04342	9.5	20	
Uranium	0.0543	0.00030	0.05	0.002562	104	70	130	0.05037	7.6	20	
Vanadium	0.0534	0.010	0.05	0.002064	103	70	130	0.05031	5.9	20	
Zinc	0.216	0.010	0.05	0.1646	103	70	130	0.2094	3.1	20	

Associated samples: H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

Run ID :Run Order: ICPMS205-H_230123B: 97	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 01/24/23 00:18	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 29	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0498	0.10	0.05	0	100	90	110				
Antimony	0.0509	0.050	0.05	0	102	90	110				
Arsenic	0.0500	0.0050	0.05	0	100	90	110				
Barium	0.0502	0.10	0.05	0	100	90	110				
Beryllium	0.0503	0.0010	0.05	0	101	90	110				
Cadmium	0.0522	0.0010	0.05	0	104	90	110				
Calcium	12.7	0.50	12.5	0	101	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181803

**Date:** 21-Feb-23

Run ID :Run Order: ICPMS205-H_230123B: 97	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 01/24/23 00:18	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <u>29</u>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.0509	0.010	0.05	0	102	90	110				
Cobalt	0.0507	0.010	0.05	0	101	90	110				
Copper	0.0509	0.010	0.05	0	102	90	110				
Iron	1.33	0.020	1.3	0	102	90	110				
Lead	0.0503	0.010	0.05	0	101	90	110				
Lithium	0.633	0.10	0.625	0	101	90	110				
Magnesium	12.6	0.50	12.5	0	101	90	110				
Manganese	0.0492	0.010	0.05	0	98	90	110				
Molybdenum	0.0511	0.0050	0.05	0	102	90	110				
Nickel	0.0511	0.010	0.05	0	102	90	110				
Potassium	12.5	0.50	12.5	0	100	90	110				
Selenium	0.0526	0.0050	0.05	0	105	90	110				
Silver	0.0212	0.0050	0.02	0	106	90	110				
Sodium	12.9	0.50	12.5	0	104	90	110				
Strontium	0.0501	0.10	0.05	0	100	90	110				
Thallium	0.0504	0.10	0.05	0	101	90	110				
Thorium	0.0499	0.0010	0.05	0	100	90	110				
Tin	0.0510	0.10	0.05	0	102	90	110				
Titanium	0.0492	0.010	0.05	0	98	90	110				
Uranium	0.0506	0.00030	0.05	0	101	90	110				
Vanadium	0.0507	0.10	0.05	0	101	90	110				
Zinc	0.0526	0.010	0.05	0	105	90	110				

Associated samples: H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

Run ID :Run Order: ICPMS205-H_230123B: 108	SampType: Sample Matrix Spike				Lab ID: H23010433-038BMS				Method: E200.8		
Analysis Date: 01/24/23 00:45	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <u>30</u>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.08	0.030	0.05	2.085		70	130				A
Antimony	0.0515	0.0010	0.05	0.0002212	102	70	130				
Arsenic	0.0677	0.0010	0.05	0.01846	99	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181803

Date: 21-Feb-23

Run ID :Run Order: ICPMS205-H_230123B: 108	SampType: Sample Matrix Spike				Lab ID: H23010433-038BMS				Method: E200.8		
Analysis Date: 01/24/23 00:45	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 30	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.133	0.050	0.05	0.08467	97	70	130				
Beryllium	0.0446	0.0010	0.05	0.001892	85	70	130				
Boron	0.575	0.050	0.05	0.5218		70	130				A
Cadmium	0.240	0.0010	0.05	0.1946	92	70	130				
Calcium	258	1.0	1	262.5		70	130				A
Chromium	0.0479	0.0050	0.05	0.0002719	95	70	130				
Cobalt	0.328	0.0050	0.05	0.2776		70	130				A
Copper	12.6	0.0050	0.05	12.45		70	130				AE
Iron	75.7	0.020	0.15	75.05		70	130				AE
Lead	0.0629	0.0010	0.05	0.01427	97	70	130				
Lithium	0.639	0.10	0.05	0.5944		70	130				A
Magnesium	108	1.0	1	109.4		70	130				A
Manganese	51.1	0.0010	0.05	50.94		70	130				AE
Molybdenum	0.0531	0.0010	0.05	0.004189	98	70	130				
Nickel	0.157	0.0050	0.05	0.1083	97	70	130				
Potassium	13.1	1.0	1	12.19		70	130				A
Selenium	0.0499	0.0010	0.05	0.000503	99	70	130				
Silver	0.0193	0.0010	0.02	0.0001465	96	70	130				
Sodium	206	1.0	1	209.2		70	130				A
Strontium	1.64	0.010	0.05	1.586		70	130				A
Thallium	0.0477	0.00050	0.05	0	95	70	130				
Thorium	0.0503	0.0050	0.05	0	101	70	130				
Tin	0.0481	0.050	0.05	0	96	70	130				
Titanium	0.0461	0.0050	0.05	0	92	70	130				
Uranium	0.0656	0.00030	0.05	0.01528	101	70	130				
Vanadium	0.0493	0.010	0.05	0.0007524	97	70	130				
Zinc	40.1	0.010	0.05	39.85		70	130				AE

Associated samples: H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181803

**Date:** 21-Feb-23

Run ID :Run Order: <b>ICPMS205-H_230123B: 109</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23010433-038BMSD</b>				Method: <b>E200.8</b>		
Analysis Date: <b>01/24/23 00:48</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:		Prep Method:				
Analytes <b>30</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.10	0.030	0.05	2.085		70	130	2.084	<b>0.9</b>	20	A
Antimony	0.0520	0.0010	0.05	0.0002212	<b>104</b>	70	130	0.05146	<b>1.0</b>	20	
Arsenic	0.0669	0.0010	0.05	0.01846	<b>97</b>	70	130	0.06774	<b>1.3</b>	20	
Barium	0.135	0.050	0.05	0.08467	<b>100</b>	70	130	0.133	<b>1.2</b>	20	
Beryllium	0.0438	0.0010	0.05	0.001892	<b>84</b>	70	130	0.04456	<b>1.8</b>	20	
Boron	0.570	0.050	0.05	0.5218		70	130	0.5751	<b>0.8</b>	20	A
Cadmium	0.240	0.0010	0.05	0.1946	<b>91</b>	70	130	0.2404	<b>0.2</b>	20	
Calcium	259	1.0	1	262.5		70	130	258.3	<b>0.3</b>	20	A
Chromium	0.0476	0.0050	0.05	0.0002719	<b>95</b>	70	130	0.0479	<b>0.7</b>	20	
Cobalt	0.326	0.0050	0.05	0.2776		70	130	0.328	<b>0.6</b>	20	A
Copper	12.5	0.0050	0.05	12.45		70	130	12.65	<b>0.9</b>	20	AE
Iron	75.1	0.020	0.15	75.05		70	130	75.73	<b>0.8</b>	20	AE
Lead	0.0635	0.0010	0.05	0.01427	<b>98</b>	70	130	0.0629	<b>0.9</b>	20	
Lithium	0.632	0.10	0.05	0.5944		70	130	0.6389	<b>1.1</b>	20	A
Magnesium	109	1.0	1	109.4		70	130	107.7	<b>1.3</b>	20	A
Manganese	50.7	0.0010	0.05	50.94		70	130	51.14	<b>0.8</b>	20	AE
Molybdenum	0.0535	0.0010	0.05	0.004189	<b>99</b>	70	130	0.05308	<b>0.8</b>	20	
Nickel	0.154	0.0050	0.05	0.1083	<b>91</b>	70	130	0.1569	<b>1.9</b>	20	
Potassium	13.2	1.0	1	12.19		70	130	13.11	<b>0.5</b>	20	A
Selenium	0.0502	0.0010	0.05	0.000503	<b>99</b>	70	130	0.04994	<b>0.6</b>	20	
Silver	0.0193	0.0010	0.02	0.0001465	<b>96</b>	70	130	0.01927	<b>0.2</b>	20	
Sodium	211	1.0	1	209.2		70	130	206.3	<b>2.1</b>	20	A
Strontium	1.62	0.010	0.05	1.586		70	130	1.643	<b>1.7</b>	20	A
Thallium	0.0480	0.00050	0.05	0	<b>96</b>	70	130	0.04766	<b>0.8</b>	20	
Thorium	0.0509	0.0050	0.05	0	<b>102</b>	70	130	0.0503	<b>1.2</b>	20	
Tin	0.0486	0.050	0.05	0	<b>97</b>	70	130	0.04806		20	
Titanium	0.0468	0.0050	0.05	0	<b>94</b>	70	130	0.04607	<b>1.5</b>	20	
Uranium	0.0661	0.00030	0.05	0.01528	<b>102</b>	70	130	0.06559	<b>0.7</b>	20	
Vanadium	0.0497	0.010	0.05	0.0007524	<b>98</b>	70	130	0.04927	<b>0.8</b>	20	
Zinc	39.8	0.010	0.05	39.85		70	130	40.07	<b>0.6</b>	20	AE

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181803

**Date:** 21-Feb-23

Run ID :Run Order: <b>ICPMS205-H_230123B: 109</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23010433-038BMSD</b>	Method: <b>E200.8</b>								
Analysis Date: <b>01/24/23 00:48</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>30</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181807

**Date:** 21-Feb-23

Run ID :Run Order: ICP2-HE_230124B: 7	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.7		
Analysis Date: 01/24/23 08:46	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <span style="color: red;">11</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.783	0.10	0.8	0	98	95	105				
Calcium	39.4	1.0	40	0	98	95	105				
Copper	0.800	0.012	0.8	0	100	95	105				
Iron	4.02	0.020	4	0	100	95	105				
Lithium	0.808	0.10	0.8	0	101	95	105				
Magnesium	40.0	1.0	40	0	100	95	105				
Manganese	3.98	0.010	4	0	100	95	105				
Potassium	40.2	1.0	40	0	100	95	105				
Sodium	39.9	1.0	40	0	100	95	105				
Strontium	0.790	0.10	0.8	0	99	95	105				
Zinc	0.798	0.010	0.8	0	100	95	105				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-037F, H23010433-038B, H23010433-038F, H23010433-039B, H23010433-039F

Run ID :Run Order: ICP2-HE_230124B: 9	SampType: Continuing Calibration Verification Standar				Lab ID: CCV-1				Method: E200.7		
Analysis Date: 01/24/23 08:55	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <span style="color: red;">11</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.47	0.10	2.5	0	99	95	105				
Calcium	25.1	1.0	25	0	101	95	105				
Copper	2.52	0.012	2.5	0	101	95	105				
Iron	2.56	0.020	2.5	0	102	95	105				
Lithium	1.19	0.10	1.25	0	95	95	105				
Magnesium	25.7	1.0	25	0	103	95	105				
Manganese	2.54	0.010	2.5	0	102	95	105				
Potassium	23.9	1.0	25	0	96	95	105				
Sodium	23.8	1.0	25	0	95	95	105				
Strontium	2.51	0.10	2.5	0	100	95	105				
Zinc	2.55	0.010	2.5	0	102	95	105				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181807

**Date:** 21-Feb-23

Run ID :Run Order: **ICP2-HE\_230124B: 9**      SampType: **Continuing Calibration Verification Standar**      Lab ID: **CCV-1**      Method: **E200.7**  
 Analysis Date: **01/24/23 08:55**      Units: **mg/L**      Prep Info:      Prep Date:      Prep Method:  
 Analytes **11**      Result      PQL      SPK value      SPK Ref Val      %REC      LowLimit      HighLimit      RPD Ref Val      %RPD      RPDLimit      Qual

Associated samples: **H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-037F, H23010433-038B, H23010433-038F, H23010433-039B, H23010433-039F**

Run ID :Run Order: **ICP2-HE\_230124B: 15**      SampType: **Method Blank**      Lab ID: **MB**      Method: **E200.7**  
 Analysis Date: **01/24/23 09:18**      Units: **mg/L**      Prep Info:      Prep Date:      Prep Method:  
 Analytes **9**      Result      PQL      SPK value      SPK Ref Val      %REC      LowLimit      HighLimit      RPD Ref Val      %RPD      RPDLimit      Qual

Analytes	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.004									
Calcium	ND	0.2									
Copper	ND	0.01									
Iron	ND	0.008									
Magnesium	ND	0.05									
Manganese	ND	0.001									
Potassium	ND	0.06									
Sodium	ND	0.03									
Strontium	ND	0.0003									

Associated samples: **H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B**

Run ID :Run Order: **ICP2-HE\_230124B: 16**      SampType: **Laboratory Fortified Blank**      Lab ID: **LFB**      Method: **E200.7**  
 Analysis Date: **01/24/23 09:22**      Units: **mg/L**      Prep Info:      Prep Date:      Prep Method:  
 Analytes **9**      Result      PQL      SPK value      SPK Ref Val      %REC      LowLimit      HighLimit      RPD Ref Val      %RPD      RPDLimit      Qual

Analytes	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.928	0.10	1	0	93	85	115				
Calcium	48.7	1.0	50	0	97	85	115				
Copper	1.01	0.012	1	0	101	85	115				
Iron	5.09	0.020	5	0	102	85	115				
Magnesium	50.4	1.0	50	0	101	85	115				
Manganese	4.96	0.010	5	0	99	85	115				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181807

Date: 21-Feb-23

Run ID :Run Order: ICP2-HE_230124B: 16	SampType: Laboratory Fortified Blank				Lab ID: LFB			Method: E200.7			
Analysis Date: 01/24/23 09:22	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	51.6	1.0	50	0	103	85	115				
Sodium	51.5	1.0	50	0	103	85	115				
Strontium	1.00	0.10	1	0	100	85	115				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

Run ID :Run Order: ICP2-HE_230124B: 46	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.7			
Analysis Date: 01/24/23 11:37	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 11	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.46	0.10	2.5	0	98	90	110				
Calcium	24.6	1.0	25	0	98	90	110				
Copper	2.56	0.012	2.5	0	102	90	110				
Iron	2.49	0.020	2.5	0	99	90	110				
Lithium	1.33	0.10	1.25	0	106	90	110				
Magnesium	25.0	1.0	25	0	100	90	110				
Manganese	2.45	0.010	2.5	0	98	90	110				
Potassium	25.4	1.0	25	0	102	90	110				
Sodium	25.8	1.0	25	0	103	90	110				
Strontium	2.60	0.10	2.5	0	104	90	110				
Zinc	2.42	0.010	2.5	0	97	90	110				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-037F, H23010433-038B, H23010433-038F, H23010433-039B, H23010433-039F

Run ID :Run Order: ICP2-HE_230124B: 58	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.7			
Analysis Date: 01/24/23 12:21	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 11	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.37	0.10	2.5	0	95	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181807

**Date:** 21-Feb-23

Run ID :Run Order: ICP2-HE_230124B: 58	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.7			
Analysis Date: 01/24/23 12:21	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <span style="color: red;">11</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	24.2	1.0	25	0	97	90	110				
Copper	2.59	0.012	2.5	0	104	90	110				
Iron	2.50	0.020	2.5	0	100	90	110				
Lithium	1.37	0.10	1.25	0	110	90	110				
Magnesium	25.1	1.0	25	0	100	90	110				
Manganese	2.45	0.010	2.5	0	98	90	110				
Potassium	26.1	1.0	25	0	104	90	110				
Sodium	26.5	1.0	25	0	106	90	110				
Strontium	2.63	0.10	2.5	0	105	90	110				
Zinc	2.34	0.010	2.5	0	93	90	110				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-037F, H23010433-038B, H23010433-038F, H23010433-039B, H23010433-039F

Run ID :Run Order: ICP2-HE_230124B: 65	SampType: Sample Matrix Spike				Lab ID: H23010433-001BMS2			Method: E200.7			
Analysis Date: 01/24/23 12:48	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <span style="color: red;">9</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.967	0.050	1	0.02976	94	70	130				
Calcium	76.2	1.0	50	28.69	95	70	130				
Copper	1.04	0.012	1	0	104	70	130				
Iron	4.95	0.020	5	0	99	70	130				
Magnesium	56.9	1.0	50	7.102	100	70	130				
Manganese	4.88	0.0014	5	0.00174	98	70	130				
Potassium	55.2	1.0	50	3.43	103	70	130				
Sodium	74.2	1.0	50	21.9	105	70	130				
Strontium	1.22	0.010	1	0.2017	102	70	130				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181807

Date: 21-Feb-23

Run ID :Run Order: ICP2-HE_230124B: 66	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010433-001BMSD2				Method: E200.7		
Analysis Date: 01/24/23 12:51	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>9</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.983	0.050	1	0.02976	95	70	130	0.9675	1.5	20	
Calcium	77.8	1.0	50	28.69	98	70	130	76.16	2.1	20	
Copper	1.02	0.012	1	0	102	70	130	1.036	1.4	20	
Iron	4.97	0.020	5	0	99	70	130	4.951	0.5	20	
Magnesium	56.8	1.0	50	7.102	99	70	130	56.86	0	20	
Manganese	4.89	0.0014	5	0.00174	98	70	130	4.88	0.3	20	
Potassium	54.9	1.0	50	3.43	103	70	130	55.18	0.5	20	
Sodium	73.7	1.0	50	21.9	104	70	130	74.23	0.7	20	
Strontium	1.21	0.010	1	0.2017	101	70	130	1.222	0.6	20	

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

Run ID :Run Order: ICP2-HE_230124B: 70	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 01/24/23 13:06	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.45	0.10	2.5	0	98	90	110				
Calcium	24.7	1.0	25	0	99	90	110				
Copper	2.61	0.012	2.5	0	104	90	110				
Iron	2.53	0.020	2.5	0	101	90	110				
Magnesium	25.1	1.0	25	0	101	90	110				
Manganese	2.49	0.010	2.5	0	100	90	110				
Potassium	27.0	1.0	25	0	108	90	110				
Sodium	27.3	1.0	25	0	109	90	110				
Strontium	2.61	0.10	2.5	0	105	90	110				
Zinc	2.43	0.010	2.5	0	97	90	110				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-037F, H23010433-038B, H23010433-038F, H23010433-039B, H23010433-039F

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181807

Date: 21-Feb-23

Run ID :Run Order: ICP2-HE_230124B: 80	SampType: Sample Matrix Spike				Lab ID: H23010433-011BMS2				Method: E200.7		
Analysis Date: 01/24/23 13:44	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <span style="color:red">9</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.975	0.050	1	0.03802	94	70	130				
Calcium	73.0	1.0	50	23.71	99	70	130				
Copper	1.06	0.012	1	0	106	70	130				
Iron	5.13	0.020	5	0	103	70	130				
Magnesium	57.5	1.0	50	5.896	103	70	130				
Manganese	5.03	0.0014	5	0	101	70	130				
Potassium	55.9	1.0	50	3.152	105	70	130				
Sodium	80.4	1.0	50	27.08	107	70	130				
Strontium	1.23	0.010	1	0.178	105	70	130				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

Run ID :Run Order: ICP2-HE_230124B: 81	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010433-011BMSD2				Method: E200.7		
Analysis Date: 01/24/23 13:47	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <span style="color:red">9</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.947	0.050	1	0.03802	91	70	130	0.9747	2.8	20	
Calcium	70.3	1.0	50	23.71	93	70	130	73.01	3.7	20	
Copper	1.03	0.012	1	0	103	70	130	1.058	2.9	20	
Iron	4.93	0.020	5	0	99	70	130	5.131	4.1	20	
Magnesium	55.6	1.0	50	5.896	99	70	130	57.46	3.3	20	
Manganese	4.82	0.0014	5	0	96	70	130	5.029	4.3	20	
Potassium	55.1	1.0	50	3.152	104	70	130	55.9	1.5	20	
Sodium	80.1	1.0	50	27.08	106	70	130	80.4	0.4	20	
Strontium	1.20	0.010	1	0.178	103	70	130	1.23	2.1	20	

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181807

**Date:** 21-Feb-23

Run ID :Run Order: ICP2-HE_230124B: 82	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.7			
Analysis Date: 01/24/23 13:51	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>11</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.60	0.10	2.5	0	104	90	110				
Calcium	24.5	1.0	25	0	98	90	110				
Copper	2.63	0.012	2.5	0	105	90	110				
Iron	2.57	0.020	2.5	0	103	90	110				
Lithium	1.29	0.10	1.25	0	103	90	110				
Magnesium	25.8	1.0	25	0	103	90	110				
Manganese	2.53	0.010	2.5	0	101	90	110				
Potassium	24.6	1.0	25	0	98	90	110				
Sodium	24.8	1.0	25	0	99	90	110				
Strontium	2.65	0.10	2.5	0	106	90	110				
Zinc	2.55	0.010	2.5	0	102	90	110				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-037F, H23010433-038B, H23010433-038F, H23010433-039B, H23010433-039F

Run ID :Run Order: ICP2-HE_230124B: 101	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.7			
Analysis Date: 01/24/23 15:02	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>11</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.49	0.10	2.5	0	100	90	110				
Calcium	26.7	1.0	25	0	107	90	110				
Copper	2.56	0.012	2.5	0	102	90	110				
Iron	2.62	0.020	2.5	0	105	90	110				
Lithium	1.25	0.10	1.25	0	100	90	110				
Magnesium	26.0	1.0	25	0	104	90	110				
Manganese	2.61	0.010	2.5	0	104	90	110				
Potassium	25.4	1.0	25	0	102	90	110				
Sodium	25.2	1.0	25	0	101	90	110				
Strontium	2.48	0.10	2.5	0	99	90	110				
Zinc	2.62	0.010	2.5	0	105	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181807

Date: 21-Feb-23

Run ID :Run Order: ICP2-HE_230124B: 101	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.7								
Analysis Date: 01/24/23 15:02	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>11</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-037F, H23010433-038B, H23010433-038F, H23010433-039B, H23010433-039F

Run ID :Run Order: ICP2-HE_230124B: 105	SampType: Sample Matrix Spike	Lab ID: H23010433-021BMS2	Method: E200.7								
Analysis Date: 01/24/23 15:18	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>9</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Boron	1.02	0.050	1	0.03068	99	70	130				
Calcium	84.2	1.0	50	28.17	112	70	130				
Copper	1.02	0.012	1	0	102	70	130				
Iron	5.21	0.020	5	0	104	70	130				
Magnesium	58.7	1.0	50	7.068	103	70	130				
Manganese	5.28	0.0014	5	0.1256	103	70	130				
Potassium	55.7	1.0	50	3.76	104	70	130				
Sodium	68.3	1.0	50	17.39	102	70	130				
Strontium	1.14	0.010	1	0.1798	96	70	130				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

Run ID :Run Order: ICP2-HE_230124B: 106	SampType: Sample Matrix Spike Duplicate	Lab ID: H23010433-021BMSD2	Method: E200.7								
Analysis Date: 01/24/23 15:21	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>9</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Boron	0.949	0.050	1	0.03068	92	70	130	1.016	6.8	20	
Calcium	80.1	1.0	50	28.17	104	70	130	84.2	5.0	20	
Copper	1.03	0.012	1	0	103	70	130	1.021	1.0	20	
Iron	5.06	0.020	5	0	101	70	130	5.214	3.0	20	
Magnesium	57.5	1.0	50	7.068	101	70	130	58.73	2.2	20	
Manganese	5.10	0.0014	5	0.1256	99	70	130	5.285	3.6	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181807

Date: 21-Feb-23

Run ID :Run Order: ICP2-HE_230124B: 106		SampType: Sample Matrix Spike Duplicate			Lab ID: H23010433-021BMSD2				Method: E200.7		
Analysis Date: 01/24/23 15:21		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes <span style="color:red">9</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	55.8	1.0	50	3.76	104	70	130	55.67	0.2	20	
Sodium	69.5	1.0	50	17.39	104	70	130	68.28	1.8	20	
Strontium	1.16	0.010	1	0.1798	98	70	130	1.14	1.8	20	

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

Run ID :Run Order: ICP2-HE_230124B: 110		SampType: Sample Matrix Spike			Lab ID: H23010485-003AMS2				Method: E200.7		
Analysis Date: 01/24/23 15:36		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes <span style="color:red">9</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.973	0.050	1	0.00508	97	70	130				
Calcium	221	1.0	50	176.9	88	70	130				
Copper	0.998	0.012	1	0	100	70	130				
Iron	4.94	0.020	5	0	99	70	130				
Magnesium	182	1.0	50	138.6	88	70	130				
Manganese	4.92	0.0014	5	0.05112	97	70	130				
Potassium	58.4	1.0	50	7.278	102	70	130				
Sodium	163	1.0	50	111.3	103	70	130				
Strontium	1.51	0.010	1	0.5613	95	70	130				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

Run ID :Run Order: ICP2-HE_230124B: 111		SampType: Sample Matrix Spike Duplicate			Lab ID: H23010485-003AMSD2				Method: E200.7		
Analysis Date: 01/24/23 15:40		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes <span style="color:red">9</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.943	0.050	1	0.00508	94	70	130	0.9729	3.1	20	
Calcium	228	1.0	50	176.9	102	70	130	220.8	3.1	20	
Copper	1.01	0.012	1	0	101	70	130	0.9984	1.4	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181807

**Date:** 21-Feb-23

Run ID :Run Order: ICP2-HE_230124B: 111	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010485-003AMSD2				Method: E200.7		
Analysis Date: 01/24/23 15:40	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <span style="color: red;">9</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	5.08	0.020	5	0	102	70	130	4.945	2.6	20	
Magnesium	185	1.0	50	138.6	93	70	130	182.3	1.5	20	
Manganese	5.06	0.0014	5	0.05112	100	70	130	4.92	2.8	20	
Potassium	57.3	1.0	50	7.278	100	70	130	58.36	1.8	20	
Sodium	158	1.0	50	111.3	94	70	130	162.6	2.8	20	
Strontium	1.51	0.010	1	0.5613	95	70	130	1.508	0.1	20	

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

Run ID :Run Order: ICP2-HE_230124B: 113	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 01/24/23 15:47	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <span style="color: red;">11</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.62	0.10	2.5	0	105	90	110				
Calcium	26.5	1.0	25	0	106	90	110				
Copper	2.59	0.012	2.5	0	104	90	110				
Iron	2.60	0.020	2.5	0	104	90	110				
Lithium	1.28	0.10	1.25	0	102	90	110				
Magnesium	25.7	1.0	25	0	103	90	110				
Manganese	2.58	0.010	2.5	0	103	90	110				
Potassium	25.4	1.0	25	0	102	90	110				
Sodium	25.3	1.0	25	0	101	90	110				
Strontium	2.52	0.10	2.5	0	101	90	110				
Zinc	2.68	0.010	2.5	0	107	90	110				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-037F, H23010433-038B, H23010433-038F, H23010433-039B, H23010433-039F

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181807

**Date:** 21-Feb-23

Run ID :Run Order: ICP2-HE_230124B: 125		SampType: Continuing Calibration Verification Standar			Lab ID: CCV			Method: E200.7			
Analysis Date: 01/24/23 16:32		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes <span style="color: red;">9</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.70	0.10	2.5	0	108	90	110				
Copper	2.59	0.012	2.5	0	104	90	110				
Iron	2.64	0.020	2.5	0	106	90	110				
Lithium	1.22	0.10	1.25	0	98	90	110				
Magnesium	26.0	1.0	25	0	104	90	110				
Manganese	2.64	0.010	2.5	0	106	90	110				
Potassium	25.6	1.0	25	0	102	90	110				
Sodium	25.0	1.0	25	0	100	90	110				
Strontium	2.51	0.10	2.5	0	100	90	110				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-037F, H23010433-038B, H23010433-038F, H23010433-039B, H23010433-039F

Run ID :Run Order: ICP2-HE_230124B: 127		SampType: Sample Matrix Spike			Lab ID: H23010433-031BMS2			Method: E200.7			
Analysis Date: 01/24/23 16:40		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes <span style="color: red;">9</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.16	0.050	1	0.134	103	70	130				
Calcium	244	1.0	50	192.4	104	70	130				
Copper	1.09	0.012	1	0.05104	104	70	130				
Iron	5.11	0.020	5	0	102	70	130				
Magnesium	92.5	1.0	50	42.02	101	70	130				
Manganese	5.10	0.0014	5	0	102	70	130				
Potassium	64.0	1.0	50	12.23	104	70	130				
Sodium	131	1.0	50	78.56	105	70	130				
Strontium	2.95	0.010	1	1.929	103	70	130				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181807

**Date:** 21-Feb-23

Run ID :Run Order: ICP2-HE_230124B: 128		SampType: Sample Matrix Spike Duplicate			Lab ID: H23010433-031BMSD2				Method: E200.7		
Analysis Date: 01/24/23 16:43		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes <span style="color: red;">9</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.14	0.050	1	0.134	101	70	130	1.159	1.5	20	
Calcium	244	1.0	50	192.4	103	70	130	244.3	0.1	20	
Copper	1.10	0.012	1	0.05104	105	70	130	1.093	0.5	20	
Iron	5.14	0.020	5	0	103	70	130	5.108	0.6	20	
Magnesium	92.0	1.0	50	42.02	100	70	130	92.52	0.6	20	
Manganese	5.08	0.0014	5	0	102	70	130	5.098	0.3	20	
Potassium	62.4	1.0	50	12.23	100	70	130	64.02	2.5	20	
Sodium	127	1.0	50	78.56	98	70	130	131.1	2.8	20	
Strontium	2.94	0.010	1	1.929	101	70	130	2.955	0.4	20	

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

Run ID :Run Order: ICP2-HE_230124B: 142		SampType: Sample Matrix Spike			Lab ID: H23010466-002CMS2				Method: E200.7		
Analysis Date: 01/24/23 17:35		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes <span style="color: red;">9</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.951	0.050	1	0	95	70	130				
Calcium	52.6	1.0	50	0	105	70	130				
Copper	1.01	0.012	1	0	101	70	130				
Iron	4.91	0.020	5	0	98	70	130				
Magnesium	49.2	1.0	50	0	98	70	130				
Manganese	4.87	0.0014	5	0.00158	97	70	130				
Potassium	51.4	1.0	50	0	103	70	130				
Sodium	51.5	1.0	50	0	103	70	130				
Strontium	0.994	0.010	1	0	99	70	130				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181807

**Date:** 21-Feb-23

Run ID :Run Order: ICP2-HE_230124B: 143	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010466-002CMSD2				Method: E200.7		
Analysis Date: 01/24/23 17:39	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <u>9</u>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.974	0.050	1	0	97	70	130	0.9512	2.4	20	
Calcium	53.7	1.0	50	0	107	70	130	52.62	2.0	20	
Copper	1.02	0.012	1	0	102	70	130	1.008	0.7	20	
Iron	4.97	0.020	5	0	99	70	130	4.912	1.1	20	
Magnesium	49.5	1.0	50	0	99	70	130	49.2	0.6	20	
Manganese	4.92	0.0014	5	0.00158	98	70	130	4.869	1.1	20	
Potassium	50.0	1.0	50	0	100	70	130	51.35	2.8	20	
Sodium	49.9	1.0	50	0	100	70	130	51.48	3.2	20	
Strontium	0.985	0.010	1	0	99	70	130	0.994	0.9	20	

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181811

Date: 21-Feb-23

Run ID :Run Order: ICPMS205-H_230124A: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 01/24/23 11:00	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0594	0.050	0.06	0	99	90	110				
Arsenic	0.0595	0.0050	0.06	0	99	90	110				
Barium	0.0582	0.10	0.06	0	97	90	110				
Beryllium	0.0297	0.0010	0.03	0	99	90	110				
Cadmium	0.0291	0.0010	0.03	0	97	90	110				
Chromium	0.0571	0.010	0.06	0	95	90	110				
Cobalt	0.0575	0.010	0.06	0	96	90	110				
Copper	0.0585	0.010	0.06	0	98	90	110				
Iron	0.291	0.020	0.3	0	97	90	110				
Lead	0.0572	0.010	0.06	0	95	90	110				
Lithium	0.0610	0.10	0.06	0	102	90	110				
Manganese	0.290	0.010	0.3	0	97	90	110				
Molybdenum	0.0549	0.0050	0.06	0	91	90	110				
Nickel	0.0585	0.010	0.06	0	98	90	110				
Selenium	0.0601	0.0050	0.06	0	100	90	110				
Silver	0.0290	0.0050	0.03	0	97	90	110				
Strontium	0.0572	0.10	0.06	0	95	90	110				
Thallium	0.0571	0.10	0.06	0	95	90	110				
Thorium	0.0580	0.0010	0.06	0	97	90	110				
Tin	0.0584	0.10	0.06	0	97	90	110				
Titanium	0.0589	0.010	0.06	0	98	90	110				
Uranium	0.0575	0.00030	0.06	0	96	90	110				
Vanadium	0.0570	0.10	0.06	0	95	90	110				
Zinc	0.0591	0.010	0.06	0	98	90	110				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B

Run ID :Run Order: ICPMS205-H_230124A: 44	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 01/24/23 15:16	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0625	0.050	0.06	0	104	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181811

Date: 21-Feb-23

Run ID :Run Order: ICPMS205-H_230124A: 44	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.8			
Analysis Date: 01/24/23 15:16	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0636	0.0050	0.06	0	106	90	110				
Barium	0.0609	0.10	0.06	0	102	90	110				
Beryllium	0.0303	0.0010	0.03	0	101	90	110				
Cadmium	0.0314	0.0010	0.03	0	105	90	110				
Chromium	0.0629	0.010	0.06	0	105	90	110				
Cobalt	0.0631	0.010	0.06	0	105	90	110				
Copper	0.0639	0.010	0.06	0	107	90	110				
Iron	0.316	0.020	0.3	0	105	90	110				
Lead	0.0613	0.010	0.06	0	102	90	110				
Lithium	0.0617	0.10	0.06	0	103	90	110				
Manganese	0.314	0.010	0.3	0	105	90	110				
Molybdenum	0.0587	0.0050	0.06	0	98	90	110				
Nickel	0.0630	0.010	0.06	0	105	90	110				
Selenium	0.0610	0.0050	0.06	0	102	90	110				
Silver	0.0307	0.0050	0.03	0	102	90	110				
Strontium	0.0631	0.10	0.06	0	105	90	110				
Thallium	0.0602	0.10	0.06	0	100	90	110				
Thorium	0.0624	0.0010	0.06	0	104	90	110				
Tin	0.0616	0.10	0.06	0	103	90	110				
Titanium	0.0584	0.010	0.06	0	97	90	110				
Uranium	0.0610	0.00030	0.06	0	102	90	110				
Vanadium	0.0613	0.10	0.06	0	102	90	110				
Zinc	0.0638	0.010	0.06	0	106	90	110				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B

Run ID :Run Order: ICPMS205-H_230124A: 54	SampType: Method Blank				Lab ID: LRB			Method: E200.8			
Analysis Date: 01/24/23 15:41	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.0002									
Arsenic	ND	0.0002									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181811

**Date:** 21-Feb-23

Run ID :Run Order: ICPMS205-H_230124A: 54	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 01/24/23 15:41	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	0.0002									
Beryllium	ND	0.0002									
Cadmium	ND	0.00002									
Chromium	ND	0.0001									
Cobalt	ND	0.001									
Copper	ND	0.0001									
Iron	ND	0.004									
Lead	ND	0.0001									
Lithium	ND	0.001									
Manganese	ND	0.0003									
Molybdenum	ND	0.0003									
Nickel	ND	0.0002									
Selenium	ND	0.00007									
Silver	ND	0.00008									
Strontium	ND	0.0001									
Thallium	ND	0.00008									
Thorium	ND	0.0002									
Tin	ND	0.0002									
Titanium	ND	0.0005									
Uranium	ND	0.00002									
Vanadium	ND	0.0001									
Zinc	ND	0.001									

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B

Run ID :Run Order: ICPMS205-H_230124A: 55	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.8		
Analysis Date: 01/24/23 15:44	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0512	0.050	0.05	0	102	85	115				
Arsenic	0.0494	0.0050	0.05	0	99	85	115				
Barium	0.0496	0.10	0.05	0	99	85	115				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181811

Date: 21-Feb-23

Run ID :Run Order: ICPMS205-H_230124A: 55	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.8		
Analysis Date: 01/24/23 15:44	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0482	0.0010	0.05	0	96	85	115				
Cadmium	0.0499	0.0010	0.05	0	100	85	115				
Chromium	0.0494	0.010	0.05	0	99	85	115				
Cobalt	0.0499	0.010	0.05	0	100	85	115				
Copper	0.0497	0.010	0.05	0	99	85	115				
Iron	0.149	0.020	0.15	0	99	85	115				
Lead	0.0488	0.010	0.05	0	98	85	115				
Lithium	0.0492	0.10	0.05	0	98	85	115				
Manganese	0.0485	0.010	0.05	0	97	85	115				
Molybdenum	0.0473	0.0050	0.05	0	95	85	115				
Nickel	0.0507	0.010	0.05	0	101	85	115				
Selenium	0.0494	0.0050	0.05	0	99	85	115				
Silver	0.0197	0.0050	0.02	0	98	85	115				
Strontium	0.0494	0.10	0.05	0	99	85	115				
Thallium	0.0480	0.10	0.05	0	96	85	115				
Thorium	0.0467	0.0010	0.05	0	93	85	115				
Tin	0.0492	0.10	0.05	0	98	85	115				
Titanium	0.0486	0.010	0.05	0	97	85	115				
Uranium	0.0474	0.00030	0.05	0	95	85	115				
Vanadium	0.0485	0.10	0.05	0	97	85	115				
Zinc	0.0498	0.010	0.05	0	100	85	115				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B

Run ID :Run Order: ICPMS205-H_230124A: 85	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 01/24/23 17:29	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0631	0.050	0.06	0	105	90	110				
Arsenic	0.0633	0.0050	0.06	0	105	90	110				
Barium	0.0601	0.10	0.06	0	100	90	110				
Beryllium	0.0302	0.0010	0.03	0	101	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181811

Date: 21-Feb-23

Run ID :Run Order: ICPMS205-H_230124A: 85	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 01/24/23 17:29	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0306	0.0010	0.03	0	102	90	110				
Chromium	0.0602	0.010	0.06	0	100	90	110				
Cobalt	0.0604	0.010	0.06	0	101	90	110				
Copper	0.0608	0.010	0.06	0	101	90	110				
Iron	0.300	0.020	0.3	0	100	90	110				
Lead	0.0596	0.010	0.06	0	99	90	110				
Lithium	0.0612	0.10	0.06	0	102	90	110				
Manganese	0.299	0.010	0.3	0	100	90	110				
Molybdenum	0.0570	0.0050	0.06	0	95	90	110				
Nickel	0.0601	0.010	0.06	0	100	90	110				
Selenium	0.0597	0.0050	0.06	0	100	90	110				
Silver	0.0298	0.0050	0.03	0	99	90	110				
Strontium	0.0592	0.10	0.06	0	99	90	110				
Thallium	0.0589	0.10	0.06	0	98	90	110				
Thorium	0.0606	0.0010	0.06	0	101	90	110				
Tin	0.0610	0.10	0.06	0	102	90	110				
Titanium	0.0595	0.010	0.06	0	99	90	110				
Uranium	0.0587	0.00030	0.06	0	98	90	110				
Vanadium	0.0599	0.10	0.06	0	100	90	110				
Zinc	0.0586	0.010	0.06	0	98	90	110				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B

Run ID :Run Order: ICPMS205-H_230124A: 169	SampType: Sample Matrix Spike				Lab ID: H23010468-001CMS				Method: E200.8		
Analysis Date: 01/24/23 21:00	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0540	0.0010	0.05	0.001578	105	70	130				
Arsenic	0.0538	0.0010	0.05	0.002115	103	70	130				
Barium	0.0676	0.050	0.05	0.01825	99	70	130				
Beryllium	0.0474	0.0010	0.05	0	95	70	130				
Cadmium	0.0874	0.0010	0.05	0.03854	98	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181811

**Date:** 21-Feb-23

Run ID :Run Order: ICPMS205-H_230124A: 169	SampType: Sample Matrix Spike				Lab ID: H23010468-001CMS				Method: E200.8		
Analysis Date: 01/24/23 21:00	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.0497	0.0050	0.05	0	99	70	130				
Cobalt	0.0495	0.0050	0.05	0	99	70	130				
Copper	0.0491	0.0050	0.05	0.000383	97	70	130				
Iron	0.256	0.020	0.15	0.1074	99	70	130				
Lead	0.0505	0.0010	0.05	0.0001558	101	70	130				
Lithium	0.0580	0.10	0.05	0.01066	95	70	130				
Manganese	0.532	0.0010	0.05	0.4901		70	130				A
Molybdenum	0.0483	0.0010	0.05	0.001061	94	70	130				
Nickel	0.0582	0.0050	0.05	0.009627	97	70	130				
Selenium	0.0546	0.0010	0.05	0.00382	102	70	130				
Silver	0.0194	0.0010	0.02	0	97	70	130				
Strontium	0.801	0.010	0.05	0.7554		70	130				A
Thallium	0.0497	0.00050	0.05	0	99	70	130				
Thorium	0.0493	0.0050	0.05	0	99	70	130				
Tin	0.0490	0.050	0.05	0	98	70	130				
Titanium	0.0496	0.0050	0.05	0	99	70	130				
Uranium	0.0586	0.00030	0.05	0.008454	100	70	130				
Vanadium	0.0505	0.010	0.05	0.0005602	100	70	130				
Zinc	18.3	0.010	0.05	18.45		70	130				AE

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B

Run ID :Run Order: ICPMS205-H_230124A: 170	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010468-001CMSD				Method: E200.8		
Analysis Date: 01/24/23 21:03	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0546	0.0010	0.05	0.001578	106	70	130	0.05396	1.1	20	
Arsenic	0.0534	0.0010	0.05	0.002115	102	70	130	0.05382	0.9	20	
Barium	0.0692	0.050	0.05	0.01825	102	70	130	0.06765	2.3	20	
Beryllium	0.0496	0.0010	0.05	0	99	70	130	0.04737	4.5	20	
Cadmium	0.0880	0.0010	0.05	0.03854	99	70	130	0.08742	0.7	20	
Chromium	0.0508	0.0050	0.05	0	102	70	130	0.0497	2.2	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181811

Date: 21-Feb-23

Run ID :Run Order: ICPMS205-H_230124A: 170	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010468-001CMSD				Method: E200.8		
Analysis Date: 01/24/23 21:03	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	0.0494	0.0050	0.05	0	99	70	130	0.04952	0.2	20	
Copper	0.0494	0.0050	0.05	0.000383	98	70	130	0.0491	0.6	20	
Iron	0.253	0.020	0.15	0.1074	97	70	130	0.256	1.1	20	
Lead	0.0515	0.0010	0.05	0.0001558	103	70	130	0.05051	1.9	20	
Lithium	0.0595	0.10	0.05	0.01066	98	70	130	0.058		20	
Manganese	0.530	0.0010	0.05	0.4901		70	130	0.5325	0.5	20	A
Molybdenum	0.0493	0.0010	0.05	0.001061	96	70	130	0.04831	2.0	20	
Nickel	0.0584	0.0050	0.05	0.009627	97	70	130	0.05824	0.2	20	
Selenium	0.0560	0.0010	0.05	0.00382	104	70	130	0.05458	2.6	20	
Silver	0.0196	0.0010	0.02	0	98	70	130	0.0194	0.9	20	
Strontium	0.789	0.010	0.05	0.7554		70	130	0.8013	1.5	20	A
Thallium	0.0508	0.00050	0.05	0	102	70	130	0.04966	2.3	20	
Thorium	0.0508	0.0050	0.05	0	102	70	130	0.04932	3.0	20	
Tin	0.0500	0.050	0.05	0	100	70	130	0.04899		20	
Titanium	0.0522	0.0050	0.05	0	104	70	130	0.04955	5.3	20	
Uranium	0.0598	0.00030	0.05	0.008454	103	70	130	0.0586	2.0	20	
Vanadium	0.0511	0.010	0.05	0.0005602	101	70	130	0.05047	1.3	20	
Zinc	18.1	0.010	0.05	18.45		70	130	18.27	0.9	20	AE

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B

Run ID :Run Order: ICPMS205-H_230124A: 171	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 01/24/23 21:06	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0517	0.050	0.05	0	103	90	110				
Arsenic	0.0511	0.0050	0.05	0	102	90	110				
Barium	0.0532	0.10	0.05	0	106	90	110				
Beryllium	0.0523	0.0010	0.05	0	105	90	110				
Cadmium	0.0532	0.0010	0.05	0	106	90	110				
Chromium	0.0519	0.010	0.05	0	104	90	110				
Cobalt	0.0517	0.010	0.05	0	103	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount

### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181811

Date: 21-Feb-23

Run ID :Run Order: ICPMS205-H_230124A: 171	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 01/24/23 21:06	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0519	0.010	0.05	0	104	90	110				
Iron	1.34	0.020	1.3	0	103	90	110				
Lead	0.0522	0.010	0.05	0	104	90	110				
Lithium	0.634	0.10	0.625	0	101	90	110				
Manganese	0.0522	0.010	0.05	0	104	90	110				
Molybdenum	0.0514	0.0050	0.05	0	103	90	110				
Nickel	0.0523	0.010	0.05	0	105	90	110				
Selenium	0.0522	0.0050	0.05	0	104	90	110				
Silver	0.0207	0.0050	0.02	0	104	90	110				
Strontium	0.0538	0.10	0.05	0	108	90	110				
Thallium	0.0518	0.10	0.05	0	104	90	110				
Thorium	0.0516	0.0010	0.05	0	103	90	110				
Tin	0.0537	0.10	0.05	0	107	90	110				
Titanium	0.0458	0.010	0.05	0	91	90	110				
Uranium	0.0518	0.00030	0.05	0	104	90	110				
Vanadium	0.0523	0.10	0.05	0	105	90	110				
Zinc	0.0544	0.010	0.05	0	109	90	110				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B

Run ID :Run Order: ICPMS205-H_230124A: 183	SampType: Sample Matrix Spike				Lab ID: H23010433-008BMS			Method: E200.8			
Analysis Date: 01/24/23 21:36	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0532	0.0010	0.05	0	106	70	130				
Arsenic	0.0508	0.0010	0.05	0	102	70	130				
Barium	0.0508	0.050	0.05	0	102	70	130				
Beryllium	0.0488	0.0010	0.05	0	97	70	130				
Cadmium	0.0516	0.0010	0.05	0	103	70	130				
Chromium	0.0509	0.0050	0.05	0	102	70	130				
Cobalt	0.0507	0.0050	0.05	0	101	70	130				
Copper	0.0500	0.0050	0.05	0	100	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181811

Date: 21-Feb-23

Run ID :Run Order: ICPMS205-H_230124A: 183	SampType: Sample Matrix Spike				Lab ID: H23010433-008BMS				Method: E200.8		
Analysis Date: 01/24/23 21:36	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.148	0.020	0.15	0	99	70	130				
Lead	0.0510	0.0010	0.05	0	102	70	130				
Lithium	0.0500	0.10	0.05	0	100	70	130				
Manganese	0.0504	0.0010	0.05	0	101	70	130				
Molybdenum	0.0483	0.0010	0.05	0	97	70	130				
Nickel	0.0506	0.0050	0.05	0	101	70	130				
Selenium	0.0516	0.0010	0.05	0	103	70	130				
Silver	0.0205	0.0010	0.02	0	102	70	130				
Strontium	0.0516	0.010	0.05	0	103	70	130				
Thallium	0.0494	0.00050	0.05	0	99	70	130				
Thorium	0.0473	0.0050	0.05	0	95	70	130				
Tin	0.0500	0.050	0.05	0	100	70	130				
Titanium	0.0460	0.0050	0.05	0	92	70	130				
Uranium	0.0490	0.00030	0.05	0	98	70	130				
Vanadium	0.0498	0.010	0.05	0	100	70	130				
Zinc	0.0533	0.010	0.05	0	107	70	130				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B

Run ID :Run Order: ICPMS205-H_230124A: 184	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010433-008BMSD				Method: E200.8		
Analysis Date: 01/24/23 21:38	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0506	0.0010	0.05	0	101	70	130	0.05316	5.0	20	
Arsenic	0.0490	0.0010	0.05	0	98	70	130	0.05085	3.7	20	
Barium	0.0495	0.050	0.05	0	99	70	130	0.0508	0.0	20	
Beryllium	0.0488	0.0010	0.05	0	98	70	130	0.04875	0.1	20	
Cadmium	0.0492	0.0010	0.05	0	98	70	130	0.05155	4.6	20	
Chromium	0.0491	0.0050	0.05	0	98	70	130	0.05093	3.7	20	
Cobalt	0.0489	0.0050	0.05	0	98	70	130	0.05068	3.6	20	
Copper	0.0486	0.0050	0.05	0	97	70	130	0.05	2.8	20	
Iron	0.144	0.020	0.15	0	96	70	130	0.1484	3.4	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181811

**Date:** 21-Feb-23

Run ID :Run Order: <b>ICPMS205-H_230124A: 184</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23010433-008BMSD</b>				Method: <b>E200.8</b>		
Analysis Date: <b>01/24/23 21:38</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:		Prep Method:				
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.0486	0.0010	0.05	0	97	70	130	0.05099	4.8	20	
Lithium	0.0481	0.10	0.05	0	96	70	130	0.05001	0.0	20	
Manganese	0.0484	0.0010	0.05	0	97	70	130	0.05039	4.1	20	
Molybdenum	0.0459	0.0010	0.05	0	92	70	130	0.0483	5.1	20	
Nickel	0.0488	0.0050	0.05	0	98	70	130	0.05058	3.6	20	
Selenium	0.0501	0.0010	0.05	0	100	70	130	0.05163	2.9	20	
Silver	0.0192	0.0010	0.02	0	96	70	130	0.02048	6.2	20	
Strontium	0.0504	0.010	0.05	0	101	70	130	0.05165	2.4	20	
Thallium	0.0470	0.00050	0.05	0	94	70	130	0.04944	5.0	20	
Thorium	0.0452	0.0050	0.05	0	90	70	130	0.04728	4.6	20	
Tin	0.0476	0.050	0.05	0	95	70	130	0.05005	0.0	20	
Titanium	0.0419	0.0050	0.05	0	84	70	130	0.04604	9.4	20	
Uranium	0.0467	0.00030	0.05	0	93	70	130	0.04905	4.9	20	
Vanadium	0.0479	0.010	0.05	0	96	70	130	0.04983	3.9	20	
Zinc	0.0516	0.010	0.05	0	103	70	130	0.05329	3.2	20	

Associated samples: **H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B**

Run ID :Run Order: <b>ICPMS205-H_230124A: 185</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>				Method: <b>E200.8</b>		
Analysis Date: <b>01/24/23 21:41</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:		Prep Method:				
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0507	0.050	0.05	0	101	90	110				
Arsenic	0.0512	0.0050	0.05	0	102	90	110				
Barium	0.0511	0.10	0.05	0	102	90	110				
Beryllium	0.0511	0.0010	0.05	0	102	90	110				
Cadmium	0.0508	0.0010	0.05	0	102	90	110				
Chromium	0.0509	0.010	0.05	0	102	90	110				
Cobalt	0.0509	0.010	0.05	0	102	90	110				
Copper	0.0508	0.010	0.05	0	102	90	110				
Iron	1.31	0.020	1.3	0	101	90	110				
Lead	0.0508	0.010	0.05	0	101	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181811

Date: 21-Feb-23

Run ID :Run Order: ICPMS205-H_230124A: 185	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 01/24/23 21:41	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lithium	0.621	0.10	0.625	0	99	90	110				
Manganese	0.0518	0.010	0.05	0	104	90	110				
Molybdenum	0.0498	0.0050	0.05	0	100	90	110				
Nickel	0.0503	0.010	0.05	0	101	90	110				
Selenium	0.0515	0.0050	0.05	0	103	90	110				
Silver	0.0199	0.0050	0.02	0	100	90	110				
Strontium	0.0527	0.10	0.05	0	105	90	110				
Thallium	0.0506	0.10	0.05	0	101	90	110				
Thorium	0.0501	0.0010	0.05	0	100	90	110				
Tin	0.0515	0.10	0.05	0	103	90	110				
Titanium	0.0536	0.010	0.05	0	107	90	110				
Uranium	0.0495	0.00030	0.05	0	99	90	110				
Vanadium	0.0501	0.10	0.05	0	100	90	110				
Zinc	0.0509	0.010	0.05	0	102	90	110				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B

Run ID :Run Order: ICPMS205-H_230124A: 197	SampType: Sample Matrix Spike				Lab ID: H23010433-018BMS				Method: E200.8		
Analysis Date: 01/24/23 22:11	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0597	0.0010	0.05	0.006483	107	70	130				
Arsenic	0.0547	0.0010	0.05	0.003036	103	70	130				
Barium	0.0714	0.050	0.05	0.01967	103	70	130				
Beryllium	0.0470	0.0010	0.05	0	94	70	130				
Cadmium	0.0553	0.0010	0.05	0.004724	101	70	130				
Chromium	0.0499	0.0050	0.05	0.0001243	100	70	130				
Cobalt	0.0498	0.0050	0.05	0	100	70	130				
Copper	0.122	0.0050	0.05	0.07359	98	70	130				
Iron	0.147	0.020	0.15	0	98	70	130				
Lead	0.0521	0.0010	0.05	0	104	70	130				
Lithium	0.247	0.10	0.05	0.2052		70	130				A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181811

**Date:** 21-Feb-23

Run ID :Run Order: ICPMS205-H_230124A: 197	SampType: Sample Matrix Spike				Lab ID: H23010433-018BMS				Method: E200.8		
Analysis Date: 01/24/23 22:11	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.0690	0.0010	0.05	0.01816	102	70	130				
Molybdenum	0.0520	0.0010	0.05	0.003064	98	70	130				
Nickel	0.0528	0.0050	0.05	0.003841	98	70	130				
Selenium	0.0501	0.0010	0.05	0.00007711	100	70	130				
Silver	0.0196	0.0010	0.02	0	98	70	130				
Strontium	1.46	0.010	0.05	1.428		70	130				A
Thallium	0.0508	0.00050	0.05	0	102	70	130				
Thorium	0.0505	0.0050	0.05	0	101	70	130				
Tin	0.0502	0.050	0.05	0	100	70	130				
Titanium	0.0500	0.0050	0.05	0	100	70	130				
Uranium	0.0530	0.00030	0.05	0.001628	103	70	130				
Vanadium	0.0512	0.010	0.05	0.0008529	101	70	130				
Zinc	0.865	0.010	0.05	0.8226		70	130				A

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B

Run ID :Run Order: ICPMS205-H_230124A: 198	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010433-018BMSD				Method: E200.8		
Analysis Date: 01/24/23 22:14	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0588	0.0010	0.05	0.006483	105	70	130	0.05974	1.6	20	
Arsenic	0.0550	0.0010	0.05	0.003036	104	70	130	0.05472	0.6	20	
Barium	0.0687	0.050	0.05	0.01967	98	70	130	0.07135	3.8	20	
Beryllium	0.0482	0.0010	0.05	0	96	70	130	0.04696	2.6	20	
Cadmium	0.0540	0.0010	0.05	0.004724	99	70	130	0.05528	2.3	20	
Chromium	0.0508	0.0050	0.05	0.0001243	101	70	130	0.04993	1.6	20	
Cobalt	0.0498	0.0050	0.05	0	100	70	130	0.0498	0	20	
Copper	0.123	0.0050	0.05	0.07359	99	70	130	0.1224	0.4	20	
Iron	0.149	0.020	0.15	0	99	70	130	0.1473	1.3	20	
Lead	0.0503	0.0010	0.05	0	101	70	130	0.05207	3.5	20	
Lithium	0.248	0.10	0.05	0.2052		70	130	0.2468	0.4	20	A
Manganese	0.0689	0.0010	0.05	0.01816	101	70	130	0.06897	0.1	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount

## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181811

**Date:** 21-Feb-23

Run ID :Run Order: ICPMS205-H_230124A: 198		SampType: Sample Matrix Spike Duplicate			Lab ID: H23010433-018BMSD				Method: E200.8		
Analysis Date: 01/24/23 22:14		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes <span style="color: red;">24</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.0508	0.0010	0.05	0.003064	95	70	130	0.05204	2.5	20	
Nickel	0.0540	0.0050	0.05	0.003841	100	70	130	0.05275	2.3	20	
Selenium	0.0501	0.0010	0.05	0.00007711	100	70	130	0.05011	0	20	
Silver	0.0194	0.0010	0.02	0	97	70	130	0.01956	1.1	20	
Strontium	1.46	0.010	0.05	1.428		70	130	1.462	0.1	20	A
Thallium	0.0493	0.00050	0.05	0	99	70	130	0.05077	2.9	20	
Thorium	0.0495	0.0050	0.05	0	99	70	130	0.05053	2.1	20	
Tin	0.0489	0.050	0.05	0	98	70	130	0.05016		20	
Titanium	0.0498	0.0050	0.05	0	100	70	130	0.04998	0.3	20	
Uranium	0.0513	0.00030	0.05	0.001628	99	70	130	0.053	3.3	20	
Vanadium	0.0509	0.010	0.05	0.0008529	100	70	130	0.05116	0.5	20	
Zinc	0.863	0.010	0.05	0.8226		70	130	0.8647	0.2	20	A

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B

Run ID :Run Order: ICPMS205-H_230124A: 199		SampType: Continuing Calibration Verification Standar			Lab ID: CCV				Method: E200.8		
Analysis Date: 01/24/23 22:16		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes <span style="color: red;">24</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0514	0.050	0.05	0	103	90	110				
Arsenic	0.0531	0.0050	0.05	0	106	90	110				
Barium	0.0530	0.10	0.05	0	106	90	110				
Beryllium	0.0524	0.0010	0.05	0	105	90	110				
Cadmium	0.0527	0.0010	0.05	0	105	90	110				
Chromium	0.0532	0.010	0.05	0	106	90	110				
Cobalt	0.0523	0.010	0.05	0	105	90	110				
Copper	0.0527	0.010	0.05	0	105	90	110				
Iron	1.36	0.020	1.3	0	104	90	110				
Lead	0.0522	0.010	0.05	0	104	90	110				
Lithium	0.637	0.10	0.625	0	102	90	110				
Manganese	0.0524	0.010	0.05	0	105	90	110				
Molybdenum	0.0517	0.0050	0.05	0	103	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181811

Date: 21-Feb-23

Run ID :Run Order: ICPMS205-H_230124A: 199	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 01/24/23 22:16	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	0.0522	0.010	0.05	0	104	90	110				
Selenium	0.0516	0.0050	0.05	0	103	90	110				
Silver	0.0207	0.0050	0.02	0	104	90	110				
Strontium	0.0538	0.10	0.05	0	108	90	110				
Thallium	0.0517	0.10	0.05	0	103	90	110				
Thorium	0.0517	0.0010	0.05	0	103	90	110				
Tin	0.0526	0.10	0.05	0	105	90	110				
Titanium	0.0521	0.010	0.05	0	104	90	110				
Uranium	0.0512	0.00030	0.05	0	102	90	110				
Vanadium	0.0524	0.10	0.05	0	105	90	110				
Zinc	0.0526	0.010	0.05	0	105	90	110				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B

Run ID :Run Order: ICPMS205-H_230124A: 211	SampType: Sample Matrix Spike				Lab ID: H23010433-028BMS				Method: E200.8		
Analysis Date: 01/24/23 22:47	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0520	0.0010	0.05	0.0001892	104	70	130				
Arsenic	0.0535	0.0010	0.05	0.003465	100	70	130				
Barium	0.0621	0.050	0.05	0.01265	99	70	130				
Beryllium	0.0493	0.0010	0.05	0	99	70	130				
Cadmium	0.0513	0.0010	0.05	0.002141	98	70	130				
Chromium	0.0501	0.0050	0.05	0.0002387	100	70	130				
Cobalt	0.0492	0.0050	0.05	0	98	70	130				
Copper	0.0502	0.0050	0.05	0.001264	98	70	130				
Iron	0.146	0.020	0.15	0	97	70	130				
Lead	0.0502	0.0010	0.05	0	100	70	130				
Lithium	0.228	0.10	0.05	0.1847	86	70	130				
Manganese	0.0502	0.0010	0.05	0.0004102	100	70	130				
Molybdenum	0.0585	0.0010	0.05	0.01122	94	70	130				
Nickel	0.0499	0.0050	0.05	0.0006284	99	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181811

Date: 21-Feb-23

Run ID :Run Order: ICPMS205-H_230124A: 211		SampType: Sample Matrix Spike			Lab ID: H23010433-028BMS				Method: E200.8		
Analysis Date: 01/24/23 22:47		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.0501	0.0010	0.05	0.0001917	100	70	130				
Silver	0.0194	0.0010	0.02	0	97	70	130				
Strontium	1.39	0.010	0.05	1.395		70	130				A
Thallium	0.0486	0.00050	0.05	0	97	70	130				
Thorium	0.0487	0.0050	0.05	0	97	70	130				
Tin	0.0489	0.050	0.05	0	98	70	130				
Titanium	0.0492	0.0050	0.05	0	98	70	130				
Uranium	0.0517	0.00030	0.05	0.002715	98	70	130				
Vanadium	0.0518	0.010	0.05	0.002219	99	70	130				
Zinc	0.215	0.010	0.05	0.1699	91	70	130				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B

Run ID :Run Order: ICPMS205-H_230124A: 212		SampType: Sample Matrix Spike Duplicate			Lab ID: H23010433-028BMSD				Method: E200.8		
Analysis Date: 01/24/23 22:49		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0578	0.0010	0.05	0.0001892	115	70	130	0.05197	11	20	
Arsenic	0.0598	0.0010	0.05	0.003465	113	70	130	0.05354	11	20	
Barium	0.0689	0.050	0.05	0.01265	112	70	130	0.06207	10	20	
Beryllium	0.0523	0.0010	0.05	0	105	70	130	0.04929	5.8	20	
Cadmium	0.0570	0.0010	0.05	0.002141	110	70	130	0.05128	10	20	
Chromium	0.0550	0.0050	0.05	0.0002387	110	70	130	0.05012	9.3	20	
Cobalt	0.0539	0.0050	0.05	0	108	70	130	0.04918	9.2	20	
Copper	0.0548	0.0050	0.05	0.001264	107	70	130	0.05018	8.9	20	
Iron	0.161	0.020	0.15	0	108	70	130	0.1459	10	20	
Lead	0.0556	0.0010	0.05	0	111	70	130	0.05015	10	20	
Lithium	0.233	0.10	0.05	0.1847	97	70	130	0.2278	2.4	20	
Manganese	0.0559	0.0010	0.05	0.0004102	111	70	130	0.05022	11	20	
Molybdenum	0.0646	0.0010	0.05	0.01122	107	70	130	0.05846	10	20	
Nickel	0.0544	0.0050	0.05	0.0006284	108	70	130	0.04993	8.6	20	
Selenium	0.0546	0.0010	0.05	0.0001917	109	70	130	0.05013	8.5	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181811

**Date:** 21-Feb-23

Run ID :Run Order: ICPMS205-H_230124A: 212		SampType: Sample Matrix Spike Duplicate			Lab ID: H23010433-028BMSD				Method: E200.8		
Analysis Date: 01/24/23 22:49		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes <span style="color: red;">24</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0213	0.0010	0.02	0	107	70	130	0.01937	9.7	20	
Strontium	1.42	0.010	0.05	1.395		70	130	1.387	2.6	20	A
Thallium	0.0538	0.00050	0.05	0	108	70	130	0.04859	10	20	
Thorium	0.0547	0.0050	0.05	0	109	70	130	0.04868	12	20	
Tin	0.0542	0.050	0.05	0	108	70	130	0.04891		20	
Titanium	0.0526	0.0050	0.05	0	105	70	130	0.04924	6.5	20	
Uranium	0.0572	0.00030	0.05	0.002715	109	70	130	0.05168	10	20	
Vanadium	0.0567	0.010	0.05	0.002219	109	70	130	0.05184	8.9	20	
Zinc	0.221	0.010	0.05	0.1699	102	70	130	0.2153	2.5	20	

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B

Run ID :Run Order: ICPMS205-H_230124A: 213		SampType: Continuing Calibration Verification Standar			Lab ID: CCV				Method: E200.8		
Analysis Date: 01/24/23 22:52		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes <span style="color: red;">24</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0508	0.050	0.05	0	102	90	110				
Arsenic	0.0509	0.0050	0.05	0	102	90	110				
Barium	0.0515	0.10	0.05	0	103	90	110				
Beryllium	0.0516	0.0010	0.05	0	103	90	110				
Cadmium	0.0512	0.0010	0.05	0	102	90	110				
Chromium	0.0524	0.010	0.05	0	105	90	110				
Cobalt	0.0515	0.010	0.05	0	103	90	110				
Copper	0.0510	0.010	0.05	0	102	90	110				
Iron	1.33	0.020	1.3	0	102	90	110				
Lead	0.0513	0.010	0.05	0	103	90	110				
Lithium	0.632	0.10	0.625	0	101	90	110				
Manganese	0.0519	0.010	0.05	0	104	90	110				
Molybdenum	0.0502	0.0050	0.05	0	100	90	110				
Nickel	0.0513	0.010	0.05	0	103	90	110				
Selenium	0.0512	0.0050	0.05	0	102	90	110				
Silver	0.0203	0.0050	0.02	0	101	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181811

Date: 21-Feb-23

Run ID :Run Order: ICPMS205-H_230124A: 213	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 01/24/23 22:52	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Strontium	0.0536	0.10	0.05	0	107	90	110				
Thallium	0.0510	0.10	0.05	0	102	90	110				
Thorium	0.0506	0.0010	0.05	0	101	90	110				
Tin	0.0514	0.10	0.05	0	103	90	110				
Titanium	0.0513	0.010	0.05	0	103	90	110				
Uranium	0.0502	0.00030	0.05	0	100	90	110				
Vanadium	0.0521	0.10	0.05	0	104	90	110				
Zinc	0.0512	0.010	0.05	0	102	90	110				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B

Run ID :Run Order: ICPMS205-H_230124A: 225	SampType: Sample Matrix Spike				Lab ID: H23010433-038BMS				Method: E200.8		
Analysis Date: 01/24/23 23:22	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0547	0.0010	0.05	0.0002048	109	70	130				
Arsenic	0.0717	0.0010	0.05	0.01904	105	70	130				
Barium	0.140	0.050	0.05	0.08852	103	70	130				
Beryllium	0.0481	0.0010	0.05	0.002135	92	70	130				
Cadmium	0.248	0.0010	0.05	0.1962	103	70	130				
Chromium	0.0524	0.0050	0.05	0.0003178	104	70	130				
Cobalt	0.351	0.0050	0.05	0.293		70	130				A
Copper	13.5	0.0050	0.05	13.2		70	130				AE
Iron	81.6	0.020	0.15	79.72		70	130				AE
Lead	0.0674	0.0010	0.05	0.01497	105	70	130				
Lithium	0.673	0.10	0.05	0.6244		70	130				A
Manganese	55.9	0.0010	0.05	54.86		70	130				AE
Molybdenum	0.0547	0.0010	0.05	0.004181	101	70	130				
Nickel	0.166	0.0050	0.05	0.1149	103	70	130				
Selenium	0.0484	0.0010	0.05	0.0002701	96	70	130				
Silver	0.0196	0.0010	0.02	0.0001339	97	70	130				
Strontium	1.82	0.010	0.05	1.743		70	130				A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181811

Date: 21-Feb-23

Run ID :Run Order: ICPMS205-H_230124A: 225	SampType: Sample Matrix Spike				Lab ID: H23010433-038BMS				Method: E200.8		
Analysis Date: 01/24/23 23:22	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	0.0515	0.00050	0.05	0	103	70	130				
Thorium	0.0544	0.0050	0.05	0	109	70	130				
Tin	0.0512	0.050	0.05	0	102	70	130				
Titanium	0.0531	0.0050	0.05	0	106	70	130				
Uranium	0.0693	0.00030	0.05	0.01576	107	70	130				
Vanadium	0.0532	0.010	0.05	0.0008555	105	70	130				
Zinc	42.9	0.010	0.05	42.25		70	130				AE

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B

Run ID :Run Order: ICPMS205-H_230124A: 226	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010433-038BMSD				Method: E200.8		
Analysis Date: 01/24/23 23:25	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0527	0.0010	0.05	0.0002048	105	70	130	0.05466	3.6	20	
Arsenic	0.0687	0.0010	0.05	0.01904	99	70	130	0.0717	4.2	20	
Barium	0.138	0.050	0.05	0.08852	99	70	130	0.1399	1.2	20	
Beryllium	0.0473	0.0010	0.05	0.002135	90	70	130	0.04813	1.8	20	
Cadmium	0.242	0.0010	0.05	0.1962	91	70	130	0.2476	2.5	20	
Chromium	0.0499	0.0050	0.05	0.0003178	99	70	130	0.05237	4.9	20	
Cobalt	0.333	0.0050	0.05	0.293		70	130	0.3512	5.2	20	A
Copper	12.9	0.0050	0.05	13.2		70	130	13.53	4.7	20	AE
Iron	77.6	0.020	0.15	79.72		70	130	81.65	5.1	20	AE
Lead	0.0658	0.0010	0.05	0.01497	102	70	130	0.06735	2.3	20	
Lithium	0.668	0.10	0.05	0.6244		70	130	0.6734	0.9	20	A
Manganese	53.1	0.0010	0.05	54.86		70	130	55.9	5.2	20	AE
Molybdenum	0.0539	0.0010	0.05	0.004181	99	70	130	0.05469	1.5	20	
Nickel	0.159	0.0050	0.05	0.1149	89	70	130	0.1663	4.3	20	
Selenium	0.0477	0.0010	0.05	0.0002701	95	70	130	0.04836	1.5	20	
Silver	0.0191	0.0010	0.02	0.0001339	95	70	130	0.01957	2.3	20	
Strontium	1.74	0.010	0.05	1.743		70	130	1.825	4.9	20	A
Thallium	0.0506	0.00050	0.05	0	101	70	130	0.05149	1.8	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181811

Date: 21-Feb-23

Run ID :Run Order: ICPMS205-H_230124A: 226	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010433-038BMSD				Method: E200.8		
Analysis Date: 01/24/23 23:25	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0532	0.0050	0.05	0	106	70	130	0.05443	2.3	20	
Tin	0.0499	0.050	0.05	0	100	70	130	0.05124		20	
Titanium	0.0458	0.0050	0.05	0	92	70	130	0.05312	15	20	
Uranium	0.0674	0.00030	0.05	0.01576	103	70	130	0.06934	2.8	20	
Vanadium	0.0506	0.010	0.05	0.0008555	100	70	130	0.05324	5.0	20	
Zinc	40.9	0.010	0.05	42.25		70	130	42.9	4.9	20	AE

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181823

**Date:** 21-Feb-23

Run ID :Run Order: <b>PHSC_101-H_230125A: 147</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MBLK</b>	Method: <b>A2320 B</b>								
Analysis Date: <b>01/25/23 15:05</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Alkalinity, Total as CaCO3	ND	2									
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Associated samples: H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Run ID :Run Order: <b>PHSC_101-H_230125A: 148</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS</b>	Method: <b>A2320 B</b>								
Analysis Date: <b>01/25/23 15:11</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Alkalinity, Total as CaCO3	590	4.0	600	0	98	90	110				
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Associated samples: H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Run ID :Run Order: <b>PHSC_101-H_230125A: 191</b>	SampType: <b>Sample Duplicate</b>	Lab ID: <b>H23010433-025ADUP</b>	Method: <b>A2320 B</b>								
Analysis Date: <b>01/25/23 17:42</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Alkalinity, Total as CaCO3	70	4.0	0	0	70.1	0.5	10				
Bicarbonate as HCO3	85	4.0	0	0	84.91	0.5	10				
Carbonate as CO3	ND	4.0	0	0	0		10				

Associated samples: H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Run ID :Run Order: <b>PHSC_101-H_230125A: 197</b>	SampType: <b>Sample Duplicate</b>	Lab ID: <b>H23010433-026ADUP</b>	Method: <b>A2320 B</b>								
Analysis Date: <b>01/25/23 18:15</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Alkalinity, Total as CaCO3	270	4.0	0	0	263.7	1.1	10				
Bicarbonate as HCO3	320	4.0	0	0	321.1	1.2	10				
Carbonate as CO3	ND	4.0	0	0	0		10				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181823

**Date:** 21-Feb-23

Run ID :Run Order: **PHSC\_101-H\_230125A: 197**

SampType: **Sample Duplicate**

Lab ID: **H23010433-026ADUP**

Method: **A2320 B**

Analysis Date: **01/25/23 18:15**

Units: **mg/L**

Prep Info: Prep Date:

Prep Method:

Analytes **3**

Result

PQL

SPK value

SPK Ref Val

%REC

LowLimit

HighLimit

RPD Ref Val

%RPD

RPDLimit

Qual

Associated samples: **H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A**

**Qualifiers:** ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limit

N - Analyte concentration was not sufficiently high to calculate RPD

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181835

**Date:** 21-Feb-23

Run ID :Run Order: <b>ICP2-HE_230125A: 7</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>			Method: <b>E200.7</b>			
Analysis Date: <b>01/25/23 10:30</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.784	0.10	0.8	0	<b>98</b>	95	105				
Zinc	0.805	0.010	0.8	0	<b>101</b>	95	105				

Associated samples: **H23010433-004B, H23010433-015B, H23010433-033B, H23010433-037B, H23010433-038B, H23010433-039B**

Run ID :Run Order: <b>ICP2-HE_230125A: 9</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV-1</b>			Method: <b>E200.7</b>			
Analysis Date: <b>01/25/23 10:39</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.50	0.10	2.5	0	<b>100</b>	95	105				
Zinc	2.53	0.010	2.5	0	<b>101</b>	95	105				

Associated samples: **H23010433-004B, H23010433-015B, H23010433-033B, H23010433-037B, H23010433-038B, H23010433-039B**

Run ID :Run Order: <b>ICP2-HE_230125A: 15</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MB</b>			Method: <b>E200.7</b>			
Analysis Date: <b>01/25/23 11:05</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.004									
Zinc	ND	0.003									

Associated samples: **H23010433-004B, H23010433-015B, H23010433-033B, H23010433-037B, H23010433-038B, H23010433-039B**

Run ID :Run Order: <b>ICP2-HE_230125A: 16</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>			Method: <b>E200.7</b>			
Analysis Date: <b>01/25/23 11:09</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.986	0.10	1	0	<b>99</b>	85	115				
Zinc	1.01	0.010	1	0	<b>101</b>	85	115				

Associated samples: **H23010433-004B, H23010433-015B, H23010433-033B, H23010433-037B, H23010433-038B, H23010433-039B**

Run ID :Run Order: <b>ICP2-HE_230125A: 19</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>			Method: <b>E200.7</b>			
Analysis Date: <b>01/25/23 11:21</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.41	0.10	2.5	0	<b>96</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181835

Date: 21-Feb-23

Run ID :Run Order: ICP2-HE_230125A: 19	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.7								
Analysis Date: 01/25/23 11:21	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	2.45	0.010	2.5	0	98	90	110				

Associated samples: H23010433-004B, H23010433-015B, H23010433-033B, H23010433-037B, H23010433-038B, H23010433-039B

Run ID :Run Order: ICP2-HE_230125A: 21	SampType: Sample Matrix Spike	Lab ID: H23010480-001BMS2	Method: E200.7								
Analysis Date: 01/25/23 11:28	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.28	0.050	1	0.362	92	70	130				
Zinc	1.09	0.010	1	0.1466	95	70	130				

Associated samples: H23010433-004B, H23010433-015B, H23010433-033B, H23010433-037B, H23010433-038B, H23010433-039B

Run ID :Run Order: ICP2-HE_230125A: 22	SampType: Sample Matrix Spike Duplicate	Lab ID: H23010480-001BMSD2	Method: E200.7								
Analysis Date: 01/25/23 11:32	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.29	0.050	1	0.362	93	70	130	1.283	0.3	20	
Zinc	1.10	0.010	1	0.1466	95	70	130	1.094	0.2	20	

Associated samples: H23010433-004B, H23010433-015B, H23010433-033B, H23010433-037B, H23010433-038B, H23010433-039B

Run ID :Run Order: ICP2-HE_230125A: 26	SampType: Sample Matrix Spike	Lab ID: H23010433-015BMS2	Method: E200.7								
Analysis Date: 01/25/23 11:47	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.05	0.050	1	0.05016	100	70	130				
Zinc	1.18	0.010	1	0.1554	103	70	130				

Associated samples: H23010433-004B, H23010433-015B, H23010433-033B, H23010433-037B, H23010433-038B, H23010433-039B

Run ID :Run Order: ICP2-HE_230125A: 27	SampType: Sample Matrix Spike Duplicate	Lab ID: H23010433-015BMSD2	Method: E200.7								
Analysis Date: 01/25/23 11:50	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.912	0.050	1	0.05016	86	70	130	1.051	14	20	
Zinc	1.04	0.010	1	0.1554	88	70	130	1.181	13	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181835

**Date:** 21-Feb-23

Run ID :Run Order: <b>ICP2-HE_230125A: 27</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23010433-015BMSD2</b>	Method: <b>E200.7</b>								
Analysis Date: <b>01/25/23 11:50</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H23010433-004B, H23010433-015B, H23010433-033B, H23010433-037B, H23010433-038B, H23010433-039B**

Run ID :Run Order: <b>ICP2-HE_230125A: 40</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E200.7</b>								
Analysis Date: <b>01/25/23 14:47</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.56	0.10	2.5	0	<b>102</b>	90	110				
Zinc	2.57	0.010	2.5	0	<b>103</b>	90	110				

Associated samples: **H23010433-004B, H23010433-015B, H23010433-033B, H23010433-037B, H23010433-038B, H23010433-039B**

Run ID :Run Order: <b>ICP2-HE_230125A: 48</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23010433-033BMS2</b>	Method: <b>E200.7</b>								
Analysis Date: <b>01/25/23 15:17</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.14	0.050	1	0.1228	<b>101</b>	70	130				
Zinc	3.80	0.010	1	2.745	<b>105</b>	70	130				

Associated samples: **H23010433-004B, H23010433-015B, H23010433-033B, H23010433-037B, H23010433-038B, H23010433-039B**

Run ID :Run Order: <b>ICP2-HE_230125A: 49</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23010433-033BMSD2</b>	Method: <b>E200.7</b>								
Analysis Date: <b>01/25/23 15:20</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.10	0.050	1	0.1228	<b>98</b>	70	130	1.136	<b>2.8</b>	20	
Zinc	3.68	0.010	1	2.745	<b>94</b>	70	130	3.8	<b>3.2</b>	20	

Associated samples: **H23010433-004B, H23010433-015B, H23010433-033B, H23010433-037B, H23010433-038B, H23010433-039B**

Run ID :Run Order: <b>ICP2-HE_230125A: 52</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E200.7</b>								
Analysis Date: <b>01/25/23 15:32</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.68	0.10	2.5	0	<b>107</b>	90	110				
Zinc	2.65	0.010	2.5	0	<b>106</b>	90	110				

Associated samples: **H23010433-004B, H23010433-015B, H23010433-033B, H23010433-037B, H23010433-038B, H23010433-039B**

<b>Qualifiers:</b> ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limit	N - Analyte concentration was not sufficiently high to calculate RPD
J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181863

**Date:** 21-Feb-23

Run ID :Run Order: ICPMS205-H_230125A: 12		SampType: Initial Calibration Verification Standard			Lab ID: ICV			Method: E200.8			
Analysis Date: 01/25/23 16:13		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0607	0.010	0.06	0	101	90	110				
Gallium	0.0608	0.010	0.06	0	101	90	110				
Lanthanum	0.0610	0.010	0.06	0	102	90	110				
Neodymium	0.0619	0.0050	0.06	0	103	90	110				
Niobium	0.0610	0.0010	0.06	0	102	90	110				
Palladium	0.0615	0.010	0.06	0	102	90	110				
Praseodymium	0.0604	0.0010	0.06	0	101	90	110				
Rubidium	0.0610	0.010	0.06	0	102	90	110				
Tungsten	0.0596	0.10	0.06	0	99	90	110				
Zirconium	0.0644	0.0050	0.06	0	107	90	110				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-037F, H23010433-038B, H23010433-038F, H23010433-039B, H23010433-039F

Run ID :Run Order: ICPMS205-H_230125A: 18		SampType: Continuing Calibration Verification Standar			Lab ID: CCV			Method: E200.8			
Analysis Date: 01/25/23 16:24		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0502	0.010	0.05	0	100	90	110				
Gallium	0.0507	0.010	0.05	0	101	90	110				
Lanthanum	0.0508	0.010	0.05	0	102	90	110				
Neodymium	0.0505	0.0050	0.05	0	101	90	110				
Niobium	0.0504	0.0010	0.05	0	101	90	110				
Palladium	0.0503	0.010	0.05	0	101	90	110				
Praseodymium	0.0505	0.0010	0.05	0	101	90	110				
Rubidium	0.0506	0.010	0.05	0	101	90	110				
Tungsten	0.0489	0.10	0.05	0	98	90	110				
Zirconium	0.0509	0.0050	0.05	0	102	90	110				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-037F, H23010433-038B, H23010433-038F, H23010433-039B, H23010433-039F

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181863

Date: 21-Feb-23

Run ID :Run Order: ICPMS205-H_230125A: 20		SampType: Method Blank			Lab ID: LRB				Method: E200.8		
Analysis Date: 01/25/23 16:27		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	ND	0.0002									
Gallium	ND	0.00009									
Lanthanum	ND	0.0001									
Neodymium	ND	0.00009									
Niobium	ND	0.0003									
Palladium	ND	0.0002									
Praseodymium	ND	0.0001									
Rubidium	ND	0.00007									
Tungsten	ND	0.0001									
Zirconium	ND	0.0003									

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

Run ID :Run Order: ICPMS205-H_230125A: 21		SampType: Laboratory Fortified Blank			Lab ID: LFB				Method: E200.8		
Analysis Date: 01/25/23 16:28		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0510	0.010	0.05	0	102	85	115				
Gallium	0.0511	0.010	0.05	0	102	85	115				
Lanthanum	0.0513	0.010	0.05	0	103	85	115				
Neodymium	0.0520	0.0050	0.05	0	104	85	115				
Niobium	0.0493	0.0010	0.05	0	99	85	115				
Palladium	0.0501	0.010	0.05	0	100	85	115				
Praseodymium	0.0514	0.0010	0.05	0	103	85	115				
Rubidium	0.0515	0.010	0.05	0	103	85	115				
Tungsten	0.0444	0.10	0.05	0	89	85	115				
Zirconium	0.0543	0.0050	0.05	0	109	85	115				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181863

Date: 21-Feb-23

Run ID :Run Order: ICPMS205-H_230125A: 34		SampType: Sample Matrix Spike			Lab ID: H23010433-010BMS				Method: E200.8		
Analysis Date: 01/25/23 16:48		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0505	0.010	0.05	0	101	70	130				
Gallium	0.0506	0.010	0.05	0	101	70	130				
Lanthanum	0.0512	0.010	0.05	0	102	70	130				
Neodymium	0.0517	0.0050	0.05	0	103	70	130				
Niobium	0.0482	0.0010	0.05	0	96	70	130				
Palladium	0.0457	0.010	0.05	0	91	70	130				
Praseodymium	0.0508	0.0010	0.05	0	102	70	130				
Rubidium	0.0520	0.010	0.05	0.0005774	103	70	130				
Tungsten	0.0447	0.10	0.05	0.000593	88	70	130				
Zirconium	0.0544	0.0050	0.05	0	109	70	130				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

Run ID :Run Order: ICPMS205-H_230125A: 35		SampType: Sample Matrix Spike Duplicate			Lab ID: H23010433-010BMSD				Method: E200.8		
Analysis Date: 01/25/23 16:49		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0510	0.010	0.05	0	102	70	130	0.05048	1.1	20	
Gallium	0.0510	0.010	0.05	0	102	70	130	0.05058	0.8	20	
Lanthanum	0.0520	0.010	0.05	0	104	70	130	0.05123	1.6	20	
Neodymium	0.0524	0.0050	0.05	0	105	70	130	0.05169	1.3	20	
Niobium	0.0482	0.0010	0.05	0	96	70	130	0.04816			
Palladium	0.0471	0.010	0.05	0	94	70	130	0.04569	3.1	20	
Praseodymium	0.0515	0.0010	0.05	0	103	70	130	0.0508			
Rubidium	0.0524	0.010	0.05	0.0005774	104	70	130	0.05205	0.7	20	
Tungsten	0.0453	0.10	0.05	0.000593	89	70	130	0.04467		20	
Zirconium	0.0559	0.0050	0.05	0	112	70	130	0.05441	2.8	20	

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181863

Date: 21-Feb-23

Run ID :Run Order: ICPMS205-H_230125A: 36	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 01/25/23 16:51	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0500	0.010	0.05	0	100	90	110				
Gallium	0.0498	0.010	0.05	0	99	90	110				
Lanthanum	0.0509	0.010	0.05	0	102	90	110				
Neodymium	0.0507	0.0050	0.05	0	101	90	110				
Niobium	0.0509	0.0010	0.05	0	102	90	110				
Palladium	0.0490	0.010	0.05	0	98	90	110				
Praseodymium	0.0508	0.0010	0.05	0	102	90	110				
Rubidium	0.0507	0.010	0.05	0	101	90	110				
Tungsten	0.0510	0.10	0.05	0	102	90	110				
Zirconium	0.0523	0.0050	0.05	0	105	90	110				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-037F, H23010433-038B, H23010433-038F, H23010433-039B, H23010433-039F

Run ID :Run Order: ICPMS205-H_230125A: 48	SampType: Sample Matrix Spike				Lab ID: H23010433-020BMS				Method: E200.8		
Analysis Date: 01/25/23 17:09	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0503	0.010	0.05	0	101	70	130				
Gallium	0.0500	0.010	0.05	0	100	70	130				
Lanthanum	0.0510	0.010	0.05	0	102	70	130				
Neodymium	0.0525	0.0050	0.05	0	105	70	130				
Niobium	0.0472	0.0010	0.05	0	94	70	130				
Palladium	0.0498	0.010	0.05	0	100	70	130				
Praseodymium	0.0512	0.0010	0.05	0	102	70	130				
Rubidium	0.0509	0.010	0.05	0.0004606	101	70	130				
Tungsten	0.0471	0.10	0.05	0.002064	90	70	130				
Zirconium	0.0542	0.0050	0.05	0	108	70	130				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181863

Date: 21-Feb-23

Run ID :Run Order: ICPMS205-H_230125A: 49	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010433-020BMSD				Method: E200.8		
Analysis Date: 01/25/23 17:10	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0499	0.010	0.05	0	100	70	130	0.05026	0.7	20	
Gallium	0.0506	0.010	0.05	0	101	70	130	0.04996	1.2	20	
Lanthanum	0.0510	0.010	0.05	0	102	70	130	0.05098	0.1	20	
Neodymium	0.0518	0.0050	0.05	0	104	70	130	0.05254	1.4	20	
Niobium	0.0480	0.0010	0.05	0	96	70	130	0.04724			
Palladium	0.0500	0.010	0.05	0	100	70	130	0.04979	0.5	20	
Praseodymium	0.0510	0.0010	0.05	0	102	70	130	0.05121			
Rubidium	0.0513	0.010	0.05	0.0004606	102	70	130	0.05087	0.8	20	
Tungsten	0.0474	0.10	0.05	0.002064	91	70	130	0.04708		20	
Zirconium	0.0559	0.0050	0.05	0	112	70	130	0.05425	2.9	20	

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

Run ID :Run Order: ICPMS205-H_230125A: 50	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 01/25/23 17:12	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0499	0.010	0.05	0	100	90	110				
Gallium	0.0493	0.010	0.05	0	99	90	110				
Lanthanum	0.0508	0.010	0.05	0	102	90	110				
Neodymium	0.0506	0.0050	0.05	0	101	90	110				
Niobium	0.0504	0.0010	0.05	0	101	90	110				
Palladium	0.0512	0.010	0.05	0	102	90	110				
Praseodymium	0.0503	0.0010	0.05	0	101	90	110				
Rubidium	0.0496	0.010	0.05	0	99	90	110				
Tungsten	0.0512	0.10	0.05	0	102	90	110				
Zirconium	0.0507	0.0050	0.05	0	101	90	110				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-037F, H23010433-038B, H23010433-038F, H23010433-039B, H23010433-039F

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181863

Date: 21-Feb-23

Run ID :Run Order: ICPMS205-H_230125A: 62		SampType: Sample Matrix Spike			Lab ID: H23010433-030BMS				Method: E200.8		
Analysis Date: 01/25/23 17:30		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0512	0.010	0.05	0	102	70	130				
Gallium	0.0482	0.010	0.05	0	96	70	130				
Lanthanum	0.0528	0.010	0.05	0	106	70	130				
Neodymium	0.0535	0.0050	0.05	0	107	70	130				
Niobium	0.0475	0.0010	0.05	0	95	70	130				
Palladium	0.0503	0.010	0.05	0	101	70	130				
Praseodymium	0.0526	0.0010	0.05	0	105	70	130				
Rubidium	0.0663	0.010	0.05	0.01706	98	70	130				
Tungsten	0.0468	0.10	0.05	0	93	70	130				
Zirconium	0.0543	0.0050	0.05	0	109	70	130				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

Run ID :Run Order: ICPMS205-H_230125A: 63		SampType: Sample Matrix Spike Duplicate			Lab ID: H23010433-030BMSD				Method: E200.8		
Analysis Date: 01/25/23 17:31		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0503	0.010	0.05	0	101	70	130	0.05122	1.8	20	
Gallium	0.0485	0.010	0.05	0	97	70	130	0.04821	0.7	20	
Lanthanum	0.0519	0.010	0.05	0	104	70	130	0.05283	1.8	20	
Neodymium	0.0524	0.0050	0.05	0	105	70	130	0.05348	2.1	20	
Niobium	0.0482	0.0010	0.05	0	96	70	130	0.04749			
Palladium	0.0497	0.010	0.05	0	99	70	130	0.05026	1.1	20	
Praseodymium	0.0515	0.0010	0.05	0	103	70	130	0.05258			
Rubidium	0.0674	0.010	0.05	0.01706	101	70	130	0.06628	1.7	20	
Tungsten	0.0465	0.10	0.05	0	93	70	130	0.04675		20	
Zirconium	0.0561	0.0050	0.05	0	112	70	130	0.05433	3.3	20	

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181863

**Date:** 21-Feb-23

Run ID :Run Order:	SampType: Continuing Calibration Verification Standar				Lab ID: CCV	Method: E200.8					
Analysis Date: 01/25/23 17:33	Units: mg/L				Prep Info:	Prep Date:			Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0502	0.010	0.05	0	100	90	110				
Gallium	0.0511	0.010	0.05	0	102	90	110				
Lanthanum	0.0513	0.010	0.05	0	103	90	110				
Neodymium	0.0514	0.0050	0.05	0	103	90	110				
Niobium	0.0517	0.0010	0.05	0	103	90	110				
Palladium	0.0526	0.010	0.05	0	105	90	110				
Praseodymium	0.0512	0.0010	0.05	0	102	90	110				
Rubidium	0.0512	0.010	0.05	0	102	90	110				
Tungsten	0.0522	0.10	0.05	0	104	90	110				
Zirconium	0.0525	0.0050	0.05	0	105	90	110				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-037F, H23010433-038B, H23010433-038F, H23010433-039B, H23010433-039F

Run ID :Run Order:	SampType: Sample Matrix Spike				Lab ID: H23010433-038BMS	Method: E200.8					
Analysis Date: 01/25/23 17:58	Units: mg/L				Prep Info:	Prep Date:			Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0508	0.010	0.05	0	102	70	130				
Gallium	0.0507	0.010	0.05	0.002095	97	70	130				
Lanthanum	0.0751	0.010	0.05	0.02254	105	70	130				
Neodymium	0.0676	0.0050	0.05	0.01413	107	70	130				
Niobium	0.0485	0.0010	0.05	0	97	70	130				
Palladium	0.0486	0.010	0.05	0	97	70	130				
Praseodymium	0.0566	0.0010	0.05	0.004123	105	70	130				
Rubidium	0.0545	0.010	0.05	0.004904	99	70	130				
Tungsten	0.0465	0.10	0.05	0	93	70	130				
Zirconium	0.0570	0.0050	0.05	0	114	70	130				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181863

Date: 21-Feb-23

Run ID :Run Order: ICPMS205-H_230125A: 82	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010433-038BMSD				Method: E200.8		
Analysis Date: 01/25/23 18:00	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0506	0.010	0.05	0	101	70	130	0.05081	0.5	20	
Gallium	0.0498	0.010	0.05	0.002095	95	70	130	0.05073	1.9	20	
Lanthanum	0.0747	0.010	0.05	0.02254	104	70	130	0.07506	0.5	20	
Neodymium	0.0668	0.0050	0.05	0.01413	105	70	130	0.06755	1.2	20	
Niobium	0.0478	0.0010	0.05	0	96	70	130	0.04849			
Palladium	0.0481	0.010	0.05	0	96	70	130	0.04857	1.0	20	
Praseodymium	0.0560	0.0010	0.05	0.004123	104	70	130	0.05661			
Rubidium	0.0542	0.010	0.05	0.004904	98	70	130	0.05446	0.6	20	
Tungsten	0.0470	0.10	0.05	0	94	70	130	0.04646		20	
Zirconium	0.0569	0.0050	0.05	0	114	70	130	0.05704	0.2	20	

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-038B, H23010433-039B

Run ID :Run Order: ICPMS205-H_230125A: 83	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 01/25/23 18:01	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0502	0.010	0.05	0	100	90	110				
Gallium	0.0505	0.010	0.05	0	101	90	110				
Lanthanum	0.0512	0.010	0.05	0	102	90	110				
Neodymium	0.0512	0.0050	0.05	0	102	90	110				
Niobium	0.0518	0.0010	0.05	0	104	90	110				
Palladium	0.0518	0.010	0.05	0	104	90	110				
Praseodymium	0.0511	0.0010	0.05	0	102	90	110				
Rubidium	0.0509	0.010	0.05	0	102	90	110				
Tungsten	0.0521	0.10	0.05	0	104	90	110				
Zirconium	0.0522	0.0050	0.05	0	104	90	110				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-009B, H23010433-010B, H23010433-011B, H23010433-012B, H23010433-013B, H23010433-014B, H23010433-015B, H23010433-016B, H23010433-017B, H23010433-018B, H23010433-019B, H23010433-020B, H23010433-021B, H23010433-022B, H23010433-023B, H23010433-024B, H23010433-025B, H23010433-026B, H23010433-027B, H23010433-028B, H23010433-029B, H23010433-030B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037B, H23010433-037F, H23010433-038B, H23010433-038F, H23010433-039B, H23010433-039F

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181878

Date: 21-Feb-23

Run ID :Run Order: <b>IC METROHM_230125A: 34</b>	SampType: <b>Method Blank</b>				Lab ID: <b>ICB</b>				Method: <b>E300.0</b>		
Analysis Date: <b>01/25/23 14:14</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.02									
Sulfate	ND	0.06									
Bromide	ND	0.001									
Fluoride	ND	0.001									

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Run ID :Run Order: <b>IC METROHM_230125A: 35</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>				Method: <b>E300.0</b>		
Analysis Date: <b>01/25/23 14:28</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	98.1	1.0	100	0	98	90	110				
Sulfate	384	1.0	400	0	96	90	110				
Bromide	5.08	0.50	5	0	102	90	110				
Fluoride	5.33	0.10	5	0	107	90	110				

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Run ID :Run Order: <b>IC METROHM_230125A: 36</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>				Method: <b>E300.0</b>		
Analysis Date: <b>01/25/23 14:43</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	24.7	1.0	25	0	99	90	110				
Sulfate	102	1.0	100	0	102	90	110				
Bromide	1.25	0.50	1.25	0	100	90	110				
Fluoride	1.28	0.10	1.25	0	103	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181878

Date: 21-Feb-23

Run ID :Run Order: <b>IC METROHM_230125A: 36</b>	SampType: <b>Laboratory Fortified Blank</b>	Lab ID: <b>LFB</b>	Method: <b>E300.0</b>								
Analysis Date: <b>01/25/23 14:43</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Run ID :Run Order: <b>IC METROHM_230125A: 39</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E300.0</b>								
Analysis Date: <b>01/25/23 23:51</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	49.6	1.0	50	0	99	90	110				
Sulfate	197	1.0	200	0	99	90	110				
Bromide	2.60	0.50	2.5	0	104	90	110				
Fluoride	2.46	0.10	2.5	0	98	90	110				

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Run ID :Run Order: <b>IC METROHM_230125A: 42</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23010433-001AMS</b>	Method: <b>E300.0</b>								
Analysis Date: <b>01/26/23 00:49</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	33.1	1.0	25	6.755	106	90	110				
Sulfate	156	1.0	100	52.4	104	90	110				
Bromide	1.37	0.50	1.25	0.036	107	90	110				
Fluoride	1.83	0.10	1.25	0.523	105	90	110				

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181878

Date: 21-Feb-23

Run ID :Run Order: IC METROHM_230125A: 43	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010433-001AMSD				Method: E300.0		
Analysis Date: 01/26/23 01:03	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	33.3	1.0	25	6.755	106	90	110	33.15	0.4	20	
Sulfate	158	1.0	100	52.4	105	90	110	156.2	1.0	20	
Bromide	1.38	0.50	1.25	0.036	107	90	110	1.369	0.5	20	
Fluoride	1.84	0.10	1.25	0.523	105	90	110	1.83	0.4	20	

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Run ID :Run Order: IC METROHM_230125A: 53	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E300.0		
Analysis Date: 01/26/23 03:28	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	49.9	1.0	50	0	100	90	110				
Sulfate	198	1.0	200	0	99	90	110				
Bromide	2.61	0.50	2.5	0	104	90	110				
Fluoride	2.46	0.10	2.5	0	98	90	110				

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Run ID :Run Order: IC METROHM_230125A: 56	SampType: Sample Matrix Spike				Lab ID: H23010433-011AMS				Method: E300.0		
Analysis Date: 01/26/23 04:25	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	33.2	1.0	25	6.848	105	90	110				
Sulfate	148	1.0	100	44.08	104	90	110				
Bromide	1.36	0.50	1.25	0.037	106	90	110				
Fluoride	2.73	0.10	1.25	1.428	104	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181878

Date: 21-Feb-23

Run ID :Run Order: IC METROHM_230125A: 56	SampType: Sample Matrix Spike	Lab ID: H23010433-011AMS	Method: E300.0								
Analysis Date: 01/26/23 04:25	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Run ID :Run Order: IC METROHM_230125A: 57	SampType: Sample Matrix Spike Duplicate	Lab ID: H23010433-011AMSD	Method: E300.0								
Analysis Date: 01/26/23 04:40	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	33.4	1.0	25	6.848	106	90	110	33.17	0.8	20	
Sulfate	150	1.0	100	44.08	106	90	110	148	1.4	20	
Bromide	1.38	0.50	1.25	0.037	107	90	110	1.363	1.0	20	
Fluoride	2.81	0.10	1.25	1.428	111	90	110	2.734	2.7	20	S

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Run ID :Run Order: IC METROHM_230125A: 67	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E300.0								
Analysis Date: 01/26/23 07:03	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	49.7	1.0	50	0	99	90	110				
Sulfate	200	1.0	200	0	100	90	110				
Bromide	2.59	0.50	2.5	0	104	90	110				
Fluoride	2.48	0.10	2.5	0	99	90	110				

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181878

Date: 21-Feb-23

Run ID :Run Order: IC METROHM_230125A: 70	SampType: Sample Matrix Spike				Lab ID: H23010433-021AMS				Method: E300.0		
Analysis Date: 01/26/23 09:48	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	33.7	1.0	25	7.491	105	90	110				
Sulfate	143	1.0	100	37.98	105	90	110				
Bromide	1.34	0.50	1.25	0.039	104	90	110				
Fluoride	1.84	0.10	1.25	0.506	106	90	110				

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Run ID :Run Order: IC METROHM_230125A: 71	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010433-021AMSD				Method: E300.0		
Analysis Date: 01/26/23 10:03	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	33.8	1.0	25	7.491	105	90	110	33.66	0.5	20	
Sulfate	143	1.0	100	37.98	105	90	110	142.6	0.6	20	
Bromide	1.35	0.50	1.25	0.039	105	90	110	1.344	0.4	20	
Fluoride	1.84	0.10	1.25	0.506	106	90	110	1.835	0.1	20	

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Run ID :Run Order: IC METROHM_230125A: 81	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E300.0		
Analysis Date: 01/26/23 12:27	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	50.1	1.0	50	0	100	90	110				
Sulfate	203	1.0	200	0	102	90	110				
Bromide	2.58	0.50	2.5	0	103	90	110				
Fluoride	2.50	0.10	2.5	0	100	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181878

Date: 21-Feb-23

Run ID :Run Order: **IC METROHM\_230125A: 81** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E300.0**  
 Analysis Date: **01/26/23 12:27** Units: **mg/L** Prep Info: Prep Date: Prep Method:  
 Analytes **4** Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Run ID :Run Order: **IC METROHM\_230125A: 84** SampType: **Sample Matrix Spike** Lab ID: **H23010433-031AMS** Method: **E300.0**  
 Analysis Date: **01/26/23 13:25** Units: **mg/L** Prep Info: Prep Date: Prep Method:  
 Analytes **4** Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Analytes	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	119	1.0	50	68.32	101	90	110				
Sulfate	684	1.0	200	481.4	101	90	110				
Bromide	2.75	0.50	2.5	0.176	103	90	110				
Fluoride	3.52	0.10	2.5	0.922	104	90	110				

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Run ID :Run Order: **IC METROHM\_230125A: 85** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H23010433-031AMSD** Method: **E300.0**  
 Analysis Date: **01/26/23 13:39** Units: **mg/L** Prep Info: Prep Date: Prep Method:  
 Analytes **4** Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Analytes	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	118	1.0	50	68.32	100	90	110	118.6	0.2	20	
Sulfate	684	1.0	200	481.4	101	90	110	683.8	0.1	20	
Bromide	2.78	0.50	2.5	0.176	104	90	110	2.754	0.9	20	
Fluoride	3.54	0.10	2.5	0.922	105	90	110	3.52	0.7	20	

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limit N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181878

Date: 21-Feb-23

Run ID :Run Order: IC METROHM_230125A: 98		SampType: Sample Matrix Spike			Lab ID: H23010466-002AMS				Method: E300.0		
Analysis Date: 01/26/23 17:02		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	26.4	1.0	25	0	105	90	110				
Sulfate	107	1.0	100	0	107	90	110				
Bromide	1.31	0.50	1.25	0	105	90	110				
Fluoride	1.29	0.10	1.25	0	103	90	110				

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Run ID :Run Order: IC METROHM_230125A: 99		SampType: Sample Matrix Spike Duplicate			Lab ID: H23010466-002AMSD				Method: E300.0		
Analysis Date: 01/26/23 17:16		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	27.0	1.0	25	0	108	90	110	26.35	2.5	20	
Sulfate	110	1.0	100	0	110	90	110	107.3	2.9	20	
Bromide	1.35	0.50	1.25	0	108	90	110	1.314	2.7	20	
Fluoride	1.30	0.10	1.25	0	104	90	110	1.29	0.6	20	

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181885

**Date:** 21-Feb-23

Run ID :Run Order: <b>FIA203-HE_230126A: 10</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E353.2</b>			
Analysis Date: <b>01/26/23 14:53</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.01	0.010	1	0	<b>101</b>	90	110				

Associated samples: H23010433-001C, H23010433-002C, H23010433-003C, H23010433-004C, H23010433-005C, H23010433-006C, H23010433-007C, H23010433-008C, H23010433-009C, H23010433-010C, H23010433-011C, H23010433-012C, H23010433-013C, H23010433-014C, H23010433-015C, H23010433-016C, H23010433-017C, H23010433-018C, H23010433-019C, H23010433-020C, H23010433-021C, H23010433-022C, H23010433-023C, H23010433-024C, H23010433-025C, H23010433-027C, H23010433-028C, H23010433-029C, H23010433-030C, H23010433-031C, H23010433-032C, H23010433-033C, H23010433-034C, H23010433-035C, H23010433-036C, H23010433-037C, H23010433-039C

Run ID :Run Order: <b>FIA203-HE_230126A: 11</b>		SampType: <b>Method Blank</b>			Lab ID: <b>MBLK</b>			Method: <b>E353.2</b>			
Analysis Date: <b>01/26/23 14:54</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.008									

Associated samples: H23010433-001C, H23010433-002C, H23010433-003C, H23010433-004C, H23010433-005C, H23010433-006C, H23010433-007C, H23010433-008C, H23010433-009C, H23010433-010C, H23010433-011C, H23010433-012C, H23010433-013C, H23010433-014C, H23010433-015C, H23010433-016C, H23010433-017C, H23010433-018C, H23010433-019C, H23010433-020C, H23010433-021C, H23010433-022C, H23010433-023C, H23010433-024C, H23010433-025C, H23010433-027C, H23010433-028C, H23010433-029C, H23010433-030C, H23010433-031C, H23010433-032C, H23010433-033C, H23010433-034C, H23010433-035C, H23010433-036C, H23010433-037C, H23010433-039C

Run ID :Run Order: <b>FIA203-HE_230126A: 12</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E353.2</b>			
Analysis Date: <b>01/26/23 14:56</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.999	0.011	1	0	<b>100</b>	90	110				

Associated samples: H23010433-001C, H23010433-002C, H23010433-003C, H23010433-004C, H23010433-005C, H23010433-006C, H23010433-007C, H23010433-008C, H23010433-009C, H23010433-010C, H23010433-011C, H23010433-012C, H23010433-013C, H23010433-014C, H23010433-015C, H23010433-016C, H23010433-017C, H23010433-018C, H23010433-019C, H23010433-020C, H23010433-021C, H23010433-022C, H23010433-023C, H23010433-024C, H23010433-025C, H23010433-027C, H23010433-028C, H23010433-029C, H23010433-030C, H23010433-031C, H23010433-032C, H23010433-033C, H23010433-034C, H23010433-035C, H23010433-036C, H23010433-037C, H23010433-039C

Run ID :Run Order: <b>FIA203-HE_230126A: 17</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23010359-001BMS</b>			Method: <b>E353.2</b>			
Analysis Date: <b>01/26/23 15:02</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.08	0.011	1	0.0744	<b>101</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181885

**Date:** 21-Feb-23

Run ID :Run Order: <b>FIA203-HE_230126A: 17</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23010359-001BMS</b>	Method: <b>E353.2</b>								
Analysis Date: <b>01/26/23 15:02</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23010433-001C, H23010433-002C, H23010433-003C, H23010433-004C, H23010433-005C, H23010433-006C, H23010433-007C, H23010433-008C, H23010433-009C, H23010433-010C, H23010433-011C, H23010433-012C, H23010433-013C, H23010433-014C, H23010433-015C, H23010433-016C, H23010433-017C, H23010433-018C, H23010433-019C, H23010433-020C, H23010433-021C, H23010433-022C, H23010433-023C, H23010433-024C, H23010433-025C, H23010433-027C, H23010433-028C, H23010433-029C, H23010433-030C, H23010433-031C, H23010433-032C, H23010433-033C, H23010433-034C, H23010433-035C, H23010433-036C, H23010433-037C, H23010433-039C

Run ID :Run Order: <b>FIA203-HE_230126A: 18</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23010359-001BMSD</b>	Method: <b>E353.2</b>								
Analysis Date: <b>01/26/23 15:03</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.09	0.011	1	0.0744	<b>101</b>	90	110	1.08	<b>0.5</b>	10	

Associated samples: H23010433-001C, H23010433-002C, H23010433-003C, H23010433-004C, H23010433-005C, H23010433-006C, H23010433-007C, H23010433-008C, H23010433-009C, H23010433-010C, H23010433-011C, H23010433-012C, H23010433-013C, H23010433-014C, H23010433-015C, H23010433-016C, H23010433-017C, H23010433-018C, H23010433-019C, H23010433-020C, H23010433-021C, H23010433-022C, H23010433-023C, H23010433-024C, H23010433-025C, H23010433-027C, H23010433-028C, H23010433-029C, H23010433-030C, H23010433-031C, H23010433-032C, H23010433-033C, H23010433-034C, H23010433-035C, H23010433-036C, H23010433-037C, H23010433-039C

Run ID :Run Order: <b>FIA203-HE_230126A: 26</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E353.2</b>								
Analysis Date: <b>01/26/23 15:12</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.503	0.010	0.5	0	<b>101</b>	90	110				

Associated samples: H23010433-001C, H23010433-002C, H23010433-003C, H23010433-004C, H23010433-005C, H23010433-006C, H23010433-007C, H23010433-008C, H23010433-009C, H23010433-010C, H23010433-011C, H23010433-012C, H23010433-013C, H23010433-014C, H23010433-015C, H23010433-016C, H23010433-017C, H23010433-018C, H23010433-019C, H23010433-020C, H23010433-021C, H23010433-022C, H23010433-023C, H23010433-024C, H23010433-025C, H23010433-027C, H23010433-028C, H23010433-029C, H23010433-030C, H23010433-031C, H23010433-032C, H23010433-033C, H23010433-034C, H23010433-035C, H23010433-036C, H23010433-037C, H23010433-039C

Run ID :Run Order: <b>FIA203-HE_230126A: 29</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23010433-006CMS</b>	Method: <b>E353.2</b>								
Analysis Date: <b>01/26/23 15:16</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.776	0.011	1	0	<b>78</b>	90	110				S

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181885

**Date:** 21-Feb-23

Run ID :Run Order: <b>FIA203-HE_230126A: 29</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23010433-006CMS</b>	Method: <b>E353.2</b>
Analysis Date: <b>01/26/23 15:16</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
		LowLimit	HighLimit
		RPD Ref Val	%RPD
		RPDLimit	Qual

Associated samples: H23010433-001C, H23010433-002C, H23010433-003C, H23010433-004C, H23010433-005C, H23010433-006C, H23010433-007C, H23010433-008C, H23010433-009C, H23010433-010C, H23010433-011C, H23010433-012C, H23010433-013C, H23010433-014C, H23010433-015C, H23010433-016C, H23010433-017C, H23010433-018C, H23010433-019C, H23010433-020C, H23010433-021C, H23010433-022C, H23010433-023C, H23010433-024C, H23010433-025C, H23010433-027C, H23010433-028C, H23010433-029C, H23010433-030C, H23010433-031C, H23010433-032C, H23010433-033C, H23010433-034C, H23010433-035C, H23010433-036C, H23010433-037C, H23010433-039C

Run ID :Run Order: <b>FIA203-HE_230126A: 30</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23010433-006CMSD</b>	Method: <b>E353.2</b>
Analysis Date: <b>01/26/23 15:17</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
		LowLimit	HighLimit
		RPD Ref Val	%RPD
		RPDLimit	Qual

Nitrogen, Nitrate+Nitrite as N	0.783	0.011	1	0	<b>78</b>	90	110	0.7764	<b>0.8</b>	10	S
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Associated samples: H23010433-001C, H23010433-002C, H23010433-003C, H23010433-004C, H23010433-005C, H23010433-006C, H23010433-007C, H23010433-008C, H23010433-009C, H23010433-010C, H23010433-011C, H23010433-012C, H23010433-013C, H23010433-014C, H23010433-015C, H23010433-016C, H23010433-017C, H23010433-018C, H23010433-019C, H23010433-020C, H23010433-021C, H23010433-022C, H23010433-023C, H23010433-024C, H23010433-025C, H23010433-027C, H23010433-028C, H23010433-029C, H23010433-030C, H23010433-031C, H23010433-032C, H23010433-033C, H23010433-034C, H23010433-035C, H23010433-036C, H23010433-037C, H23010433-039C

Run ID :Run Order: <b>FIA203-HE_230126A: 34</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23010433-006CMS</b>	Method: <b>E353.2</b>
Analysis Date: <b>01/26/23 15:22</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
		LowLimit	HighLimit
		RPD Ref Val	%RPD
		RPDLimit	Qual

Nitrogen, Nitrate+Nitrite as N	4.79	0.055	5	0	<b>96</b>	90	110				
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Associated samples: H23010433-001C, H23010433-002C, H23010433-003C, H23010433-004C, H23010433-005C, H23010433-006C, H23010433-007C, H23010433-008C, H23010433-009C, H23010433-010C, H23010433-011C, H23010433-012C, H23010433-013C, H23010433-014C, H23010433-015C, H23010433-016C, H23010433-017C, H23010433-018C, H23010433-019C, H23010433-020C, H23010433-021C, H23010433-022C, H23010433-023C, H23010433-024C, H23010433-025C, H23010433-027C, H23010433-028C, H23010433-029C, H23010433-030C, H23010433-031C, H23010433-032C, H23010433-033C, H23010433-034C, H23010433-035C, H23010433-036C, H23010433-037C, H23010433-039C

Run ID :Run Order: <b>FIA203-HE_230126A: 35</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23010433-006CMSD</b>	Method: <b>E353.2</b>
Analysis Date: <b>01/26/23 15:23</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
		LowLimit	HighLimit
		RPD Ref Val	%RPD
		RPDLimit	Qual

Nitrogen, Nitrate+Nitrite as N	4.82	0.055	5	0	<b>96</b>	90	110	4.791	<b>0.6</b>	10	
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**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181885

**Date:** 21-Feb-23

Run ID :Run Order: <b>FIA203-HE_230126A: 35</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23010433-006CMSD</b>	Method: <b>E353.2</b>
Analysis Date: <b>01/26/23 15:23</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
		LowLimit	HighLimit
		RPD Ref Val	%RPD
		RPDLimit	Qual

Associated samples: H23010433-001C, H23010433-002C, H23010433-003C, H23010433-004C, H23010433-005C, H23010433-006C, H23010433-007C, H23010433-008C, H23010433-009C, H23010433-010C, H23010433-011C, H23010433-012C, H23010433-013C, H23010433-014C, H23010433-015C, H23010433-016C, H23010433-017C, H23010433-018C, H23010433-019C, H23010433-020C, H23010433-021C, H23010433-022C, H23010433-023C, H23010433-024C, H23010433-025C, H23010433-027C, H23010433-028C, H23010433-029C, H23010433-030C, H23010433-031C, H23010433-032C, H23010433-033C, H23010433-034C, H23010433-035C, H23010433-036C, H23010433-037C, H23010433-039C

Run ID :Run Order: <b>FIA203-HE_230126A: 42</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E353.2</b>
Analysis Date: <b>01/26/23 15:31</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
		LowLimit	HighLimit
		RPD Ref Val	%RPD
		RPDLimit	Qual

Associated samples: H23010433-001C, H23010433-002C, H23010433-003C, H23010433-004C, H23010433-005C, H23010433-006C, H23010433-007C, H23010433-008C, H23010433-009C, H23010433-010C, H23010433-011C, H23010433-012C, H23010433-013C, H23010433-014C, H23010433-015C, H23010433-016C, H23010433-017C, H23010433-018C, H23010433-019C, H23010433-020C, H23010433-021C, H23010433-022C, H23010433-023C, H23010433-024C, H23010433-025C, H23010433-027C, H23010433-028C, H23010433-029C, H23010433-030C, H23010433-031C, H23010433-032C, H23010433-033C, H23010433-034C, H23010433-035C, H23010433-036C, H23010433-037C, H23010433-039C

Run ID :Run Order: <b>FIA203-HE_230126A: 46</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23010433-017CMS</b>	Method: <b>E353.2</b>
Analysis Date: <b>01/26/23 15:36</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
		LowLimit	HighLimit
		RPD Ref Val	%RPD
		RPDLimit	Qual

Associated samples: H23010433-001C, H23010433-002C, H23010433-003C, H23010433-004C, H23010433-005C, H23010433-006C, H23010433-007C, H23010433-008C, H23010433-009C, H23010433-010C, H23010433-011C, H23010433-012C, H23010433-013C, H23010433-014C, H23010433-015C, H23010433-016C, H23010433-017C, H23010433-018C, H23010433-019C, H23010433-020C, H23010433-021C, H23010433-022C, H23010433-023C, H23010433-024C, H23010433-025C, H23010433-027C, H23010433-028C, H23010433-029C, H23010433-030C, H23010433-031C, H23010433-032C, H23010433-033C, H23010433-034C, H23010433-035C, H23010433-036C, H23010433-037C, H23010433-039C

Run ID :Run Order: <b>FIA203-HE_230126A: 47</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23010433-017CMSD</b>	Method: <b>E353.2</b>
Analysis Date: <b>01/26/23 15:37</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
		LowLimit	HighLimit
		RPD Ref Val	%RPD
		RPDLimit	Qual

Nitrogen, Nitrate+Nitrite as N      1.29      0.011      1      0.2765      **102**      90      110      1.283      **0.7**      10

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181885

Date: 21-Feb-23

Run ID :Run Order: FIA203-HE_230126A: 47	SampType: Sample Matrix Spike Duplicate	Lab ID: H23010433-017CMSD	Method: E353.2								
Analysis Date: 01/26/23 15:37	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Associated samples: H23010433-001C, H23010433-002C, H23010433-003C, H23010433-004C, H23010433-005C, H23010433-006C, H23010433-007C, H23010433-008C, H23010433-009C, H23010433-010C, H23010433-011C, H23010433-012C, H23010433-013C, H23010433-014C, H23010433-015C, H23010433-016C, H23010433-017C, H23010433-018C, H23010433-019C, H23010433-020C, H23010433-021C, H23010433-022C, H23010433-023C, H23010433-024C, H23010433-025C, H23010433-027C, H23010433-028C, H23010433-029C, H23010433-030C, H23010433-031C, H23010433-032C, H23010433-033C, H23010433-034C, H23010433-035C, H23010433-036C, H23010433-037C, H23010433-039C											

Run ID :Run Order: FIA203-HE_230126A: 56	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E353.2								
Analysis Date: 01/26/23 15:48	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.507	0.010	0.5	0	101	90	110				
Associated samples: H23010433-001C, H23010433-002C, H23010433-003C, H23010433-004C, H23010433-005C, H23010433-006C, H23010433-007C, H23010433-008C, H23010433-009C, H23010433-010C, H23010433-011C, H23010433-012C, H23010433-013C, H23010433-014C, H23010433-015C, H23010433-016C, H23010433-017C, H23010433-018C, H23010433-019C, H23010433-020C, H23010433-021C, H23010433-022C, H23010433-023C, H23010433-024C, H23010433-025C, H23010433-027C, H23010433-028C, H23010433-029C, H23010433-030C, H23010433-031C, H23010433-032C, H23010433-033C, H23010433-034C, H23010433-035C, H23010433-036C, H23010433-037C, H23010433-039C											

Run ID :Run Order: FIA203-HE_230126A: 61	SampType: Sample Matrix Spike	Lab ID: H23010433-028CMS	Method: E353.2								
Analysis Date: 01/26/23 15:54	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.19	0.011	1	0.1833	101	90	110				
Associated samples: H23010433-001C, H23010433-002C, H23010433-003C, H23010433-004C, H23010433-005C, H23010433-006C, H23010433-007C, H23010433-008C, H23010433-009C, H23010433-010C, H23010433-011C, H23010433-012C, H23010433-013C, H23010433-014C, H23010433-015C, H23010433-016C, H23010433-017C, H23010433-018C, H23010433-019C, H23010433-020C, H23010433-021C, H23010433-022C, H23010433-023C, H23010433-024C, H23010433-025C, H23010433-027C, H23010433-028C, H23010433-029C, H23010433-030C, H23010433-031C, H23010433-032C, H23010433-033C, H23010433-034C, H23010433-035C, H23010433-036C, H23010433-037C, H23010433-039C											

Run ID :Run Order: FIA203-HE_230126A: 62	SampType: Sample Matrix Spike Duplicate	Lab ID: H23010433-028CMSD	Method: E353.2								
Analysis Date: 01/26/23 15:55	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.18	0.011	1	0.1833	100	90	110	1.189	0.6	10	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181885

**Date:** 21-Feb-23

Run ID :Run Order: <b>FIA203-HE_230126A: 62</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23010433-028CMSD</b>	Method: <b>E353.2</b>								
Analysis Date: <b>01/26/23 15:55</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23010433-001C, H23010433-002C, H23010433-003C, H23010433-004C, H23010433-005C, H23010433-006C, H23010433-007C, H23010433-008C, H23010433-009C, H23010433-010C, H23010433-011C, H23010433-012C, H23010433-013C, H23010433-014C, H23010433-015C, H23010433-016C, H23010433-017C, H23010433-018C, H23010433-019C, H23010433-020C, H23010433-021C, H23010433-022C, H23010433-023C, H23010433-024C, H23010433-025C, H23010433-027C, H23010433-028C, H23010433-029C, H23010433-030C, H23010433-031C, H23010433-032C, H23010433-033C, H23010433-034C, H23010433-035C, H23010433-036C, H23010433-037C, H23010433-039C

Run ID :Run Order: <b>FIA203-HE_230126A: 70</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E353.2</b>								
Analysis Date: <b>01/26/23 16:05</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrogen, Nitrate+Nitrite as N	0.509	0.010	0.5	0	<b>102</b>	90	110				
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Associated samples: H23010433-001C, H23010433-002C, H23010433-003C, H23010433-004C, H23010433-005C, H23010433-006C, H23010433-007C, H23010433-008C, H23010433-009C, H23010433-010C, H23010433-011C, H23010433-012C, H23010433-013C, H23010433-014C, H23010433-015C, H23010433-016C, H23010433-017C, H23010433-018C, H23010433-019C, H23010433-020C, H23010433-021C, H23010433-022C, H23010433-023C, H23010433-024C, H23010433-025C, H23010433-027C, H23010433-028C, H23010433-029C, H23010433-030C, H23010433-031C, H23010433-032C, H23010433-033C, H23010433-034C, H23010433-035C, H23010433-036C, H23010433-037C, H23010433-039C

Run ID :Run Order: <b>FIA203-HE_230126A: 75</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23010433-036CMS</b>	Method: <b>E353.2</b>								
Analysis Date: <b>01/26/23 16:11</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrogen, Nitrate+Nitrite as N	1.00	0.011	1	0	<b>100</b>	90	110				
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Associated samples: H23010433-001C, H23010433-002C, H23010433-003C, H23010433-004C, H23010433-005C, H23010433-006C, H23010433-007C, H23010433-008C, H23010433-009C, H23010433-010C, H23010433-011C, H23010433-012C, H23010433-013C, H23010433-014C, H23010433-015C, H23010433-016C, H23010433-017C, H23010433-018C, H23010433-019C, H23010433-020C, H23010433-021C, H23010433-022C, H23010433-023C, H23010433-024C, H23010433-025C, H23010433-027C, H23010433-028C, H23010433-029C, H23010433-030C, H23010433-031C, H23010433-032C, H23010433-033C, H23010433-034C, H23010433-035C, H23010433-036C, H23010433-037C, H23010433-039C

Run ID :Run Order: <b>FIA203-HE_230126A: 76</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23010433-036CMSD</b>	Method: <b>E353.2</b>								
Analysis Date: <b>01/26/23 16:12</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrogen, Nitrate+Nitrite as N	1.00	0.011	1	0	<b>100</b>	90	110	1.003	<b>0.1</b>	10	
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**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181885

**Date:** 21-Feb-23

Run ID :Run Order: <b>FIA203-HE_230126A: 76</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23010433-036CMSD</b>	Method: <b>E353.2</b>								
Analysis Date: <b>01/26/23 16:12</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23010433-001C, H23010433-002C, H23010433-003C, H23010433-004C, H23010433-005C, H23010433-006C, H23010433-007C, H23010433-008C, H23010433-009C, H23010433-010C, H23010433-011C, H23010433-012C, H23010433-013C, H23010433-014C, H23010433-015C, H23010433-016C, H23010433-017C, H23010433-018C, H23010433-019C, H23010433-020C, H23010433-021C, H23010433-022C, H23010433-023C, H23010433-024C, H23010433-025C, H23010433-027C, H23010433-028C, H23010433-029C, H23010433-030C, H23010433-031C, H23010433-032C, H23010433-033C, H23010433-034C, H23010433-035C, H23010433-036C, H23010433-037C, H23010433-039C





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181895

Date: 21-Feb-23

Run ID :Run Order: ICPMS205-H_230126B: 13	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 01/26/23 17:03	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.314	0.10	0.3	0	105	90	110				
Antimony	0.0604	0.050	0.06	0	101	90	110				
Arsenic	0.0617	0.0050	0.06	0	103	90	110				
Barium	0.0604	0.10	0.06	0	101	90	110				
Beryllium	0.0297	0.0010	0.03	0	99	90	110				
Cadmium	0.0305	0.0010	0.03	0	102	90	110				
Chromium	0.0604	0.010	0.06	0	101	90	110				
Cobalt	0.0605	0.010	0.06	0	101	90	110				
Copper	0.0616	0.010	0.06	0	103	90	110				
Iron	0.313	0.020	0.3	0	104	90	110				
Lead	0.0600	0.010	0.06	0	100	90	110				
Lithium	0.0628	0.10	0.06	0	105	90	110				
Manganese	0.297	0.010	0.3	0	99	90	110				
Molybdenum	0.0578	0.0050	0.06	0	96	90	110				
Nickel	0.0604	0.010	0.06	0	101	90	110				
Selenium	0.0617	0.0050	0.06	0	103	90	110				
Silver	0.0300	0.0050	0.03	0	100	90	110				
Strontium	0.0605	0.10	0.06	0	101	90	110				
Thallium	0.0598	0.10	0.06	0	100	90	110				
Thorium	0.0617	0.0010	0.06	0	103	90	110				
Tin	0.0613	0.10	0.06	0	102	90	110				
Titanium	0.0604	0.010	0.06	0	101	90	110				
Uranium	0.0604	0.00030	0.06	0	101	90	110				
Vanadium	0.0597	0.10	0.06	0	99	90	110				
Zinc	0.0622	0.010	0.06	0	104	90	110				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037F, H23010433-038F, H23010433-039F

Run ID :Run Order: ICPMS205-H_230126B: 23	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 01/26/23 17:28	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	ND	0.0002									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181895

**Date:** 21-Feb-23

Run ID :Run Order: ICPMS205-H_230126B: 23		SampType: Method Blank			Lab ID: LRB				Method: E200.8		
Analysis Date: 01/26/23 17:28		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.0002									
Barium	ND	0.0002									
Beryllium	ND	0.0002									
Cadmium	ND	0.00002									
Chromium	ND	0.0001									
Cobalt	ND	0.001									
Copper	ND	0.0001									
Iron	ND	0.004									
Lead	ND	0.0001									
Lithium	ND	0.001									
Manganese	0.0008	0.0003									
Molybdenum	ND	0.0003									
Nickel	ND	0.0002									
Selenium	ND	0.00007									
Silver	ND	0.00008									
Strontium	ND	0.0001									
Thallium	ND	0.00008									
Thorium	ND	0.0002									
Tin	0.0005	0.0002									
Titanium	ND	0.0005									
Uranium	ND	0.00002									
Vanadium	ND	0.0001									
Zinc	ND	0.001									

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B

Run ID :Run Order: ICPMS205-H_230126B: 24		SampType: Laboratory Fortified Blank			Lab ID: LFB				Method: E200.8		
Analysis Date: 01/26/23 17:30		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0568	0.10	0.05	0	114	85	115				
Antimony	0.0501	0.050	0.05	0	100	85	115				
Arsenic	0.0481	0.0050	0.05	0	96	85	115				
Barium	0.0478	0.10	0.05	0	96	85	115				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181895

**Date:** 21-Feb-23

Run ID :Run Order: ICPMS205-H_230126B: 24	SampType: Laboratory Fortified Blank				Lab ID: LFB			Method: E200.8			
Analysis Date: 01/26/23 17:30	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0475	0.0010	0.05	0	95	85	115				
Cadmium	0.0486	0.0010	0.05	0	97	85	115				
Chromium	0.0480	0.010	0.05	0	96	85	115				
Cobalt	0.0478	0.010	0.05	0	96	85	115				
Copper	0.0476	0.010	0.05	0	95	85	115				
Iron	0.159	0.020	0.15	0	106	85	115				
Lead	0.0479	0.010	0.05	0	96	85	115				
Lithium	0.0488	0.10	0.05	0	98	85	115				
Manganese	0.0489	0.010	0.05	0	98	85	115				
Molybdenum	0.0464	0.0050	0.05	0	93	85	115				
Nickel	0.0478	0.010	0.05	0	96	85	115				
Selenium	0.0485	0.0050	0.05	0	97	85	115				
Silver	0.0192	0.0050	0.02	0	96	85	115				
Strontium	0.0480	0.10	0.05	0	96	85	115				
Thallium	0.0471	0.10	0.05	0	94	85	115				
Thorium	0.0461	0.0010	0.05	0	92	85	115				
Tin	0.0484	0.10	0.05	0	97	85	115				
Titanium	0.0470	0.010	0.05	0	94	85	115				
Uranium	0.0474	0.00030	0.05	0	95	85	115				
Vanadium	0.0473	0.10	0.05	0	95	85	115				
Zinc	0.0507	0.010	0.05	0	101	85	115				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B

Run ID :Run Order: ICPMS205-H_230126B: 34	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 01/26/23 17:55	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0519	0.10	0.05	0	104	90	110				
Antimony	0.0498	0.050	0.05	0	100	90	110				
Arsenic	0.0514	0.0050	0.05	0	103	90	110				
Barium	0.0501	0.10	0.05	0	100	90	110				
Beryllium	0.0506	0.0010	0.05	0	101	90	110				
Cadmium	0.0505	0.0010	0.05	0	101	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181895

**Date:** 21-Feb-23

Run ID :Run Order: ICPMS205-H_230126B: 34	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 01/26/23 17:55	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <span style="color: red;">25</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.0506	0.010	0.05	0	101	90	110				
Cobalt	0.0499	0.010	0.05	0	100	90	110				
Copper	0.0503	0.010	0.05	0	101	90	110				
Iron	1.34	0.020	1.3	0	103	90	110				
Lead	0.0505	0.010	0.05	0	101	90	110				
Lithium	0.649	0.10	0.625	0	104	90	110				
Manganese	0.0511	0.010	0.05	0	102	90	110				
Molybdenum	0.0493	0.0050	0.05	0	99	90	110				
Nickel	0.0512	0.010	0.05	0	102	90	110				
Selenium	0.0512	0.0050	0.05	0	102	90	110				
Silver	0.0201	0.0050	0.02	0	100	90	110				
Strontium	0.0505	0.10	0.05	0	101	90	110				
Thallium	0.0504	0.10	0.05	0	101	90	110				
Thorium	0.0496	0.0010	0.05	0	99	90	110				
Tin	0.0502	0.10	0.05	0	100	90	110				
Titanium	0.0512	0.010	0.05	0	102	90	110				
Uranium	0.0502	0.00030	0.05	0	100	90	110				
Vanadium	0.0506	0.10	0.05	0	101	90	110				
Zinc	0.0504	0.010	0.05	0	101	90	110				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037F, H23010433-038F, H23010433-039F

Run ID :Run Order: ICPMS205-H_230126B: 49	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 01/26/23 18:44	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <span style="color: red;">25</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0494	0.10	0.05	0	99	90	110				
Antimony	0.0498	0.050	0.05	0	100	90	110				
Arsenic	0.0527	0.0050	0.05	0	105	90	110				
Barium	0.0494	0.10	0.05	0	99	90	110				
Beryllium	0.0487	0.0010	0.05	0	97	90	110				
Cadmium	0.0516	0.0010	0.05	0	103	90	110				
Chromium	0.0522	0.010	0.05	0	104	90	110				
Cobalt	0.0516	0.010	0.05	0	103	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181895

**Date:** 21-Feb-23

Run ID :Run Order: ICPMS205-H_230126B: 49	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 01/26/23 18:44	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0519	0.010	0.05	0	104	90	110				
Iron	1.36	0.020	1.3	0	105	90	110				
Lead	0.0513	0.010	0.05	0	103	90	110				
Lithium	0.647	0.10	0.625	0	103	90	110				
Manganese	0.0508	0.010	0.05	0	101	90	110				
Molybdenum	0.0518	0.0050	0.05	0	104	90	110				
Nickel	0.0512	0.010	0.05	0	102	90	110				
Selenium	0.0519	0.0050	0.05	0	104	90	110				
Silver	0.0207	0.0050	0.02	0	103	90	110				
Strontium	0.0490	0.10	0.05	0	98	90	110				
Thallium	0.0512	0.10	0.05	0	102	90	110				
Thorium	0.0498	0.0010	0.05	0	100	90	110				
Tin	0.0509	0.10	0.05	0	102	90	110				
Titanium	0.0520	0.010	0.05	0	104	90	110				
Uranium	0.0504	0.00030	0.05	0	101	90	110				
Vanadium	0.0517	0.10	0.05	0	103	90	110				
Zinc	0.0526	0.010	0.05	0	105	90	110				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037F, H23010433-038F, H23010433-039F

Run ID :Run Order: ICPMS205-H_230126B: 61	SampType: Sample Matrix Spike				Lab ID: H23010433-005BMS			Method: E200.8			
Analysis Date: 01/26/23 19:40	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0512	0.030	0.05	0	102	70	130				
Antimony	0.0515	0.0010	0.05	0.0001739	103	70	130				
Arsenic	0.0605	0.0010	0.05	0.01021	101	70	130				
Barium	0.0629	0.050	0.05	0.01334	99	70	130				
Beryllium	0.0480	0.0010	0.05	0	96	70	130				
Cadmium	0.0541	0.0010	0.05	0.003412	101	70	130				
Chromium	0.0506	0.0050	0.05	0.0003468	100	70	130				
Cobalt	0.0495	0.0050	0.05	0	99	70	130				
Copper	0.0516	0.0050	0.05	0.002064	99	70	130				
Iron	0.152	0.020	0.15	0	101	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181895

**Date:** 21-Feb-23

Run ID :Run Order: ICPMS205-H_230126B: 61		SampType: Sample Matrix Spike			Lab ID: H23010433-005BMS				Method: E200.8		
Analysis Date: 01/26/23 19:40		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.0506	0.0010	0.05	0	101	70	130				
Lithium	0.218	0.10	0.05	0.1724	92	70	130				
Manganese	0.0498	0.0010	0.05	0.0005732	98	70	130				
Molybdenum	0.132	0.0010	0.05	0.08171	100	70	130				
Nickel	0.0500	0.0050	0.05	0.001547	97	70	130				
Selenium	0.0516	0.0010	0.05	0.0001553	103	70	130				
Silver	0.0202	0.0010	0.02	0	101	70	130				
Strontium	0.876	0.010	0.05	0.8372		70	130				A
Thallium	0.0494	0.00050	0.05	0	99	70	130				
Thorium	0.0484	0.0050	0.05	0	97	70	130				
Tin	0.0488	0.050	0.05	0	98	70	130				
Titanium	0.0466	0.0050	0.05	0	93	70	130				
Uranium	0.0525	0.00030	0.05	0.002219	101	70	130				
Vanadium	0.0518	0.010	0.05	0.002697	98	70	130				
Zinc	0.323	0.010	0.05	0.2736		70	130				A

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B

Run ID :Run Order: ICPMS205-H_230126B: 62		SampType: Sample Matrix Spike Duplicate			Lab ID: H23010433-005BMSD				Method: E200.8		
Analysis Date: 01/26/23 19:44		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0512	0.030	0.05	0	102	70	130	0.05119	0.1	20	
Antimony	0.0522	0.0010	0.05	0.0001739	104	70	130	0.05146	1.4	20	
Arsenic	0.0621	0.0010	0.05	0.01021	104	70	130	0.06047	2.6	20	
Barium	0.0629	0.050	0.05	0.01334	99	70	130	0.06291	0.1	20	
Beryllium	0.0482	0.0010	0.05	0	96	70	130	0.04796	0.4	20	
Cadmium	0.0555	0.0010	0.05	0.003412	104	70	130	0.05407	2.5	20	
Chromium	0.0511	0.0050	0.05	0.0003468	102	70	130	0.05056	1.1	20	
Cobalt	0.0503	0.0050	0.05	0	101	70	130	0.04948	1.7	20	
Copper	0.0523	0.0050	0.05	0.002064	100	70	130	0.05165	1.3	20	
Iron	0.154	0.020	0.15	0	102	70	130	0.1516	1.4	20	
Lead	0.0512	0.0010	0.05	0	102	70	130	0.05058	1.3	20	
Lithium	0.222	0.10	0.05	0.1724	99	70	130	0.2185	1.5	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181895

Date: 21-Feb-23

Run ID :Run Order: ICPMS205-H_230126B: 62	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010433-005BMSD				Method: E200.8		
Analysis Date: 01/26/23 19:44	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.0499	0.0010	0.05	0.0005732	99	70	130	0.04976	0.3	20	
Molybdenum	0.133	0.0010	0.05	0.08171	103	70	130	0.1316	1.3	20	
Nickel	0.0512	0.0050	0.05	0.001547	99	70	130	0.05005	2.4	20	
Selenium	0.0528	0.0010	0.05	0.0001553	105	70	130	0.05156	2.4	20	
Silver	0.0204	0.0010	0.02	0	102	70	130	0.02022	1.1	20	
Strontium	0.876	0.010	0.05	0.8372		70	130	0.8755	0	20	A
Thallium	0.0500	0.00050	0.05	0	100	70	130	0.04937	1.2	20	
Thorium	0.0496	0.0050	0.05	0	99	70	130	0.04843	2.4	20	
Tin	0.0503	0.050	0.05	0	101	70	130	0.04877		20	
Titanium	0.0509	0.0050	0.05	0	102	70	130	0.04658	8.8	20	
Uranium	0.0530	0.00030	0.05	0.002219	102	70	130	0.05253	0.9	20	
Vanadium	0.0529	0.010	0.05	0.002697	100	70	130	0.05181	2.1	20	
Zinc	0.324	0.010	0.05	0.2736		70	130	0.3231	0.2	20	A

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B

Run ID :Run Order: ICPMS205-H_230126B: 63	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 01/26/23 19:49	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0542	0.10	0.05	0	108	90	110				
Antimony	0.0500	0.050	0.05	0	100	90	110				
Arsenic	0.0523	0.0050	0.05	0	105	90	110				
Barium	0.0504	0.10	0.05	0	101	90	110				
Beryllium	0.0510	0.0010	0.05	0	102	90	110				
Cadmium	0.0527	0.0010	0.05	0	105	90	110				
Chromium	0.0525	0.010	0.05	0	105	90	110				
Cobalt	0.0519	0.010	0.05	0	104	90	110				
Copper	0.0518	0.010	0.05	0	103	90	110				
Iron	1.36	0.020	1.3	0	105	90	110				
Lead	0.0510	0.010	0.05	0	102	90	110				
Lithium	0.662	0.10	0.625	0	106	90	110				
Manganese	0.0506	0.010	0.05	0	101	90	110				
Molybdenum	0.0524	0.0050	0.05	0	105	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181895

**Date:** 21-Feb-23

Run ID :Run Order: ICPMS205-H_230126B: 63	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 01/26/23 19:49	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>25</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	0.0512	0.010	0.05	0	102	90	110				
Selenium	0.0523	0.0050	0.05	0	105	90	110				
Silver	0.0211	0.0050	0.02	0	105	90	110				
Strontium	0.0496	0.10	0.05	0	99	90	110				
Thallium	0.0512	0.10	0.05	0	102	90	110				
Thorium	0.0495	0.0010	0.05	0	99	90	110				
Tin	0.0517	0.10	0.05	0	103	90	110				
Titanium	0.0513	0.010	0.05	0	103	90	110				
Uranium	0.0504	0.00030	0.05	0	101	90	110				
Vanadium	0.0517	0.10	0.05	0	103	90	110				
Zinc	0.0533	0.010	0.05	0	107	90	110				

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B, H23010433-037F, H23010433-038F, H23010433-039F

Run ID :Run Order: ICPMS205-H_230126B: 75	SampType: Sample Matrix Spike				Lab ID: H23010433-034BMS				Method: E200.8		
Analysis Date: 01/26/23 20:44	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>25</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0485	0.030	0.05	0	97	70	130				
Antimony	0.0521	0.0010	0.05	0	104	70	130				
Arsenic	0.0568	0.0010	0.05	0.003092	107	70	130				
Barium	0.0678	0.050	0.05	0.01923	97	70	130				
Beryllium	0.0475	0.0010	0.05	0	95	70	130				
Cadmium	0.0569	0.0010	0.05	0.005594	103	70	130				
Chromium	0.0515	0.0050	0.05	0.0002803	102	70	130				
Cobalt	0.0510	0.0050	0.05	0	102	70	130				
Copper	0.101	0.0050	0.05	0.05067	101	70	130				
Iron	0.158	0.020	0.15	0	105	70	130				
Lead	0.0522	0.0010	0.05	0	104	70	130				
Lithium	0.225	0.10	0.05	0.1773	95	70	130				
Manganese	0.0503	0.0010	0.05	0	101	70	130				
Molybdenum	0.0571	0.0010	0.05	0.006304	102	70	130				
Nickel	0.0520	0.0050	0.05	0.002701	98	70	130				
Selenium	0.0548	0.0010	0.05	0.0006826	108	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010433

BatchID: R181895

Date: 21-Feb-23

Run ID :Run Order: ICPMS205-H_230126B: 75	SampType: Sample Matrix Spike				Lab ID: H23010433-034BMS				Method: E200.8		
Analysis Date: 01/26/23 20:44	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0204	0.0010	0.02	0.0001848	101	70	130				
Strontium	1.98	0.010	0.05	1.919		70	130				A
Thallium	0.0514	0.00050	0.05	0	103	70	130				
Thorium	0.0510	0.0050	0.05	0	102	70	130				
Tin	0.0500	0.050	0.05	0	100	70	130				
Titanium	0.0493	0.0050	0.05	0	99	70	130				
Uranium	0.108	0.00030	0.05	0.05418	107	70	130				
Vanadium	0.0518	0.010	0.05	0.001206	101	70	130				
Zinc	0.784	0.010	0.05	0.7286		70	130				A

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B

Run ID :Run Order: ICPMS205-H_230126B: 76	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010433-034BMSD				Method: E200.8		
Analysis Date: 01/26/23 20:49	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0521	0.030	0.05	0	104	70	130	0.04852	7.2	20	
Antimony	0.0522	0.0010	0.05	0	104	70	130	0.05211	0.2	20	
Arsenic	0.0560	0.0010	0.05	0.003092	106	70	130	0.05684	1.6	20	
Barium	0.0688	0.050	0.05	0.01923	99	70	130	0.06784	1.3	20	
Beryllium	0.0474	0.0010	0.05	0	95	70	130	0.0475	0.1	20	
Cadmium	0.0564	0.0010	0.05	0.005594	102	70	130	0.0569	0.8	20	
Chromium	0.0518	0.0050	0.05	0.0002803	103	70	130	0.05153	0.5	20	
Cobalt	0.0503	0.0050	0.05	0	101	70	130	0.05098	1.4	20	
Copper	0.101	0.0050	0.05	0.05067	101	70	130	0.1014	0.4	20	
Iron	0.155	0.020	0.15	0	103	70	130	0.1581	2.0	20	
Lead	0.0524	0.0010	0.05	0	105	70	130	0.0522	0.4	20	
Lithium	0.224	0.10	0.05	0.1773	93	70	130	0.2246	0.4	20	
Manganese	0.0512	0.0010	0.05	0	102	70	130	0.05028	1.8	20	
Molybdenum	0.0571	0.0010	0.05	0.006304	102	70	130	0.05706	0.1	20	
Nickel	0.0519	0.0050	0.05	0.002701	98	70	130	0.05195	0.1	20	
Selenium	0.0548	0.0010	0.05	0.0006826	108	70	130	0.05484	0.1	20	
Silver	0.0204	0.0010	0.02	0.0001848	101	70	130	0.02043	0.2	20	
Strontium	2.00	0.010	0.05	1.919		70	130	1.977	1.1	20	A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181895

**Date:** 21-Feb-23

Run ID :Run Order: ICPMS205-H_230126B: 76	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010433-034BMSD				Method: E200.8		
Analysis Date: 01/26/23 20:49	Units: mg/L		Prep Info:			Prep Date:			Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	0.0516	0.00050	0.05	0	103	70	130	0.05145	0.2	20	
Thorium	0.0515	0.0050	0.05	0	103	70	130	0.05102	0.9	20	
Tin	0.0497	0.050	0.05	0	99	70	130	0.04996		20	
Titanium	0.0508	0.0050	0.05	0	102	70	130	0.04926	3.1	20	
Uranium	0.109	0.00030	0.05	0.05418	109	70	130	0.1078	1.0	20	
Vanadium	0.0523	0.010	0.05	0.001206	102	70	130	0.0518	1.0	20	
Zinc	0.785	0.010	0.05	0.7286		70	130	0.7844	0.1	20	A

Associated samples: H23010433-001B, H23010433-002B, H23010433-003B, H23010433-004B, H23010433-005B, H23010433-006B, H23010433-007B, H23010433-008B, H23010433-031B, H23010433-032B, H23010433-033B, H23010433-034B, H23010433-035B, H23010433-036B



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181901

**Date:** 21-Feb-23

Run ID :Run Order: <b>ICPMS205-H_230127A: 13</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>01/27/23 12:14</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.322	0.010	0.3	0	<b>107</b>	90	110				

Associated samples: **H23010433-012B, H23010433-015B, H23010433-022B**

Run ID :Run Order: <b>ICPMS205-H_230127A: 23</b>		SampType: <b>Method Blank</b>			Lab ID: <b>LRB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>01/27/23 13:04</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.0003									

Associated samples: **H23010433-012B, H23010433-015B, H23010433-022B**

Run ID :Run Order: <b>ICPMS205-H_230127A: 24</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>01/27/23 13:08</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.0483	0.010	0.05	0	<b>97</b>	85	115				

Associated samples: **H23010433-012B, H23010433-015B, H23010433-022B**

Run ID :Run Order: <b>ICPMS205-H_230127A: 91</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23010521-002EMS</b>			Method: <b>E200.8</b>			
Analysis Date: <b>01/27/23 20:54</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.231	0.0010	0.1	0.1457	<b>86</b>	70	130				

Associated samples: **H23010433-012B, H23010433-015B, H23010433-022B**

Run ID :Run Order: <b>ICPMS205-H_230127A: 92</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23010521-002EMSD</b>			Method: <b>E200.8</b>			
Analysis Date: <b>01/27/23 20:58</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.233	0.0010	0.1	0.1457	<b>88</b>	70	130	0.2314	<b>0.9</b>	20	

Associated samples: **H23010433-012B, H23010433-015B, H23010433-022B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R181901

**Date:** 21-Feb-23

Run ID :Run Order: <b>ICPMS205-H_230127A: 93</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E200.8</b>								
Analysis Date: <b>01/27/23 21:03</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.0508	0.010	0.05	0	<b>101</b>	90	110				

Associated samples: **H23010433-012B, H23010433-015B, H23010433-022B**

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R182042

**Date:** 21-Feb-23

Run ID :Run Order: <b>FIA203-HE_230202A: 10</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E353.2</b>			
Analysis Date: <b>02/02/23 11:20</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.992	0.010	1	0	<b>99</b>	90	110				

Associated samples: **H23010433-038C**

Run ID :Run Order: <b>FIA203-HE_230202A: 11</b>		SampType: <b>Method Blank</b>			Lab ID: <b>MBLK</b>			Method: <b>E353.2</b>			
Analysis Date: <b>02/02/23 11:21</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.008									

Associated samples: **H23010433-038C**

Run ID :Run Order: <b>FIA203-HE_230202A: 12</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E353.2</b>			
Analysis Date: <b>02/02/23 11:22</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.921	0.011	1	0	<b>92</b>	90	110				

Associated samples: **H23010433-038C**

Run ID :Run Order: <b>FIA203-HE_230202A: 18</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23010521-004DMS</b>			Method: <b>E353.2</b>			
Analysis Date: <b>02/02/23 11:29</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.899	0.011	1	0	<b>90</b>	90	110				

Associated samples: **H23010433-038C**

Run ID :Run Order: <b>FIA203-HE_230202A: 19</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23010521-004DMSD</b>			Method: <b>E353.2</b>			
Analysis Date: <b>02/02/23 11:30</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.909	0.011	1	0	<b>91</b>	90	110	0.8987	<b>1.1</b>	10	

Associated samples: **H23010433-038C**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R182042

**Date:** 21-Feb-23

Run ID :Run Order: <b>FIA203-HE_230202A: 56</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>			Method: <b>E353.2</b>			
Analysis Date: <b>02/02/23 12:22</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.01	0.010	1	0	<b>101</b>	90	110				

Associated samples: **H23010433-038C**

Run ID :Run Order: <b>FIA203-HE_230202A: 58</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>			Method: <b>E353.2</b>			
Analysis Date: <b>02/02/23 12:31</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.946	0.011	1	0	<b>95</b>	90	110				

Associated samples: **H23010433-038C**



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R182063

**Date:** 21-Feb-23

Run ID :Run Order: <b>FIA203-HE_230203A: 82</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E353.2</b>			
Analysis Date: <b>02/03/23 11:36</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.975	0.010	1	0	<b>97</b>	90	110				

Associated samples: **H23010433-026C**

Run ID :Run Order: <b>FIA203-HE_230203A: 83</b>		SampType: <b>Method Blank</b>			Lab ID: <b>MBLK</b>			Method: <b>E353.2</b>			
Analysis Date: <b>02/03/23 11:37</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.008									

Associated samples: **H23010433-026C**

Run ID :Run Order: <b>FIA203-HE_230203A: 84</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E353.2</b>			
Analysis Date: <b>02/03/23 11:38</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.937	0.011	1	0	<b>94</b>	90	110				

Associated samples: **H23010433-026C**

Run ID :Run Order: <b>FIA203-HE_230203A: 87</b>		SampType: <b>Sample Duplicate</b>			Lab ID: <b>H23010433-026CDUP</b>			Method: <b>E353.2</b>			
Analysis Date: <b>02/03/23 11:42</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.814	0.010		0				0.82	<b>0.7</b>	10	

Associated samples: **H23010433-026C**

Run ID :Run Order: <b>FIA203-HE_230203A: 89</b>		SampType: <b>Sample Duplicate</b>			Lab ID: <b>H23010433-037CDUP</b>			Method: <b>E353.2</b>			
Analysis Date: <b>02/03/23 11:44</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.61	0.010		0				1.608	<b>0.3</b>	10	

Associated samples: **H23010433-026C**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** R182063

**Date:** 21-Feb-23

Run ID :Run Order: <b>FIA203-HE_230203A: 91</b>	SampType: <b>Sample Duplicate</b>				Lab ID: <b>H23010433-038CDUP</b>				Method: <b>E353.2</b>		
Analysis Date: <b>02/03/23 11:46</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.0763	0.010		0				0.0712	<b>6.9</b>	10	

Associated samples: **H23010433-026C**

Run ID :Run Order: <b>FIA203-HE_230203A: 93</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23020023-003AMS</b>				Method: <b>E353.2</b>		
Analysis Date: <b>02/03/23 11:49</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.02	0.011	1	0.1087	<b>91</b>	90	110				

Associated samples: **H23010433-026C**

Run ID :Run Order: <b>FIA203-HE_230203A: 94</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23020023-003AMSD</b>				Method: <b>E353.2</b>		
Analysis Date: <b>02/03/23 11:50</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.03	0.011	1	0.1087	<b>92</b>	90	110	1.017	<b>1.0</b>	10	

Associated samples: **H23010433-026C**





## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** TDS230123A

**Date:** 21-Feb-23

Run ID :Run Order: <b>ACCU-124 (14410200)_230123A: 1</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MB-1_230123</b>	Method: <b>A2540 C</b>								
Analysis Date: <b>01/23/23 13:41</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C		ND	7								

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Run ID :Run Order: <b>ACCU-124 (14410200)_230123A: 2</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS-2_230123</b>	Method: <b>A2540 C</b>								
Analysis Date: <b>01/23/23 13:42</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C		1950	50	2000	0	<b>98</b>	90	110			

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Run ID :Run Order: <b>ACCU-124 (14410200)_230123A: 4</b>	SampType: <b>Sample Duplicate</b>	Lab ID: <b>H23010433-001A DUP</b>	Method: <b>A2540 C</b>								
Analysis Date: <b>01/23/23 13:42</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C		191	25	0				185	<b>3.2</b>	10	

Associated samples: H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A

Run ID :Run Order: <b>ACCU-124 (14410200)_230123A: 2</b>	SampType: <b>Sample Duplicate</b>	Lab ID: <b>H23010433-021A DUP</b>	Method: <b>A2540 C</b>								
Analysis Date: <b>01/23/23 13:46</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C		181	25	0				176	<b>2.8</b>	10	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010433

**BatchID:** TDS230123A

**Date:** 21-Feb-23

Run ID :Run Order: **ACCU-124 (14410200)\_230123A: 2** SampType: **Sample Duplicate**

Lab ID: **H23010433-021A DUP**

Method: **A2540 C**

Analysis Date: **01/23/23 13:46**

Units: **mg/L**

Prep Info: Prep Date:

Prep Method:

Analytes **1**

Result

PQL

SPK value

SPK Ref Val

%REC

LowLimit

HighLimit

RPD Ref Val

%RPD

RPDLimit

Qual

Associated samples: **H23010433-001A, H23010433-002A, H23010433-003A, H23010433-004A, H23010433-005A, H23010433-006A, H23010433-007A, H23010433-008A, H23010433-009A, H23010433-010A, H23010433-011A, H23010433-012A, H23010433-013A, H23010433-014A, H23010433-015A, H23010433-016A, H23010433-017A, H23010433-018A, H23010433-019A, H23010433-020A, H23010433-021A, H23010433-022A, H23010433-023A, H23010433-024A, H23010433-025A, H23010433-026A, H23010433-027A, H23010433-028A, H23010433-029A, H23010433-030A, H23010433-031A, H23010433-032A, H23010433-033A, H23010433-034A, H23010433-035A, H23010433-036A, H23010433-037A, H23010433-038A, H23010433-039A**

**Qualifiers:** ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limit

N - Analyte concentration was not sufficiently high to calculate RPD

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

A - Analyte concentration greater than four times the spike amount



# Work Order Receipt Checklist

MT Dept of Justice

H23010433

Login completed by: Wanda Johnson

Date Received: 1/20/2023

Reviewed by: tjones

Received by: rrs

Reviewed Date: 1/24/2023

Carrier name: Hand Deliver

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	2.9°C On Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

## Contact and Corrective Action Comments:

The temperature of the sample(s) for shipping container 1 was 1.5°C, shipping container 2 was 0.0°C, shipping container 3 was 0.8°C, shipping container 4 was 2.9°C, shipping container 5 was 0.7°C, shipping container 6 was 0.3°C and shipping container 7 was 0.2°C.

Samples MH-MSD108, MH-MSD113 and MH-MSD116 no time on COC, used time from sample containers.

Sample BPS11-10B metals container is marked as unfiltered. Client contacted. wjj 1/20/2023



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### Chain of Custody (COC) & Analytical Request Record

Lab Workorder #: **H23010433**

#### Project Information

Client: MT Dept of Justice  
 Project: NRDP02 T08  
 Purchase Order:  
 Contact/Phone: Jim Ford (406) 444-4034/M: (406) 439-2108

#### Laboratory Use

Quote: 2187  
 BO#: 43086  
 EE#: 5525  
 Turn-Around Time: Standard  
 Critical Hold Time: 48 Hours  
 # of Samples: 37  
 Matrix: Groundwater



Comments: C1- 1.5 C6- 0.3  
 C2- 0.0 C7- 0.2  
 C3- 0.8  
 C4- 0.9  
 C5- 0.7  
 TB  
 ON ICE  
 NO SEAL  
 HAND

#### Analysis Requested

Sample Identification	Collection Date/Time	# of Containers	Matrix	RUSH TAT	Analysis Requested													
					Hold Time (Days)	14	N/A	28	28	Fld	7	180	14	180	28	2	28	
					Alkalinity to pH 4.5 (A2320 B)	Anion - Cation Balance (A1030 E)	Conductivity (A2510 B)	Anions by Ion Chromatography (E300.0)	pH (A4500-H B)	Solids, Total Dissolved (A2540 C)	Rare Earth Metals, Dissolved (E200.7_8)	Metals by ICP/ICPMS, Dissolved (E200.7_8)	Hardness (A2340 B)	Nitrogen, Nitrate + Nitrite (E353.2)	Carbon, Dissolved Organic (A6310 C)	Carbon, Total Organic (A5310 C)		
C1 1 GS-28B	1/17/23 1926 404	5	W		X	X	X	X	X	X	X	X	X	X	X	X		
C1 2 AMW-13A	↓ 1523	5	W		X	X	X	X	X	X	X	X	X	X	X	X		
C1 3 PMP-11B	↓ 1616	5	W		X	X	X	X	X	X	X	X	X	X	X	X		
C5 4 BSP07-07	1/18/23 1038	5	W		X	X	X	X	X	X	X	X	X	X	X	X		
C3 5 BPS07-07B	1/17/23 1651	5	W		X	X	X	X	X	X	X	X	X	X	X	X		
C5 6 BPS07-23	1/18/23 1115	5	W		X	X	X	X	X	X	X	X	X	X	X	X		
C1 7 DUP-1	1/17/23 1430	5	W		X	X	X	X	X	X	X	X	X	X	X	X		
C3 8 FB-1	↓ 1435	5	W		X	X	X	X	X	X	X	X	X	X	X	X		
C3 9 EB-1	↓ 1440	5	W		X	X	X	X	X	X	X	X	X	X	X	X		
C1 10 GS-28	↓ 1104	5	W		X	X	X	X	X	X	X	X	X	X	X	X		
C4 11 AMW-13B	1/18/23 1600	5	W		X	X	X	X	X	X	X	X	X	X	X	X		
C4 12 AMW-13B2	↓ 1620	5	W		X	X	X	X	X	X	X	X	X	X	X	X		
C4 13 AMW-13C	↓ 1640	5	W		X	X	X	X	X	X	X	X	X	X	X	X		
C5 14 PMP-11A	1/18/23 1315	5	W		X	X	X	X	X	X	X	X	X	X	X	X		
C5 15 GS-29SR	↓ 1345	5	W		X	X	X	X	X	X	X	X	X	X	X	X		

Contact ELI prior to RUSH sample submittal for charges, availability & scheduling. Samples submitted may be subcontracted to other laboratories to complete the test(s) requested; this will be clearly noted on the analytical report.

*Signature*





### Chain of Custody (COC) & Analytical Request Record

Client: MT Dept of Justice

Lab Workorder #: **H23010433**

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NRDPM02 T08

Comments: C1-0.5 C6-0.3 C2-0.0 C7-0.2 C3-0.8 C4-2.9 C5-0.7  TB ON ICE NO SEAL HAND				Analysis Requested														
				Hold Time (Days)	14	N/A	28	28	Fld	7	180	14	180	28	2	28		
				# of Containers	Matrix	RUSH TAT	Alkalinity to pH 4.5 (A2320 B)	Anion - Cation Balance (A1030 E)	Conductivity (A2510 B)	Anions by Ion Chromatography (E300.0)	pH (A4500-H B)	Solids, Total Dissolved (A2540 C)	Rare Earth Metals, Dissolved (E200.7_8)	Metals by ICP/ICPMS, Dissolved (E200.7_8)	Hardness (A2340 B)	Nitrogen, Nitrate + Nitrite (E353.2)	Carbon, Dissolved Organic (A5310 C)	Carbon, Total Organic (A5310 C)
Sample Identification	Collection Date/Time																	
C5 16	AMC-23B	1/18/23 1230	5	W		X	X	X	X	X	X	X	X	X	X	X		
C1 17	PMP-09B	1/19/23 0752	5	W		X	X	X	X	X	X	X	X	X	X	X		
C5 18	AMC-24B	1/18/23 1305	5	W		X	X	X	X	X	X	X	X	X	X	X		
C1 19	PMP-08A	1/19/23 1435	5	W		X	X	X	X	X	X	X	X	X	X	X		
C7 20	PMP-10A	1/18/23 1415	5	W		X	X	X	X	X	X	X	X	X	X	X		
	<del>PMP-10B</del> NO SAMPLE OR		<del>5</del>	<del>W</del>		<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>		
C2 22	BPS11-11A1	1/12/23 1400	5	W		X	X	X	X	X	X	X	X	X	X	X		
C4 23	BPS11-11A2	1430	5	W		X	X	X	X	X	X	X	X	X	X	X		
C2 24	BPS11-11B	1500	5	W		X	X	X	X	X	X	X	X	X	X	X		
C2 25	BPS11-11C	1530	5	W		X	X	X	X	X	X	X	X	X	X	X		
C2 26	AMC-24C	1700	5	W		X	X	X	X	X	X	X	X	X	X	X		
C4 27	BPS11-10A	1730	5	W		X	X	X	X	X	X	X	X	X	X	X		
C4 28	BPS11-10B	1750	5	W		X	X	X	X	X	X	X	X	X	X	X		
C4 29	BPS11-10C	1810	5	W		X	X	X	X	X	X	X	X	X	X	X		
C6 30	PMP-08A2	1/20/23 1030	5	W		X	X	X	X	X	X	X	X	X	X	X		
C6 31	PMP-08B	1130	5	W		X	X	X	X	X	X	X	X	X	X	X		
C6 32	PMP-09A	1200	5	W		X	X	X	X	X	X	X	X	X	X	X		
C6 33	BPS11-14A	1230	5	W		X	X	X	X	X	X	X	X	X	X	X		
C1 34	BPS11-14B	1300	5	W		X	X	X	X	X	X	X	X	X	X	X		
C6 35	DUP-2	1205	5	W		X	X	X	X	X	X	X	X	X	X	X		

*[Signature]*





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### Chain of Custody (COC) & Analytical Request Record

Client: MT Dept of Justice

NRDPM02 T08

Lab Workorder #: **H23010433**

Comments: C1-1.5 C6-0.3  
 C2-0.0 C7-0.2  
 C3-0.8  
 C4-2.9  
 C5-0.7  
 TB  
 ON ICE  
 NO SEAL  
 HAND

#### Analysis Requested

Hold Time (Days)	14	N/A	28	28	Fld	7	180	14	180	28	2	28					
# of Containers	Matrix	RUSH TAT	Alkalinity to pH 4.5 (A2320 B)	Anion - Cation Balance (A1030 E)	Conductivity (A2510 B)	Anions by Ion Chromatography (E300.0)	pH (A4500-H B)	Solids, Total Dissolved (A2540 C)	Rare Earth Metals, Dissolved (E200.7_8)	Metals by ICP/ICPMS, Dissolved (E200.7_8)	Hardness (A2340 B)	Nitrogen, Nitrate + Nitrite (E353.2)	Carbon, Dissolved Organic (A5310 C)	Carbon, Total Organic (A5310 C)	LE METALS TOTAL	METALS BY ICPMS TOTAL	
C1 36	FB-2	1/20/23 1210	1/20/23	5	W		X	X	X	X	X	X	X	X	X	X	
C1 37	EB-2	1/20/23 1215	↓	5	W		X	X	X	X	X	X	X	X	X	X	
38																	
C3 39	MH-MSD108	1/17/03		6	W		X	X	X	X	X	X	X	X	X	X	X
C3 40	MH-MSD113	↓		6	W		X	X	X	X	X	X	X	X	X	X	X
C3 41	MH-MSD116	↓		6	W		X	X	X	X	X	X	X	X	X	X	X
42																	
43																	
44																	
45																	
46																	
47																	
48																	
49																	
50																	
51																	

<b>Custody Record MUST be signed</b>	Lab provided preservatives were used <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Sampler Name (if different than Relinquished by): <b>JOHN BARCOCK</b>			Sampler Phone: <b>406-490-4570</b>		
	Relinquished by (print) <b>JOHN BARCOCK</b>	Date/Time <b>1/20/23 1730</b>	Signature 	Received by (print)		Date/Time	Signature	
	Relinquished by (print) <b>Jess Alexander</b>	Date/Time <b>1/20/23 1510</b>	Signature 	Received by Laboratory (print) <b>R SPONHOLZ</b>		Date/Time <b>01/20/23 1510</b>	Signature 	

Date Printed: 01/06/2023

EE-UC 5525

COC: Page 3 of 3



# ANALYTICAL SUMMARY REPORT

April 10, 2023

MT Dept of Justice  
Natural Resource Damage Program  
Helena, MT 59620-1425

Work Order: H23010535      Quote ID: H2187

Project Name: NRDPM02 T08

Energy Laboratories Inc Helena MT received the following 25 samples for MT Dept of Justice on 1/25/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H23010535-001	MSD-02A	01/19/23 10:40	01/25/23	Groundwater	Rare Earth Metals, Dissolved Metals by ICP/ICPMS, Dissolved Alkalinity to pH 4.5 Anion - Cation Balance Carbon, Dissolved Organic Conductivity Carbon, Total Organic Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Solids, Total Dissolved
H23010535-002	PMP-07B	01/19/23 15:20	01/25/23	Groundwater	Same As Above
H23010535-003	MF-11	01/23/23 13:12	01/25/23	Groundwater	Same As Above
H23010535-004	MSD-04	01/23/23 14:17	01/25/23	Groundwater	Same As Above
H23010535-005	PMP-07A	01/23/23 15:21	01/25/23	Groundwater	Same As Above
H23010535-006	MSD-03	01/23/23 16:25	01/25/23	Groundwater	Same As Above
H23010535-007	BPS11-17C	01/24/23 10:30	01/25/23	Groundwater	Same As Above
H23010535-008	MF-07	01/24/23 11:00	01/25/23	Groundwater	Same As Above
H23010535-009	MF-07B	01/24/23 11:30	01/25/23	Groundwater	Same As Above
H23010535-010	BPS11-18B	01/24/23 14:23	01/25/23	Groundwater	Same As Above
H23010535-011	BPS11-18C	01/24/23 14:46	01/25/23	Groundwater	Same As Above
H23010535-012	MSD-02B	01/24/23 15:37	01/25/23	Groundwater	Same As Above
H23010535-013	PMP-05A	01/18/23 15:45	01/25/23	Groundwater	Same As Above
H23010535-014	PMP-05BR	01/18/23 16:15	01/25/23	Groundwater	Same As Above
H23010535-015	PMP-06A	01/18/23 14:45	01/25/23	Groundwater	Same As Above
H23010535-016	PMP-06B	01/18/23 15:15	01/25/23	Groundwater	Same As Above
H23010535-017	DUP-3	01/23/23 14:15	01/25/23	Groundwater	Same As Above
H23010535-018	FB-3	01/23/23 14:20	01/25/23	Groundwater	Same As Above
H23010535-019	EB-3	01/23/23 14:25	01/25/23	Groundwater	Same As Above
H23010535-020	PMP-04B	01/19/23 16:31	01/25/23	Groundwater	Same As Above
H23010535-021	PMP-01A	01/23/23 13:40	01/25/23	Groundwater	Same As Above

## ANALYTICAL SUMMARY REPORT

H23010535-022	PMP-01B	01/23/23 14:10	01/25/23	Groundwater	Same As Above
H23010535-023	GS-40R	01/23/23 13:00	01/25/23	Groundwater	Same As Above
H23010535-024	AMW-09	01/20/23 15:00	01/25/23	Groundwater	Same As Above
H23010535-025	AMW-08	01/24/23 13:00	01/25/23	Groundwater	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:



Digitally signed by  
Jessica C. Smith  
Date: 2023.04.10 10:13:56 -06:00





**CLIENT:** MT Dept of Justice  
**Project:** NRDPM02 T08  
**Work Order:** H23010535

**Revised Date:** 04/10/23

**Report Date:** 02/21/23

## **CASE NARRATIVE**

---

Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002.

This work order was revised to reflect a change in ID from GS-04R to GS-40R. No data was changed. jcs 04/10/2023



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-02A  
**Lab ID:** H23010535-001  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/19/23 10:40  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.4	s.u.	H	0.1		A4500-H B	01/25/23 13:32 / ljs		PHSC_101-H_230125A : 86		R181823
pH Measurement Temp	15.1	°C				A4500-H B	01/25/23 13:32 / ljs		PHSC_101-H_230125A : 86		R181823
Conductivity @ 25 C	653	umhos/cm		5		A2510 B	01/25/23 13:32 / ljs		PHSC_101-H_230125A : 87		R181823
Solids, Total Dissolved TDS @ 180 C	481	mg/L	D	20		A2540 C	01/25/23 12:59 / JAR		-124 (14410200)_230125B : 5		TDS230125A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	15	mg/L		4		A2320 B	01/27/23 19:22 / ljs		PHSC_101-H_230127A : 142		R181890
Bicarbonate as HCO3	17	mg/L		4		A2320 B	01/27/23 19:22 / ljs		PHSC_101-H_230127A : 142		R181890
Carbonate as CO3	ND	mg/L		4		A2320 B	01/27/23 19:22 / ljs		PHSC_101-H_230127A : 142		R181890
Chloride	85	mg/L		1		E300.0	01/28/23 03:07 / ljs		IC METROHM_230127A : 62		R181923
Sulfate	158	mg/L		1		E300.0	01/28/23 03:07 / ljs		IC METROHM_230127A : 62		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 03:07 / ljs		IC METROHM_230127A : 62		R181923
Fluoride	0.8	mg/L		0.1		E300.0	01/28/23 03:07 / ljs		IC METROHM_230127A : 62		R181923
Hardness as CaCO3	202	mg/L		1		A2340 B	01/25/23 16:55 / SR		CALC_230201A : 1026		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.5	mg/L		0.5		A5310 C	01/28/23 00:29 / eli-c		SUB-C291735 : 40		C_R291735
Organic Carbon, Total (TOC)	1.1	mg/L		0.5		A5310 C	01/27/23 13:19 / eli-c		SUB-C291735 : 4		C_R291735
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	7.01	mg/L	D	0.05		E353.2	01/27/23 14:52 / JAR		FIA203-HE_230127B : 42		R181919
<b>METALS, DISSOLVED</b>											
Aluminum	0.298	mg/L		0.009		E200.8	01/26/23 20:31 / dck		ICPMS205-H_230126B : 72		R181895
Antimony	ND	mg/L		0.0005		E200.8	01/26/23 20:31 / dck		ICPMS205-H_230126B : 72		R181895
Arsenic	0.001	mg/L		0.001		E200.8	01/26/23 20:31 / dck		ICPMS205-H_230126B : 72		R181895
Barium	0.027	mg/L		0.003		E200.8	01/26/23 20:31 / dck		ICPMS205-H_230126B : 72		R181895
Beryllium	ND	mg/L		0.0008		E200.8	01/26/23 20:31 / dck		ICPMS205-H_230126B : 72		R181895
Boron	0.23	mg/L		0.05		E200.7	01/25/23 16:55 / slj		ICP2-HE_230125A : 74		R181835
Cadmium	0.0499	mg/L		0.00003		E200.8	01/26/23 20:31 / dck		ICPMS205-H_230126B : 72		R181895
Cesium	ND	mg/L		0.01		E200.8	01/25/23 18:07 / dck		ICPMS205-H_230125A : 87		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



**LABORATORY ANALYTICAL REPORT**

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-02A  
**Lab ID:** H23010535-001  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/19/23 10:40  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	56	mg/L		1		E200.7	01/25/23 16:55 / slj		ICP2-HE_230125A : 74		R181835
Chromium	ND	mg/L		0.005		E200.8	01/26/23 20:31 / dck		ICPMS205-H_230126B : 72		R181895
Cobalt	0.066	mg/L		0.005		E200.8	01/26/23 20:31 / dck		ICPMS205-H_230126B : 72		R181895
Copper	0.174	mg/L		0.002		E200.8	01/26/23 20:31 / dck		ICPMS205-H_230126B : 72		R181895
Gallium	ND	mg/L		0.01		E200.8	01/25/23 18:07 / dck		ICPMS205-H_230125A : 87		R181863
Iron	ND	mg/L		0.02		E200.8	01/26/23 20:31 / dck		ICPMS205-H_230126B : 72		R181895
Lead	0.0009	mg/L		0.0003		E200.8	01/26/23 20:31 / dck		ICPMS205-H_230126B : 72		R181895
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 18:07 / dck		ICPMS205-H_230125A : 87		R181863
Lithium	ND	mg/L		0.1		E200.7	01/25/23 16:55 / slj		ICP2-HE_230125A : 74		R181835
Magnesium	15	mg/L		1		E200.7	01/25/23 16:55 / slj		ICP2-HE_230125A : 74		R181835
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 18:07 / dck		ICPMS205-H_230125A : 87		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 18:07 / dck		ICPMS205-H_230125A : 87		R181863
Manganese	11.5	mg/L		0.001		E200.7	01/25/23 16:55 / slj		ICP2-HE_230125A : 74		R181835
Molybdenum	ND	mg/L		0.001		E200.8	01/26/23 20:31 / dck		ICPMS205-H_230126B : 72		R181895
Nickel	0.030	mg/L		0.002		E200.8	01/26/23 20:31 / dck		ICPMS205-H_230126B : 72		R181895
Palladium	ND	mg/L		0.01		E200.8	01/25/23 18:07 / dck		ICPMS205-H_230125A : 87		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 18:07 / dck		ICPMS205-H_230125A : 87		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 18:07 / dck		ICPMS205-H_230125A : 87		R181863
Potassium	6	mg/L		1		E200.7	01/25/23 16:55 / slj		ICP2-HE_230125A : 74		R181835
Selenium	ND	mg/L		0.001		E200.8	01/26/23 20:31 / dck		ICPMS205-H_230126B : 72		R181895
Silver	ND	mg/L		0.0002		E200.8	01/26/23 20:31 / dck		ICPMS205-H_230126B : 72		R181895
Sodium	30	mg/L		1		E200.7	01/25/23 16:55 / slj		ICP2-HE_230125A : 74		R181835
Strontium	0.40	mg/L		0.01		E200.8	01/26/23 20:31 / dck		ICPMS205-H_230126B : 72		R181895
Thallium	ND	mg/L		0.0002		E200.8	01/26/23 20:31 / dck		ICPMS205-H_230126B : 72		R181895
Thorium	ND	mg/L		0.005		E200.8	01/26/23 20:31 / dck		ICPMS205-H_230126B : 72		R181895
Tin	ND	mg/L		0.05		E200.8	01/26/23 20:31 / dck		ICPMS205-H_230126B : 72		R181895
Titanium	ND	mg/L		0.005		E200.8	01/26/23 20:31 / dck		ICPMS205-H_230126B : 72		R181895
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 18:07 / dck		ICPMS205-H_230125A : 87		R181863
Uranium	0.0005	mg/L		0.0002		E200.8	01/26/23 20:31 / dck		ICPMS205-H_230126B : 72		R181895
Vanadium	ND	mg/L		0.01		E200.8	01/26/23 20:31 / dck		ICPMS205-H_230126B : 72		R181895
Zinc	7.09	mg/L		0.008		E200.7	01/25/23 16:55 / slj		ICP2-HE_230125A : 74		R181835
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 18:07 / dck		ICPMS205-H_230125A : 87		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-02A  
**Lab ID:** H23010535-001  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/19/23 10:40  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.79	%				A1030 E	02/01/23 08:32 / SR		CALC_230201A : 1024		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-07B  
**Lab ID:** H23010535-002  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/19/23 15:20  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.0	s.u.	H	0.1		A4500-H B	01/25/23 13:36 / ljs		PHSC_101-H_230125A : 90		R181823
pH Measurement Temp	13.2	°C				A4500-H B	01/25/23 13:36 / ljs		PHSC_101-H_230125A : 90		R181823
Conductivity @ 25 C	2870	umhos/cm		5		A2510 B	01/25/23 13:36 / ljs		PHSC_101-H_230125A : 91		R181823
Solids, Total Dissolved TDS @ 180 C	3000	mg/L	D	50		A2540 C	01/25/23 12:59 / JAR		-124 (14410200)_230125B : 6		TDS230125A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	21	mg/L		4		A2320 B	01/27/23 19:29 / ljs		PHSC_101-H_230127A : 144		R181890
Bicarbonate as HCO3	25	mg/L		4		A2320 B	01/27/23 19:29 / ljs		PHSC_101-H_230127A : 144		R181890
Carbonate as CO3	ND	mg/L		4		A2320 B	01/27/23 19:29 / ljs		PHSC_101-H_230127A : 144		R181890
Chloride	71	mg/L		1		E300.0	01/28/23 03:51 / ljs		IC METROHM_230127A : 65		R181923
Sulfate	1980	mg/L		1		E300.0	01/28/23 03:51 / ljs		IC METROHM_230127A : 65		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 03:51 / ljs		IC METROHM_230127A : 65		R181923
Fluoride	0.1	mg/L		0.1		E300.0	01/28/23 03:51 / ljs		IC METROHM_230127A : 65		R181923
Hardness as CaCO3	1730	mg/L		1		A2340 B	01/26/23 15:46 / SR		CALC_230201A : 1037		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.3	mg/L		0.5		A5310 C	01/28/23 01:17 / eli-c		SUB-C291735 : 43		C_R291735
Organic Carbon, Total (TOC)	1.2	mg/L		0.5		A5310 C	01/27/23 14:06 / eli-c		SUB-C291735 : 7		C_R291735
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.03	mg/L		0.01		E353.2	01/27/23 14:53 / JAR		FIA203-HE_230127B : 43		R181919
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/26/23 20:35 / dck		ICPMS205-H_230126B : 73		R181895
Antimony	ND	mg/L		0.0005		E200.8	01/26/23 20:35 / dck		ICPMS205-H_230126B : 73		R181895
Arsenic	ND	mg/L		0.001		E200.8	01/26/23 20:35 / dck		ICPMS205-H_230126B : 73		R181895
Barium	0.011	mg/L		0.003		E200.8	01/26/23 20:35 / dck		ICPMS205-H_230126B : 73		R181895
Beryllium	ND	mg/L		0.0008		E200.8	01/27/23 21:26 / dck		ICPMS205-H_230127A : 98		R181901
Boron	0.07	mg/L		0.05		E200.7	01/25/23 16:59 / slj		ICP2-HE_230125A : 75		R181835
Cadmium	0.0432	mg/L		0.00003		E200.8	01/26/23 20:35 / dck		ICPMS205-H_230126B : 73		R181895
Cesium	ND	mg/L		0.01		E200.8	01/25/23 18:09 / dck		ICPMS205-H_230125A : 88		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-07B  
**Lab ID:** H23010535-002  
**Matrix:** Groundwater

**Project:** NRDP M02 T08  
**Collection Date:** 01/19/23 15:20  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	477	mg/L		1		E200.7	01/26/23 15:46 / slj		ICP2-HE_230126B : 41		R181887
Chromium	ND	mg/L		0.005		E200.8	01/26/23 20:35 / dck		ICPMS205-H_230126B : 73		R181895
Cobalt	ND	mg/L		0.005		E200.8	01/26/23 20:35 / dck		ICPMS205-H_230126B : 73		R181895
Copper	0.004	mg/L		0.002		E200.8	01/26/23 20:35 / dck		ICPMS205-H_230126B : 73		R181895
Gallium	ND	mg/L		0.01		E200.8	01/25/23 18:09 / dck		ICPMS205-H_230125A : 88		R181863
Iron	ND	mg/L		0.02		E200.8	01/26/23 20:35 / dck		ICPMS205-H_230126B : 73		R181895
Lead	ND	mg/L		0.0003		E200.8	01/26/23 20:35 / dck		ICPMS205-H_230126B : 73		R181895
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 18:09 / dck		ICPMS205-H_230125A : 88		R181863
Lithium	0.2	mg/L		0.1		E200.7	01/25/23 16:59 / slj		ICP2-HE_230125A : 75		R181835
Magnesium	130	mg/L		1		E200.7	01/25/23 16:59 / slj		ICP2-HE_230125A : 75		R181835
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 18:09 / dck		ICPMS205-H_230125A : 88		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 18:09 / dck		ICPMS205-H_230125A : 88		R181863
Manganese	8.44	mg/L		0.001		E200.7	01/25/23 16:59 / slj		ICP2-HE_230125A : 75		R181835
Molybdenum	ND	mg/L		0.001		E200.8	01/26/23 20:35 / dck		ICPMS205-H_230126B : 73		R181895
Nickel	0.035	mg/L		0.002		E200.8	01/26/23 20:35 / dck		ICPMS205-H_230126B : 73		R181895
Palladium	ND	mg/L		0.01		E200.8	01/25/23 18:09 / dck		ICPMS205-H_230125A : 88		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 18:09 / dck		ICPMS205-H_230125A : 88		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 18:09 / dck		ICPMS205-H_230125A : 88		R181863
Potassium	15	mg/L		1		E200.7	01/25/23 16:59 / slj		ICP2-HE_230125A : 75		R181835
Selenium	ND	mg/L		0.001		E200.8	01/26/23 20:35 / dck		ICPMS205-H_230126B : 73		R181895
Silver	ND	mg/L		0.0002		E200.8	01/26/23 20:35 / dck		ICPMS205-H_230126B : 73		R181895
Sodium	118	mg/L		1		E200.7	01/25/23 16:59 / slj		ICP2-HE_230125A : 75		R181835
Strontium	3.11	mg/L		0.01		E200.7	01/25/23 16:59 / slj		ICP2-HE_230125A : 75		R181835
Thallium	ND	mg/L		0.0002		E200.8	01/26/23 20:35 / dck		ICPMS205-H_230126B : 73		R181895
Thorium	ND	mg/L		0.005		E200.8	01/26/23 20:35 / dck		ICPMS205-H_230126B : 73		R181895
Tin	ND	mg/L		0.05		E200.8	01/26/23 20:35 / dck		ICPMS205-H_230126B : 73		R181895
Titanium	ND	mg/L		0.005		E200.8	01/26/23 20:35 / dck		ICPMS205-H_230126B : 73		R181895
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 18:09 / dck		ICPMS205-H_230125A : 88		R181863
Uranium	0.0005	mg/L		0.0002		E200.8	01/26/23 20:35 / dck		ICPMS205-H_230126B : 73		R181895
Vanadium	ND	mg/L		0.01		E200.8	01/26/23 20:35 / dck		ICPMS205-H_230126B : 73		R181895
Zinc	2.15	mg/L		0.008		E200.7	01/25/23 16:59 / slj		ICP2-HE_230125A : 75		R181835
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 18:09 / dck		ICPMS205-H_230125A : 88		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-07B  
**Lab ID:** H23010535-002  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/19/23 15:20  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.00	%				A1030 E	02/01/23 08:33 / SR		CALC_230201A : 1035		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-11  
**Lab ID:** H23010535-003  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/23/23 13:12  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.1	s.u.	H	0.1		A4500-H B	01/25/23 13:38 / ljs		PHSC_101-H_230125A : 92		R181823
pH Measurement Temp	12.5	°C				A4500-H B	01/25/23 13:38 / ljs		PHSC_101-H_230125A : 92		R181823
Conductivity @ 25 C	724	umhos/cm		5		A2510 B	01/25/23 13:38 / ljs		PHSC_101-H_230125A : 93		R181823
Solids, Total Dissolved TDS @ 180 C	489	mg/L	D	20		A2540 C	01/25/23 12:59 / JAR		-124 (14410200)_230125B : 7		TDS230125A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	200	mg/L		4		A2320 B	01/27/23 19:35 / ljs		PHSC_101-H_230127A : 146		R181890
Bicarbonate as HCO3	240	mg/L		4		A2320 B	01/27/23 19:35 / ljs		PHSC_101-H_230127A : 146		R181890
Carbonate as CO3	ND	mg/L		4		A2320 B	01/27/23 19:35 / ljs		PHSC_101-H_230127A : 146		R181890
Chloride	52	mg/L		1		E300.0	01/28/23 04:05 / ljs		IC METROHM_230127A : 66		R181923
Sulfate	106	mg/L		1		E300.0	01/28/23 04:05 / ljs		IC METROHM_230127A : 66		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 04:05 / ljs		IC METROHM_230127A : 66		R181923
Fluoride	0.7	mg/L		0.1		E300.0	01/28/23 04:05 / ljs		IC METROHM_230127A : 66		R181923
Hardness as CaCO3	279	mg/L		1		A2340 B	01/25/23 17:10 / SR		CALC_230201A : 762		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.2	mg/L		0.5		A5310 C	01/28/23 01:32 / eli-c		SUB-C291735 : 44		C_R291735
Organic Carbon, Total (TOC)	2.4	mg/L		0.5		A5310 C	01/27/23 14:21 / eli-c		SUB-C291735 : 8		C_R291735
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	3.60	mg/L	D	0.02		E353.2	01/27/23 14:56 / JAR		FIA203-HE_230127B : 46		R181919
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/26/23 20:40 / dck		ICPMS205-H_230126B : 74		R181895
Antimony	ND	mg/L		0.0005		E200.8	01/26/23 20:40 / dck		ICPMS205-H_230126B : 74		R181895
Arsenic	0.005	mg/L		0.001		E200.8	01/26/23 20:40 / dck		ICPMS205-H_230126B : 74		R181895
Barium	0.052	mg/L		0.003		E200.8	01/26/23 20:40 / dck		ICPMS205-H_230126B : 74		R181895
Beryllium	ND	mg/L		0.0008		E200.8	01/27/23 21:31 / dck		ICPMS205-H_230127A : 99		R181901
Boron	0.27	mg/L		0.05		E200.7	01/25/23 17:10 / slj		ICP2-HE_230125A : 78		R181835
Cadmium	0.00044	mg/L		0.00003		E200.8	01/26/23 20:40 / dck		ICPMS205-H_230126B : 74		R181895
Cesium	ND	mg/L		0.01		E200.8	01/25/23 18:10 / dck		ICPMS205-H_230125A : 89		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-11  
**Lab ID:** H23010535-003  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/23/23 13:12  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	75	mg/L		1		E200.7	01/25/23 17:10 / slj		ICP2-HE_230125A : 78		R181835
Chromium	ND	mg/L		0.005		E200.8	01/26/23 20:40 / dck		ICPMS205-H_230126B : 74		R181895
Cobalt	ND	mg/L		0.005		E200.8	01/26/23 20:40 / dck		ICPMS205-H_230126B : 74		R181895
Copper	0.005	mg/L		0.002		E200.8	01/26/23 20:40 / dck		ICPMS205-H_230126B : 74		R181895
Gallium	ND	mg/L		0.01		E200.8	01/25/23 18:10 / dck		ICPMS205-H_230125A : 89		R181863
Iron	ND	mg/L		0.02		E200.8	01/26/23 20:40 / dck		ICPMS205-H_230126B : 74		R181895
Lead	ND	mg/L		0.0003		E200.8	01/26/23 20:40 / dck		ICPMS205-H_230126B : 74		R181895
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 18:10 / dck		ICPMS205-H_230125A : 89		R181863
Lithium	ND	mg/L		0.1		E200.7	01/26/23 15:50 / slj		ICP2-HE_230126B : 42		R181887
Magnesium	23	mg/L		1		E200.7	01/25/23 17:10 / slj		ICP2-HE_230125A : 78		R181835
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 18:10 / dck		ICPMS205-H_230125A : 89		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 18:10 / dck		ICPMS205-H_230125A : 89		R181863
Manganese	0.781	mg/L		0.001		E200.8	01/26/23 20:40 / dck		ICPMS205-H_230126B : 74		R181895
Molybdenum	0.026	mg/L		0.001		E200.8	01/26/23 20:40 / dck		ICPMS205-H_230126B : 74		R181895
Nickel	ND	mg/L		0.002		E200.8	01/26/23 20:40 / dck		ICPMS205-H_230126B : 74		R181895
Palladium	ND	mg/L		0.01		E200.8	01/25/23 18:10 / dck		ICPMS205-H_230125A : 89		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 18:10 / dck		ICPMS205-H_230125A : 89		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 18:10 / dck		ICPMS205-H_230125A : 89		R181863
Potassium	5	mg/L		1		E200.7	01/25/23 17:10 / slj		ICP2-HE_230125A : 78		R181835
Selenium	ND	mg/L		0.001		E200.8	01/26/23 20:40 / dck		ICPMS205-H_230126B : 74		R181895
Silver	ND	mg/L		0.0002		E200.8	01/26/23 20:40 / dck		ICPMS205-H_230126B : 74		R181895
Sodium	40	mg/L		1		E200.7	01/25/23 17:10 / slj		ICP2-HE_230125A : 78		R181835
Strontium	0.49	mg/L		0.01		E200.8	01/26/23 20:40 / dck		ICPMS205-H_230126B : 74		R181895
Thallium	ND	mg/L		0.0002		E200.8	01/26/23 20:40 / dck		ICPMS205-H_230126B : 74		R181895
Thorium	ND	mg/L		0.005		E200.8	01/26/23 20:40 / dck		ICPMS205-H_230126B : 74		R181895
Tin	ND	mg/L		0.05		E200.8	01/26/23 20:40 / dck		ICPMS205-H_230126B : 74		R181895
Titanium	ND	mg/L		0.005		E200.8	01/26/23 20:40 / dck		ICPMS205-H_230126B : 74		R181895
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 18:10 / dck		ICPMS205-H_230125A : 89		R181863
Uranium	0.0278	mg/L		0.0002		E200.8	01/26/23 20:40 / dck		ICPMS205-H_230126B : 74		R181895
Vanadium	ND	mg/L		0.01		E200.8	01/26/23 20:40 / dck		ICPMS205-H_230126B : 74		R181895
Zinc	0.047	mg/L		0.008		E200.8	01/26/23 20:40 / dck		ICPMS205-H_230126B : 74		R181895
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 18:10 / dck		ICPMS205-H_230125A : 89		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-11  
**Lab ID:** H23010535-003  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/23/23 13:12  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-3.23	%				A1030 E	02/01/23 08:21 / SR		CALC_230201A : 760		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-04  
**Lab ID:** H23010535-004  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/23/23 14:17  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.5	s.u.	H	0.1		A4500-H B	01/25/23 13:41 / ljs		PHSC_101-H_230125A : 94		R181823
pH Measurement Temp	12.4	°C				A4500-H B	01/25/23 13:41 / ljs		PHSC_101-H_230125A : 94		R181823
Conductivity @ 25 C	942	umhos/cm		5		A2510 B	01/25/23 13:41 / ljs		PHSC_101-H_230125A : 95		R181823
Solids, Total Dissolved TDS @ 180 C	740	mg/L	D	20		A2540 C	01/25/23 12:59 / JAR		-124 (14410200)_230125B : 8		TDS230125A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	59	mg/L		4		A2320 B	01/27/23 19:43 / ljs		PHSC_101-H_230127A : 148		R181890
Bicarbonate as HCO3	71	mg/L		4		A2320 B	01/27/23 19:43 / ljs		PHSC_101-H_230127A : 148		R181890
Carbonate as CO3	ND	mg/L		4		A2320 B	01/27/23 19:43 / ljs		PHSC_101-H_230127A : 148		R181890
Chloride	40	mg/L		1		E300.0	01/28/23 04:19 / ljs		IC METROHM_230127A : 67		R181923
Sulfate	391	mg/L		1		E300.0	01/28/23 04:19 / ljs		IC METROHM_230127A : 67		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 04:19 / ljs		IC METROHM_230127A : 67		R181923
Fluoride	0.3	mg/L		0.1		E300.0	01/28/23 04:19 / ljs		IC METROHM_230127A : 67		R181923
Hardness as CaCO3	401	mg/L		1		A2340 B	01/25/23 17:14 / SR		CALC_230201A : 773		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.9	mg/L		0.5		A5310 C	01/31/23 17:42 / eli-c		SUB-C291781 : 4		C_R291781
Organic Carbon, Total (TOC)	1.0	mg/L		0.5		A5310 C	01/27/23 14:37 / eli-c		SUB-C291735 : 9		C_R291735
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	3.25	mg/L	D	0.02		E353.2	01/27/23 14:57 / JAR		FIA203-HE_230127B : 47		R181919
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/26/23 22:53 / dck		ICPMS205-H_230126B : 103		R181895
Antimony	ND	mg/L		0.0005		E200.8	01/26/23 22:53 / dck		ICPMS205-H_230126B : 103		R181895
Arsenic	0.001	mg/L		0.001		E200.8	01/26/23 22:53 / dck		ICPMS205-H_230126B : 103		R181895
Barium	0.017	mg/L		0.003		E200.8	01/26/23 22:53 / dck		ICPMS205-H_230126B : 103		R181895
Beryllium	ND	mg/L		0.0008		E200.8	01/26/23 22:53 / dck		ICPMS205-H_230126B : 103		R181895
Boron	0.09	mg/L		0.05		E200.7	01/25/23 17:14 / slj		ICP2-HE_230125A : 79		R181835
Cadmium	0.00413	mg/L		0.00003		E200.8	01/26/23 22:53 / dck		ICPMS205-H_230126B : 103		R181895
Cesium	ND	mg/L		0.01		E200.8	01/25/23 18:12 / dck		ICPMS205-H_230125A : 90		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-04  
**Lab ID:** H23010535-004  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/23/23 14:17  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	103	mg/L		1		E200.7	01/25/23 17:14 / slj		ICP2-HE_230125A : 79		R181835
Chromium	ND	mg/L		0.005		E200.8	01/26/23 22:53 / dck		ICPMS205-H_230126B : 103		R181895
Cobalt	ND	mg/L		0.005		E200.8	01/26/23 22:53 / dck		ICPMS205-H_230126B : 103		R181895
Copper	0.003	mg/L		0.002		E200.8	01/26/23 22:53 / dck		ICPMS205-H_230126B : 103		R181895
Gallium	ND	mg/L		0.01		E200.8	01/25/23 18:12 / dck		ICPMS205-H_230125A : 90		R181863
Iron	ND	mg/L		0.02		E200.8	01/26/23 22:53 / dck		ICPMS205-H_230126B : 103		R181895
Lead	ND	mg/L		0.0003		E200.8	01/26/23 22:53 / dck		ICPMS205-H_230126B : 103		R181895
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 18:12 / dck		ICPMS205-H_230125A : 90		R181863
Lithium	0.1	mg/L		0.1		E200.7	01/26/23 15:54 / slj		ICP2-HE_230126B : 43		R181887
Magnesium	35	mg/L		1		E200.7	01/25/23 17:14 / slj		ICP2-HE_230125A : 79		R181835
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 18:12 / dck		ICPMS205-H_230125A : 90		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 18:12 / dck		ICPMS205-H_230125A : 90		R181863
Manganese	5.30	mg/L		0.001		E200.7	01/25/23 17:14 / slj		ICP2-HE_230125A : 79		R181835
Molybdenum	0.003	mg/L		0.001		E200.8	01/26/23 22:53 / dck		ICPMS205-H_230126B : 103		R181895
Nickel	0.006	mg/L		0.002		E200.8	01/26/23 22:53 / dck		ICPMS205-H_230126B : 103		R181895
Palladium	ND	mg/L		0.01		E200.8	01/25/23 18:12 / dck		ICPMS205-H_230125A : 90		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 18:12 / dck		ICPMS205-H_230125A : 90		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 18:12 / dck		ICPMS205-H_230125A : 90		R181863
Potassium	8	mg/L		1		E200.7	01/25/23 17:14 / slj		ICP2-HE_230125A : 79		R181835
Selenium	ND	mg/L		0.001		E200.8	01/26/23 22:53 / dck		ICPMS205-H_230126B : 103		R181895
Silver	ND	mg/L		0.0002		E200.8	01/26/23 22:53 / dck		ICPMS205-H_230126B : 103		R181895
Sodium	39	mg/L		1		E200.7	01/25/23 17:14 / slj		ICP2-HE_230125A : 79		R181835
Strontium	0.57	mg/L		0.01		E200.8	01/26/23 22:53 / dck		ICPMS205-H_230126B : 103		R181895
Thallium	ND	mg/L		0.0002		E200.8	01/26/23 22:53 / dck		ICPMS205-H_230126B : 103		R181895
Thorium	ND	mg/L		0.005		E200.8	01/26/23 22:53 / dck		ICPMS205-H_230126B : 103		R181895
Tin	ND	mg/L		0.05		E200.8	01/26/23 22:53 / dck		ICPMS205-H_230126B : 103		R181895
Titanium	ND	mg/L		0.005		E200.8	01/26/23 22:53 / dck		ICPMS205-H_230126B : 103		R181895
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 18:12 / dck		ICPMS205-H_230125A : 90		R181863
Uranium	0.0011	mg/L		0.0002		E200.8	01/26/23 22:53 / dck		ICPMS205-H_230126B : 103		R181895
Vanadium	ND	mg/L		0.01		E200.8	01/26/23 22:53 / dck		ICPMS205-H_230126B : 103		R181895
Zinc	0.198	mg/L		0.008		E200.8	01/27/23 21:35 / dck		ICPMS205-H_230127A : 100		R181901
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 18:12 / dck		ICPMS205-H_230125A : 90		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-04  
**Lab ID:** H23010535-004  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/23/23 14:17  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-3.88	%				A1030 E	02/01/23 08:21 / SR		CALC_230201A : 771		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-07A  
**Lab ID:** H23010535-005  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/23/23 15:21  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.0	s.u.	H	0.1		A4500-H B	01/25/23 13:43 / ljs		PHSC_101-H_230125A : 96		R181823
pH Measurement Temp	12.3	°C				A4500-H B	01/25/23 13:43 / ljs		PHSC_101-H_230125A : 96		R181823
Conductivity @ 25 C	664	umhos/cm		5		A2510 B	01/25/23 13:43 / ljs		PHSC_101-H_230125A : 97		R181823
Solids, Total Dissolved TDS @ 180 C	468	mg/L	D	20		A2540 C	01/25/23 13:00 / JAR		-124 (14410200)_230125B : 9		TDS230125A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	220	mg/L		4		A2320 B	01/27/23 19:50 / ljs		PHSC_101-H_230127A : 150		R181890
Bicarbonate as HCO3	260	mg/L		4		A2320 B	01/27/23 19:50 / ljs		PHSC_101-H_230127A : 150		R181890
Carbonate as CO3	ND	mg/L		4		A2320 B	01/27/23 19:50 / ljs		PHSC_101-H_230127A : 150		R181890
Chloride	17	mg/L		1		E300.0	01/28/23 04:34 / ljs		IC METROHM_230127A : 68		R181923
Sulfate	132	mg/L		1		E300.0	01/28/23 04:34 / ljs		IC METROHM_230127A : 68		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 04:34 / ljs		IC METROHM_230127A : 68		R181923
Fluoride	0.5	mg/L		0.1		E300.0	01/28/23 04:34 / ljs		IC METROHM_230127A : 68		R181923
Hardness as CaCO3	303	mg/L		1		A2340 B	01/25/23 17:18 / SR		CALC_230201A : 784		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.9	mg/L		0.5		A5310 C	01/28/23 02:07 / eli-c		SUB-C291735 : 46		C_R291735
Organic Carbon, Total (TOC)	2.8	mg/L		0.5		A5310 C	01/27/23 14:52 / eli-c		SUB-C291735 : 10		C_R291735
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	1.38	mg/L		0.01		E353.2	01/27/23 14:59 / JAR		FIA203-HE_230127B : 48		R181919
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/26/23 22:58 / dck		ICPMS205-H_230126B : 104		R181895
Antimony	ND	mg/L		0.0005		E200.8	01/26/23 22:58 / dck		ICPMS205-H_230126B : 104		R181895
Arsenic	0.003	mg/L		0.001		E200.8	01/26/23 22:58 / dck		ICPMS205-H_230126B : 104		R181895
Barium	0.049	mg/L		0.003		E200.8	01/26/23 22:58 / dck		ICPMS205-H_230126B : 104		R181895
Beryllium	ND	mg/L		0.0008		E200.8	01/26/23 22:58 / dck		ICPMS205-H_230126B : 104		R181895
Boron	0.38	mg/L		0.05		E200.7	01/25/23 17:18 / slj		ICP2-HE_230125A : 80		R181835
Cadmium	0.00130	mg/L		0.00003		E200.8	01/26/23 22:58 / dck		ICPMS205-H_230126B : 104		R181895
Cesium	ND	mg/L		0.01		E200.8	01/25/23 18:13 / dck		ICPMS205-H_230125A : 91		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-07A  
**Lab ID:** H23010535-005  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/23/23 15:21  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	82	mg/L		1		E200.7	01/25/23 17:18 / slj		ICP2-HE_230125A : 80		R181835
Chromium	ND	mg/L		0.005		E200.8	01/26/23 22:58 / dck		ICPMS205-H_230126B : 104		R181895
Cobalt	ND	mg/L		0.005		E200.8	01/26/23 22:58 / dck		ICPMS205-H_230126B : 104		R181895
Copper	0.007	mg/L		0.002		E200.8	01/26/23 22:58 / dck		ICPMS205-H_230126B : 104		R181895
Gallium	ND	mg/L		0.01		E200.8	01/25/23 18:13 / dck		ICPMS205-H_230125A : 91		R181863
Iron	ND	mg/L		0.02		E200.8	01/26/23 22:58 / dck		ICPMS205-H_230126B : 104		R181895
Lead	ND	mg/L		0.0003		E200.8	01/26/23 22:58 / dck		ICPMS205-H_230126B : 104		R181895
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 18:13 / dck		ICPMS205-H_230125A : 91		R181863
Lithium	ND	mg/L		0.1		E200.7	01/26/23 15:58 / slj		ICP2-HE_230126B : 44		R181887
Magnesium	24	mg/L		1		E200.7	01/25/23 17:18 / slj		ICP2-HE_230125A : 80		R181835
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 18:13 / dck		ICPMS205-H_230125A : 91		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 18:13 / dck		ICPMS205-H_230125A : 91		R181863
Manganese	2.86	mg/L		0.001		E200.7	01/25/23 17:18 / slj		ICP2-HE_230125A : 80		R181835
Molybdenum	0.025	mg/L		0.001		E200.8	01/26/23 22:58 / dck		ICPMS205-H_230126B : 104		R181895
Nickel	0.005	mg/L		0.002		E200.8	01/26/23 22:58 / dck		ICPMS205-H_230126B : 104		R181895
Palladium	ND	mg/L		0.01		E200.8	01/25/23 18:13 / dck		ICPMS205-H_230125A : 91		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 18:13 / dck		ICPMS205-H_230125A : 91		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 18:13 / dck		ICPMS205-H_230125A : 91		R181863
Potassium	7	mg/L		1		E200.7	01/25/23 17:18 / slj		ICP2-HE_230125A : 80		R181835
Selenium	ND	mg/L		0.001		E200.8	01/26/23 22:58 / dck		ICPMS205-H_230126B : 104		R181895
Silver	ND	mg/L		0.0002		E200.8	01/26/23 22:58 / dck		ICPMS205-H_230126B : 104		R181895
Sodium	27	mg/L		1		E200.7	01/25/23 17:18 / slj		ICP2-HE_230125A : 80		R181835
Strontium	0.58	mg/L		0.01		E200.8	01/26/23 22:58 / dck		ICPMS205-H_230126B : 104		R181895
Thallium	ND	mg/L		0.0002		E200.8	01/26/23 22:58 / dck		ICPMS205-H_230126B : 104		R181895
Thorium	ND	mg/L		0.005		E200.8	01/26/23 22:58 / dck		ICPMS205-H_230126B : 104		R181895
Tin	ND	mg/L		0.05		E200.8	01/26/23 22:58 / dck		ICPMS205-H_230126B : 104		R181895
Titanium	ND	mg/L		0.005		E200.8	01/26/23 22:58 / dck		ICPMS205-H_230126B : 104		R181895
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 18:13 / dck		ICPMS205-H_230125A : 91		R181863
Uranium	0.0352	mg/L		0.0002		E200.8	01/26/23 22:58 / dck		ICPMS205-H_230126B : 104		R181895
Vanadium	ND	mg/L		0.01		E200.8	01/26/23 22:58 / dck		ICPMS205-H_230126B : 104		R181895
Zinc	0.310	mg/L		0.008		E200.8	01/27/23 21:40 / dck		ICPMS205-H_230127A : 101		R181901
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 18:13 / dck		ICPMS205-H_230125A : 91		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-07A  
**Lab ID:** H23010535-005  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/23/23 15:21  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.52	%				A1030 E	02/01/23 08:21 / SR		CALC_230201A : 782		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-03  
**Lab ID:** H23010535-006  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/23/23 16:25  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.9	s.u.	H	0.1		A4500-H B	01/25/23 13:45 / ljs		PHSC_101-H_230125A : 98		R181823
pH Measurement Temp	12.4	°C				A4500-H B	01/25/23 13:45 / ljs		PHSC_101-H_230125A : 98		R181823
Conductivity @ 25 C	2520	umhos/cm		5		A2510 B	01/25/23 13:45 / ljs		PHSC_101-H_230125A : 99		R181823
Solids, Total Dissolved TDS @ 180 C	2530	mg/L	D	50		A2540 C	01/25/23 13:00 / JAR		I24 (14410200)_230125B : 10		TDS230125A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	56	mg/L		4		A2320 B	01/27/23 19:58 / ljs		PHSC_101-H_230127A : 152		R181890
Bicarbonate as HCO3	67	mg/L		4		A2320 B	01/27/23 19:58 / ljs		PHSC_101-H_230127A : 152		R181890
Carbonate as CO3	ND	mg/L		4		A2320 B	01/27/23 19:58 / ljs		PHSC_101-H_230127A : 152		R181890
Chloride	115	mg/L		1		E300.0	01/28/23 04:48 / ljs		IC METROHM_230127A : 69		R181923
Sulfate	1550	mg/L		1		E300.0	01/28/23 04:48 / ljs		IC METROHM_230127A : 69		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 04:48 / ljs		IC METROHM_230127A : 69		R181923
Fluoride	0.3	mg/L		0.1		E300.0	01/28/23 04:48 / ljs		IC METROHM_230127A : 69		R181923
Hardness as CaCO3	1400	mg/L		1		A2340 B	01/25/23 17:21 / SR		CALC_230201A : 1048		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.4	mg/L		0.5		A5310 C	01/28/23 02:28 / eli-c		SUB-C291735 : 47		C_R291735
Organic Carbon, Total (TOC)	1.4	mg/L		0.5		A5310 C	01/27/23 15:08 / eli-c		SUB-C291735 : 11		C_R291735
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	4.87	mg/L	D	0.05		E353.2	01/27/23 15:00 / JAR		FIA203-HE_230127B : 49		R181919
<b>METALS, DISSOLVED</b>											
Aluminum	0.016	mg/L		0.009		E200.8	01/26/23 23:03 / dck		ICPMS205-H_230126B : 105		R181895
Antimony	ND	mg/L		0.0005		E200.8	01/26/23 23:03 / dck		ICPMS205-H_230126B : 105		R181895
Arsenic	0.002	mg/L		0.001		E200.8	01/26/23 23:03 / dck		ICPMS205-H_230126B : 105		R181895
Barium	0.020	mg/L		0.003		E200.8	01/26/23 23:03 / dck		ICPMS205-H_230126B : 105		R181895
Beryllium	ND	mg/L		0.0008		E200.8	01/26/23 23:03 / dck		ICPMS205-H_230126B : 105		R181895
Boron	0.19	mg/L		0.05		E200.7	01/25/23 17:21 / slj		ICP2-HE_230125A : 81		R181835
Cadmium	0.0898	mg/L		0.00003		E200.8	01/26/23 23:03 / dck		ICPMS205-H_230126B : 105		R181895
Cesium	ND	mg/L		0.01		E200.8	01/25/23 18:15 / dck		ICPMS205-H_230125A : 92		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-03  
**Lab ID:** H23010535-006  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/23/23 16:25  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	369	mg/L		1		E200.7	01/25/23 17:21 / slj		ICP2-HE_230125A : 81		R181835
Chromium	ND	mg/L		0.005		E200.8	01/26/23 23:03 / dck		ICPMS205-H_230126B : 105		R181895
Cobalt	0.038	mg/L		0.005		E200.8	01/26/23 23:03 / dck		ICPMS205-H_230126B : 105		R181895
Copper	2.14	mg/L	D	0.01		E200.7	01/25/23 17:21 / slj		ICP2-HE_230125A : 81		R181835
Gallium	ND	mg/L		0.01		E200.8	01/25/23 18:15 / dck		ICPMS205-H_230125A : 92		R181863
Iron	ND	mg/L		0.02		E200.8	01/26/23 23:03 / dck		ICPMS205-H_230126B : 105		R181895
Lead	0.0051	mg/L		0.0003		E200.8	01/26/23 23:03 / dck		ICPMS205-H_230126B : 105		R181895
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 18:15 / dck		ICPMS205-H_230125A : 92		R181863
Lithium	0.4	mg/L		0.1		E200.7	01/26/23 16:01 / slj		ICP2-HE_230126B : 45		R181887
Magnesium	116	mg/L		1		E200.7	01/25/23 17:21 / slj		ICP2-HE_230125A : 81		R181835
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 18:15 / dck		ICPMS205-H_230125A : 92		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 18:15 / dck		ICPMS205-H_230125A : 92		R181863
Manganese	53.8	mg/L		0.001		E200.7	01/25/23 17:21 / slj		ICP2-HE_230125A : 81		R181835
Molybdenum	ND	mg/L		0.001		E200.8	01/26/23 23:03 / dck		ICPMS205-H_230126B : 105		R181895
Nickel	0.123	mg/L		0.002		E200.8	01/26/23 23:03 / dck		ICPMS205-H_230126B : 105		R181895
Palladium	ND	mg/L		0.01		E200.8	01/25/23 18:15 / dck		ICPMS205-H_230125A : 92		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 18:15 / dck		ICPMS205-H_230125A : 92		R181863
Rubidium	0.01	mg/L		0.01		E200.8	01/25/23 18:15 / dck		ICPMS205-H_230125A : 92		R181863
Potassium	17	mg/L		1		E200.7	01/25/23 17:21 / slj		ICP2-HE_230125A : 81		R181835
Selenium	ND	mg/L		0.001		E200.8	01/26/23 23:03 / dck		ICPMS205-H_230126B : 105		R181895
Silver	0.0020	mg/L		0.0002		E200.8	01/26/23 23:03 / dck		ICPMS205-H_230126B : 105		R181895
Sodium	73	mg/L		1		E200.7	01/25/23 17:21 / slj		ICP2-HE_230125A : 81		R181835
Strontium	3.49	mg/L		0.01		E200.7	01/25/23 17:21 / slj		ICP2-HE_230125A : 81		R181835
Thallium	ND	mg/L		0.0002		E200.8	01/26/23 23:03 / dck		ICPMS205-H_230126B : 105		R181895
Thorium	ND	mg/L		0.005		E200.8	01/26/23 23:03 / dck		ICPMS205-H_230126B : 105		R181895
Tin	ND	mg/L		0.05		E200.8	01/26/23 23:03 / dck		ICPMS205-H_230126B : 105		R181895
Titanium	ND	mg/L		0.005		E200.8	01/26/23 23:03 / dck		ICPMS205-H_230126B : 105		R181895
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 18:15 / dck		ICPMS205-H_230125A : 92		R181863
Uranium	0.0008	mg/L		0.0002		E200.8	01/26/23 23:03 / dck		ICPMS205-H_230126B : 105		R181895
Vanadium	ND	mg/L		0.01		E200.8	01/26/23 23:03 / dck		ICPMS205-H_230126B : 105		R181895
Zinc	27.2	mg/L		0.008		E200.7	01/25/23 17:21 / slj		ICP2-HE_230125A : 81		R181835
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 18:15 / dck		ICPMS205-H_230125A : 92		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

D - Reporting Limit (RL) increased due to sample matrix



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-03  
**Lab ID:** H23010535-006  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/23/23 16:25  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.95	%				A1030 E	02/01/23 08:34 / SR		CALC_230201A : 1046		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-17C  
**Lab ID:** H23010535-007  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/24/23 10:30  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.4	s.u.	H	0.1		A4500-H B	01/25/23 13:47 / ljs		PHSC_101-H_230125A : 100		R181823
pH Measurement Temp	13.2	°C				A4500-H B	01/25/23 13:47 / ljs		PHSC_101-H_230125A : 100		R181823
Conductivity @ 25 C	1910	umhos/cm		5		A2510 B	01/25/23 13:47 / ljs		PHSC_101-H_230125A : 101		R181823
Solids, Total Dissolved TDS @ 180 C	1750	mg/L	D	50		A2540 C	01/25/23 13:00 / JAR		I24 (14410200)_230125B : 11		TDS230125A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	150	mg/L		4		A2320 B	01/27/23 20:04 / ljs		PHSC_101-H_230127A : 154		R181890
Bicarbonate as HCO3	190	mg/L		4		A2320 B	01/27/23 20:04 / ljs		PHSC_101-H_230127A : 154		R181890
Carbonate as CO3	ND	mg/L		4		A2320 B	01/27/23 20:04 / ljs		PHSC_101-H_230127A : 154		R181890
Chloride	48	mg/L		1		E300.0	01/28/23 05:03 / ljs		IC METROHM_230127A : 70		R181923
Sulfate	1030	mg/L		1		E300.0	01/28/23 05:03 / ljs		IC METROHM_230127A : 70		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 05:03 / ljs		IC METROHM_230127A : 70		R181923
Fluoride	0.6	mg/L		0.1		E300.0	01/28/23 05:03 / ljs		IC METROHM_230127A : 70		R181923
Hardness as CaCO3	1110	mg/L		1		A2340 B	01/25/23 17:25 / SR		CALC_230201A : 795		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.3	mg/L		0.5		A5310 C	01/28/23 02:45 / eli-c		SUB-C291735 : 48		C_R291735
Organic Carbon, Total (TOC)	1.3	mg/L		0.5		A5310 C	01/27/23 15:29 / eli-c		SUB-C291735 : 12		C_R291735
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	9.1	mg/L	D	0.1		E353.2	01/27/23 15:01 / JAR		FIA203-HE_230127B : 50		R181919
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/26/23 23:07 / dck		ICPMS205-H_230126B : 106		R181895
Antimony	ND	mg/L		0.0005		E200.8	01/26/23 23:07 / dck		ICPMS205-H_230126B : 106		R181895
Arsenic	0.005	mg/L		0.001		E200.8	01/26/23 23:07 / dck		ICPMS205-H_230126B : 106		R181895
Barium	0.015	mg/L		0.003		E200.8	01/26/23 23:07 / dck		ICPMS205-H_230126B : 106		R181895
Beryllium	ND	mg/L		0.0008		E200.8	01/26/23 23:07 / dck		ICPMS205-H_230126B : 106		R181895
Boron	0.21	mg/L		0.05		E200.7	01/25/23 17:25 / slj		ICP2-HE_230125A : 82		R181835
Cadmium	0.0104	mg/L		0.00003		E200.8	01/26/23 23:07 / dck		ICPMS205-H_230126B : 106		R181895
Cesium	ND	mg/L		0.01		E200.8	01/25/23 18:16 / dck		ICPMS205-H_230125A : 93		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-17C  
**Lab ID:** H23010535-007  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/24/23 10:30  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	307	mg/L		1		E200.7	01/25/23 17:25 / slj		ICP2-HE_230125A : 82		R181835
Chromium	ND	mg/L		0.005		E200.8	01/26/23 23:07 / dck		ICPMS205-H_230126B : 106		R181895
Cobalt	ND	mg/L		0.005		E200.8	01/26/23 23:07 / dck		ICPMS205-H_230126B : 106		R181895
Copper	0.644	mg/L		0.002		E200.8	01/26/23 23:07 / dck		ICPMS205-H_230126B : 106		R181895
Gallium	ND	mg/L		0.01		E200.8	01/25/23 18:16 / dck		ICPMS205-H_230125A : 93		R181863
Iron	ND	mg/L		0.02		E200.8	01/26/23 23:07 / dck		ICPMS205-H_230126B : 106		R181895
Lead	ND	mg/L		0.0003		E200.8	01/26/23 23:07 / dck		ICPMS205-H_230126B : 106		R181895
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 18:16 / dck		ICPMS205-H_230125A : 93		R181863
Lithium	0.3	mg/L		0.1		E200.7	01/26/23 16:05 / slj		ICP2-HE_230126B : 46		R181887
Magnesium	82	mg/L		1		E200.7	01/25/23 17:25 / slj		ICP2-HE_230125A : 82		R181835
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 18:16 / dck		ICPMS205-H_230125A : 93		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 18:16 / dck		ICPMS205-H_230125A : 93		R181863
Manganese	0.008	mg/L		0.001		E200.8	01/27/23 21:45 / dck		ICPMS205-H_230127A : 102		R181901
Molybdenum	0.001	mg/L		0.001		E200.8	01/26/23 23:07 / dck		ICPMS205-H_230126B : 106		R181895
Nickel	0.008	mg/L		0.002		E200.8	01/26/23 23:07 / dck		ICPMS205-H_230126B : 106		R181895
Palladium	ND	mg/L		0.01		E200.8	01/25/23 18:16 / dck		ICPMS205-H_230125A : 93		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 18:16 / dck		ICPMS205-H_230125A : 93		R181863
Rubidium	0.03	mg/L		0.01		E200.8	01/25/23 18:16 / dck		ICPMS205-H_230125A : 93		R181863
Potassium	14	mg/L		1		E200.7	01/25/23 17:25 / slj		ICP2-HE_230125A : 82		R181835
Selenium	ND	mg/L		0.001		E200.8	01/26/23 23:07 / dck		ICPMS205-H_230126B : 106		R181895
Silver	ND	mg/L		0.0002		E200.8	01/26/23 23:07 / dck		ICPMS205-H_230126B : 106		R181895
Sodium	60	mg/L		1		E200.7	01/25/23 17:25 / slj		ICP2-HE_230125A : 82		R181835
Strontium	3.28	mg/L		0.01		E200.7	01/25/23 17:25 / slj		ICP2-HE_230125A : 82		R181835
Thallium	ND	mg/L		0.0002		E200.8	01/26/23 23:07 / dck		ICPMS205-H_230126B : 106		R181895
Thorium	ND	mg/L		0.005		E200.8	01/26/23 23:07 / dck		ICPMS205-H_230126B : 106		R181895
Tin	ND	mg/L		0.05		E200.8	01/26/23 23:07 / dck		ICPMS205-H_230126B : 106		R181895
Titanium	ND	mg/L		0.005		E200.8	01/26/23 23:07 / dck		ICPMS205-H_230126B : 106		R181895
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 18:16 / dck		ICPMS205-H_230125A : 93		R181863
Uranium	0.0222	mg/L		0.0002		E200.8	01/26/23 23:07 / dck		ICPMS205-H_230126B : 106		R181895
Vanadium	ND	mg/L		0.01		E200.8	01/26/23 23:07 / dck		ICPMS205-H_230126B : 106		R181895
Zinc	2.12	mg/L		0.008		E200.7	01/25/23 17:25 / slj		ICP2-HE_230125A : 82		R181835
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 18:16 / dck		ICPMS205-H_230125A : 93		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-17C  
**Lab ID:** H23010535-007  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/24/23 10:30  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-3.00	%				A1030 E	02/01/23 08:21 / SR		CALC_230201A : 793		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-07  
**Lab ID:** H23010535-008  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/24/23 11:00  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.4	s.u.	H	0.1		A4500-H B	01/25/23 13:50 / ljs		PHSC_101-H_230125A : 102		R181823
pH Measurement Temp	14.1	°C				A4500-H B	01/25/23 13:50 / ljs		PHSC_101-H_230125A : 102		R181823
Conductivity @ 25 C	1750	umhos/cm		5		A2510 B	01/25/23 13:50 / ljs		PHSC_101-H_230125A : 103		R181823
Solids, Total Dissolved TDS @ 180 C	1290	mg/L	D	50		A2540 C	01/25/23 13:00 / JAR		I24 (14410200)_230125B : 12		TDS230125A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	230	mg/L		4		A2320 B	01/27/23 20:12 / ljs		PHSC_101-H_230127A : 156		R181890
Bicarbonate as HCO3	280	mg/L		4		A2320 B	01/27/23 20:12 / ljs		PHSC_101-H_230127A : 156		R181890
Carbonate as CO3	ND	mg/L		4		A2320 B	01/27/23 20:12 / ljs		PHSC_101-H_230127A : 156		R181890
Chloride	306	mg/L		1		E300.0	01/28/23 05:17 / ljs		IC METROHM_230127A : 71		R181923
Sulfate	307	mg/L		1		E300.0	01/28/23 05:17 / ljs		IC METROHM_230127A : 71		R181923
Bromide	1.4	mg/L		0.5		E300.0	01/28/23 05:17 / ljs		IC METROHM_230127A : 71		R181923
Fluoride	0.9	mg/L		0.1		E300.0	01/28/23 05:17 / ljs		IC METROHM_230127A : 71		R181923
Hardness as CaCO3	651	mg/L		1		A2340 B	01/25/23 17:29 / SR		CALC_230201A : 1059		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.6	mg/L		0.5		A5310 C	01/28/23 03:03 / eli-c		SUB-C291735 : 49		C_R291735
Organic Carbon, Total (TOC)	2.6	mg/L		0.5		A5310 C	01/27/23 15:47 / eli-c		SUB-C291735 : 13		C_R291735
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	4.94	mg/L	D	0.04		E353.2	01/27/23 15:25 / JAR		FIA203-HE_230127B : 70		R181919
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/26/23 23:12 / dck		ICPMS205-H_230126B : 107		R181895
Antimony	ND	mg/L		0.0005		E200.8	01/26/23 23:12 / dck		ICPMS205-H_230126B : 107		R181895
Arsenic	0.004	mg/L		0.001		E200.8	01/26/23 23:12 / dck		ICPMS205-H_230126B : 107		R181895
Barium	0.036	mg/L		0.003		E200.8	01/26/23 23:12 / dck		ICPMS205-H_230126B : 107		R181895
Beryllium	ND	mg/L		0.0008		E200.8	01/26/23 23:12 / dck		ICPMS205-H_230126B : 107		R181895
Boron	0.57	mg/L		0.05		E200.7	01/25/23 17:29 / slj		ICP2-HE_230125A : 83		R181835
Cadmium	0.0289	mg/L		0.00003		E200.8	01/26/23 23:12 / dck		ICPMS205-H_230126B : 107		R181895
Cesium	ND	mg/L		0.01		E200.8	01/25/23 18:18 / dck		ICPMS205-H_230125A : 94		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-07  
**Lab ID:** H23010535-008  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/24/23 11:00  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	174	mg/L		1		E200.7	01/25/23 17:29 / slj		ICP2-HE_230125A : 83		R181835
Chromium	ND	mg/L		0.005		E200.8	01/26/23 23:12 / dck		ICPMS205-H_230126B : 107		R181895
Cobalt	0.011	mg/L		0.005		E200.8	01/26/23 23:12 / dck		ICPMS205-H_230126B : 107		R181895
Copper	0.063	mg/L		0.002		E200.8	01/26/23 23:12 / dck		ICPMS205-H_230126B : 107		R181895
Gallium	ND	mg/L		0.01		E200.8	01/25/23 18:18 / dck		ICPMS205-H_230125A : 94		R181863
Iron	ND	mg/L		0.02		E200.8	01/26/23 23:12 / dck		ICPMS205-H_230126B : 107		R181895
Lead	ND	mg/L		0.0003		E200.8	01/26/23 23:12 / dck		ICPMS205-H_230126B : 107		R181895
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 18:18 / dck		ICPMS205-H_230125A : 94		R181863
Lithium	0.2	mg/L		0.1		E200.7	01/26/23 16:09 / slj		ICP2-HE_230126B : 47		R181887
Magnesium	52	mg/L		1		E200.7	01/25/23 17:29 / slj		ICP2-HE_230125A : 83		R181835
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 18:18 / dck		ICPMS205-H_230125A : 94		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 18:18 / dck		ICPMS205-H_230125A : 94		R181863
Manganese	37.3	mg/L		0.001		E200.7	01/25/23 17:29 / slj		ICP2-HE_230125A : 83		R181835
Molybdenum	0.020	mg/L		0.001		E200.8	01/26/23 23:12 / dck		ICPMS205-H_230126B : 107		R181895
Nickel	0.057	mg/L		0.002		E200.8	01/26/23 23:12 / dck		ICPMS205-H_230126B : 107		R181895
Palladium	ND	mg/L		0.01		E200.8	01/25/23 18:18 / dck		ICPMS205-H_230125A : 94		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 18:18 / dck		ICPMS205-H_230125A : 94		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 18:18 / dck		ICPMS205-H_230125A : 94		R181863
Potassium	11	mg/L		1		E200.7	01/25/23 17:29 / slj		ICP2-HE_230125A : 83		R181835
Selenium	ND	mg/L		0.001		E200.8	01/26/23 23:12 / dck		ICPMS205-H_230126B : 107		R181895
Silver	ND	mg/L		0.0002		E200.8	01/26/23 23:12 / dck		ICPMS205-H_230126B : 107		R181895
Sodium	91	mg/L		1		E200.7	01/25/23 17:29 / slj		ICP2-HE_230125A : 83		R181835
Strontium	1.42	mg/L		0.01		E200.7	01/25/23 17:29 / slj		ICP2-HE_230125A : 83		R181835
Thallium	ND	mg/L		0.0002		E200.8	01/26/23 23:12 / dck		ICPMS205-H_230126B : 107		R181895
Thorium	ND	mg/L		0.005		E200.8	01/26/23 23:12 / dck		ICPMS205-H_230126B : 107		R181895
Tin	ND	mg/L		0.05		E200.8	01/26/23 23:12 / dck		ICPMS205-H_230126B : 107		R181895
Titanium	ND	mg/L		0.005		E200.8	01/26/23 23:12 / dck		ICPMS205-H_230126B : 107		R181895
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 18:18 / dck		ICPMS205-H_230125A : 94		R181863
Uranium	0.0389	mg/L		0.0002		E200.8	01/26/23 23:12 / dck		ICPMS205-H_230126B : 107		R181895
Vanadium	ND	mg/L		0.01		E200.8	01/26/23 23:12 / dck		ICPMS205-H_230126B : 107		R181895
Zinc	10.3	mg/L		0.008		E200.7	01/25/23 17:29 / slj		ICP2-HE_230125A : 83		R181835
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 18:18 / dck		ICPMS205-H_230125A : 94		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-07  
**Lab ID:** H23010535-008  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/24/23 11:00  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-3.64	%				A1030 E	02/01/23 08:35 / SR		CALC_230201A : 1057		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-07B  
**Lab ID:** H23010535-009  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/24/23 11:30  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.4	s.u.	H	0.1		A4500-H B	01/25/23 13:52 / ljs		PHSC_101-H_230125A : 104		R181823
pH Measurement Temp	14.8	°C				A4500-H B	01/25/23 13:52 / ljs		PHSC_101-H_230125A : 104		R181823
Conductivity @ 25 C	1120	umhos/cm		5		A2510 B	01/25/23 13:52 / ljs		PHSC_101-H_230125A : 105		R181823
Solids, Total Dissolved TDS @ 180 C	862	mg/L	D	50		A2540 C	01/25/23 13:00 / JAR		I24 (14410200)_230125B : 13		TDS230125A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	150	mg/L		4		A2320 B	01/27/23 20:20 / ljs		PHSC_101-H_230127A : 158		R181890
Bicarbonate as HCO3	180	mg/L		4		A2320 B	01/27/23 20:20 / ljs		PHSC_101-H_230127A : 158		R181890
Carbonate as CO3	ND	mg/L		4		A2320 B	01/27/23 20:20 / ljs		PHSC_101-H_230127A : 158		R181890
Chloride	65	mg/L		1		E300.0	01/28/23 05:32 / ljs		IC METROHM_230127A : 72		R181923
Sulfate	375	mg/L		1		E300.0	01/28/23 05:32 / ljs		IC METROHM_230127A : 72		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 05:32 / ljs		IC METROHM_230127A : 72		R181923
Fluoride	0.7	mg/L		0.1		E300.0	01/28/23 05:32 / ljs		IC METROHM_230127A : 72		R181923
Hardness as CaCO3	430	mg/L		1		A2340 B	01/25/23 17:43 / SR		CALC_230201A : 1070		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.6	mg/L		0.5		A5310 C	01/28/23 03:20 / eli-c		SUB-C291735 : 50		C_R291735
Organic Carbon, Total (TOC)	1.6	mg/L		0.5		A5310 C	01/27/23 16:04 / eli-c		SUB-C291735 : 14		C_R291735
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	8.6	mg/L	D	0.1		E353.2	01/27/23 15:03 / JAR		FIA203-HE_230127B : 52		R181919
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/26/23 23:17 / dck		ICPMS205-H_230126B : 108		R181895
Antimony	ND	mg/L		0.0005		E200.8	01/26/23 23:17 / dck		ICPMS205-H_230126B : 108		R181895
Arsenic	0.003	mg/L		0.001		E200.8	01/26/23 23:17 / dck		ICPMS205-H_230126B : 108		R181895
Barium	0.022	mg/L		0.003		E200.8	01/26/23 23:17 / dck		ICPMS205-H_230126B : 108		R181895
Beryllium	ND	mg/L		0.0008		E200.8	01/26/23 23:17 / dck		ICPMS205-H_230126B : 108		R181895
Boron	0.31	mg/L		0.05		E200.7	01/25/23 17:43 / slj		ICP2-HE_230125A : 87		R181835
Cadmium	0.0241	mg/L		0.00003		E200.8	01/26/23 23:17 / dck		ICPMS205-H_230126B : 108		R181895
Cesium	ND	mg/L		0.01		E200.8	01/25/23 18:19 / dck		ICPMS205-H_230125A : 95		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-07B  
**Lab ID:** H23010535-009  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/24/23 11:30  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	111	mg/L		1		E200.7	01/25/23 17:43 / slj		ICP2-HE_230125A : 87		R181835
Chromium	ND	mg/L		0.005		E200.8	01/26/23 23:17 / dck		ICPMS205-H_230126B : 108		R181895
Cobalt	ND	mg/L		0.005		E200.8	01/26/23 23:17 / dck		ICPMS205-H_230126B : 108		R181895
Copper	0.209	mg/L		0.002		E200.8	01/26/23 23:17 / dck		ICPMS205-H_230126B : 108		R181895
Gallium	ND	mg/L		0.01		E200.8	01/25/23 18:19 / dck		ICPMS205-H_230125A : 95		R181863
Iron	ND	mg/L		0.02		E200.8	01/26/23 23:17 / dck		ICPMS205-H_230126B : 108		R181895
Lead	0.0007	mg/L		0.0003		E200.8	01/26/23 23:17 / dck		ICPMS205-H_230126B : 108		R181895
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 18:19 / dck		ICPMS205-H_230125A : 95		R181863
Lithium	0.2	mg/L		0.1		E200.8	01/26/23 23:17 / dck		ICPMS205-H_230126B : 108		R181895
Magnesium	37	mg/L		1		E200.7	01/25/23 17:43 / slj		ICP2-HE_230125A : 87		R181835
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 18:19 / dck		ICPMS205-H_230125A : 95		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 18:19 / dck		ICPMS205-H_230125A : 95		R181863
Manganese	9.47	mg/L		0.001		E200.7	01/25/23 17:43 / slj		ICP2-HE_230125A : 87		R181835
Molybdenum	0.002	mg/L		0.001		E200.8	01/26/23 23:17 / dck		ICPMS205-H_230126B : 108		R181895
Nickel	0.028	mg/L		0.002		E200.8	01/26/23 23:17 / dck		ICPMS205-H_230126B : 108		R181895
Palladium	ND	mg/L		0.01		E200.8	01/25/23 18:19 / dck		ICPMS205-H_230125A : 95		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 18:19 / dck		ICPMS205-H_230125A : 95		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 18:19 / dck		ICPMS205-H_230125A : 95		R181863
Potassium	11	mg/L		1		E200.7	01/25/23 17:43 / slj		ICP2-HE_230125A : 87		R181835
Selenium	ND	mg/L		0.001		E200.8	01/26/23 23:17 / dck		ICPMS205-H_230126B : 108		R181895
Silver	0.0003	mg/L		0.0002		E200.8	01/26/23 23:17 / dck		ICPMS205-H_230126B : 108		R181895
Sodium	65	mg/L		1		E200.7	01/25/23 17:43 / slj		ICP2-HE_230125A : 87		R181835
Strontium	1.24	mg/L		0.01		E200.7	01/25/23 17:43 / slj		ICP2-HE_230125A : 87		R181835
Thallium	ND	mg/L		0.0002		E200.8	01/26/23 23:17 / dck		ICPMS205-H_230126B : 108		R181895
Thorium	ND	mg/L		0.005		E200.8	01/26/23 23:17 / dck		ICPMS205-H_230126B : 108		R181895
Tin	ND	mg/L		0.05		E200.8	01/26/23 23:17 / dck		ICPMS205-H_230126B : 108		R181895
Titanium	ND	mg/L		0.005		E200.8	01/26/23 23:17 / dck		ICPMS205-H_230126B : 108		R181895
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 18:19 / dck		ICPMS205-H_230125A : 95		R181863
Uranium	0.0031	mg/L		0.0002		E200.8	01/26/23 23:17 / dck		ICPMS205-H_230126B : 108		R181895
Vanadium	ND	mg/L		0.01		E200.8	01/26/23 23:17 / dck		ICPMS205-H_230126B : 108		R181895
Zinc	5.02	mg/L		0.008		E200.7	01/25/23 17:43 / slj		ICP2-HE_230125A : 87		R181835
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 18:19 / dck		ICPMS205-H_230125A : 95		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-07B  
**Lab ID:** H23010535-009  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/24/23 11:30  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.63	%				A1030 E	02/01/23 08:35 / SR		CALC_230201A : 1068		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-18B  
**Lab ID:** H23010535-010  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/24/23 14:23  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.3	s.u.	H	0.1		A4500-H B	01/25/23 13:54 / ljs		PHSC_101-H_230125A : 106		R181823
pH Measurement Temp	15.0	°C				A4500-H B	01/25/23 13:54 / ljs		PHSC_101-H_230125A : 106		R181823
Conductivity @ 25 C	3240	umhos/cm		5		A2510 B	01/25/23 13:54 / ljs		PHSC_101-H_230125A : 107		R181823
Solids, Total Dissolved TDS @ 180 C	3740	mg/L	D	100		A2540 C	01/25/23 13:00 / JAR		I24 (14410200)_230125B : 14		TDS230125A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	01/27/23 20:27 / ljs		PHSC_101-H_230127A : 160		R181890
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	01/27/23 20:27 / ljs		PHSC_101-H_230127A : 160		R181890
Carbonate as CO3	ND	mg/L		4		A2320 B	01/27/23 20:27 / ljs		PHSC_101-H_230127A : 160		R181890
Chloride	95	mg/L		1		E300.0	01/28/23 05:46 / ljs		IC METROHM_230127A : 73		R181923
Sulfate	2360	mg/L		1		E300.0	01/28/23 05:46 / ljs		IC METROHM_230127A : 73		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 05:46 / ljs		IC METROHM_230127A : 73		R181923
Fluoride	1.1	mg/L		0.1		E300.0	01/28/23 05:46 / ljs		IC METROHM_230127A : 73		R181923
Hardness as CaCO3	1500	mg/L		1		A2340 B	01/26/23 23:21 / SR		CALC_230201A : 1081		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.6	mg/L		0.5		A5310 C	01/28/23 03:36 / eli-c		SUB-C291735 : 51		C_R291735
Organic Carbon, Total (TOC)	1.6	mg/L		0.5		A5310 C	01/27/23 16:21 / eli-c		SUB-C291735 : 15		C_R291735
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	02/01/23 12:06 / JAR		FIA203-HE_230201A : 61		R182010
<b>METALS, DISSOLVED</b>											
Aluminum	2.16	mg/L	D	0.03		E200.7	01/25/23 17:54 / slj		ICP2-HE_230125A : 90		R181835
Antimony	0.0010	mg/L		0.0005		E200.8	01/26/23 23:21 / dck		ICPMS205-H_230126B : 109		R181895
Arsenic	ND	mg/L		0.001		E200.8	01/26/23 23:21 / dck		ICPMS205-H_230126B : 109		R181895
Barium	0.014	mg/L		0.003		E200.8	01/26/23 23:21 / dck		ICPMS205-H_230126B : 109		R181895
Beryllium	0.0048	mg/L		0.0008		E200.8	01/26/23 23:21 / dck		ICPMS205-H_230126B : 109		R181895
Boron	0.11	mg/L		0.05		E200.7	01/25/23 17:54 / slj		ICP2-HE_230125A : 90		R181835
Cadmium	0.518	mg/L		0.00003		E200.8	01/26/23 23:21 / dck		ICPMS205-H_230126B : 109		R181895
Cesium	ND	mg/L		0.01		E200.8	01/25/23 18:27 / dck		ICPMS205-H_230125A : 100		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-18B  
**Lab ID:** H23010535-010  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/24/23 14:23  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	386	mg/L		1		E200.7	01/26/23 17:29 / slj		ICP2-HE_230126B : 62		R181887
Chromium	ND	mg/L		0.005		E200.8	01/26/23 23:21 / dck		ICPMS205-H_230126B : 109		R181895
Cobalt	1.14	mg/L		0.005		E200.8	01/26/23 23:21 / dck		ICPMS205-H_230126B : 109		R181895
Copper	12.9	mg/L	D	0.01		E200.7	01/25/23 17:54 / slj		ICP2-HE_230125A : 90		R181835
Gallium	ND	mg/L		0.01		E200.8	01/25/23 18:27 / dck		ICPMS205-H_230125A : 100		R181863
Iron	168	mg/L		0.02		E200.7	01/25/23 17:54 / slj		ICP2-HE_230125A : 90		R181835
Lead	0.0172	mg/L		0.0003		E200.8	01/26/23 23:21 / dck		ICPMS205-H_230126B : 109		R181895
Lanthanum	0.06	mg/L		0.01		E200.8	01/25/23 18:27 / dck		ICPMS205-H_230125A : 100		R181863
Lithium	0.5	mg/L		0.1		E200.8	01/26/23 23:21 / dck		ICPMS205-H_230126B : 109		R181895
Magnesium	129	mg/L		1		E200.8	01/26/23 23:21 / dck		ICPMS205-H_230126B : 109		R181895
Neodymium	0.035	mg/L		0.005		E200.8	01/25/23 18:27 / dck		ICPMS205-H_230125A : 100		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 18:27 / dck		ICPMS205-H_230125A : 100		R181863
Manganese	137	mg/L		0.001		E200.7	01/25/23 17:54 / slj		ICP2-HE_230125A : 90		R181835
Molybdenum	ND	mg/L		0.001		E200.8	01/26/23 23:21 / dck		ICPMS205-H_230126B : 109		R181895
Nickel	0.334	mg/L		0.002		E200.8	01/26/23 23:21 / dck		ICPMS205-H_230126B : 109		R181895
Palladium	ND	mg/L		0.01		E200.8	01/25/23 18:27 / dck		ICPMS205-H_230125A : 100		R181863
Praseodymium	0.01	mg/L		0.01		E200.8	01/25/23 18:27 / dck		ICPMS205-H_230125A : 100		R181863
Rubidium	0.01	mg/L		0.01		E200.8	01/25/23 18:27 / dck		ICPMS205-H_230125A : 100		R181863
Potassium	17	mg/L		1		E200.7	01/25/23 17:54 / slj		ICP2-HE_230125A : 90		R181835
Selenium	ND	mg/L		0.001		E200.8	01/26/23 23:21 / dck		ICPMS205-H_230126B : 109		R181895
Silver	0.0035	mg/L		0.0002		E200.8	01/26/23 23:21 / dck		ICPMS205-H_230126B : 109		R181895
Sodium	88	mg/L		1		E200.7	01/25/23 17:54 / slj		ICP2-HE_230125A : 90		R181835
Strontium	2.51	mg/L		0.01		E200.7	01/25/23 17:54 / slj		ICP2-HE_230125A : 90		R181835
Thallium	ND	mg/L		0.0002		E200.8	01/26/23 23:21 / dck		ICPMS205-H_230126B : 109		R181895
Thorium	ND	mg/L		0.005		E200.8	01/26/23 23:21 / dck		ICPMS205-H_230126B : 109		R181895
Tin	ND	mg/L		0.05		E200.8	01/26/23 23:21 / dck		ICPMS205-H_230126B : 109		R181895
Titanium	ND	mg/L		0.005		E200.8	01/26/23 23:21 / dck		ICPMS205-H_230126B : 109		R181895
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 18:27 / dck		ICPMS205-H_230125A : 100		R181863
Uranium	0.0147	mg/L		0.0002		E200.8	01/26/23 23:21 / dck		ICPMS205-H_230126B : 109		R181895
Vanadium	ND	mg/L		0.01		E200.8	01/26/23 23:21 / dck		ICPMS205-H_230126B : 109		R181895
Zinc	123	mg/L		0.008		E200.7	01/25/23 17:54 / slj		ICP2-HE_230125A : 90		R181835
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 18:27 / dck		ICPMS205-H_230125A : 100		R181863

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** D - Reporting Limit (RL) increased due to sample matrix



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-18B  
**Lab ID:** H23010535-010  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/24/23 14:23  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.98	%				A1030 E	02/01/23 08:36 / SR		CALC_230201A : 1079		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-18C  
**Lab ID:** H23010535-011  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/24/23 14:46  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.8	s.u.	H	0.1		A4500-H B	01/25/23 13:56 / ljs		PHSC_101-H_230125A : 108		R181823
pH Measurement Temp	16.2	°C				A4500-H B	01/25/23 13:56 / ljs		PHSC_101-H_230125A : 108		R181823
Conductivity @ 25 C	1830	umhos/cm		5		A2510 B	01/25/23 13:56 / ljs		PHSC_101-H_230125A : 109		R181823
Solids, Total Dissolved TDS @ 180 C	1710	mg/L	D	50		A2540 C	01/25/23 13:00 / JAR		I24 (14410200)_230125B : 15		TDS230125A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	54	mg/L		4		A2320 B	01/27/23 20:31 / ljs		PHSC_101-H_230127A : 162		R181890
Bicarbonate as HCO3	66	mg/L		4		A2320 B	01/27/23 20:31 / ljs		PHSC_101-H_230127A : 162		R181890
Carbonate as CO3	ND	mg/L		4		A2320 B	01/27/23 20:31 / ljs		PHSC_101-H_230127A : 162		R181890
Chloride	91	mg/L		1		E300.0	01/28/23 06:44 / ljs		IC METROHM_230127A : 76		R181923
Sulfate	962	mg/L		1		E300.0	01/28/23 06:44 / ljs		IC METROHM_230127A : 76		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 06:44 / ljs		IC METROHM_230127A : 76		R181923
Fluoride	0.5	mg/L		0.1		E300.0	01/28/23 06:44 / ljs		IC METROHM_230127A : 76		R181923
Hardness as CaCO3	845	mg/L		1		A2340 B	01/25/23 17:58 / SR		CALC_230201A : 1092		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.4	mg/L		0.5		A5310 C	01/28/23 04:34 / eli-c		SUB-C291735 : 53		C_R291735
Organic Carbon, Total (TOC)	1.3	mg/L		0.5		A5310 C	01/27/23 17:08 / eli-c		SUB-C291735 : 17		C_R291735
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	7.16	mg/L	D	0.05		E353.2	02/01/23 12:10 / JAR		FIA203-HE_230201A : 64		R182010
<b>METALS, DISSOLVED</b>											
Aluminum	0.028	mg/L		0.009		E200.8	01/26/23 23:26 / dck		ICPMS205-H_230126B : 110		R181895
Antimony	ND	mg/L		0.0005		E200.8	01/26/23 23:26 / dck		ICPMS205-H_230126B : 110		R181895
Arsenic	0.004	mg/L		0.001		E200.8	01/26/23 23:26 / dck		ICPMS205-H_230126B : 110		R181895
Barium	0.017	mg/L		0.003		E200.8	01/26/23 23:26 / dck		ICPMS205-H_230126B : 110		R181895
Beryllium	0.0008	mg/L		0.0008		E200.8	01/26/23 23:26 / dck		ICPMS205-H_230126B : 110		R181895
Boron	0.25	mg/L		0.05		E200.7	01/25/23 17:58 / slj		ICP2-HE_230125A : 91		R181835
Cadmium	0.111	mg/L		0.00003		E200.8	01/26/23 23:26 / dck		ICPMS205-H_230126B : 110		R181895
Cesium	ND	mg/L		0.01		E200.8	01/25/23 18:28 / dck		ICPMS205-H_230125A : 101		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-18C  
**Lab ID:** H23010535-011  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/24/23 14:46  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	220	mg/L		1		E200.7	01/25/23 17:58 / slj		ICP2-HE_230125A : 91		R181835
Chromium	ND	mg/L		0.005		E200.8	01/26/23 23:26 / dck		ICPMS205-H_230126B : 110		R181895
Cobalt	0.014	mg/L		0.005		E200.8	01/26/23 23:26 / dck		ICPMS205-H_230126B : 110		R181895
Copper	5.16	mg/L	D	0.01		E200.7	01/25/23 17:58 / slj		ICP2-HE_230125A : 91		R181835
Gallium	ND	mg/L		0.01		E200.8	01/25/23 18:28 / dck		ICPMS205-H_230125A : 101		R181863
Iron	ND	mg/L		0.02		E200.8	01/26/23 23:26 / dck		ICPMS205-H_230126B : 110		R181895
Lead	0.0003	mg/L		0.0003		E200.8	01/26/23 23:26 / dck		ICPMS205-H_230126B : 110		R181895
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 18:28 / dck		ICPMS205-H_230125A : 101		R181863
Lithium	0.3	mg/L		0.1		E200.8	01/26/23 23:26 / dck		ICPMS205-H_230126B : 110		R181895
Magnesium	72	mg/L		1		E200.7	01/25/23 17:58 / slj		ICP2-HE_230125A : 91		R181835
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 18:28 / dck		ICPMS205-H_230125A : 101		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 18:28 / dck		ICPMS205-H_230125A : 101		R181863
Manganese	52.0	mg/L		0.001		E200.7	01/25/23 17:58 / slj		ICP2-HE_230125A : 91		R181835
Molybdenum	ND	mg/L		0.001		E200.8	01/26/23 23:26 / dck		ICPMS205-H_230126B : 110		R181895
Nickel	0.135	mg/L		0.002		E200.8	01/26/23 23:26 / dck		ICPMS205-H_230126B : 110		R181895
Palladium	ND	mg/L		0.01		E200.8	01/25/23 18:28 / dck		ICPMS205-H_230125A : 101		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 18:28 / dck		ICPMS205-H_230125A : 101		R181863
Rubidium	0.03	mg/L		0.01		E200.8	01/25/23 18:28 / dck		ICPMS205-H_230125A : 101		R181863
Potassium	17	mg/L		1		E200.7	01/25/23 17:58 / slj		ICP2-HE_230125A : 91		R181835
Selenium	ND	mg/L		0.001		E200.8	01/26/23 23:26 / dck		ICPMS205-H_230126B : 110		R181895
Silver	0.0010	mg/L		0.0002		E200.8	01/26/23 23:26 / dck		ICPMS205-H_230126B : 110		R181895
Sodium	62	mg/L		1		E200.7	01/25/23 17:58 / slj		ICP2-HE_230125A : 91		R181835
Strontium	2.58	mg/L		0.01		E200.7	01/25/23 17:58 / slj		ICP2-HE_230125A : 91		R181835
Thallium	ND	mg/L		0.0002		E200.8	01/26/23 23:26 / dck		ICPMS205-H_230126B : 110		R181895
Thorium	ND	mg/L		0.005		E200.8	01/26/23 23:26 / dck		ICPMS205-H_230126B : 110		R181895
Tin	ND	mg/L		0.05		E200.8	01/26/23 23:26 / dck		ICPMS205-H_230126B : 110		R181895
Titanium	ND	mg/L		0.005		E200.8	01/26/23 23:26 / dck		ICPMS205-H_230126B : 110		R181895
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 18:28 / dck		ICPMS205-H_230125A : 101		R181863
Uranium	0.0015	mg/L		0.0002		E200.8	01/26/23 23:26 / dck		ICPMS205-H_230126B : 110		R181895
Vanadium	ND	mg/L		0.01		E200.8	01/26/23 23:26 / dck		ICPMS205-H_230126B : 110		R181895
Zinc	32.9	mg/L		0.008		E200.7	01/25/23 17:58 / slj		ICP2-HE_230125A : 91		R181835
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 18:28 / dck		ICPMS205-H_230125A : 101		R181863

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** D - Reporting Limit (RL) increased due to sample matrix



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-18C  
**Lab ID:** H23010535-011  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/24/23 14:46  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-3.95	%				A1030 E	02/01/23 08:37 / SR		CALC_230201A : 1090		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-02B  
**Lab ID:** H23010535-012  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/24/23 15:37  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.4	s.u.	H	0.1		A4500-H B	01/25/23 13:59 / ljs		PHSC_101-H_230125A : 110		R181823
pH Measurement Temp	15.8	°C				A4500-H B	01/25/23 13:59 / ljs		PHSC_101-H_230125A : 110		R181823
Conductivity @ 25 C	3960	umhos/cm		5		A2510 B	01/25/23 13:59 / ljs		PHSC_101-H_230125A : 111		R181823
Solids, Total Dissolved TDS @ 180 C	5040	mg/L	D	100		A2540 C	01/25/23 13:01 / JAR		I24 (14410200)_230125B : 16		TDS230125A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	01/27/23 21:09 / ljs		PHSC_101-H_230127A : 170		R181890
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	01/27/23 21:09 / ljs		PHSC_101-H_230127A : 170		R181890
Carbonate as CO3	ND	mg/L		4		A2320 B	01/27/23 21:09 / ljs		PHSC_101-H_230127A : 170		R181890
Chloride	148	mg/L		1		E300.0	01/28/23 07:27 / ljs		IC METROHM_230127A : 79		R181923
Sulfate	3100	mg/L		1		E300.0	01/28/23 07:27 / ljs		IC METROHM_230127A : 79		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 07:27 / ljs		IC METROHM_230127A : 79		R181923
Fluoride	1.5	mg/L		0.1		E300.0	01/28/23 07:27 / ljs		IC METROHM_230127A : 79		R181923
Hardness as CaCO3	1830	mg/L		1		A2340 B	01/26/23 23:30 / SR		CALC_230201A : 1103		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.7	mg/L		0.5		A5310 C	01/28/23 05:26 / eli-c		SUB-C291735 : 56		C_R291735
Organic Carbon, Total (TOC)	1.6	mg/L		0.5		A5310 C	01/27/23 18:02 / eli-c		SUB-C291735 : 20		C_R291735
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	02/01/23 12:11 / JAR		FIA203-HE_230201A : 65		R182010
<b>METALS, DISSOLVED</b>											
Aluminum	3.19	mg/L		0.009		E200.8	01/26/23 23:30 / dck		ICPMS205-H_230126B : 111		R181895
Antimony	ND	mg/L		0.0005		E200.8	01/26/23 23:30 / dck		ICPMS205-H_230126B : 111		R181895
Arsenic	0.002	mg/L		0.001		E200.8	01/26/23 23:30 / dck		ICPMS205-H_230126B : 111		R181895
Barium	0.014	mg/L		0.003		E200.8	01/26/23 23:30 / dck		ICPMS205-H_230126B : 111		R181895
Beryllium	0.0078	mg/L		0.0008		E200.8	01/26/23 23:30 / dck		ICPMS205-H_230126B : 111		R181895
Boron	0.12	mg/L		0.05		E200.7	01/25/23 18:02 / slj		ICP2-HE_230125A : 92		R181835
Cadmium	0.881	mg/L		0.00003		E200.8	01/26/23 23:30 / dck		ICPMS205-H_230126B : 111		R181895
Cesium	ND	mg/L		0.01		E200.8	01/25/23 18:30 / dck		ICPMS205-H_230125A : 102		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-02B  
**Lab ID:** H23010535-012  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/24/23 15:37  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	477	mg/L	D	2		E200.7	01/26/23 17:37 / slj		ICP2-HE_230126B : 64		R181887
Chromium	ND	mg/L		0.005		E200.8	01/26/23 23:30 / dck		ICPMS205-H_230126B : 111		R181895
Cobalt	1.27	mg/L		0.005		E200.8	01/26/23 23:30 / dck		ICPMS205-H_230126B : 111		R181895
Copper	27.3	mg/L	D	0.1		E200.7	01/26/23 17:37 / slj		ICP2-HE_230126B : 64		R181887
Gallium	0.01	mg/L		0.01		E200.8	01/25/23 18:30 / dck		ICPMS205-H_230125A : 102		R181863
Iron	317	mg/L	D	0.08		E200.7	01/26/23 17:37 / slj		ICP2-HE_230126B : 64		R181887
Lead	0.0110	mg/L		0.0003		E200.8	01/26/23 23:30 / dck		ICPMS205-H_230126B : 111		R181895
Lanthanum	0.12	mg/L		0.01		E200.8	01/25/23 18:30 / dck		ICPMS205-H_230125A : 102		R181863
Lithium	0.6	mg/L		0.1		E200.8	01/26/23 23:30 / dck		ICPMS205-H_230126B : 111		R181895
Magnesium	155	mg/L		1		E200.8	01/26/23 23:30 / dck		ICPMS205-H_230126B : 111		R181895
Neodymium	0.061	mg/L		0.005		E200.8	01/25/23 18:30 / dck		ICPMS205-H_230125A : 102		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 18:30 / dck		ICPMS205-H_230125A : 102		R181863
Manganese	197	mg/L	D	0.01		E200.7	01/26/23 17:37 / slj		ICP2-HE_230126B : 64		R181887
Molybdenum	ND	mg/L		0.001		E200.8	01/26/23 23:30 / dck		ICPMS205-H_230126B : 111		R181895
Nickel	0.441	mg/L		0.002		E200.8	01/26/23 23:30 / dck		ICPMS205-H_230126B : 111		R181895
Palladium	ND	mg/L		0.01		E200.8	01/25/23 18:30 / dck		ICPMS205-H_230125A : 102		R181863
Praseodymium	0.02	mg/L		0.01		E200.8	01/25/23 18:30 / dck		ICPMS205-H_230125A : 102		R181863
Rubidium	0.02	mg/L		0.01		E200.8	01/25/23 18:30 / dck		ICPMS205-H_230125A : 102		R181863
Potassium	17	mg/L		1		E200.7	01/25/23 18:02 / slj		ICP2-HE_230125A : 92		R181835
Selenium	ND	mg/L		0.001		E200.8	01/26/23 23:30 / dck		ICPMS205-H_230126B : 111		R181895
Silver	0.0054	mg/L		0.0002		E200.8	01/26/23 23:30 / dck		ICPMS205-H_230126B : 111		R181895
Sodium	97	mg/L		1		E200.7	01/25/23 18:02 / slj		ICP2-HE_230125A : 92		R181835
Strontium	2.91	mg/L		0.01		E200.7	01/25/23 18:02 / slj		ICP2-HE_230125A : 92		R181835
Thallium	ND	mg/L		0.0002		E200.8	01/26/23 23:30 / dck		ICPMS205-H_230126B : 111		R181895
Thorium	ND	mg/L		0.005		E200.8	01/26/23 23:30 / dck		ICPMS205-H_230126B : 111		R181895
Tin	ND	mg/L		0.05		E200.8	01/26/23 23:30 / dck		ICPMS205-H_230126B : 111		R181895
Titanium	ND	mg/L		0.005		E200.8	01/26/23 23:30 / dck		ICPMS205-H_230126B : 111		R181895
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 18:30 / dck		ICPMS205-H_230125A : 102		R181863
Uranium	0.0175	mg/L		0.0002		E200.8	01/26/23 23:30 / dck		ICPMS205-H_230126B : 111		R181895
Vanadium	ND	mg/L		0.01		E200.8	01/26/23 23:30 / dck		ICPMS205-H_230126B : 111		R181895
Zinc	207	mg/L	D	0.03		E200.7	01/26/23 17:37 / slj		ICP2-HE_230126B : 64		R181887
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 18:30 / dck		ICPMS205-H_230125A : 102		R181863

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** D - Reporting Limit (RL) increased due to sample matrix



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-02B  
**Lab ID:** H23010535-012  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/24/23 15:37  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.44	%				A1030 E	02/01/23 08:38 / SR		CALC_230201A : 1101		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-05A  
**Lab ID:** H23010535-013  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/18/23 15:45  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.2	s.u.	H	0.1		A4500-H B	01/25/23 14:01 / ljs		PHSC_101-H_230125A : 112		R181823
pH Measurement Temp	15.8	°C				A4500-H B	01/25/23 14:01 / ljs		PHSC_101-H_230125A : 112		R181823
Conductivity @ 25 C	1540	umhos/cm		5		A2510 B	01/25/23 14:01 / ljs		PHSC_101-H_230125A : 113		R181823
Solids, Total Dissolved TDS @ 180 C	1420	mg/L	D	50		A2540 C	01/25/23 13:01 / JAR		I24 (14410200)_230125B : 17		TDS230125A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	55	mg/L		4		A2320 B	01/27/23 20:38 / ljs		PHSC_101-H_230127A : 164		R181890
Bicarbonate as HCO3	67	mg/L		4		A2320 B	01/27/23 20:38 / ljs		PHSC_101-H_230127A : 164		R181890
Carbonate as CO3	ND	mg/L		4		A2320 B	01/27/23 20:38 / ljs		PHSC_101-H_230127A : 164		R181890
Chloride	71	mg/L		1		E300.0	01/28/23 07:42 / ljs		IC METROHM_230127A : 80		R181923
Sulfate	827	mg/L		1		E300.0	01/28/23 07:42 / ljs		IC METROHM_230127A : 80		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 07:42 / ljs		IC METROHM_230127A : 80		R181923
Fluoride	0.4	mg/L		0.1		E300.0	01/28/23 07:42 / ljs		IC METROHM_230127A : 80		R181923
Hardness as CaCO3	824	mg/L		1		A2340 B	01/25/23 18:06 / SR		CALC_230201A : 806		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.2	mg/L		0.5		A5310 C	01/28/23 05:50 / eli-c		SUB-C291735 : 57		C_R291735
Organic Carbon, Total (TOC)	1.4	mg/L		0.5		A5310 C	01/27/23 18:20 / eli-c		SUB-C291735 : 21		C_R291735
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.04	mg/L		0.01		E353.2	02/01/23 12:12 / JAR		FIA203-HE_230201A : 66		R182010
<b>METALS, DISSOLVED</b>											
Aluminum	0.143	mg/L		0.009		E200.8	01/26/23 23:35 / dck		ICPMS205-H_230126B : 112		R181895
Antimony	0.0021	mg/L		0.0005		E200.8	01/26/23 23:35 / dck		ICPMS205-H_230126B : 112		R181895
Arsenic	0.015	mg/L		0.001		E200.8	01/26/23 23:35 / dck		ICPMS205-H_230126B : 112		R181895
Barium	0.022	mg/L		0.003		E200.8	01/26/23 23:35 / dck		ICPMS205-H_230126B : 112		R181895
Beryllium	ND	mg/L		0.0008		E200.8	01/26/23 23:35 / dck		ICPMS205-H_230126B : 112		R181895
Boron	0.13	mg/L		0.05		E200.7	01/25/23 18:06 / slj		ICP2-HE_230125A : 93		R181835
Cadmium	0.131	mg/L		0.00003		E200.8	01/26/23 23:35 / dck		ICPMS205-H_230126B : 112		R181895
Cesium	ND	mg/L		0.01		E200.8	01/25/23 18:31 / dck		ICPMS205-H_230125A : 103		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-05A  
**Lab ID:** H23010535-013  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/18/23 15:45  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	216	mg/L		1		E200.7	01/25/23 18:06 / slj		ICP2-HE_230125A : 93		R181835
Chromium	ND	mg/L		0.005		E200.8	01/26/23 23:35 / dck		ICPMS205-H_230126B : 112		R181895
Cobalt	0.364	mg/L		0.005		E200.8	01/26/23 23:35 / dck		ICPMS205-H_230126B : 112		R181895
Copper	0.790	mg/L		0.002		E200.8	01/26/23 23:35 / dck		ICPMS205-H_230126B : 112		R181895
Gallium	ND	mg/L		0.01		E200.8	01/25/23 18:31 / dck		ICPMS205-H_230125A : 103		R181863
Iron	3.56	mg/L		0.02		E200.7	01/25/23 18:06 / slj		ICP2-HE_230125A : 93		R181835
Lead	0.0028	mg/L		0.0003		E200.8	01/26/23 23:35 / dck		ICPMS205-H_230126B : 112		R181895
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 18:31 / dck		ICPMS205-H_230125A : 103		R181863
Lithium	0.3	mg/L		0.1		E200.8	01/26/23 23:35 / dck		ICPMS205-H_230126B : 112		R181895
Magnesium	69	mg/L		1		E200.7	01/25/23 18:06 / slj		ICP2-HE_230125A : 93		R181835
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 18:31 / dck		ICPMS205-H_230125A : 103		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 18:31 / dck		ICPMS205-H_230125A : 103		R181863
Manganese	58.2	mg/L		0.001		E200.7	01/25/23 18:06 / slj		ICP2-HE_230125A : 93		R181835
Molybdenum	0.009	mg/L		0.001		E200.8	01/26/23 23:35 / dck		ICPMS205-H_230126B : 112		R181895
Nickel	0.113	mg/L		0.002		E200.8	01/26/23 23:35 / dck		ICPMS205-H_230126B : 112		R181895
Palladium	ND	mg/L		0.01		E200.8	01/25/23 18:31 / dck		ICPMS205-H_230125A : 103		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 18:31 / dck		ICPMS205-H_230125A : 103		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 18:31 / dck		ICPMS205-H_230125A : 103		R181863
Potassium	11	mg/L		1		E200.7	01/25/23 18:06 / slj		ICP2-HE_230125A : 93		R181835
Selenium	ND	mg/L		0.001		E200.8	01/26/23 23:35 / dck		ICPMS205-H_230126B : 112		R181895
Silver	ND	mg/L		0.0002		E200.8	01/26/23 23:35 / dck		ICPMS205-H_230126B : 112		R181895
Sodium	55	mg/L		1		E200.7	01/25/23 18:06 / slj		ICP2-HE_230125A : 93		R181835
Strontium	1.33	mg/L		0.01		E200.7	01/25/23 18:06 / slj		ICP2-HE_230125A : 93		R181835
Thallium	ND	mg/L		0.0002		E200.8	01/26/23 23:35 / dck		ICPMS205-H_230126B : 112		R181895
Thorium	ND	mg/L		0.005		E200.8	01/26/23 23:35 / dck		ICPMS205-H_230126B : 112		R181895
Tin	ND	mg/L		0.05		E200.8	01/26/23 23:35 / dck		ICPMS205-H_230126B : 112		R181895
Titanium	ND	mg/L		0.005		E200.8	01/26/23 23:35 / dck		ICPMS205-H_230126B : 112		R181895
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 18:31 / dck		ICPMS205-H_230125A : 103		R181863
Uranium	0.0041	mg/L		0.0002		E200.8	01/26/23 23:35 / dck		ICPMS205-H_230126B : 112		R181895
Vanadium	ND	mg/L		0.01		E200.8	01/26/23 23:35 / dck		ICPMS205-H_230126B : 112		R181895
Zinc	25.4	mg/L		0.008		E200.7	01/25/23 18:06 / slj		ICP2-HE_230125A : 93		R181835
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 18:31 / dck		ICPMS205-H_230125A : 103		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-05A  
**Lab ID:** H23010535-013  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/18/23 15:45  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-3.09	%				A1030 E	02/01/23 08:22 / SR		CALC_230201A : 804		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-05BR  
**Lab ID:** H23010535-014  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/18/23 16:15  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.4	s.u.	H	0.1		A4500-H B	01/25/23 14:03 / ljs		PHSC_101-H_230125A : 114		R181823
pH Measurement Temp	16.4	°C				A4500-H B	01/25/23 14:03 / ljs		PHSC_101-H_230125A : 114		R181823
Conductivity @ 25 C	3440	umhos/cm		5		A2510 B	01/25/23 14:03 / ljs		PHSC_101-H_230125A : 115		R181823
Solids, Total Dissolved TDS @ 180 C	4060	mg/L	D	100		A2540 C	01/25/23 13:01 / JAR		I24 (14410200)_230125B : 18		TDS230125A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	01/27/23 21:13 / ljs		PHSC_101-H_230127A : 172		R181890
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	01/27/23 21:13 / ljs		PHSC_101-H_230127A : 172		R181890
Carbonate as CO3	ND	mg/L		4		A2320 B	01/27/23 21:13 / ljs		PHSC_101-H_230127A : 172		R181890
Chloride	118	mg/L		1		E300.0	01/28/23 07:56 / ljs		IC METROHM_230127A : 81		R181923
Sulfate	2660	mg/L		1		E300.0	01/28/23 07:56 / ljs		IC METROHM_230127A : 81		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 07:56 / ljs		IC METROHM_230127A : 81		R181923
Fluoride	2.8	mg/L		0.1		E300.0	01/28/23 07:56 / ljs		IC METROHM_230127A : 81		R181923
Hardness as CaCO3	1600	mg/L		1		A2340 B	01/25/23 18:10 / SR		CALC_230207A : 25		R182129
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.3	mg/L		0.5		A5310 C	01/28/23 06:07 / eli-c		SUB-C291735 : 58		C_R291735
Organic Carbon, Total (TOC)	1.3	mg/L		0.5		A5310 C	01/27/23 18:42 / eli-c		SUB-C291735 : 22		C_R291735
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	02/01/23 12:13 / JAR		FIA203-HE_230201A : 67		R182010
<b>METALS, DISSOLVED</b>											
Aluminum	2.90	mg/L	D	0.03		E200.7	01/25/23 18:10 / slj		ICP2-HE_230125A : 94		R181835
Antimony	ND	mg/L		0.0005		E200.8	01/26/23 23:58 / dck		ICPMS205-H_230126B : 117		R181895
Arsenic	0.001	mg/L		0.001		E200.8	01/26/23 23:58 / dck		ICPMS205-H_230126B : 117		R181895
Barium	0.018	mg/L		0.003		E200.8	01/26/23 23:58 / dck		ICPMS205-H_230126B : 117		R181895
Beryllium	0.0088	mg/L		0.0008		E200.8	01/26/23 23:58 / dck		ICPMS205-H_230126B : 117		R181895
Boron	0.14	mg/L		0.05		E200.7	01/25/23 18:10 / slj		ICP2-HE_230125A : 94		R181835
Cadmium	0.727	mg/L		0.00003		E200.8	01/26/23 23:58 / dck		ICPMS205-H_230126B : 117		R181895
Cesium	ND	mg/L		0.01		E200.8	01/25/23 18:33 / dck		ICPMS205-H_230125A : 104		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-05BR  
**Lab ID:** H23010535-014  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/18/23 16:15  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	395	mg/L		1		E200.7	01/25/23 18:10 / slj		ICP2-HE_230125A : 94		R181835
Chromium	ND	mg/L		0.005		E200.8	01/26/23 23:58 / dck		ICPMS205-H_230126B : 117		R181895
Cobalt	1.62	mg/L		0.005		E200.8	01/26/23 23:58 / dck		ICPMS205-H_230126B : 117		R181895
Copper	31.9	mg/L	D	0.01		E200.7	01/25/23 18:10 / slj		ICP2-HE_230125A : 94		R181835
Gallium	ND	mg/L		0.01		E200.8	01/25/23 18:33 / dck		ICPMS205-H_230125A : 104		R181863
Iron	47.9	mg/L		0.02		E200.7	01/25/23 18:10 / slj		ICP2-HE_230125A : 94		R181835
Lead	0.0120	mg/L		0.0003		E200.8	01/26/23 23:58 / dck		ICPMS205-H_230126B : 117		R181895
Lanthanum	0.04	mg/L		0.01		E200.8	01/25/23 18:33 / dck		ICPMS205-H_230125A : 104		R181863
Lithium	0.7	mg/L		0.1		E200.8	01/26/23 23:58 / dck		ICPMS205-H_230126B : 117		R181895
Magnesium	149	mg/L		1		E200.7	01/25/23 18:10 / slj		ICP2-HE_230125A : 94		R181835
Neodymium	0.039	mg/L		0.005		E200.8	01/25/23 18:33 / dck		ICPMS205-H_230125A : 104		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 18:33 / dck		ICPMS205-H_230125A : 104		R181863
Manganese	211	mg/L	D	0.01		E200.7	01/26/23 17:44 / slj		ICP2-HE_230126B : 66		R181887
Molybdenum	ND	mg/L		0.001		E200.8	01/26/23 23:58 / dck		ICPMS205-H_230126B : 117		R181895
Nickel	0.449	mg/L		0.002		E200.8	01/26/23 23:58 / dck		ICPMS205-H_230126B : 117		R181895
Palladium	ND	mg/L		0.01		E200.8	01/25/23 18:33 / dck		ICPMS205-H_230125A : 104		R181863
Praseodymium	0.01	mg/L		0.01		E200.8	01/25/23 18:33 / dck		ICPMS205-H_230125A : 104		R181863
Rubidium	0.01	mg/L		0.01		E200.8	01/25/23 18:33 / dck		ICPMS205-H_230125A : 104		R181863
Potassium	22	mg/L		1		E200.7	01/25/23 18:10 / slj		ICP2-HE_230125A : 94		R181835
Selenium	ND	mg/L		0.001		E200.8	01/26/23 23:58 / dck		ICPMS205-H_230126B : 117		R181895
Silver	ND	mg/L		0.0002		E200.8	01/26/23 23:58 / dck		ICPMS205-H_230126B : 117		R181895
Sodium	96	mg/L		1		E200.7	01/25/23 18:10 / slj		ICP2-HE_230125A : 94		R181835
Strontium	3.67	mg/L		0.01		E200.7	01/25/23 18:10 / slj		ICP2-HE_230125A : 94		R181835
Thallium	ND	mg/L		0.0002		E200.8	01/26/23 23:58 / dck		ICPMS205-H_230126B : 117		R181895
Thorium	ND	mg/L		0.005		E200.8	01/26/23 23:58 / dck		ICPMS205-H_230126B : 117		R181895
Tin	ND	mg/L		0.05		E200.8	01/26/23 23:58 / dck		ICPMS205-H_230126B : 117		R181895
Titanium	ND	mg/L		0.005		E200.8	01/26/23 23:58 / dck		ICPMS205-H_230126B : 117		R181895
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 18:33 / dck		ICPMS205-H_230125A : 104		R181863
Uranium	0.0063	mg/L		0.0002		E200.8	01/26/23 23:58 / dck		ICPMS205-H_230126B : 117		R181895
Vanadium	ND	mg/L		0.01		E200.8	01/26/23 23:58 / dck		ICPMS205-H_230126B : 117		R181895
Zinc	152	mg/L	D	0.03		E200.7	01/26/23 17:44 / slj		ICP2-HE_230126B : 66		R181887
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 18:33 / dck		ICPMS205-H_230125A : 104		R181863

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** D - Reporting Limit (RL) increased due to sample matrix



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-05BR  
**Lab ID:** H23010535-014  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/18/23 16:15  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-11.4	%				A1030 E	02/07/23 15:31 / SR		CALC_230207A : 23		R182129

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-06A  
**Lab ID:** H23010535-015  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/18/23 14:45  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.4	s.u.	H	0.1		A4500-H B	01/25/23 14:05 / ljs		PHSC_101-H_230125A : 116		R181823
pH Measurement Temp	17.0	°C				A4500-H B	01/25/23 14:05 / ljs		PHSC_101-H_230125A : 116		R181823
Conductivity @ 25 C	1420	umhos/cm		5		A2510 B	01/25/23 14:05 / ljs		PHSC_101-H_230125A : 117		R181823
Solids, Total Dissolved TDS @ 180 C	1060	mg/L	D	50		A2540 C	01/25/23 13:01 / JAR		I24 (14410200)_230125B : 19		TDS230125A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	200	mg/L		4		A2320 B	01/27/23 21:17 / ljs		PHSC_101-H_230127A : 174		R181890
Bicarbonate as HCO3	250	mg/L		4		A2320 B	01/27/23 21:17 / ljs		PHSC_101-H_230127A : 174		R181890
Carbonate as CO3	ND	mg/L		4		A2320 B	01/27/23 21:17 / ljs		PHSC_101-H_230127A : 174		R181890
Chloride	181	mg/L		1		E300.0	01/28/23 08:11 / ljs		IC METROHM_230127A : 82		R181923
Sulfate	364	mg/L		1		E300.0	01/28/23 08:11 / ljs		IC METROHM_230127A : 82		R181923
Bromide	0.9	mg/L		0.5		E300.0	01/28/23 08:11 / ljs		IC METROHM_230127A : 82		R181923
Fluoride	0.7	mg/L		0.1		E300.0	01/28/23 08:11 / ljs		IC METROHM_230127A : 82		R181923
Hardness as CaCO3	554	mg/L		1		A2340 B	01/25/23 18:14 / SR		CALC_230201A : 1114		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.8	mg/L		0.5		A5310 C	01/28/23 06:25 / eli-c		SUB-C291735 : 59		C_R291735
Organic Carbon, Total (TOC)	2.8	mg/L		0.5		A5310 C	01/27/23 19:00 / eli-c		SUB-C291735 : 23		C_R291735
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.58	mg/L		0.01		E353.2	02/01/23 12:17 / JAR		FIA203-HE_230201A : 70		R182010
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/27/23 00:03 / dck		ICPMS205-H_230126B : 118		R181895
Antimony	0.0029	mg/L		0.0005		E200.8	01/27/23 00:03 / dck		ICPMS205-H_230126B : 118		R181895
Arsenic	0.006	mg/L		0.001		E200.8	01/27/23 00:03 / dck		ICPMS205-H_230126B : 118		R181895
Barium	0.030	mg/L		0.003		E200.8	01/27/23 00:03 / dck		ICPMS205-H_230126B : 118		R181895
Beryllium	ND	mg/L		0.0008		E200.8	01/27/23 00:03 / dck		ICPMS205-H_230126B : 118		R181895
Boron	0.41	mg/L		0.05		E200.7	01/25/23 18:14 / slj		ICP2-HE_230125A : 95		R181835
Cadmium	0.0448	mg/L		0.00003		E200.8	01/27/23 00:03 / dck		ICPMS205-H_230126B : 118		R181895
Cesium	ND	mg/L		0.01		E200.8	01/25/23 18:34 / dck		ICPMS205-H_230125A : 105		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-06A  
**Lab ID:** H23010535-015  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/18/23 14:45  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	150	mg/L		1		E200.7	01/25/23 18:14 / slj		ICP2-HE_230125A : 95		R181835
Chromium	ND	mg/L		0.005		E200.8	01/27/23 00:03 / dck		ICPMS205-H_230126B : 118		R181895
Cobalt	0.017	mg/L		0.005		E200.8	01/27/23 00:03 / dck		ICPMS205-H_230126B : 118		R181895
Copper	0.219	mg/L		0.002		E200.8	01/27/23 00:03 / dck		ICPMS205-H_230126B : 118		R181895
Gallium	ND	mg/L		0.01		E200.8	01/25/23 18:34 / dck		ICPMS205-H_230125A : 105		R181863
Iron	0.07	mg/L		0.02		E200.8	01/27/23 00:03 / dck		ICPMS205-H_230126B : 118		R181895
Lead	0.0645	mg/L		0.0003		E200.8	01/27/23 00:03 / dck		ICPMS205-H_230126B : 118		R181895
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 18:34 / dck		ICPMS205-H_230125A : 105		R181863
Lithium	0.2	mg/L		0.1		E200.8	01/27/23 00:03 / dck		ICPMS205-H_230126B : 118		R181895
Magnesium	44	mg/L		1		E200.7	01/25/23 18:14 / slj		ICP2-HE_230125A : 95		R181835
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 18:34 / dck		ICPMS205-H_230125A : 105		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 18:34 / dck		ICPMS205-H_230125A : 105		R181863
Manganese	21.2	mg/L		0.001		E200.7	01/25/23 18:14 / slj		ICP2-HE_230125A : 95		R181835
Molybdenum	0.016	mg/L		0.001		E200.8	01/27/23 00:03 / dck		ICPMS205-H_230126B : 118		R181895
Nickel	0.027	mg/L		0.002		E200.8	01/27/23 00:03 / dck		ICPMS205-H_230126B : 118		R181895
Palladium	ND	mg/L		0.01		E200.8	01/25/23 18:34 / dck		ICPMS205-H_230125A : 105		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 18:34 / dck		ICPMS205-H_230125A : 105		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 18:34 / dck		ICPMS205-H_230125A : 105		R181863
Potassium	11	mg/L		1		E200.7	01/25/23 18:14 / slj		ICP2-HE_230125A : 95		R181835
Selenium	ND	mg/L		0.001		E200.8	01/27/23 00:03 / dck		ICPMS205-H_230126B : 118		R181895
Silver	ND	mg/L		0.0002		E200.8	01/27/23 00:03 / dck		ICPMS205-H_230126B : 118		R181895
Sodium	81	mg/L		1		E200.7	01/25/23 18:14 / slj		ICP2-HE_230125A : 95		R181835
Strontium	1.31	mg/L		0.01		E200.7	01/25/23 18:14 / slj		ICP2-HE_230125A : 95		R181835
Thallium	ND	mg/L		0.0002		E200.8	01/27/23 00:03 / dck		ICPMS205-H_230126B : 118		R181895
Thorium	ND	mg/L		0.005		E200.8	01/27/23 00:03 / dck		ICPMS205-H_230126B : 118		R181895
Tin	ND	mg/L		0.05		E200.8	01/27/23 00:03 / dck		ICPMS205-H_230126B : 118		R181895
Titanium	ND	mg/L		0.005		E200.8	01/27/23 00:03 / dck		ICPMS205-H_230126B : 118		R181895
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 18:34 / dck		ICPMS205-H_230125A : 105		R181863
Uranium	0.0230	mg/L		0.0002		E200.8	01/27/23 00:03 / dck		ICPMS205-H_230126B : 118		R181895
Vanadium	0.01	mg/L		0.01		E200.8	01/27/23 00:03 / dck		ICPMS205-H_230126B : 118		R181895
Zinc	4.92	mg/L		0.008		E200.7	01/25/23 18:14 / slj		ICP2-HE_230125A : 95		R181835
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 18:34 / dck		ICPMS205-H_230125A : 105		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-06A  
**Lab ID:** H23010535-015  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/18/23 14:45  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-3.59	%				A1030 E	02/01/23 08:40 / SR		CALC_230201A : 1112		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-06B  
**Lab ID:** H23010535-016  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/18/23 15:15  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.1	s.u.	H	0.1		A4500-H B	01/25/23 14:08 / ljs		PHSC_101-H_230125A : 118		R181823
pH Measurement Temp	16.6	°C				A4500-H B	01/25/23 14:08 / ljs		PHSC_101-H_230125A : 118		R181823
Conductivity @ 25 C	1170	umhos/cm		5		A2510 B	01/25/23 14:08 / ljs		PHSC_101-H_230125A : 119		R181823
Solids, Total Dissolved TDS @ 180 C	964	mg/L	D	50		A2540 C	01/25/23 13:01 / JAR		I24 (14410200)_230125B : 20		TDS230125A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	91	mg/L		4		A2320 B	01/27/23 21:32 / ljs		PHSC_101-H_230127A : 178		R181890
Bicarbonate as HCO3	110	mg/L		4		A2320 B	01/27/23 21:32 / ljs		PHSC_101-H_230127A : 178		R181890
Carbonate as CO3	ND	mg/L		4		A2320 B	01/27/23 21:32 / ljs		PHSC_101-H_230127A : 178		R181890
Chloride	61	mg/L		1		E300.0	01/28/23 08:25 / ljs		IC METROHM_230127A : 83		R181923
Sulfate	480	mg/L		1		E300.0	01/28/23 08:25 / ljs		IC METROHM_230127A : 83		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 08:25 / ljs		IC METROHM_230127A : 83		R181923
Fluoride	0.4	mg/L		0.1		E300.0	01/28/23 08:25 / ljs		IC METROHM_230127A : 83		R181923
Hardness as CaCO3	528	mg/L		1		A2340 B	01/25/23 18:17 / SR		CALC_230201A : 817		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.5	mg/L		0.5		A5310 C	01/28/23 06:41 / eli-c		SUB-C291735 : 60		C_R291735
Organic Carbon, Total (TOC)	1.4	mg/L		0.5		A5310 C	01/27/23 19:21 / eli-c		SUB-C291735 : 24		C_R291735
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	8.67	mg/L	D	0.05		E353.2	02/01/23 12:18 / JAR		FIA203-HE_230201A : 71		R182010
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/27/23 00:07 / dck		ICPMS205-H_230126B : 119		R181895
Antimony	ND	mg/L		0.0005		E200.8	01/27/23 00:07 / dck		ICPMS205-H_230126B : 119		R181895
Arsenic	0.003	mg/L		0.001		E200.8	01/27/23 00:07 / dck		ICPMS205-H_230126B : 119		R181895
Barium	0.027	mg/L		0.003		E200.8	01/27/23 00:07 / dck		ICPMS205-H_230126B : 119		R181895
Beryllium	ND	mg/L		0.0008		E200.8	01/27/23 00:07 / dck		ICPMS205-H_230126B : 119		R181895
Boron	0.29	mg/L		0.05		E200.7	01/25/23 18:17 / slj		ICP2-HE_230125A : 96		R181835
Cadmium	0.0307	mg/L		0.00003		E200.8	01/27/23 00:07 / dck		ICPMS205-H_230126B : 119		R181895
Cesium	ND	mg/L		0.01		E200.8	01/25/23 18:36 / dck		ICPMS205-H_230125A : 106		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-06B  
**Lab ID:** H23010535-016  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/18/23 15:15  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	137	mg/L		1		E200.7	01/25/23 18:17 / slj		ICP2-HE_230125A : 96		R181835
Chromium	ND	mg/L		0.005		E200.8	01/27/23 00:07 / dck		ICPMS205-H_230126B : 119		R181895
Cobalt	0.020	mg/L		0.005		E200.8	01/27/23 00:07 / dck		ICPMS205-H_230126B : 119		R181895
Copper	0.597	mg/L		0.002		E200.8	01/27/23 00:07 / dck		ICPMS205-H_230126B : 119		R181895
Gallium	ND	mg/L		0.01		E200.8	01/25/23 18:36 / dck		ICPMS205-H_230125A : 106		R181863
Iron	ND	mg/L		0.02		E200.8	01/27/23 00:07 / dck		ICPMS205-H_230126B : 119		R181895
Lead	0.0031	mg/L		0.0003		E200.8	01/27/23 00:07 / dck		ICPMS205-H_230126B : 119		R181895
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 18:36 / dck		ICPMS205-H_230125A : 106		R181863
Lithium	0.3	mg/L		0.1		E200.8	01/27/23 00:07 / dck		ICPMS205-H_230126B : 119		R181895
Magnesium	45	mg/L		1		E200.7	01/25/23 18:17 / slj		ICP2-HE_230125A : 96		R181835
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 18:36 / dck		ICPMS205-H_230125A : 106		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 18:36 / dck		ICPMS205-H_230125A : 106		R181863
Manganese	12.2	mg/L		0.001		E200.7	01/25/23 18:17 / slj		ICP2-HE_230125A : 96		R181835
Molybdenum	ND	mg/L		0.001		E200.8	01/27/23 00:07 / dck		ICPMS205-H_230126B : 119		R181895
Nickel	0.043	mg/L		0.002		E200.8	01/27/23 00:07 / dck		ICPMS205-H_230126B : 119		R181895
Palladium	ND	mg/L		0.01		E200.8	01/25/23 18:36 / dck		ICPMS205-H_230125A : 106		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 18:36 / dck		ICPMS205-H_230125A : 106		R181863
Rubidium	0.01	mg/L		0.01		E200.8	01/25/23 18:36 / dck		ICPMS205-H_230125A : 106		R181863
Potassium	12	mg/L		1		E200.7	01/25/23 18:17 / slj		ICP2-HE_230125A : 96		R181835
Selenium	ND	mg/L		0.001		E200.8	01/27/23 00:07 / dck		ICPMS205-H_230126B : 119		R181895
Silver	0.0003	mg/L		0.0002		E200.8	01/27/23 00:07 / dck		ICPMS205-H_230126B : 119		R181895
Sodium	52	mg/L		1		E200.7	01/25/23 18:17 / slj		ICP2-HE_230125A : 96		R181835
Strontium	1.53	mg/L		0.01		E200.7	01/25/23 18:17 / slj		ICP2-HE_230125A : 96		R181835
Thallium	ND	mg/L		0.0002		E200.8	01/27/23 00:07 / dck		ICPMS205-H_230126B : 119		R181895
Thorium	ND	mg/L		0.005		E200.8	01/27/23 00:07 / dck		ICPMS205-H_230126B : 119		R181895
Tin	ND	mg/L		0.05		E200.8	01/27/23 00:07 / dck		ICPMS205-H_230126B : 119		R181895
Titanium	ND	mg/L		0.005		E200.8	01/27/23 00:07 / dck		ICPMS205-H_230126B : 119		R181895
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 18:36 / dck		ICPMS205-H_230125A : 106		R181863
Uranium	0.0009	mg/L		0.0002		E200.8	01/27/23 00:07 / dck		ICPMS205-H_230126B : 119		R181895
Vanadium	ND	mg/L		0.01		E200.8	01/27/23 00:07 / dck		ICPMS205-H_230126B : 119		R181895
Zinc	8.38	mg/L		0.008		E200.7	01/25/23 18:17 / slj		ICP2-HE_230125A : 96		R181835
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 18:36 / dck		ICPMS205-H_230125A : 106		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-06B  
**Lab ID:** H23010535-016  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/18/23 15:15  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.71	%				A1030 E	02/01/23 08:23 / SR		CALC_230201A : 815		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-3  
**Lab ID:** H23010535-017  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/23/23 14:15  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.8	s.u.	H	0.1		A4500-H B	01/25/23 14:10 / ljs		PHSC_101-H_230125A : 120		R181823
pH Measurement Temp	16.4	°C				A4500-H B	01/25/23 14:10 / ljs		PHSC_101-H_230125A : 120		R181823
Conductivity @ 25 C	1540	umhos/cm		5		A2510 B	01/25/23 14:10 / ljs		PHSC_101-H_230125A : 121		R181823
Solids, Total Dissolved TDS @ 180 C	1360	mg/L	D	50		A2540 C	01/25/23 13:01 / JAR		I24 (14410200)_230125B : 21		TDS230125A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	53	mg/L		4		A2320 B	01/27/23 21:39 / ljs		PHSC_101-H_230127A : 180		R181890
Bicarbonate as HCO3	64	mg/L		4		A2320 B	01/27/23 21:39 / ljs		PHSC_101-H_230127A : 180		R181890
Carbonate as CO3	ND	mg/L		4		A2320 B	01/27/23 21:39 / ljs		PHSC_101-H_230127A : 180		R181890
Chloride	76	mg/L		1		E300.0	01/28/23 08:40 / ljs		IC METROHM_230127A : 84		R181923
Sulfate	765	mg/L		1		E300.0	01/28/23 08:40 / ljs		IC METROHM_230127A : 84		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 08:40 / ljs		IC METROHM_230127A : 84		R181923
Fluoride	0.2	mg/L		0.1		E300.0	01/28/23 08:40 / ljs		IC METROHM_230127A : 84		R181923
Hardness as CaCO3	584	mg/L		1		A2340 B	01/25/23 18:21 / SR		CALC_230201A : 1125		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.7	mg/L		0.5		A5310 C	01/28/23 06:57 / eli-c		SUB-C291735 : 61		C_R291735
Organic Carbon, Total (TOC)	1.8	mg/L		0.5		A5310 C	01/27/23 19:37 / eli-c		SUB-C291735 : 25		C_R291735
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	5.80	mg/L	D	0.04		E353.2	02/01/23 13:23 / JAR		FIA203-HE_230201A : 125		R182010
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/27/23 00:12 / dck		ICPMS205-H_230126B : 120		R181895
Antimony	ND	mg/L		0.0005		E200.8	01/27/23 00:12 / dck		ICPMS205-H_230126B : 120		R181895
Arsenic	0.007	mg/L		0.001		E200.8	01/27/23 00:12 / dck		ICPMS205-H_230126B : 120		R181895
Barium	0.013	mg/L		0.003		E200.8	01/27/23 00:12 / dck		ICPMS205-H_230126B : 120		R181895
Beryllium	ND	mg/L		0.0008		E200.8	01/27/23 00:12 / dck		ICPMS205-H_230126B : 120		R181895
Boron	0.35	mg/L		0.05		E200.7	01/25/23 18:21 / slj		ICP2-HE_230125A : 97		R181835
Cadmium	0.198	mg/L		0.00003		E200.8	01/27/23 00:12 / dck		ICPMS205-H_230126B : 120		R181895
Cesium	ND	mg/L		0.01		E200.8	01/25/23 18:37 / dck		ICPMS205-H_230125A : 107		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-3  
**Lab ID:** H23010535-017  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/23/23 14:15  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	158	mg/L		1		E200.7	01/25/23 18:21 / slj		ICP2-HE_230125A : 97		R181835
Chromium	ND	mg/L		0.005		E200.8	01/27/23 00:12 / dck		ICPMS205-H_230126B : 120		R181895
Cobalt	ND	mg/L		0.005		E200.8	01/27/23 00:12 / dck		ICPMS205-H_230126B : 120		R181895
Copper	2.56	mg/L	D	0.01		E200.7	01/25/23 18:21 / slj		ICP2-HE_230125A : 97		R181835
Gallium	ND	mg/L		0.01		E200.8	01/25/23 18:37 / dck		ICPMS205-H_230125A : 107		R181863
Iron	ND	mg/L		0.02		E200.8	01/27/23 00:12 / dck		ICPMS205-H_230126B : 120		R181895
Lead	ND	mg/L		0.0003		E200.8	01/27/23 00:12 / dck		ICPMS205-H_230126B : 120		R181895
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 18:37 / dck		ICPMS205-H_230125A : 107		R181863
Lithium	0.2	mg/L		0.1		E200.8	01/27/23 00:12 / dck		ICPMS205-H_230126B : 120		R181895
Magnesium	46	mg/L		1		E200.7	01/25/23 18:21 / slj		ICP2-HE_230125A : 97		R181835
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 18:37 / dck		ICPMS205-H_230125A : 107		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 18:37 / dck		ICPMS205-H_230125A : 107		R181863
Manganese	38.9	mg/L		0.001		E200.7	01/25/23 18:21 / slj		ICP2-HE_230125A : 97		R181835
Molybdenum	ND	mg/L		0.001		E200.8	01/27/23 00:12 / dck		ICPMS205-H_230126B : 120		R181895
Nickel	0.107	mg/L		0.002		E200.8	01/27/23 00:12 / dck		ICPMS205-H_230126B : 120		R181895
Palladium	ND	mg/L		0.01		E200.8	01/25/23 18:37 / dck		ICPMS205-H_230125A : 107		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 18:37 / dck		ICPMS205-H_230125A : 107		R181863
Rubidium	0.02	mg/L		0.01		E200.8	01/25/23 18:37 / dck		ICPMS205-H_230125A : 107		R181863
Potassium	12	mg/L		1		E200.7	01/25/23 18:21 / slj		ICP2-HE_230125A : 97		R181835
Selenium	0.001	mg/L		0.001		E200.8	01/27/23 00:12 / dck		ICPMS205-H_230126B : 120		R181895
Silver	0.0005	mg/L		0.0002		E200.8	01/27/23 00:12 / dck		ICPMS205-H_230126B : 120		R181895
Sodium	98	mg/L		1		E200.7	01/25/23 18:21 / slj		ICP2-HE_230125A : 97		R181835
Strontium	1.27	mg/L		0.01		E200.7	01/25/23 18:21 / slj		ICP2-HE_230125A : 97		R181835
Thallium	ND	mg/L		0.0002		E200.8	01/27/23 00:12 / dck		ICPMS205-H_230126B : 120		R181895
Thorium	ND	mg/L		0.005		E200.8	01/27/23 00:12 / dck		ICPMS205-H_230126B : 120		R181895
Tin	ND	mg/L		0.05		E200.8	01/27/23 00:12 / dck		ICPMS205-H_230126B : 120		R181895
Titanium	ND	mg/L		0.005		E200.8	01/27/23 00:12 / dck		ICPMS205-H_230126B : 120		R181895
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 18:37 / dck		ICPMS205-H_230125A : 107		R181863
Uranium	0.0016	mg/L		0.0002		E200.8	01/27/23 00:12 / dck		ICPMS205-H_230126B : 120		R181895
Vanadium	ND	mg/L		0.01		E200.8	01/27/23 00:12 / dck		ICPMS205-H_230126B : 120		R181895
Zinc	29.6	mg/L		0.008		E200.7	01/25/23 18:21 / slj		ICP2-HE_230125A : 97		R181835
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 18:37 / dck		ICPMS205-H_230125A : 107		R181863

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** D - Reporting Limit (RL) increased due to sample matrix



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-3  
**Lab ID:** H23010535-017  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/23/23 14:15  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-3.92	%				A1030 E	02/01/23 08:40 / SR		CALC_230201A : 1123		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-3  
**Lab ID:** H23010535-018  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/23/23 14:20  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.5	s.u.	H	0.1		A4500-H B	01/25/23 14:12 / ljs		PHSC_101-H_230125A : 122		R181823
pH Measurement Temp	16.5	°C				A4500-H B	01/25/23 14:12 / ljs		PHSC_101-H_230125A : 122		R181823
Conductivity @ 25 C	7	umhos/cm		5		A2510 B	01/25/23 14:12 / ljs		PHSC_101-H_230125A : 123		R181823
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	D	20		A2540 C	01/25/23 13:02 / JAR		I24 (14410200)_230125B : 22		TDS230125A
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.											
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	01/27/23 21:46 / ljs		PHSC_101-H_230127A : 182		R181890
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	01/27/23 21:46 / ljs		PHSC_101-H_230127A : 182		R181890
Carbonate as CO3	ND	mg/L		4		A2320 B	01/27/23 21:46 / ljs		PHSC_101-H_230127A : 182		R181890
Chloride	ND	mg/L		1		E300.0	01/28/23 08:54 / ljs		IC METROHM_230127A : 85		R181923
Sulfate	ND	mg/L		1		E300.0	01/28/23 08:54 / ljs		IC METROHM_230127A : 85		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 08:54 / ljs		IC METROHM_230127A : 85		R181923
Fluoride	ND	mg/L		0.1		E300.0	01/28/23 08:54 / ljs		IC METROHM_230127A : 85		R181923
Hardness as CaCO3	ND	mg/L		1		A2340 B	01/25/23 18:25 / SR		CALC_230201A : 828		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	01/28/23 07:12 / eli-c		SUB-C291735 : 62		C_R291735
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	01/27/23 19:52 / eli-c		SUB-C291735 : 26		C_R291735
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	02/01/23 12:20 / JAR		FIA203-HE_230201A : 73		R182010
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/27/23 00:17 / dck		ICPMS205-H_230126B : 121		R181895
Antimony	ND	mg/L		0.0005		E200.8	01/27/23 00:17 / dck		ICPMS205-H_230126B : 121		R181895
Arsenic	ND	mg/L		0.001		E200.8	01/27/23 00:17 / dck		ICPMS205-H_230126B : 121		R181895
Barium	ND	mg/L		0.003		E200.8	01/27/23 00:17 / dck		ICPMS205-H_230126B : 121		R181895
Beryllium	ND	mg/L		0.0008		E200.8	01/27/23 00:17 / dck		ICPMS205-H_230126B : 121		R181895
Boron	ND	mg/L		0.05		E200.7	01/25/23 18:25 / slj		ICP2-HE_230125A : 98		R181835
Cadmium	ND	mg/L		0.00003		E200.8	01/27/23 00:17 / dck		ICPMS205-H_230126B : 121		R181895
Cesium	ND	mg/L		0.01		E200.8	01/25/23 18:39 / dck		ICPMS205-H_230125A : 108		R181863

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** D - Reporting Limit (RL) increased due to sample matrix

H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-3  
**Lab ID:** H23010535-018  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/23/23 14:20  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	ND	mg/L		1		E200.7	01/25/23 18:25 / slj		ICP2-HE_230125A : 98		R181835
Chromium	ND	mg/L		0.005		E200.8	01/27/23 00:17 / dck		ICPMS205-H_230126B : 121		R181895
Cobalt	ND	mg/L		0.005		E200.8	01/27/23 00:17 / dck		ICPMS205-H_230126B : 121		R181895
Copper	ND	mg/L		0.002		E200.8	01/27/23 00:17 / dck		ICPMS205-H_230126B : 121		R181895
Gallium	ND	mg/L		0.01		E200.8	01/25/23 18:39 / dck		ICPMS205-H_230125A : 108		R181863
Iron	ND	mg/L		0.02		E200.8	01/27/23 00:17 / dck		ICPMS205-H_230126B : 121		R181895
Lead	ND	mg/L		0.0003		E200.8	01/27/23 00:17 / dck		ICPMS205-H_230126B : 121		R181895
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 18:39 / dck		ICPMS205-H_230125A : 108		R181863
Lithium	ND	mg/L		0.1		E200.8	01/27/23 00:17 / dck		ICPMS205-H_230126B : 121		R181895
Magnesium	ND	mg/L		1		E200.7	01/25/23 18:25 / slj		ICP2-HE_230125A : 98		R181835
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 18:39 / dck		ICPMS205-H_230125A : 108		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 18:39 / dck		ICPMS205-H_230125A : 108		R181863
Manganese	ND	mg/L		0.001		E200.8	01/27/23 21:49 / dck		ICPMS205-H_230127A : 103		R181901
Molybdenum	ND	mg/L		0.001		E200.8	01/27/23 00:17 / dck		ICPMS205-H_230126B : 121		R181895
Nickel	ND	mg/L		0.002		E200.8	01/27/23 00:17 / dck		ICPMS205-H_230126B : 121		R181895
Palladium	ND	mg/L		0.01		E200.8	01/25/23 18:39 / dck		ICPMS205-H_230125A : 108		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 18:39 / dck		ICPMS205-H_230125A : 108		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 18:39 / dck		ICPMS205-H_230125A : 108		R181863
Potassium	ND	mg/L		1		E200.7	01/25/23 18:25 / slj		ICP2-HE_230125A : 98		R181835
Selenium	ND	mg/L		0.001		E200.8	01/27/23 00:17 / dck		ICPMS205-H_230126B : 121		R181895
Silver	ND	mg/L		0.0002		E200.8	01/27/23 00:17 / dck		ICPMS205-H_230126B : 121		R181895
Sodium	ND	mg/L		1		E200.7	01/25/23 18:25 / slj		ICP2-HE_230125A : 98		R181835
Strontium	ND	mg/L		0.01		E200.8	01/27/23 00:17 / dck		ICPMS205-H_230126B : 121		R181895
Thallium	ND	mg/L		0.0002		E200.8	01/27/23 00:17 / dck		ICPMS205-H_230126B : 121		R181895
Thorium	ND	mg/L		0.005		E200.8	01/27/23 00:17 / dck		ICPMS205-H_230126B : 121		R181895
Tin	ND	mg/L		0.05		E200.8	01/27/23 00:17 / dck		ICPMS205-H_230126B : 121		R181895
Titanium	ND	mg/L		0.005		E200.8	01/27/23 00:17 / dck		ICPMS205-H_230126B : 121		R181895
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 18:39 / dck		ICPMS205-H_230125A : 108		R181863
Uranium	ND	mg/L		0.0002		E200.8	01/27/23 00:17 / dck		ICPMS205-H_230126B : 121		R181895
Vanadium	ND	mg/L		0.01		E200.8	01/27/23 00:17 / dck		ICPMS205-H_230126B : 121		R181895
Zinc	ND	mg/L		0.008		E200.8	01/27/23 21:49 / dck		ICPMS205-H_230127A : 103		R181901
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 18:39 / dck		ICPMS205-H_230125A : 108		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-3  
**Lab ID:** H23010535-018  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/23/23 14:20  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-100	%				A1030 E	02/01/23 08:23 / SR		CALC_230201A : 826		R181986
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-3  
**Lab ID:** H23010535-019  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/23/23 14:25  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.5	s.u.	H	0.1		A4500-H B	01/25/23 14:15 / ljs		PHSC_101-H_230125A : 124		R181823
pH Measurement Temp	16.6	°C				A4500-H B	01/25/23 14:15 / ljs		PHSC_101-H_230125A : 124		R181823
Conductivity @ 25 C	6	umhos/cm		5		A2510 B	01/25/23 14:15 / ljs		PHSC_101-H_230125A : 125		R181823
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	D	20		A2540 C	01/25/23 13:02 / JAR		124 (14410200)_230125B : 23		TDS230125A
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.											
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	01/27/23 21:52 / ljs		PHSC_101-H_230127A : 184		R181890
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	01/27/23 21:52 / ljs		PHSC_101-H_230127A : 184		R181890
Carbonate as CO3	ND	mg/L		4		A2320 B	01/27/23 21:52 / ljs		PHSC_101-H_230127A : 184		R181890
Chloride	ND	mg/L		1		E300.0	01/28/23 09:09 / ljs		IC METROHM_230127A : 86		R181923
Sulfate	ND	mg/L		1		E300.0	01/28/23 09:09 / ljs		IC METROHM_230127A : 86		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 09:09 / ljs		IC METROHM_230127A : 86		R181923
Fluoride	ND	mg/L		0.1		E300.0	01/28/23 09:09 / ljs		IC METROHM_230127A : 86		R181923
Hardness as CaCO3	ND	mg/L		1		A2340 B	01/25/23 19:17 / SR		CALC_230201A : 839		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	01/28/23 07:27 / eli-c		SUB-C291735 : 63		C_R291735
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	01/27/23 20:10 / eli-c		SUB-C291735 : 27		C_R291735
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	02/01/23 12:22 / JAR		FIA203-HE_230201A : 74		R182010
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/27/23 00:21 / dck		ICPMS205-H_230126B : 122		R181895
Antimony	ND	mg/L		0.0005		E200.8	01/27/23 00:21 / dck		ICPMS205-H_230126B : 122		R181895
Arsenic	ND	mg/L		0.001		E200.8	01/27/23 00:21 / dck		ICPMS205-H_230126B : 122		R181895
Barium	ND	mg/L		0.003		E200.8	01/27/23 00:21 / dck		ICPMS205-H_230126B : 122		R181895
Beryllium	ND	mg/L		0.0008		E200.8	01/27/23 00:21 / dck		ICPMS205-H_230126B : 122		R181895
Boron	ND	mg/L		0.05		E200.7	01/26/23 18:10 / slj		ICP2-HE_230126B : 73		R181887
Cadmium	ND	mg/L		0.00003		E200.8	01/27/23 00:21 / dck		ICPMS205-H_230126B : 122		R181895
Cesium	ND	mg/L		0.01		E200.8	01/25/23 18:40 / dck		ICPMS205-H_230125A : 109		R181863

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** D - Reporting Limit (RL) increased due to sample matrix

H - Analysis performed past the method holding time





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-3  
**Lab ID:** H23010535-019  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/23/23 14:25  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	ND	mg/L		1		E200.7	01/25/23 19:17 / slj		ICP2-HE_230125A : 112		R181835
Chromium	ND	mg/L		0.005		E200.8	01/27/23 00:21 / dck		ICPMS205-H_230126B : 122		R181895
Cobalt	ND	mg/L		0.005		E200.8	01/27/23 00:21 / dck		ICPMS205-H_230126B : 122		R181895
Copper	ND	mg/L		0.002		E200.8	01/27/23 00:21 / dck		ICPMS205-H_230126B : 122		R181895
Gallium	ND	mg/L		0.01		E200.8	01/25/23 18:40 / dck		ICPMS205-H_230125A : 109		R181863
Iron	ND	mg/L		0.02		E200.8	01/27/23 00:21 / dck		ICPMS205-H_230126B : 122		R181895
Lead	ND	mg/L		0.0003		E200.8	01/27/23 00:21 / dck		ICPMS205-H_230126B : 122		R181895
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 18:40 / dck		ICPMS205-H_230125A : 109		R181863
Lithium	ND	mg/L		0.1		E200.7	01/25/23 19:17 / slj		ICP2-HE_230125A : 112		R181835
Magnesium	ND	mg/L		1		E200.7	01/25/23 19:17 / slj		ICP2-HE_230125A : 112		R181835
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 18:40 / dck		ICPMS205-H_230125A : 109		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 18:40 / dck		ICPMS205-H_230125A : 109		R181863
Manganese	ND	mg/L		0.001		E200.8	01/27/23 21:54 / dck		ICPMS205-H_230127A : 104		R181901
Molybdenum	ND	mg/L		0.001		E200.8	01/27/23 00:21 / dck		ICPMS205-H_230126B : 122		R181895
Nickel	ND	mg/L		0.002		E200.8	01/27/23 00:21 / dck		ICPMS205-H_230126B : 122		R181895
Palladium	ND	mg/L		0.01		E200.8	01/25/23 18:40 / dck		ICPMS205-H_230125A : 109		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 18:40 / dck		ICPMS205-H_230125A : 109		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 18:40 / dck		ICPMS205-H_230125A : 109		R181863
Potassium	ND	mg/L		1		E200.7	01/25/23 19:17 / slj		ICP2-HE_230125A : 112		R181835
Selenium	ND	mg/L		0.001		E200.8	01/27/23 00:21 / dck		ICPMS205-H_230126B : 122		R181895
Silver	ND	mg/L		0.0002		E200.8	01/27/23 00:21 / dck		ICPMS205-H_230126B : 122		R181895
Sodium	ND	mg/L		1		E200.7	01/25/23 19:17 / slj		ICP2-HE_230125A : 112		R181835
Strontium	ND	mg/L		0.01		E200.8	01/27/23 00:21 / dck		ICPMS205-H_230126B : 122		R181895
Thallium	ND	mg/L		0.0002		E200.8	01/27/23 00:21 / dck		ICPMS205-H_230126B : 122		R181895
Thorium	ND	mg/L		0.005		E200.8	01/27/23 00:21 / dck		ICPMS205-H_230126B : 122		R181895
Tin	ND	mg/L		0.05		E200.8	01/27/23 00:21 / dck		ICPMS205-H_230126B : 122		R181895
Titanium	ND	mg/L		0.005		E200.8	01/27/23 00:21 / dck		ICPMS205-H_230126B : 122		R181895
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 18:40 / dck		ICPMS205-H_230125A : 109		R181863
Uranium	ND	mg/L		0.0002		E200.8	01/27/23 00:21 / dck		ICPMS205-H_230126B : 122		R181895
Vanadium	ND	mg/L		0.01		E200.8	01/27/23 00:21 / dck		ICPMS205-H_230126B : 122		R181895
Zinc	ND	mg/L		0.008		E200.8	01/27/23 21:54 / dck		ICPMS205-H_230127A : 104		R181901
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 18:40 / dck		ICPMS205-H_230125A : 109		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-3  
**Lab ID:** H23010535-019  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/23/23 14:25  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-100	%				A1030 E	02/01/23 08:23 / SR		CALC_230201A : 837		R181986
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-04B  
**Lab ID:** H23010535-020  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/19/23 16:31  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.9	s.u.	H	0.1		A4500-H B	01/25/23 14:17 / ljs		PHSC_101-H_230125A : 126		R181823
pH Measurement Temp	16.0	°C				A4500-H B	01/25/23 14:17 / ljs		PHSC_101-H_230125A : 126		R181823
Conductivity @ 25 C	1670	umhos/cm		5		A2510 B	01/25/23 14:17 / ljs		PHSC_101-H_230125A : 127		R181823
Solids, Total Dissolved TDS @ 180 C	1580	mg/L	D	100		A2540 C	01/25/23 13:03 / JAR		I24 (14410200)_230125B : 28		TDS230125A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	01/27/23 21:58 / ljs		PHSC_101-H_230127A : 186		R181890
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	01/27/23 21:58 / ljs		PHSC_101-H_230127A : 186		R181890
Carbonate as CO3	ND	mg/L		4		A2320 B	01/27/23 21:58 / ljs		PHSC_101-H_230127A : 186		R181890
Chloride	98	mg/L		1		E300.0	01/28/23 09:23 / ljs		IC METROHM_230127A : 87		R181923
Sulfate	933	mg/L		1		E300.0	01/28/23 09:23 / ljs		IC METROHM_230127A : 87		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 09:23 / ljs		IC METROHM_230127A : 87		R181923
Fluoride	ND	mg/L		0.1		E300.0	01/28/23 09:23 / ljs		IC METROHM_230127A : 87		R181923
Hardness as CaCO3	738	mg/L		1		A2340 B	01/25/23 19:21 / SR		CALC_230201A : 1136		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.4	mg/L		0.5		A5310 C	01/28/23 07:43 / eli-c		SUB-C291735 : 64		C_R291735
Organic Carbon, Total (TOC)	1.3	mg/L		0.5		A5310 C	01/27/23 20:26 / eli-c		SUB-C291735 : 28		C_R291735
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	01/27/23 15:27 / JAR		FIA203-HE_230127B : 72		R181919
<b>METALS, DISSOLVED</b>											
Aluminum	0.055	mg/L		0.009		E200.8	01/27/23 00:26 / dck		ICPMS205-H_230126B : 123		R181895
Antimony	ND	mg/L		0.0005		E200.8	01/27/23 00:26 / dck		ICPMS205-H_230126B : 123		R181895
Arsenic	ND	mg/L		0.001		E200.8	01/27/23 00:26 / dck		ICPMS205-H_230126B : 123		R181895
Barium	0.015	mg/L		0.003		E200.8	01/27/23 00:26 / dck		ICPMS205-H_230126B : 123		R181895
Beryllium	ND	mg/L		0.0008		E200.8	01/27/23 00:26 / dck		ICPMS205-H_230126B : 123		R181895
Boron	0.08	mg/L		0.05		E200.7	01/26/23 18:14 / slj		ICP2-HE_230126B : 74		R181887
Cadmium	0.120	mg/L		0.00003		E200.8	01/27/23 00:26 / dck		ICPMS205-H_230126B : 123		R181895
Cesium	ND	mg/L		0.01		E200.8	01/25/23 18:48 / dck		ICPMS205-H_230125A : 114		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-04B  
**Lab ID:** H23010535-020  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/19/23 16:31  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	195	mg/L		1		E200.7	01/25/23 19:21 / slj		ICP2-HE_230125A : 113		R181835
Chromium	ND	mg/L		0.005		E200.8	01/27/23 00:26 / dck		ICPMS205-H_230126B : 123		R181895
Cobalt	0.511	mg/L		0.005		E200.8	01/27/23 00:26 / dck		ICPMS205-H_230126B : 123		R181895
Copper	0.435	mg/L		0.002		E200.8	01/27/23 00:26 / dck		ICPMS205-H_230126B : 123		R181895
Gallium	ND	mg/L		0.01		E200.8	01/25/23 18:48 / dck		ICPMS205-H_230125A : 114		R181863
Iron	35.6	mg/L		0.02		E200.7	01/25/23 19:21 / slj		ICP2-HE_230125A : 113		R181835
Lead	0.0036	mg/L		0.0003		E200.8	01/27/23 00:26 / dck		ICPMS205-H_230126B : 123		R181895
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 18:48 / dck		ICPMS205-H_230125A : 114		R181863
Lithium	0.3	mg/L		0.1		E200.7	01/25/23 19:21 / slj		ICP2-HE_230125A : 113		R181835
Magnesium	61	mg/L		1		E200.7	01/25/23 19:21 / slj		ICP2-HE_230125A : 113		R181835
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 18:48 / dck		ICPMS205-H_230125A : 114		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 18:48 / dck		ICPMS205-H_230125A : 114		R181863
Manganese	44.5	mg/L		0.001		E200.7	01/25/23 19:21 / slj		ICP2-HE_230125A : 113		R181835
Molybdenum	ND	mg/L		0.001		E200.8	01/27/23 00:26 / dck		ICPMS205-H_230126B : 123		R181895
Nickel	0.140	mg/L		0.002		E200.8	01/27/23 00:26 / dck		ICPMS205-H_230126B : 123		R181895
Palladium	ND	mg/L		0.01		E200.8	01/25/23 18:48 / dck		ICPMS205-H_230125A : 114		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 18:48 / dck		ICPMS205-H_230125A : 114		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 18:48 / dck		ICPMS205-H_230125A : 114		R181863
Potassium	12	mg/L		1		E200.7	01/25/23 19:21 / slj		ICP2-HE_230125A : 113		R181835
Selenium	ND	mg/L		0.001		E200.8	01/27/23 00:26 / dck		ICPMS205-H_230126B : 123		R181895
Silver	ND	mg/L		0.0002		E200.8	01/27/23 00:26 / dck		ICPMS205-H_230126B : 123		R181895
Sodium	45	mg/L		1		E200.7	01/25/23 19:21 / slj		ICP2-HE_230125A : 113		R181835
Strontium	1.25	mg/L		0.01		E200.7	01/25/23 19:21 / slj		ICP2-HE_230125A : 113		R181835
Thallium	ND	mg/L		0.0002		E200.8	01/27/23 00:26 / dck		ICPMS205-H_230126B : 123		R181895
Thorium	ND	mg/L		0.005		E200.8	01/27/23 00:26 / dck		ICPMS205-H_230126B : 123		R181895
Tin	ND	mg/L		0.05		E200.8	01/27/23 00:26 / dck		ICPMS205-H_230126B : 123		R181895
Titanium	ND	mg/L		0.005		E200.8	01/27/23 00:26 / dck		ICPMS205-H_230126B : 123		R181895
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 18:48 / dck		ICPMS205-H_230125A : 114		R181863
Uranium	0.0007	mg/L		0.0002		E200.8	01/27/23 00:26 / dck		ICPMS205-H_230126B : 123		R181895
Vanadium	ND	mg/L		0.01		E200.8	01/27/23 00:26 / dck		ICPMS205-H_230126B : 123		R181895
Zinc	34.8	mg/L		0.008		E200.7	01/26/23 18:14 / slj		ICP2-HE_230126B : 74		R181887
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 18:48 / dck		ICPMS205-H_230125A : 114		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-04B  
**Lab ID:** H23010535-020  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/19/23 16:31  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.60	%				A1030 E	02/01/23 08:41 / SR		CALC_230201A : 1134		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-01A  
**Lab ID:** H23010535-021  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/23/23 13:40  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.0	s.u.	H	0.1		A4500-H B	01/25/23 14:29 / ljs		PHSC_101-H_230125A : 133		R181823
pH Measurement Temp	16.9	°C				A4500-H B	01/25/23 14:29 / ljs		PHSC_101-H_230125A : 133		R181823
Conductivity @ 25 C	1040	umhos/cm		5		A2510 B	01/25/23 14:29 / ljs		PHSC_101-H_230125A : 134		R181823
Solids, Total Dissolved TDS @ 180 C	749	mg/L	D	20		A2540 C	01/25/23 13:03 / JAR		I24 (14410200)_230125B : 29		TDS230125A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	9	mg/L		4		A2320 B	01/27/23 22:02 / ljs		PHSC_101-H_230127A : 188		R181890
Bicarbonate as HCO3	11	mg/L		4		A2320 B	01/27/23 22:02 / ljs		PHSC_101-H_230127A : 188		R181890
Carbonate as CO3	ND	mg/L		4		A2320 B	01/27/23 22:02 / ljs		PHSC_101-H_230127A : 188		R181890
Chloride	168	mg/L		1		E300.0	01/28/23 10:21 / ljs		IC METROHM_230127A : 90		R181923
Sulfate	252	mg/L		1		E300.0	01/28/23 10:21 / ljs		IC METROHM_230127A : 90		R181923
Bromide	0.7	mg/L		0.5		E300.0	01/28/23 10:21 / ljs		IC METROHM_230127A : 90		R181923
Fluoride	1.0	mg/L		0.1		E300.0	01/28/23 10:21 / ljs		IC METROHM_230127A : 90		R181923
Hardness as CaCO3	195	mg/L		1		A2340 B	01/25/23 19:25 / SR		CALC_230201A : 1147		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.6	mg/L		0.5		A5310 C	01/28/23 08:30 / eli-c		SUB-C291735 : 66		C_R291735
Organic Carbon, Total (TOC)	2.5	mg/L		0.5		A5310 C	01/27/23 21:13 / eli-c		SUB-C291735 : 30		C_R291735
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	7.44	mg/L	D	0.05		E353.2	01/27/23 15:31 / JAR		FIA203-HE_230127B : 75		R181919
<b>METALS, DISSOLVED</b>											
Aluminum	1.28	mg/L	D	0.03		E200.7	01/25/23 19:25 / slj		ICP2-HE_230125A : 114		R181835
Antimony	ND	mg/L		0.0005		E200.8	01/27/23 00:30 / dck		ICPMS205-H_230126B : 124		R181895
Arsenic	ND	mg/L		0.001		E200.8	01/27/23 00:30 / dck		ICPMS205-H_230126B : 124		R181895
Barium	0.029	mg/L		0.003		E200.8	01/27/23 00:30 / dck		ICPMS205-H_230126B : 124		R181895
Beryllium	0.0051	mg/L		0.0008		E200.8	01/27/23 00:30 / dck		ICPMS205-H_230126B : 124		R181895
Boron	0.46	mg/L		0.05		E200.7	01/26/23 18:18 / slj		ICP2-HE_230126B : 75		R181887
Cadmium	0.0958	mg/L		0.00003		E200.8	01/27/23 00:30 / dck		ICPMS205-H_230126B : 124		R181895
Cesium	ND	mg/L		0.01		E200.8	01/25/23 18:49 / dck		ICPMS205-H_230125A : 115		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-01A  
**Lab ID:** H23010535-021  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/23/23 13:40  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	55	mg/L		1		E200.7	01/25/23 19:25 / slj		ICP2-HE_230125A : 114		R181835
Chromium	ND	mg/L		0.005		E200.8	01/27/23 00:30 / dck		ICPMS205-H_230126B : 124		R181895
Cobalt	0.064	mg/L		0.005		E200.8	01/27/23 00:30 / dck		ICPMS205-H_230126B : 124		R181895
Copper	5.66	mg/L	D	0.01		E200.7	01/25/23 19:25 / slj		ICP2-HE_230125A : 114		R181835
Gallium	ND	mg/L		0.01		E200.8	01/25/23 18:49 / dck		ICPMS205-H_230125A : 115		R181863
Iron	0.06	mg/L		0.02		E200.8	01/27/23 00:30 / dck		ICPMS205-H_230126B : 124		R181895
Lead	0.0198	mg/L		0.0003		E200.8	01/27/23 00:30 / dck		ICPMS205-H_230126B : 124		R181895
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 18:49 / dck		ICPMS205-H_230125A : 115		R181863
Lithium	0.1	mg/L		0.1		E200.7	01/25/23 19:25 / slj		ICP2-HE_230125A : 114		R181835
Magnesium	14	mg/L		1		E200.7	01/25/23 19:25 / slj		ICP2-HE_230125A : 114		R181835
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 18:49 / dck		ICPMS205-H_230125A : 115		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 18:49 / dck		ICPMS205-H_230125A : 115		R181863
Manganese	9.71	mg/L		0.001		E200.7	01/25/23 19:25 / slj		ICP2-HE_230125A : 114		R181835
Molybdenum	ND	mg/L		0.001		E200.8	01/27/23 00:30 / dck		ICPMS205-H_230126B : 124		R181895
Nickel	0.045	mg/L		0.002		E200.8	01/27/23 00:30 / dck		ICPMS205-H_230126B : 124		R181895
Palladium	ND	mg/L		0.01		E200.8	01/25/23 18:49 / dck		ICPMS205-H_230125A : 115		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 18:49 / dck		ICPMS205-H_230125A : 115		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 18:49 / dck		ICPMS205-H_230125A : 115		R181863
Potassium	12	mg/L		1		E200.7	01/25/23 19:25 / slj		ICP2-HE_230125A : 114		R181835
Selenium	ND	mg/L		0.001		E200.8	01/27/23 00:30 / dck		ICPMS205-H_230126B : 124		R181895
Silver	0.0005	mg/L		0.0002		E200.8	01/27/23 00:30 / dck		ICPMS205-H_230126B : 124		R181895
Sodium	122	mg/L		1		E200.8	01/27/23 00:30 / dck		ICPMS205-H_230126B : 124		R181895
Strontium	0.50	mg/L		0.01		E200.8	01/27/23 00:30 / dck		ICPMS205-H_230126B : 124		R181895
Thallium	ND	mg/L		0.0002		E200.8	01/27/23 00:30 / dck		ICPMS205-H_230126B : 124		R181895
Thorium	ND	mg/L		0.005		E200.8	01/27/23 00:30 / dck		ICPMS205-H_230126B : 124		R181895
Tin	ND	mg/L		0.05		E200.8	01/27/23 00:30 / dck		ICPMS205-H_230126B : 124		R181895
Titanium	ND	mg/L		0.005		E200.8	01/27/23 00:30 / dck		ICPMS205-H_230126B : 124		R181895
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 18:49 / dck		ICPMS205-H_230125A : 115		R181863
Uranium	0.0045	mg/L		0.0002		E200.8	01/27/23 00:30 / dck		ICPMS205-H_230126B : 124		R181895
Vanadium	ND	mg/L		0.01		E200.8	01/27/23 00:30 / dck		ICPMS205-H_230126B : 124		R181895
Zinc	15.0	mg/L		0.008		E200.7	01/26/23 18:18 / slj		ICP2-HE_230126B : 75		R181887
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 18:49 / dck		ICPMS205-H_230125A : 115		R181863

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** D - Reporting Limit (RL) increased due to sample matrix





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-01A  
**Lab ID:** H23010535-021  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/23/23 13:40  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-3.70	%				A1030 E	02/01/23 08:42 / SR		CALC_230201A : 1145		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-01B  
**Lab ID:** H23010535-022  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/23/23 14:10  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.8	s.u.	H	0.1		A4500-H B	01/25/23 14:34 / ljs		PHSC_101-H_230125A : 137		R181823
pH Measurement Temp	16.7	°C				A4500-H B	01/25/23 14:34 / ljs		PHSC_101-H_230125A : 137		R181823
Conductivity @ 25 C	1530	umhos/cm		5		A2510 B	01/25/23 14:34 / ljs		PHSC_101-H_230125A : 138		R181823
Solids, Total Dissolved TDS @ 180 C	1380	mg/L	D	50		A2540 C	01/25/23 13:03 / JAR		I24 (14410200)_230125B : 30		TDS230125A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	52	mg/L		4		A2320 B	01/27/23 22:08 / ljs		PHSC_101-H_230127A : 190		R181890
Bicarbonate as HCO3	63	mg/L		4		A2320 B	01/27/23 22:08 / ljs		PHSC_101-H_230127A : 190		R181890
Carbonate as CO3	ND	mg/L		4		A2320 B	01/27/23 22:08 / ljs		PHSC_101-H_230127A : 190		R181890
Chloride	76	mg/L		1		E300.0	01/28/23 11:04 / ljs		IC METROHM_230127A : 93		R181923
Sulfate	765	mg/L		1		E300.0	01/28/23 11:04 / ljs		IC METROHM_230127A : 93		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 11:04 / ljs		IC METROHM_230127A : 93		R181923
Fluoride	0.2	mg/L		0.1		E300.0	01/28/23 11:04 / ljs		IC METROHM_230127A : 93		R181923
Hardness as CaCO3	591	mg/L		1		A2340 B	01/25/23 19:29 / SR		CALC_230201A : 1158		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.7	mg/L		0.5		A5310 C	01/28/23 09:26 / eli-c		SUB-C291735 : 69		C_R291735
Organic Carbon, Total (TOC)	1.8	mg/L		0.5		A5310 C	01/27/23 22:04 / eli-c		SUB-C291735 : 33		C_R291735
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	6.16	mg/L	D	0.05		E353.2	01/27/23 15:32 / JAR		FIA203-HE_230127B : 76		R181919
<b>METALS, DISSOLVED</b>											
Aluminum	0.010	mg/L		0.009		E200.8	01/27/23 00:35 / dck		ICPMS205-H_230126B : 125		R181895
Antimony	ND	mg/L		0.0005		E200.8	01/27/23 00:35 / dck		ICPMS205-H_230126B : 125		R181895
Arsenic	0.007	mg/L		0.001		E200.8	01/27/23 00:35 / dck		ICPMS205-H_230126B : 125		R181895
Barium	0.013	mg/L		0.003		E200.8	01/27/23 00:35 / dck		ICPMS205-H_230126B : 125		R181895
Beryllium	ND	mg/L		0.0008		E200.8	01/27/23 00:35 / dck		ICPMS205-H_230126B : 125		R181895
Boron	0.33	mg/L		0.05		E200.7	01/26/23 18:22 / slj		ICP2-HE_230126B : 76		R181887
Cadmium	0.202	mg/L		0.00003		E200.8	01/27/23 00:35 / dck		ICPMS205-H_230126B : 125		R181895
Cesium	ND	mg/L		0.01		E200.8	01/25/23 18:51 / dck		ICPMS205-H_230125A : 116		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-01B  
**Lab ID:** H23010535-022  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/23/23 14:10  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	159	mg/L		1		E200.7	01/25/23 19:29 / slj		ICP2-HE_230125A : 115		R181835
Chromium	ND	mg/L		0.005		E200.8	01/27/23 00:35 / dck		ICPMS205-H_230126B : 125		R181895
Cobalt	ND	mg/L		0.005		E200.8	01/27/23 00:35 / dck		ICPMS205-H_230126B : 125		R181895
Copper	2.62	mg/L	D	0.01		E200.7	01/25/23 19:29 / slj		ICP2-HE_230125A : 115		R181835
Gallium	ND	mg/L		0.01		E200.8	01/25/23 18:51 / dck		ICPMS205-H_230125A : 116		R181863
Iron	ND	mg/L		0.02		E200.8	01/27/23 00:35 / dck		ICPMS205-H_230126B : 125		R181895
Lead	ND	mg/L		0.0003		E200.8	01/27/23 00:35 / dck		ICPMS205-H_230126B : 125		R181895
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 18:51 / dck		ICPMS205-H_230125A : 116		R181863
Lithium	0.3	mg/L		0.1		E200.7	01/25/23 19:29 / slj		ICP2-HE_230125A : 115		R181835
Magnesium	47	mg/L		1		E200.7	01/25/23 19:29 / slj		ICP2-HE_230125A : 115		R181835
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 18:51 / dck		ICPMS205-H_230125A : 116		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 18:51 / dck		ICPMS205-H_230125A : 116		R181863
Manganese	39.4	mg/L		0.001		E200.7	01/25/23 19:29 / slj		ICP2-HE_230125A : 115		R181835
Molybdenum	ND	mg/L		0.001		E200.8	01/27/23 00:35 / dck		ICPMS205-H_230126B : 125		R181895
Nickel	0.107	mg/L		0.002		E200.8	01/27/23 00:35 / dck		ICPMS205-H_230126B : 125		R181895
Palladium	ND	mg/L		0.01		E200.8	01/25/23 18:51 / dck		ICPMS205-H_230125A : 116		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 18:51 / dck		ICPMS205-H_230125A : 116		R181863
Rubidium	0.02	mg/L		0.01		E200.8	01/25/23 18:51 / dck		ICPMS205-H_230125A : 116		R181863
Potassium	12	mg/L		1		E200.7	01/25/23 19:29 / slj		ICP2-HE_230125A : 115		R181835
Selenium	0.001	mg/L		0.001		E200.8	01/27/23 00:35 / dck		ICPMS205-H_230126B : 125		R181895
Silver	0.0005	mg/L		0.0002		E200.8	01/27/23 00:35 / dck		ICPMS205-H_230126B : 125		R181895
Sodium	99	mg/L		1		E200.7	01/25/23 19:29 / slj		ICP2-HE_230125A : 115		R181835
Strontium	1.28	mg/L		0.01		E200.7	01/25/23 19:29 / slj		ICP2-HE_230125A : 115		R181835
Thallium	ND	mg/L		0.0002		E200.8	01/27/23 00:35 / dck		ICPMS205-H_230126B : 125		R181895
Thorium	ND	mg/L		0.005		E200.8	01/27/23 00:35 / dck		ICPMS205-H_230126B : 125		R181895
Tin	ND	mg/L		0.05		E200.8	01/27/23 00:35 / dck		ICPMS205-H_230126B : 125		R181895
Titanium	ND	mg/L		0.005		E200.8	01/27/23 00:35 / dck		ICPMS205-H_230126B : 125		R181895
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 18:51 / dck		ICPMS205-H_230125A : 116		R181863
Uranium	0.0016	mg/L		0.0002		E200.8	01/27/23 00:35 / dck		ICPMS205-H_230126B : 125		R181895
Vanadium	ND	mg/L		0.01		E200.8	01/27/23 00:35 / dck		ICPMS205-H_230126B : 125		R181895
Zinc	28.3	mg/L		0.008		E200.7	01/26/23 18:22 / slj		ICP2-HE_230126B : 76		R181887
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 18:51 / dck		ICPMS205-H_230125A : 116		R181863

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** D - Reporting Limit (RL) increased due to sample matrix



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-01B  
**Lab ID:** H23010535-022  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/23/23 14:10  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.61	%				A1030 E	02/01/23 08:43 / SR		CALC_230201A : 1156		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-40R  
**Lab ID:** H23010535-023  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/23/23 13:00  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.1	s.u.	H	0.1		A4500-H B	01/25/23 14:36 / ljs		PHSC_101-H_230125A : 139		R181823
pH Measurement Temp	16.6	°C				A4500-H B	01/25/23 14:36 / ljs		PHSC_101-H_230125A : 139		R181823
Conductivity @ 25 C	2040	umhos/cm		5		A2510 B	01/25/23 14:36 / ljs		PHSC_101-H_230125A : 140		R181823
Solids, Total Dissolved TDS @ 180 C	2280	mg/L	D	100		A2540 C	01/25/23 13:03 / JAR		I24 (14410200)_230125B : 31		TDS230125A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	01/27/23 22:15 / ljs		PHSC_101-H_230127A : 192		R181890
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	01/27/23 22:15 / ljs		PHSC_101-H_230127A : 192		R181890
Carbonate as CO3	ND	mg/L		4		A2320 B	01/27/23 22:15 / ljs		PHSC_101-H_230127A : 192		R181890
Chloride	20	mg/L		1		E300.0	01/28/23 11:19 / ljs		IC METROHM_230127A : 94		R181923
Sulfate	1510	mg/L		1		E300.0	01/28/23 11:19 / ljs		IC METROHM_230127A : 94		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 11:19 / ljs		IC METROHM_230127A : 94		R181923
Fluoride	1.5	mg/L		0.1		E300.0	01/28/23 11:19 / ljs		IC METROHM_230127A : 94		R181923
Hardness as CaCO3	1080	mg/L		1		A2340 B	01/26/23 18:25 / SR		CALC_230201A : 1169		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.3	mg/L		0.5		A5310 C	01/28/23 09:42 / eli-c		SUB-C291735 : 70		C_R291735
Organic Carbon, Total (TOC)	1.3	mg/L		0.5		A5310 C	01/27/23 22:20 / eli-c		SUB-C291735 : 34		C_R291735
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	01/27/23 15:33 / JAR		FIA203-HE_230127B : 77		R181919
<b>METALS, DISSOLVED</b>											
Aluminum	0.433	mg/L		0.009		E200.8	01/27/23 00:40 / dck		ICPMS205-H_230126B : 126		R181895
Antimony	ND	mg/L		0.0005		E200.8	01/27/23 00:40 / dck		ICPMS205-H_230126B : 126		R181895
Arsenic	ND	mg/L		0.001		E200.8	01/27/23 00:40 / dck		ICPMS205-H_230126B : 126		R181895
Barium	0.007	mg/L		0.003		E200.8	01/27/23 00:40 / dck		ICPMS205-H_230126B : 126		R181895
Beryllium	ND	mg/L		0.0008		E200.8	01/27/23 00:40 / dck		ICPMS205-H_230126B : 126		R181895
Boron	0.08	mg/L		0.05		E200.7	01/26/23 18:25 / slj		ICP2-HE_230126B : 77		R181887
Cadmium	0.106	mg/L		0.00003		E200.8	01/27/23 00:40 / dck		ICPMS205-H_230126B : 126		R181895
Cesium	ND	mg/L		0.01		E200.8	01/25/23 18:52 / dck		ICPMS205-H_230125A : 117		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-40R  
**Lab ID:** H23010535-023  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/23/23 13:00  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	309	mg/L		1		E200.7	01/26/23 18:25 / slj		ICP2-HE_230126B : 77		R181887
Chromium	ND	mg/L		0.005		E200.8	01/27/23 00:40 / dck		ICPMS205-H_230126B : 126		R181895
Cobalt	0.314	mg/L		0.005		E200.8	01/27/23 00:40 / dck		ICPMS205-H_230126B : 126		R181895
Copper	0.161	mg/L		0.002		E200.8	01/27/23 00:40 / dck		ICPMS205-H_230126B : 126		R181895
Gallium	ND	mg/L		0.01		E200.8	01/25/23 18:52 / dck		ICPMS205-H_230125A : 117		R181863
Iron	82.9	mg/L		0.02		E200.7	01/25/23 19:32 / slj		ICP2-HE_230125A : 116		R181835
Lead	0.0010	mg/L		0.0003		E200.8	01/27/23 00:40 / dck		ICPMS205-H_230126B : 126		R181895
Lanthanum	ND	mg/L		0.01		E200.8	01/25/23 18:52 / dck		ICPMS205-H_230125A : 117		R181863
Lithium	0.3	mg/L		0.1		E200.7	01/25/23 19:32 / slj		ICP2-HE_230125A : 116		R181835
Magnesium	74	mg/L		1		E200.7	01/25/23 19:32 / slj		ICP2-HE_230125A : 116		R181835
Neodymium	ND	mg/L		0.005		E200.8	01/25/23 18:52 / dck		ICPMS205-H_230125A : 117		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 18:52 / dck		ICPMS205-H_230125A : 117		R181863
Manganese	78.2	mg/L		0.001		E200.7	01/25/23 19:32 / slj		ICP2-HE_230125A : 116		R181835
Molybdenum	0.001	mg/L		0.001		E200.8	01/27/23 00:40 / dck		ICPMS205-H_230126B : 126		R181895
Nickel	0.179	mg/L		0.002		E200.8	01/27/23 00:40 / dck		ICPMS205-H_230126B : 126		R181895
Palladium	ND	mg/L		0.01		E200.8	01/25/23 18:52 / dck		ICPMS205-H_230125A : 117		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 18:52 / dck		ICPMS205-H_230125A : 117		R181863
Rubidium	0.08	mg/L		0.01		E200.8	01/25/23 18:52 / dck		ICPMS205-H_230125A : 117		R181863
Potassium	19	mg/L		1		E200.7	01/25/23 19:32 / slj		ICP2-HE_230125A : 116		R181835
Selenium	ND	mg/L		0.001		E200.8	01/27/23 00:40 / dck		ICPMS205-H_230126B : 126		R181895
Silver	ND	mg/L		0.0002		E200.8	01/27/23 00:40 / dck		ICPMS205-H_230126B : 126		R181895
Sodium	38	mg/L		1		E200.7	01/25/23 19:32 / slj		ICP2-HE_230125A : 116		R181835
Strontium	1.93	mg/L		0.01		E200.7	01/25/23 19:32 / slj		ICP2-HE_230125A : 116		R181835
Thallium	0.0006	mg/L		0.0002		E200.8	01/27/23 00:40 / dck		ICPMS205-H_230126B : 126		R181895
Thorium	ND	mg/L		0.005		E200.8	01/27/23 00:40 / dck		ICPMS205-H_230126B : 126		R181895
Tin	ND	mg/L		0.05		E200.8	01/27/23 00:40 / dck		ICPMS205-H_230126B : 126		R181895
Titanium	ND	mg/L		0.005		E200.8	01/27/23 00:40 / dck		ICPMS205-H_230126B : 126		R181895
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 18:52 / dck		ICPMS205-H_230125A : 117		R181863
Uranium	0.0010	mg/L		0.0002		E200.8	01/27/23 00:40 / dck		ICPMS205-H_230126B : 126		R181895
Vanadium	ND	mg/L		0.01		E200.8	01/27/23 00:40 / dck		ICPMS205-H_230126B : 126		R181895
Zinc	35.5	mg/L		0.008		E200.7	01/26/23 18:25 / slj		ICP2-HE_230126B : 77		R181887
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 18:52 / dck		ICPMS205-H_230125A : 117		R181863

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-40R  
**Lab ID:** H23010535-023  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/23/23 13:00  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-2.91	%				A1030 E	02/01/23 08:43 / SR		CALC_230201A : 1167		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-09  
**Lab ID:** H23010535-024  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/20/23 15:00  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.3	s.u.	H	0.1		A4500-H B	01/25/23 14:38 / ljs		PHSC_101-H_230125A : 141		R181823
pH Measurement Temp	16.4	°C				A4500-H B	01/25/23 14:38 / ljs		PHSC_101-H_230125A : 141		R181823
Conductivity @ 25 C	1340	umhos/cm		5		A2510 B	01/25/23 14:38 / ljs		PHSC_101-H_230125A : 142		R181823
Solids, Total Dissolved TDS @ 180 C	1260	mg/L	D	50		A2540 C	01/25/23 13:03 / JAR		I24 (14410200)_230125B : 32		TDS230125A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	01/27/23 22:19 / ljs		PHSC_101-H_230127A : 194		R181890
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	01/27/23 22:19 / ljs		PHSC_101-H_230127A : 194		R181890
Carbonate as CO3	ND	mg/L		4		A2320 B	01/27/23 22:19 / ljs		PHSC_101-H_230127A : 194		R181890
Chloride	47	mg/L		1		E300.0	01/28/23 11:33 / ljs		IC METROHM_230127A : 95		R181923
Sulfate	760	mg/L		1		E300.0	01/28/23 11:33 / ljs		IC METROHM_230127A : 95		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 11:33 / ljs		IC METROHM_230127A : 95		R181923
Fluoride	3.5	mg/L		0.1		E300.0	01/28/23 11:33 / ljs		IC METROHM_230127A : 95		R181923
Hardness as CaCO3	608	mg/L		1		A2340 B	01/26/23 18:29 / SR		CALC_230201A : 1180		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.0	mg/L		0.5		A5310 C	01/28/23 09:58 / eli-c		SUB-C291735 : 71		C_R291735
Organic Carbon, Total (TOC)	1.1	mg/L		0.5		A5310 C	01/27/23 22:35 / eli-c		SUB-C291735 : 35		C_R291735
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.23	mg/L		0.01		E353.2	01/27/23 15:34 / JAR		FIA203-HE_230127B : 78		R181919
<b>METALS, DISSOLVED</b>											
Aluminum	4.81	mg/L	D	0.03		E200.7	01/25/23 19:36 / slj		ICP2-HE_230125A : 117		R181835
Antimony	ND	mg/L		0.0005		E200.8	01/27/23 01:03 / dck		ICPMS205-H_230126B : 131		R181895
Arsenic	ND	mg/L		0.001		E200.8	01/27/23 01:03 / dck		ICPMS205-H_230126B : 131		R181895
Barium	0.008	mg/L		0.003		E200.8	01/27/23 01:03 / dck		ICPMS205-H_230126B : 131		R181895
Beryllium	0.0110	mg/L		0.0008		E200.8	01/27/23 01:03 / dck		ICPMS205-H_230126B : 131		R181895
Boron	0.14	mg/L		0.05		E200.7	01/26/23 18:29 / slj		ICP2-HE_230126B : 78		R181887
Cadmium	0.111	mg/L		0.00003		E200.8	01/27/23 01:03 / dck		ICPMS205-H_230126B : 131		R181895
Cesium	ND	mg/L		0.01		E200.8	01/25/23 18:54 / dck		ICPMS205-H_230125A : 118		R181863

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-09  
**Lab ID:** H23010535-024  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/20/23 15:00  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	177	mg/L		1		E200.7	01/26/23 18:29 / slj		ICP2-HE_230126B : 78		R181887
Chromium	ND	mg/L		0.005		E200.8	01/27/23 01:03 / dck		ICPMS205-H_230126B : 131		R181895
Cobalt	0.210	mg/L		0.005		E200.8	01/27/23 01:03 / dck		ICPMS205-H_230126B : 131		R181895
Copper	10.6	mg/L	D	0.01		E200.7	01/25/23 19:36 / slj		ICP2-HE_230125A : 117		R181835
Gallium	ND	mg/L		0.01		E200.8	01/25/23 18:54 / dck		ICPMS205-H_230125A : 118		R181863
Iron	0.21	mg/L		0.02		E200.8	01/27/23 01:03 / dck		ICPMS205-H_230126B : 131		R181895
Lead	0.0032	mg/L		0.0003		E200.8	01/27/23 01:03 / dck		ICPMS205-H_230126B : 131		R181895
Lanthanum	0.05	mg/L		0.01		E200.8	01/25/23 18:54 / dck		ICPMS205-H_230125A : 118		R181863
Lithium	0.3	mg/L		0.1		E200.7	01/25/23 19:36 / slj		ICP2-HE_230125A : 117		R181835
Magnesium	41	mg/L		1		E200.7	01/25/23 19:36 / slj		ICP2-HE_230125A : 117		R181835
Neodymium	0.028	mg/L		0.005		E200.8	01/25/23 18:54 / dck		ICPMS205-H_230125A : 118		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 18:54 / dck		ICPMS205-H_230125A : 118		R181863
Manganese	31.8	mg/L		0.001		E200.7	01/25/23 19:36 / slj		ICP2-HE_230125A : 117		R181835
Molybdenum	ND	mg/L		0.001		E200.8	01/27/23 01:03 / dck		ICPMS205-H_230126B : 131		R181895
Nickel	0.099	mg/L		0.002		E200.8	01/27/23 01:03 / dck		ICPMS205-H_230126B : 131		R181895
Palladium	ND	mg/L		0.01		E200.8	01/25/23 18:54 / dck		ICPMS205-H_230125A : 118		R181863
Praseodymium	ND	mg/L		0.01		E200.8	01/25/23 18:54 / dck		ICPMS205-H_230125A : 118		R181863
Rubidium	0.03	mg/L		0.01		E200.8	01/25/23 18:54 / dck		ICPMS205-H_230125A : 118		R181863
Potassium	12	mg/L		1		E200.7	01/25/23 19:36 / slj		ICP2-HE_230125A : 117		R181835
Selenium	ND	mg/L		0.001		E200.8	01/27/23 01:03 / dck		ICPMS205-H_230126B : 131		R181895
Silver	ND	mg/L		0.0002		E200.8	01/27/23 01:03 / dck		ICPMS205-H_230126B : 131		R181895
Sodium	36	mg/L		1		E200.8	01/27/23 01:03 / dck		ICPMS205-H_230126B : 131		R181895
Strontium	0.91	mg/L		0.01		E200.7	01/25/23 19:36 / slj		ICP2-HE_230125A : 117		R181835
Thallium	ND	mg/L		0.0002		E200.8	01/27/23 01:03 / dck		ICPMS205-H_230126B : 131		R181895
Thorium	ND	mg/L		0.005		E200.8	01/27/23 01:03 / dck		ICPMS205-H_230126B : 131		R181895
Tin	ND	mg/L		0.05		E200.8	01/27/23 01:03 / dck		ICPMS205-H_230126B : 131		R181895
Titanium	ND	mg/L		0.005		E200.8	01/27/23 01:03 / dck		ICPMS205-H_230126B : 131		R181895
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 18:54 / dck		ICPMS205-H_230125A : 118		R181863
Uranium	0.0207	mg/L		0.0002		E200.8	01/27/23 01:03 / dck		ICPMS205-H_230126B : 131		R181895
Vanadium	ND	mg/L		0.01		E200.8	01/27/23 01:03 / dck		ICPMS205-H_230126B : 131		R181895
Zinc	33.6	mg/L		0.008		E200.7	01/26/23 18:29 / slj		ICP2-HE_230126B : 78		R181887
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 18:54 / dck		ICPMS205-H_230125A : 118		R181863

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** D - Reporting Limit (RL) increased due to sample matrix





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-09  
**Lab ID:** H23010535-024  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/20/23 15:00  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.94	%				A1030 E	02/01/23 08:44 / SR		CALC_230201A : 1178		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-08  
**Lab ID:** H23010535-025  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/24/23 13:00  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	3.4	s.u.	H	0.1		A4500-H B	01/25/23 14:41 / ljs		PHSC_101-H_230125A : 143		R181823
pH Measurement Temp	16.8	°C				A4500-H B	01/25/23 14:41 / ljs		PHSC_101-H_230125A : 143		R181823
Conductivity @ 25 C	4820	umhos/cm		5		A2510 B	01/25/23 14:41 / ljs		PHSC_101-H_230125A : 144		R181823
Solids, Total Dissolved TDS @ 180 C	6890	mg/L	D	200		A2540 C	01/25/23 13:03 / JAR		I24 (14410200)_230125B : 33		TDS230125A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	01/27/23 22:22 / ljs		PHSC_101-H_230127A : 196		R181890
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	01/27/23 22:22 / ljs		PHSC_101-H_230127A : 196		R181890
Carbonate as CO3	ND	mg/L		4		A2320 B	01/27/23 22:22 / ljs		PHSC_101-H_230127A : 196		R181890
Chloride	80	mg/L		1		E300.0	01/28/23 11:47 / ljs		IC METROHM_230127A : 96		R181923
Sulfate	4330	mg/L		1		E300.0	01/28/23 11:47 / ljs		IC METROHM_230127A : 96		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 11:47 / ljs		IC METROHM_230127A : 96		R181923
Fluoride	8.3	mg/L	*	0.1		E300.0	01/28/23 11:47 / ljs		IC METROHM_230127A : 96		R181923
Hardness as CaCO3	2080	mg/L		1		A2340 B	01/25/23 19:40 / SR		CALC_230207A : 36		R182129
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	3.1	mg/L		0.5		A5310 C	01/28/23 10:16 / eli-c		SUB-C291735 : 72		C_R291735
Organic Carbon, Total (TOC)	3.3	mg/L		0.5		A5310 C	01/27/23 22:54 / eli-c		SUB-C291735 : 36		C_R291735
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	01/27/23 15:38 / JAR		FIA203-HE_230127B : 81		R181919
<b>METALS, DISSOLVED</b>											
Aluminum	40.4	mg/L	D	0.03		E200.7	01/25/23 19:40 / slj		ICP2-HE_230125A : 118		R181835
Antimony	ND	mg/L		0.0005		E200.8	01/27/23 01:07 / dck		ICPMS205-H_230126B : 132		R181895
Arsenic	0.007	mg/L		0.001		E200.8	01/27/23 01:07 / dck		ICPMS205-H_230126B : 132		R181895
Barium	ND	mg/L		0.003		E200.8	01/27/23 01:07 / dck		ICPMS205-H_230126B : 132		R181895
Beryllium	0.0273	mg/L		0.0008		E200.8	01/27/23 01:07 / dck		ICPMS205-H_230126B : 132		R181895
Boron	0.05	mg/L		0.05		E200.7	01/26/23 18:33 / slj		ICP2-HE_230126B : 79		R181887
Cadmium	0.184	mg/L		0.00003		E200.8	01/27/23 01:07 / dck		ICPMS205-H_230126B : 132		R181895
Cesium	ND	mg/L		0.01		E200.8	01/25/23 18:55 / dck		ICPMS205-H_230125A : 119		R181863

**Report Definitions:**  
 RL - Analyte Reporting Limit  
 \* - The result exceeds the Maximum Contaminant Level (MCL)

MCL - Maximum Contaminant Level  
 D - Reporting Limit (RL) increased due to sample matrix

ND - Not detected at the Reporting Limit (RL)  
 H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-08  
**Lab ID:** H23010535-025  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/24/23 13:00  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	415	mg/L		1		E200.7	01/25/23 19:40 / slj		ICP2-HE_230125A : 118		R181835
Chromium	ND	mg/L		0.005		E200.8	01/27/23 01:07 / dck		ICPMS205-H_230126B : 132		R181895
Cobalt	0.467	mg/L		0.005		E200.8	01/27/23 01:07 / dck		ICPMS205-H_230126B : 132		R181895
Copper	15.4	mg/L	D	0.01		E200.7	01/25/23 19:40 / slj		ICP2-HE_230125A : 118		R181835
Gallium	0.02	mg/L		0.01		E200.8	01/25/23 18:55 / dck		ICPMS205-H_230125A : 119		R181863
Iron	250	mg/L		0.02		E200.7	01/25/23 19:40 / slj		ICP2-HE_230125A : 118		R181835
Lead	0.0054	mg/L		0.0003		E200.8	01/27/23 01:07 / dck		ICPMS205-H_230126B : 132		R181895
Lanthanum	0.18	mg/L		0.01		E200.8	01/25/23 18:55 / dck		ICPMS205-H_230125A : 119		R181863
Lithium	0.8	mg/L		0.1		E200.7	01/25/23 19:40 / slj		ICP2-HE_230125A : 118		R181835
Magnesium	253	mg/L		1		E200.7	01/25/23 19:40 / slj		ICP2-HE_230125A : 118		R181835
Neodymium	0.142	mg/L		0.005		E200.8	01/25/23 18:55 / dck		ICPMS205-H_230125A : 119		R181863
Niobium	ND	mg/L		0.01		E200.8	01/25/23 18:55 / dck		ICPMS205-H_230125A : 119		R181863
Manganese	393	mg/L	D	0.01		E200.7	01/26/23 18:33 / slj		ICP2-HE_230126B : 79		R181887
Molybdenum	ND	mg/L		0.001		E200.8	01/27/23 01:07 / dck		ICPMS205-H_230126B : 132		R181895
Nickel	0.238	mg/L		0.002		E200.8	01/27/23 01:07 / dck		ICPMS205-H_230126B : 132		R181895
Palladium	ND	mg/L		0.01		E200.8	01/25/23 18:55 / dck		ICPMS205-H_230125A : 119		R181863
Praseodymium	0.04	mg/L		0.01		E200.8	01/25/23 18:55 / dck		ICPMS205-H_230125A : 119		R181863
Rubidium	ND	mg/L		0.01		E200.8	01/25/23 18:55 / dck		ICPMS205-H_230125A : 119		R181863
Potassium	9	mg/L		1		E200.7	01/25/23 19:40 / slj		ICP2-HE_230125A : 118		R181835
Selenium	ND	mg/L		0.001		E200.8	01/27/23 01:07 / dck		ICPMS205-H_230126B : 132		R181895
Silver	ND	mg/L		0.0002		E200.8	01/27/23 01:07 / dck		ICPMS205-H_230126B : 132		R181895
Sodium	76	mg/L		1		E200.7	01/25/23 19:40 / slj		ICP2-HE_230125A : 118		R181835
Strontium	3.19	mg/L		0.01		E200.7	01/25/23 19:40 / slj		ICP2-HE_230125A : 118		R181835
Thallium	ND	mg/L		0.0002		E200.8	01/27/23 01:07 / dck		ICPMS205-H_230126B : 132		R181895
Thorium	0.011	mg/L		0.005		E200.8	01/27/23 01:07 / dck		ICPMS205-H_230126B : 132		R181895
Tin	ND	mg/L		0.05		E200.8	01/27/23 01:07 / dck		ICPMS205-H_230126B : 132		R181895
Titanium	ND	mg/L		0.005		E200.8	01/27/23 01:07 / dck		ICPMS205-H_230126B : 132		R181895
Tungsten	ND	mg/L		0.1		E200.8	01/25/23 18:55 / dck		ICPMS205-H_230125A : 119		R181863
Uranium	0.556	mg/L		0.0002		E200.8	01/27/23 01:07 / dck		ICPMS205-H_230126B : 132		R181895
Vanadium	ND	mg/L		0.01		E200.8	01/27/23 01:07 / dck		ICPMS205-H_230126B : 132		R181895
Zinc	371	mg/L	D	0.03		E200.7	01/26/23 18:33 / slj		ICP2-HE_230126B : 79		R181887
Zirconium	ND	mg/L		0.005		E200.8	01/25/23 18:55 / dck		ICPMS205-H_230125A : 119		R181863

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** D - Reporting Limit (RL) increased due to sample matrix



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-08  
**Lab ID:** H23010535-025  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/24/23 13:00  
**Report Date:** 02/21/23  
**Date Received:** 01/25/23  
**Revised Date:** 04/10/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-10.6	%				A1030 E	02/07/23 15:34 / SR		CALC_230207A : 34		R182129

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010535

BatchID: C\_R291735

Date: 10-Apr-23

Run ID :Run Order: <b>SUB-C291735: 1</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MBLK</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/27/23 12:28</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	ND	0.2									
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Associated samples: H23010535-001D, H23010535-001E, H23010535-002D, H23010535-002E, H23010535-003D, H23010535-003E, H23010535-004E, H23010535-005D, H23010535-005E, H23010535-006D, H23010535-006E, H23010535-007D, H23010535-007E, H23010535-008D, H23010535-008E, H23010535-009D, H23010535-009E, H23010535-010D, H23010535-010E, H23010535-011D, H23010535-011E, H23010535-012D, H23010535-012E, H23010535-013D, H23010535-013E, H23010535-014D, H23010535-014E, H23010535-015D, H23010535-015E, H23010535-016D, H23010535-016E, H23010535-017D, H23010535-017E, H23010535-018D, H23010535-018E, H23010535-019D, H23010535-019E, H23010535-020D, H23010535-020E, H23010535-021D, H23010535-021E, H23010535-022D, H23010535-022E, H23010535-023D, H23010535-023E, H23010535-024D, H23010535-024E, H23010535-025D, H23010535-025E

Run ID :Run Order: <b>SUB-C291735: 2</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS-11923</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/27/23 12:47</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	4.99	0.50	5	0	100	91	111	0			
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Associated samples: H23010535-001D, H23010535-001E, H23010535-002D, H23010535-002E, H23010535-003D, H23010535-003E, H23010535-004E, H23010535-005D, H23010535-005E, H23010535-006D, H23010535-006E, H23010535-007D, H23010535-007E, H23010535-008D, H23010535-008E, H23010535-009D, H23010535-009E, H23010535-010D, H23010535-010E, H23010535-011D, H23010535-011E, H23010535-012D, H23010535-012E, H23010535-013D, H23010535-013E, H23010535-014D, H23010535-014E, H23010535-015D, H23010535-015E, H23010535-016D, H23010535-016E, H23010535-017D, H23010535-017E, H23010535-018D, H23010535-018E, H23010535-019D, H23010535-019E, H23010535-020D, H23010535-020E, H23010535-021D, H23010535-021E, H23010535-022D, H23010535-022E, H23010535-023D, H23010535-023E, H23010535-024D, H23010535-024E, H23010535-025D, H23010535-025E

Run ID :Run Order: <b>SUB-C291735: 3</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV-11940</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/27/23 13:03</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	5.10	0.50	5	0	102	90	110	0			
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Associated samples: H23010535-001D, H23010535-001E, H23010535-002D, H23010535-002E, H23010535-003D, H23010535-003E, H23010535-004E, H23010535-005D, H23010535-005E, H23010535-006D, H23010535-006E, H23010535-007D, H23010535-007E, H23010535-008D, H23010535-008E, H23010535-009D, H23010535-009E, H23010535-010D, H23010535-010E, H23010535-011D, H23010535-011E, H23010535-012D, H23010535-012E, H23010535-013D, H23010535-013E, H23010535-014D, H23010535-014E, H23010535-015D, H23010535-015E, H23010535-016D, H23010535-016E, H23010535-017D, H23010535-017E, H23010535-018D, H23010535-018E, H23010535-019D, H23010535-019E, H23010535-020D, H23010535-020E, H23010535-021D, H23010535-021E, H23010535-022D, H23010535-022E, H23010535-023D, H23010535-023E, H23010535-024D, H23010535-024E, H23010535-025D, H23010535-025E

Run ID :Run Order: <b>SUB-C291735: 5</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23010535-001E</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/27/23 13:34</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	6.06	0.50	5	1.059	100	91	111	0			
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**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010535

BatchID: C\_R291735

Date: 10-Apr-23

Run ID :Run Order: SUB-C291735: 5	SampType: Sample Matrix Spike	Lab ID: H23010535-001E	Method: A5310 C								
Analysis Date: 01/27/23 13:34	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23010535-001D, H23010535-001E, H23010535-002D, H23010535-002E, H23010535-003D, H23010535-003E, H23010535-004E, H23010535-005D, H23010535-005E, H23010535-006D, H23010535-006E, H23010535-007D, H23010535-007E, H23010535-008D, H23010535-008E, H23010535-009D, H23010535-009E, H23010535-010D, H23010535-010E, H23010535-011D, H23010535-011E, H23010535-012D, H23010535-012E, H23010535-013D, H23010535-013E, H23010535-014D, H23010535-014E, H23010535-015D, H23010535-015E, H23010535-016D, H23010535-016E, H23010535-017D, H23010535-017E, H23010535-018D, H23010535-018E, H23010535-019D, H23010535-019E, H23010535-020D, H23010535-020E, H23010535-021D, H23010535-021E, H23010535-022D, H23010535-022E, H23010535-023D, H23010535-023E, H23010535-024D, H23010535-024E, H23010535-025D, H23010535-025E

Run ID :Run Order: SUB-C291735: 6	SampType: Sample Matrix Spike Duplicate	Lab ID: H23010535-001E	Method: A5310 C								
Analysis Date: 01/27/23 13:50	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	5.93	0.50	5	1.059	98	91	111	6.06	2.1	20
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Associated samples: H23010535-001D, H23010535-001E, H23010535-002D, H23010535-002E, H23010535-003D, H23010535-003E, H23010535-004E, H23010535-005D, H23010535-005E, H23010535-006D, H23010535-006E, H23010535-007D, H23010535-007E, H23010535-008D, H23010535-008E, H23010535-009D, H23010535-009E, H23010535-010D, H23010535-010E, H23010535-011D, H23010535-011E, H23010535-012D, H23010535-012E, H23010535-013D, H23010535-013E, H23010535-014D, H23010535-014E, H23010535-015D, H23010535-015E, H23010535-016D, H23010535-016E, H23010535-017D, H23010535-017E, H23010535-018D, H23010535-018E, H23010535-019D, H23010535-019E, H23010535-020D, H23010535-020E, H23010535-021D, H23010535-021E, H23010535-022D, H23010535-022E, H23010535-023D, H23010535-023E, H23010535-024D, H23010535-024E, H23010535-025D, H23010535-025E

Run ID :Run Order: SUB-C291735: 16	SampType: Continuing Calibration Verification Standar	Lab ID: CCV-11940	Method: A5310 C								
Analysis Date: 01/27/23 16:38	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	5.13	0.50	5	0	103	90	110	0
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Associated samples: H23010535-001D, H23010535-001E, H23010535-002D, H23010535-002E, H23010535-003D, H23010535-003E, H23010535-004E, H23010535-005D, H23010535-005E, H23010535-006D, H23010535-006E, H23010535-007D, H23010535-007E, H23010535-008D, H23010535-008E, H23010535-009D, H23010535-009E, H23010535-010D, H23010535-010E, H23010535-011D, H23010535-011E, H23010535-012D, H23010535-012E, H23010535-013D, H23010535-013E, H23010535-014D, H23010535-014E, H23010535-015D, H23010535-015E, H23010535-016D, H23010535-016E, H23010535-017D, H23010535-017E, H23010535-018D, H23010535-018E, H23010535-019D, H23010535-019E, H23010535-020D, H23010535-020E, H23010535-021D, H23010535-021E, H23010535-022D, H23010535-022E, H23010535-023D, H23010535-023E, H23010535-024D, H23010535-024E, H23010535-025D, H23010535-025E

Run ID :Run Order: SUB-C291735: 18	SampType: Sample Matrix Spike	Lab ID: H23010535-011E	Method: A5310 C								
Analysis Date: 01/27/23 17:24	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	6.24	0.50	5	1.349	98	91	111	0
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**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010535

BatchID: C\_R291735

Date: 10-Apr-23

Run ID :Run Order: <b>SUB-C291735: 18</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23010535-011E</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/27/23 17:24</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23010535-001D, H23010535-001E, H23010535-002D, H23010535-002E, H23010535-003D, H23010535-003E, H23010535-004E, H23010535-005D, H23010535-005E, H23010535-006D, H23010535-006E, H23010535-007D, H23010535-007E, H23010535-008D, H23010535-008E, H23010535-009D, H23010535-009E, H23010535-010D, H23010535-010E, H23010535-011D, H23010535-011E, H23010535-012D, H23010535-012E, H23010535-013D, H23010535-013E, H23010535-014D, H23010535-014E, H23010535-015D, H23010535-015E, H23010535-016D, H23010535-016E, H23010535-017D, H23010535-017E, H23010535-018D, H23010535-018E, H23010535-019D, H23010535-019E, H23010535-020D, H23010535-020E, H23010535-021D, H23010535-021E, H23010535-022D, H23010535-022E, H23010535-023D, H23010535-023E, H23010535-024D, H23010535-024E, H23010535-025D, H23010535-025E

Run ID :Run Order: <b>SUB-C291735: 19</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23010535-011E</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/27/23 17:44</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	6.33	0.50	5	1.349	100	91	111	6.241	1.3	20
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Associated samples: H23010535-001D, H23010535-001E, H23010535-002D, H23010535-002E, H23010535-003D, H23010535-003E, H23010535-004E, H23010535-005D, H23010535-005E, H23010535-006D, H23010535-006E, H23010535-007D, H23010535-007E, H23010535-008D, H23010535-008E, H23010535-009D, H23010535-009E, H23010535-010D, H23010535-010E, H23010535-011D, H23010535-011E, H23010535-012D, H23010535-012E, H23010535-013D, H23010535-013E, H23010535-014D, H23010535-014E, H23010535-015D, H23010535-015E, H23010535-016D, H23010535-016E, H23010535-017D, H23010535-017E, H23010535-018D, H23010535-018E, H23010535-019D, H23010535-019E, H23010535-020D, H23010535-020E, H23010535-021D, H23010535-021E, H23010535-022D, H23010535-022E, H23010535-023D, H23010535-023E, H23010535-024D, H23010535-024E, H23010535-025D, H23010535-025E

Run ID :Run Order: <b>SUB-C291735: 29</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV-11940</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/27/23 20:42</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	5.02	0.50	5	0	100	90	110	0
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Associated samples: H23010535-001D, H23010535-001E, H23010535-002D, H23010535-002E, H23010535-003D, H23010535-003E, H23010535-004E, H23010535-005D, H23010535-005E, H23010535-006D, H23010535-006E, H23010535-007D, H23010535-007E, H23010535-008D, H23010535-008E, H23010535-009D, H23010535-009E, H23010535-010D, H23010535-010E, H23010535-011D, H23010535-011E, H23010535-012D, H23010535-012E, H23010535-013D, H23010535-013E, H23010535-014D, H23010535-014E, H23010535-015D, H23010535-015E, H23010535-016D, H23010535-016E, H23010535-017D, H23010535-017E, H23010535-018D, H23010535-018E, H23010535-019D, H23010535-019E, H23010535-020D, H23010535-020E, H23010535-021D, H23010535-021E, H23010535-022D, H23010535-022E, H23010535-023D, H23010535-023E, H23010535-024D, H23010535-024E, H23010535-025D, H23010535-025E

Run ID :Run Order: <b>SUB-C291735: 31</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23010535-021E</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/27/23 21:30</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	7.54	0.50	5	2.495	101	91	111	0
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**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010535

BatchID: C\_R291735

Date: 10-Apr-23

Run ID :Run Order: <b>SUB-C291735: 31</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23010535-021E</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/27/23 21:30</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23010535-001D, H23010535-001E, H23010535-002D, H23010535-002E, H23010535-003D, H23010535-003E, H23010535-004E, H23010535-005D, H23010535-005E, H23010535-006D, H23010535-006E, H23010535-007D, H23010535-007E, H23010535-008D, H23010535-008E, H23010535-009D, H23010535-009E, H23010535-010D, H23010535-010E, H23010535-011D, H23010535-011E, H23010535-012D, H23010535-012E, H23010535-013D, H23010535-013E, H23010535-014D, H23010535-014E, H23010535-015D, H23010535-015E, H23010535-016D, H23010535-016E, H23010535-017D, H23010535-017E, H23010535-018D, H23010535-018E, H23010535-019D, H23010535-019E, H23010535-020D, H23010535-020E, H23010535-021D, H23010535-021E, H23010535-022D, H23010535-022E, H23010535-023D, H23010535-023E, H23010535-024D, H23010535-024E, H23010535-025D, H23010535-025E

Run ID :Run Order: <b>SUB-C291735: 32</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23010535-021E</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/27/23 21:47</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	7.52	0.50	5	2.495	<b>101</b>	91	111	7.538	<b>0.2</b>	20
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Associated samples: H23010535-001D, H23010535-001E, H23010535-002D, H23010535-002E, H23010535-003D, H23010535-003E, H23010535-004E, H23010535-005D, H23010535-005E, H23010535-006D, H23010535-006E, H23010535-007D, H23010535-007E, H23010535-008D, H23010535-008E, H23010535-009D, H23010535-009E, H23010535-010D, H23010535-010E, H23010535-011D, H23010535-011E, H23010535-012D, H23010535-012E, H23010535-013D, H23010535-013E, H23010535-014D, H23010535-014E, H23010535-015D, H23010535-015E, H23010535-016D, H23010535-016E, H23010535-017D, H23010535-017E, H23010535-018D, H23010535-018E, H23010535-019D, H23010535-019E, H23010535-020D, H23010535-020E, H23010535-021D, H23010535-021E, H23010535-022D, H23010535-022E, H23010535-023D, H23010535-023E, H23010535-024D, H23010535-024E, H23010535-025D, H23010535-025E

Run ID :Run Order: <b>SUB-C291735: 37</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MBLK</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/27/23 23:41</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Dissolved (DOC)	ND	0.4
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Associated samples: H23010535-001D, H23010535-001E, H23010535-002D, H23010535-002E, H23010535-003D, H23010535-003E, H23010535-004E, H23010535-005D, H23010535-005E, H23010535-006D, H23010535-006E, H23010535-007D, H23010535-007E, H23010535-008D, H23010535-008E, H23010535-009D, H23010535-009E, H23010535-010D, H23010535-010E, H23010535-011D, H23010535-011E, H23010535-012D, H23010535-012E, H23010535-013D, H23010535-013E, H23010535-014D, H23010535-014E, H23010535-015D, H23010535-015E, H23010535-016D, H23010535-016E, H23010535-017D, H23010535-017E, H23010535-018D, H23010535-018E, H23010535-019D, H23010535-019E, H23010535-020D, H23010535-020E, H23010535-021D, H23010535-021E, H23010535-022D, H23010535-022E, H23010535-023D, H23010535-023E, H23010535-024D, H23010535-024E, H23010535-025D, H23010535-025E

Run ID :Run Order: <b>SUB-C291735: 38</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS-11923</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/27/23 23:57</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Dissolved (DOC)	4.96	0.50	5	0	<b>99</b>	88	112	0
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**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010535

BatchID: C\_R291735

Date: 10-Apr-23

Run ID :Run Order: <b>SUB-C291735: 38</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS-11923</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/27/23 23:57</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23010535-001D, H23010535-001E, H23010535-002D, H23010535-002E, H23010535-003D, H23010535-003E, H23010535-004E, H23010535-005D, H23010535-005E, H23010535-006D, H23010535-006E, H23010535-007D, H23010535-007E, H23010535-008D, H23010535-008E, H23010535-009D, H23010535-009E, H23010535-010D, H23010535-010E, H23010535-011D, H23010535-011E, H23010535-012D, H23010535-012E, H23010535-013D, H23010535-013E, H23010535-014D, H23010535-014E, H23010535-015D, H23010535-015E, H23010535-016D, H23010535-016E, H23010535-017D, H23010535-017E, H23010535-018D, H23010535-018E, H23010535-019D, H23010535-019E, H23010535-020D, H23010535-020E, H23010535-021D, H23010535-021E, H23010535-022D, H23010535-022E, H23010535-023D, H23010535-023E, H23010535-024D, H23010535-024E, H23010535-025D, H23010535-025E

Run ID :Run Order: <b>SUB-C291735: 39</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV-11940</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/28/23 00:14</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Dissolved (DOC) 5.12 0.50 5 0 **102** 90 110 0

Associated samples: H23010535-001D, H23010535-001E, H23010535-002D, H23010535-002E, H23010535-003D, H23010535-003E, H23010535-004E, H23010535-005D, H23010535-005E, H23010535-006D, H23010535-006E, H23010535-007D, H23010535-007E, H23010535-008D, H23010535-008E, H23010535-009D, H23010535-009E, H23010535-010D, H23010535-010E, H23010535-011D, H23010535-011E, H23010535-012D, H23010535-012E, H23010535-013D, H23010535-013E, H23010535-014D, H23010535-014E, H23010535-015D, H23010535-015E, H23010535-016D, H23010535-016E, H23010535-017D, H23010535-017E, H23010535-018D, H23010535-018E, H23010535-019D, H23010535-019E, H23010535-020D, H23010535-020E, H23010535-021D, H23010535-021E, H23010535-022D, H23010535-022E, H23010535-023D, H23010535-023E, H23010535-024D, H23010535-024E, H23010535-025D, H23010535-025E

Run ID :Run Order: <b>SUB-C291735: 41</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23010535-001D</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/28/23 00:45</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Dissolved (DOC) 6.56 0.50 5 1.512 **101** 88 112 0

Associated samples: H23010535-001D, H23010535-001E, H23010535-002D, H23010535-002E, H23010535-003D, H23010535-003E, H23010535-004E, H23010535-005D, H23010535-005E, H23010535-006D, H23010535-006E, H23010535-007D, H23010535-007E, H23010535-008D, H23010535-008E, H23010535-009D, H23010535-009E, H23010535-010D, H23010535-010E, H23010535-011D, H23010535-011E, H23010535-012D, H23010535-012E, H23010535-013D, H23010535-013E, H23010535-014D, H23010535-014E, H23010535-015D, H23010535-015E, H23010535-016D, H23010535-016E, H23010535-017D, H23010535-017E, H23010535-018D, H23010535-018E, H23010535-019D, H23010535-019E, H23010535-020D, H23010535-020E, H23010535-021D, H23010535-021E, H23010535-022D, H23010535-022E, H23010535-023D, H23010535-023E, H23010535-024D, H23010535-024E, H23010535-025D, H23010535-025E

Run ID :Run Order: <b>SUB-C291735: 42</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23010535-001D</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/28/23 01:01</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Dissolved (DOC) 6.52 0.50 5 1.512 **100** 88 112 6.563 **0.7** 20



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010535

BatchID: C\_R291735

Date: 10-Apr-23

Run ID :Run Order: SUB-C291735: 42	SampType: Sample Matrix Spike Duplicate	Lab ID: H23010535-001D	Method: A5310 C								
Analysis Date: 01/28/23 01:01	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23010535-001D, H23010535-001E, H23010535-002D, H23010535-002E, H23010535-003D, H23010535-003E, H23010535-004E, H23010535-005D, H23010535-005E, H23010535-006D, H23010535-006E, H23010535-007D, H23010535-007E, H23010535-008D, H23010535-008E, H23010535-009D, H23010535-009E, H23010535-010D, H23010535-010E, H23010535-011D, H23010535-011E, H23010535-012D, H23010535-012E, H23010535-013D, H23010535-013E, H23010535-014D, H23010535-014E, H23010535-015D, H23010535-015E, H23010535-016D, H23010535-016E, H23010535-017D, H23010535-017E, H23010535-018D, H23010535-018E, H23010535-019D, H23010535-019E, H23010535-020D, H23010535-020E, H23010535-021D, H23010535-021E, H23010535-022D, H23010535-022E, H23010535-023D, H23010535-023E, H23010535-024D, H23010535-024E, H23010535-025D, H23010535-025E

Run ID :Run Order: SUB-C291735: 52	SampType: Continuing Calibration Verification Standar	Lab ID: CCV-11940	Method: A5310 C								
Analysis Date: 01/28/23 03:58	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Dissolved (DOC) 5.14 0.50 5 0 103 90 110 0

Associated samples: H23010535-001D, H23010535-001E, H23010535-002D, H23010535-002E, H23010535-003D, H23010535-003E, H23010535-004E, H23010535-005D, H23010535-005E, H23010535-006D, H23010535-006E, H23010535-007D, H23010535-007E, H23010535-008D, H23010535-008E, H23010535-009D, H23010535-009E, H23010535-010D, H23010535-010E, H23010535-011D, H23010535-011E, H23010535-012D, H23010535-012E, H23010535-013D, H23010535-013E, H23010535-014D, H23010535-014E, H23010535-015D, H23010535-015E, H23010535-016D, H23010535-016E, H23010535-017D, H23010535-017E, H23010535-018D, H23010535-018E, H23010535-019D, H23010535-019E, H23010535-020D, H23010535-020E, H23010535-021D, H23010535-021E, H23010535-022D, H23010535-022E, H23010535-023D, H23010535-023E, H23010535-024D, H23010535-024E, H23010535-025D, H23010535-025E

Run ID :Run Order: SUB-C291735: 54	SampType: Sample Matrix Spike	Lab ID: H23010535-011D	Method: A5310 C								
Analysis Date: 01/28/23 04:50	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Dissolved (DOC) 6.36 0.50 5 1.425 99 88 112 0

Associated samples: H23010535-001D, H23010535-001E, H23010535-002D, H23010535-002E, H23010535-003D, H23010535-003E, H23010535-004E, H23010535-005D, H23010535-005E, H23010535-006D, H23010535-006E, H23010535-007D, H23010535-007E, H23010535-008D, H23010535-008E, H23010535-009D, H23010535-009E, H23010535-010D, H23010535-010E, H23010535-011D, H23010535-011E, H23010535-012D, H23010535-012E, H23010535-013D, H23010535-013E, H23010535-014D, H23010535-014E, H23010535-015D, H23010535-015E, H23010535-016D, H23010535-016E, H23010535-017D, H23010535-017E, H23010535-018D, H23010535-018E, H23010535-019D, H23010535-019E, H23010535-020D, H23010535-020E, H23010535-021D, H23010535-021E, H23010535-022D, H23010535-022E, H23010535-023D, H23010535-023E, H23010535-024D, H23010535-024E, H23010535-025D, H23010535-025E

Run ID :Run Order: SUB-C291735: 55	SampType: Sample Matrix Spike Duplicate	Lab ID: H23010535-011D	Method: A5310 C								
Analysis Date: 01/28/23 05:07	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Dissolved (DOC) 6.35 0.50 5 1.425 98 88 112 6.363 0.2 20

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010535

BatchID: C\_R291735

Date: 10-Apr-23

Run ID :Run Order: SUB-C291735: 55	SampType: Sample Matrix Spike Duplicate	Lab ID: H23010535-011D	Method: A5310 C								
Analysis Date: 01/28/23 05:07	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23010535-001D, H23010535-001E, H23010535-002D, H23010535-002E, H23010535-003D, H23010535-003E, H23010535-004E, H23010535-005D, H23010535-005E, H23010535-006D, H23010535-006E, H23010535-007D, H23010535-007E, H23010535-008D, H23010535-008E, H23010535-009D, H23010535-009E, H23010535-010D, H23010535-010E, H23010535-011D, H23010535-011E, H23010535-012D, H23010535-012E, H23010535-013D, H23010535-013E, H23010535-014D, H23010535-014E, H23010535-015D, H23010535-015E, H23010535-016D, H23010535-016E, H23010535-017D, H23010535-017E, H23010535-018D, H23010535-018E, H23010535-019D, H23010535-019E, H23010535-020D, H23010535-020E, H23010535-021D, H23010535-021E, H23010535-022D, H23010535-022E, H23010535-023D, H23010535-023E, H23010535-024D, H23010535-024E, H23010535-025D, H23010535-025E

Run ID :Run Order: SUB-C291735: 65	SampType: Continuing Calibration Verification Standar	Lab ID: CCV-11940	Method: A5310 C								
Analysis Date: 01/28/23 07:58	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Dissolved (DOC) 5.11 0.50 5 0 102 90 110 0

Associated samples: H23010535-001D, H23010535-001E, H23010535-002D, H23010535-002E, H23010535-003D, H23010535-003E, H23010535-004E, H23010535-005D, H23010535-005E, H23010535-006D, H23010535-006E, H23010535-007D, H23010535-007E, H23010535-008D, H23010535-008E, H23010535-009D, H23010535-009E, H23010535-010D, H23010535-010E, H23010535-011D, H23010535-011E, H23010535-012D, H23010535-012E, H23010535-013D, H23010535-013E, H23010535-014D, H23010535-014E, H23010535-015D, H23010535-015E, H23010535-016D, H23010535-016E, H23010535-017D, H23010535-017E, H23010535-018D, H23010535-018E, H23010535-019D, H23010535-019E, H23010535-020D, H23010535-020E, H23010535-021D, H23010535-021E, H23010535-022D, H23010535-022E, H23010535-023D, H23010535-023E, H23010535-024D, H23010535-024E, H23010535-025D, H23010535-025E

Run ID :Run Order: SUB-C291735: 67	SampType: Sample Matrix Spike	Lab ID: H23010535-021D	Method: A5310 C								
Analysis Date: 01/28/23 08:47	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Dissolved (DOC) 7.52 0.50 5 2.622 98 88 112 0

Associated samples: H23010535-001D, H23010535-001E, H23010535-002D, H23010535-002E, H23010535-003D, H23010535-003E, H23010535-004E, H23010535-005D, H23010535-005E, H23010535-006D, H23010535-006E, H23010535-007D, H23010535-007E, H23010535-008D, H23010535-008E, H23010535-009D, H23010535-009E, H23010535-010D, H23010535-010E, H23010535-011D, H23010535-011E, H23010535-012D, H23010535-012E, H23010535-013D, H23010535-013E, H23010535-014D, H23010535-014E, H23010535-015D, H23010535-015E, H23010535-016D, H23010535-016E, H23010535-017D, H23010535-017E, H23010535-018D, H23010535-018E, H23010535-019D, H23010535-019E, H23010535-020D, H23010535-020E, H23010535-021D, H23010535-021E, H23010535-022D, H23010535-022E, H23010535-023D, H23010535-023E, H23010535-024D, H23010535-024E, H23010535-025D, H23010535-025E

Run ID :Run Order: SUB-C291735: 68	SampType: Sample Matrix Spike Duplicate	Lab ID: H23010535-021D	Method: A5310 C								
Analysis Date: 01/28/23 09:05	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Dissolved (DOC) 7.54 0.50 5 2.622 98 88 112 7.523 0.2 20

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** C\_R291735

**Date:** 10-Apr-23

Run ID :Run Order: <b>SUB-C291735: 68</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23010535-021D</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>01/28/23 09:05</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23010535-001D, H23010535-001E, H23010535-002D, H23010535-002E, H23010535-003D, H23010535-003E, H23010535-004E, H23010535-005D, H23010535-005E, H23010535-006D, H23010535-006E, H23010535-007D, H23010535-007E, H23010535-008D, H23010535-008E, H23010535-009D, H23010535-009E, H23010535-010D, H23010535-010E, H23010535-011D, H23010535-011E, H23010535-012D, H23010535-012E, H23010535-013D, H23010535-013E, H23010535-014D, H23010535-014E, H23010535-015D, H23010535-015E, H23010535-016D, H23010535-016E, H23010535-017D, H23010535-017E, H23010535-018D, H23010535-018E, H23010535-019D, H23010535-019E, H23010535-020D, H23010535-020E, H23010535-021D, H23010535-021E, H23010535-022D, H23010535-022E, H23010535-023D, H23010535-023E, H23010535-024D, H23010535-024E, H23010535-025D, H23010535-025E



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** C\_R291781

**Date:** 10-Apr-23

Run ID :Run Order: <b>SUB-C291781: 1</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>01/31/23 16:49</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	ND	0.4									

Associated samples: **H23010535-004D**

Run ID :Run Order: <b>SUB-C291781: 2</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS-11923</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>01/31/23 17:04</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.82	0.50	5	0	<b>96</b>	88	112	0			

Associated samples: **H23010535-004D**

Run ID :Run Order: <b>SUB-C291781: 3</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV-11940</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>01/31/23 17:23</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.00	0.50	5	0	<b>100</b>	90	110	0			

Associated samples: **H23010535-004D**

Run ID :Run Order: <b>SUB-C291781: 5</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23010535-004D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>01/31/23 17:57</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.60	0.50	5	0.8849	<b>94</b>	88	112	0			

Associated samples: **H23010535-004D**

Run ID :Run Order: <b>SUB-C291781: 6</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23010535-004D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>01/31/23 18:13</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.68	0.50	5	0.8849	<b>96</b>	88	112	5.596	<b>1.6</b>	20	

Associated samples: **H23010535-004D**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181823

**Date:** 10-Apr-23

Run ID :Run Order: <b>PHSC_101-H_230125A: 2</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>SC 150</b>			Method: <b>A2510 B</b>			
Analysis Date: <b>01/25/23 08:59</b>	Units: <b>umhos/cm</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	145	5.0	150	0	<b>97</b>	90	110				

Associated samples: H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A

Run ID :Run Order: <b>PHSC_101-H_230125A: 3</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>SC 20000</b>			Method: <b>A2510 B</b>			
Analysis Date: <b>01/25/23 09:01</b>	Units: <b>umhos/cm</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	18200	5.0	20000	0	<b>91</b>	90	110				

Associated samples: H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A

Run ID :Run Order: <b>PHSC_101-H_230125A: 4</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>SC 5000</b>			Method: <b>A2510 B</b>			
Analysis Date: <b>01/25/23 09:03</b>	Units: <b>umhos/cm</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	4660	5.0	5000	0	<b>93</b>	90	110				

Associated samples: H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A

Run ID :Run Order: <b>PHSC_101-H_230125A: 5</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>SC 1000</b>			Method: <b>A2510 B</b>			
Analysis Date: <b>01/25/23 09:05</b>	Units: <b>umhos/cm</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	944	5.0	1000	0	<b>94</b>	90	110				

Associated samples: H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010535

BatchID: R181823

Date: 10-Apr-23

Run ID :Run Order: PHSC_101-H_230125A: 6	SampType: Method Blank	Lab ID: MBLK	Method: A2510 B								
Analysis Date: 01/25/23 09:10	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	ND	5									
Associated samples: H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A											

Run ID :Run Order: PHSC_101-H_230125A: 85	SampType: Continuing Calibration Verification Standar	Lab ID: CCV - SC 1413	Method: A2510 B								
Analysis Date: 01/25/23 13:29	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1360	5.0	1413	0	96	90	110				
Associated samples: H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A											

Run ID :Run Order: PHSC_101-H_230125A: 89	SampType: Sample Duplicate	Lab ID: H23010535-001ADUP	Method: A2510 B								
Analysis Date: 01/25/23 13:34	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	655	5.0		0				652.6	0.3	10	
Associated samples: H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A											

Run ID :Run Order: PHSC_101-H_230125A: 129	SampType: Sample Duplicate	Lab ID: H23010535-020ADUP	Method: A2510 B								
Analysis Date: 01/25/23 14:19	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1670	5.0		0				1666	0.2	10	
Associated samples: H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010535

BatchID: R181823

Date: 10-Apr-23

Run ID :Run Order: PHSC_101-H_230125A: 132	SampType: Continuing Calibration Verification Standar	Lab ID: CCV - SC 1413	Method: A2510 B								
Analysis Date: 01/25/23 14:27	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1350	5.0	1413	0	96	90	110				

Associated samples: H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A

Run ID :Run Order: PHSC_101-H_230125A: 136	SampType: Sample Duplicate	Lab ID: H23010535-021ADUP	Method: A2510 B								
Analysis Date: 01/25/23 14:32	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1040	5.0		0				1038	0.1	10	

Associated samples: H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181823

**Date:** 10-Apr-23

Run ID :Run Order: <b>PHSC_101-H_230125A: 1</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>pH 7</b>				Method: <b>A4500-H B</b>		
Analysis Date: <b>01/25/23 08:53</b>	Units: <b>s.u.</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	<b>100</b>	98	102				
pH Measurement Temp	17.8			0		0	0				

Associated samples: **H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A**

Run ID :Run Order: <b>PHSC_101-H_230125A: 84</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV - pH 7</b>				Method: <b>A4500-H B</b>		
Analysis Date: <b>01/25/23 13:26</b>	Units: <b>s.u.</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	<b>100</b>	98	102				
pH Measurement Temp	19.2			0		0	0				

Associated samples: **H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A**

Run ID :Run Order: <b>PHSC_101-H_230125A: 88</b>	SampType: <b>Sample Duplicate</b>				Lab ID: <b>H23010535-001ADUP</b>				Method: <b>A4500-H B</b>		
Analysis Date: <b>01/25/23 13:34</b>	Units: <b>s.u.</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	5.4	0.1		0				5.42	<b>0.0</b>	3	
pH Measurement Temp	14.1			0				15.1			

Associated samples: **H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A**

Run ID :Run Order: <b>PHSC_101-H_230125A: 128</b>	SampType: <b>Sample Duplicate</b>				Lab ID: <b>H23010535-020ADUP</b>				Method: <b>A4500-H B</b>		
Analysis Date: <b>01/25/23 14:19</b>	Units: <b>s.u.</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	5.0	0.1		0				4.91	<b>1.0</b>	3	
pH Measurement Temp	15.7			0				16			

Associated samples: **H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181823

**Date:** 10-Apr-23

Run ID :Run Order: <b>PHSC_101-H_230125A: 131</b>	SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV - pH 7</b>	Method: <b>A4500-H B</b>						
Analysis Date: <b>01/25/23 14:24</b>	Units: <b>s.u.</b>			Prep Info: Prep Date:	Prep Method:						
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	<b>100</b>	98	102				
pH Measurement Temp	19.6			0		0	0				

Associated samples: **H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A**

Run ID :Run Order: <b>PHSC_101-H_230125A: 135</b>	SampType: <b>Sample Duplicate</b>			Lab ID: <b>H23010535-021ADUP</b>	Method: <b>A4500-H B</b>						
Analysis Date: <b>01/25/23 14:32</b>	Units: <b>s.u.</b>			Prep Info: Prep Date:	Prep Method:						
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	5.0	0.1		0				4.96	<b>0.6</b>	3	
pH Measurement Temp	16.8			0				16.9			

Associated samples: **H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A**



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181835

**Date:** 10-Apr-23

Run ID :Run Order: ICP2-HE_230125A: 7	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.7			
Analysis Date: 01/25/23 10:30	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.05	0.10	4	0	101	95	105				
Boron	0.784	0.10	0.8	0	98	95	105				
Calcium	40.9	1.0	40	0	102	95	105				
Copper	0.808	0.012	0.8	0	101	95	105				
Iron	3.93	0.020	4	0	98	95	105				
Lithium	0.790	0.10	0.8	0	99	95	105				
Magnesium	39.2	1.0	40	0	98	95	105				
Manganese	3.96	0.010	4	0	99	95	105				
Potassium	39.3	1.0	40	0	98	95	105				
Sodium	39.2	1.0	40	0	98	95	105				
Strontium	0.816	0.10	0.8	0	102	95	105				
Zinc	0.805	0.010	0.8	0	101	95	105				

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Run ID :Run Order: ICP2-HE_230125A: 9	SampType: Continuing Calibration Verification Standar				Lab ID: CCV-1			Method: E200.7			
Analysis Date: 01/25/23 10:39	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.54	0.10	2.5	0	102	95	105				
Boron	2.50	0.10	2.5	0	100	95	105				
Calcium	25.6	1.0	25	0	103	95	105				
Copper	2.53	0.012	2.5	0	101	95	105				
Iron	2.42	0.020	2.5	0	97	95	105				
Lithium	1.22	0.10	1.25	0	97	95	105				
Magnesium	24.5	1.0	25	0	98	95	105				
Manganese	2.47	0.010	2.5	0	99	95	105				
Potassium	24.2	1.0	25	0	97	95	105				
Sodium	24.3	1.0	25	0	97	95	105				
Strontium	2.56	0.10	2.5	0	103	95	105				
Zinc	2.53	0.010	2.5	0	101	95	105				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181835

**Date:** 10-Apr-23

Run ID :Run Order: <b>ICP2-HE_230125A: 9</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV-1</b>	Method: <b>E200.7</b>
Analysis Date: <b>01/25/23 10:39</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>12</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
		LowLimit	HighLimit
		RPD Ref Val	%RPD
			RPDLimit
			Qual

Associated samples: **H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B**

Run ID :Run Order: <b>ICP2-HE_230125A: 15</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MB</b>	Method: <b>E200.7</b>
Analysis Date: <b>01/25/23 11:05</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>12</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
		LowLimit	HighLimit
		RPD Ref Val	%RPD
			RPDLimit
			Qual

Aluminum	ND	0.03							
Boron	ND	0.004							
Calcium	ND	0.2							
Copper	ND	0.01							
Iron	ND	0.008							
Lithium	ND	0.002							
Magnesium	ND	0.05							
Manganese	ND	0.001							
Potassium	ND	0.06							
Sodium	ND	0.03							
Strontium	ND	0.0003							
Zinc	ND	0.003							

Associated samples: **H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B**

Run ID :Run Order: <b>ICP2-HE_230125A: 16</b>	SampType: <b>Laboratory Fortified Blank</b>	Lab ID: <b>LFB</b>	Method: <b>E200.7</b>
Analysis Date: <b>01/25/23 11:09</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>12</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
		LowLimit	HighLimit
		RPD Ref Val	%RPD
			RPDLimit
			Qual

Aluminum	4.96	0.10	5	0	<b>99</b>	85	115
Boron	0.986	0.10	1	0	<b>99</b>	85	115
Calcium	51.0	1.0	50	0	<b>102</b>	85	115
Copper	0.993	0.012	1	0	<b>99</b>	85	115
Iron	4.80	0.020	5	0	<b>96</b>	85	115
Lithium	0.950	0.10	1	0	<b>95</b>	85	115

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181835

**Date:** 10-Apr-23

Run ID :Run Order: ICP2-HE_230125A: 16	SampType: Laboratory Fortified Blank				Lab ID: LFB			Method: E200.7			
Analysis Date: 01/25/23 11:09	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <span style="color: red;">12</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	48.1	1.0	50	0	96	85	115				
Manganese	4.89	0.010	5	0	98	85	115				
Potassium	47.8	1.0	50	0	96	85	115				
Sodium	47.7	1.0	50	0	95	85	115				
Strontium	0.993	0.10	1	0	99	85	115				
Zinc	1.01	0.010	1	0	101	85	115				

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Run ID :Run Order: ICP2-HE_230125A: 64	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.7			
Analysis Date: 01/25/23 16:17	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <span style="color: red;">12</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.61	0.10	2.5	0	105	90	110				
Boron	2.53	0.10	2.5	0	101	90	110				
Calcium	24.6	1.0	25	0	98	90	110				
Copper	2.60	0.012	2.5	0	104	90	110				
Iron	2.45	0.020	2.5	0	98	90	110				
Lithium	1.30	0.10	1.25	0	104	90	110				
Magnesium	24.9	1.0	25	0	100	90	110				
Manganese	2.51	0.010	2.5	0	100	90	110				
Potassium	24.8	1.0	25	0	99	90	110				
Sodium	25.2	1.0	25	0	101	90	110				
Strontium	2.62	0.10	2.5	0	105	90	110				
Zinc	2.51	0.010	2.5	0	100	90	110				

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010535

BatchID: R181835

Date: 10-Apr-23

Run ID :Run Order: ICP2-HE_230125A: 70	SampType: Sample Matrix Spike				Lab ID: H23010521-007EMS2				Method: E200.7		
Analysis Date: 01/25/23 16:40	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.31	0.030	5	0	106	70	130				
Boron	1.66	0.050	1	0.7487	91	70	130				
Calcium	183	1.0	50	140.9	85	70	130				
Copper	1.04	0.012	1	0	104	70	130				
Iron	7.12	0.020	5	2.404	94	70	130				
Lithium	1.44	0.10	1	0.3156	113	70	130				
Magnesium	268	1.0	50	229		70	130				A
Manganese	5.78	0.0014	5	1.05	95	70	130				
Potassium	63.6	1.0	50	12.18	103	70	130				
Sodium	351	1.0	50	304.6		70	130				A
Strontium	3.71	0.010	1	2.76	95	70	130				
Zinc	0.925	0.010	1	0	93	70	130				

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Run ID :Run Order: ICP2-HE_230125A: 71	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010521-007EMSD2				Method: E200.7		
Analysis Date: 01/25/23 16:44	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.21	0.030	5	0	104	70	130	5.309	1.9	20	
Boron	1.74	0.050	1	0.7487	99	70	130	1.663	4.3	20	
Calcium	184	1.0	50	140.9	86	70	130	183.2	0.2	20	
Copper	1.01	0.012	1	0	101	70	130	1.044	3.1	20	
Iron	7.02	0.020	5	2.404	92	70	130	7.12	1.4	20	
Lithium	1.41	0.10	1	0.3156	109	70	130	1.442	2.3	20	
Magnesium	268	1.0	50	229		70	130	267.5	0.3	20	A
Manganese	5.71	0.0014	5	1.05	93	70	130	5.78	1.2	20	
Potassium	62.5	1.0	50	12.18	101	70	130	63.62	1.8	20	
Sodium	346	1.0	50	304.6		70	130	351.1	1.5	20	A
Strontium	3.71	0.010	1	2.76	95	70	130	3.707	0.2	20	
Zinc	0.967	0.010	1	0	97	70	130	0.9251	4.4	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010535

BatchID: R181835

Date: 10-Apr-23

Run ID :Run Order: ICP2-HE_230125A: 71	SampType: Sample Matrix Spike Duplicate	Lab ID: H23010521-007EMSD2	Method: E200.7								
Analysis Date: 01/25/23 16:44	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Run ID :Run Order: ICP2-HE_230125A: 76	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.7								
Analysis Date: 01/25/23 17:03	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.57	0.10	2.5	0	103	90	110				
Boron	2.55	0.10	2.5	0	102	90	110				
Calcium	23.5	1.0	25	0	94	90	110				
Copper	2.52	0.012	2.5	0	101	90	110				
Iron	2.44	0.020	2.5	0	98	90	110				
Lithium	1.29	0.10	1.25	0	103	90	110				
Magnesium	24.8	1.0	25	0	99	90	110				
Manganese	2.48	0.010	2.5	0	99	90	110				
Potassium	24.6	1.0	25	0	98	90	110				
Sodium	24.8	1.0	25	0	99	90	110				
Strontium	2.56	0.10	2.5	0	102	90	110				
Zinc	2.52	0.010	2.5	0	101	90	110				

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Run ID :Run Order: ICP2-HE_230125A: 85	SampType: Sample Matrix Spike	Lab ID: H23010535-008BMS2	Method: E200.7								
Analysis Date: 01/25/23 17:36	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.19	0.030	5	0	104	70	130				
Boron	1.51	0.050	1	0.5726	94	70	130				
Calcium	207	1.0	50	174.4	65	70	130				S
Copper	1.07	0.012	1	0.06594	101	70	130				
Iron	4.75	0.020	5	0	95	70	130				
Lithium	1.25	0.10	1	0.1588	109	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181835

**Date:** 10-Apr-23

Run ID :Run Order: ICP2-HE_230125A: 85	SampType: Sample Matrix Spike				Lab ID: H23010535-008BMS2				Method: E200.7		
Analysis Date: 01/25/23 17:36	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	98.4	1.0	50	52.35	92	70	130				
Manganese	39.6	0.0014	5	37.27		70	130				A
Potassium	61.3	1.0	50	11.01	101	70	130				
Sodium	142	1.0	50	90.83	102	70	130				
Strontium	2.42	0.010	1	1.419	100	70	130				
Zinc	10.3	0.010	1	10.28		70	130				A

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Run ID :Run Order: ICP2-HE_230125A: 86	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010535-008BMSD2				Method: E200.7		
Analysis Date: 01/25/23 17:40	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.31	0.030	5	0	106	70	130	5.188	2.3	20	
Boron	1.49	0.050	1	0.5726	92	70	130	1.512	1.2	20	
Calcium	209	1.0	50	174.4	70	70	130	207.1	1.0	20	
Copper	1.10	0.012	1	0.06594	104	70	130	1.074	2.5	20	
Iron	4.82	0.020	5	0	96	70	130	4.748	1.6	20	
Lithium	1.27	0.10	1	0.1588	112	70	130	1.249	2.0	20	
Magnesium	100	1.0	50	52.35	96	70	130	98.4	1.8	20	
Manganese	40.2	0.0014	5	37.27		70	130	39.62	1.6	20	A
Potassium	62.4	1.0	50	11.01	103	70	130	61.33	1.8	20	
Sodium	145	1.0	50	90.83	107	70	130	141.8	1.9	20	
Strontium	2.44	0.010	1	1.419	103	70	130	2.42	1.0	20	
Zinc	10.2	0.010	1	10.28		70	130	10.27	1.0	20	A

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181835

**Date:** 10-Apr-23

Run ID :Run Order: **ICP2-HE\_230125A: 88**

SampType: **Continuing Calibration Verification Standar**

Lab ID: **CCV**

Method: **E200.7**

Analysis Date: **01/25/23 17:47**

Units: **mg/L**

Prep Info: Prep Date:

Prep Method:

Analytes <b>11</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.59	0.10	2.5	0	104	90	110				
Boron	2.48	0.10	2.5	0	99	90	110				
Calcium	23.4	1.0	25	0	94	90	110				
Copper	2.55	0.012	2.5	0	102	90	110				
Iron	2.46	0.020	2.5	0	99	90	110				
Magnesium	25.2	1.0	25	0	101	90	110				
Manganese	2.50	0.010	2.5	0	100	90	110				
Potassium	26.2	1.0	25	0	105	90	110				
Sodium	26.6	1.0	25	0	106	90	110				
Strontium	2.59	0.10	2.5	0	104	90	110				
Zinc	2.46	0.010	2.5	0	98	90	110				

Associated samples: **H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B**

Run ID :Run Order: **ICP2-HE\_230125A: 107**

SampType: **Continuing Calibration Verification Standar**

Lab ID: **CCV**

Method: **E200.7**

Analysis Date: **01/25/23 18:59**

Units: **mg/L**

Prep Info: Prep Date:

Prep Method:

Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.54	0.10	2.5	0	102	90	110				
Boron	2.55	0.10	2.5	0	102	90	110				
Calcium	25.1	1.0	25	0	100	90	110				
Copper	2.54	0.012	2.5	0	102	90	110				
Iron	2.48	0.020	2.5	0	99	90	110				
Lithium	1.28	0.10	1.25	0	103	90	110				
Magnesium	25.1	1.0	25	0	100	90	110				
Manganese	2.54	0.010	2.5	0	102	90	110				
Potassium	25.5	1.0	25	0	102	90	110				
Sodium	25.4	1.0	25	0	102	90	110				
Strontium	2.55	0.10	2.5	0	102	90	110				
Zinc	2.61	0.010	2.5	0	105	90	110				

Associated samples: **H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181835

**Date:** 10-Apr-23

Run ID :Run Order: ICP2-HE_230125A: 110	SampType: Sample Matrix Spike				Lab ID: H23010535-018BMS2				Method: E200.7		
Analysis Date: 01/25/23 19:10	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.07	0.030	5	0	101	70	130				
Boron	1.10	0.050	1	0	110	70	130				
Calcium	50.0	1.0	50	0	100	70	130				
Copper	1.01	0.012	1	0	101	70	130				
Iron	4.96	0.020	5	0	99	70	130				
Lithium	1.03	0.10	1	0	103	70	130				
Magnesium	50.2	1.0	50	0	100	70	130				
Manganese	5.05	0.0014	5	0.0027	101	70	130				
Potassium	51.0	1.0	50	0	102	70	130				
Sodium	50.9	1.0	50	0	102	70	130				
Strontium	1.01	0.010	1	0	101	70	130				
Zinc	1.11	0.010	1	0.00283	111	70	130				

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Run ID :Run Order: ICP2-HE_230125A: 111	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010535-018BMSD2				Method: E200.7		
Analysis Date: 01/25/23 19:14	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.14	0.030	5	0	103	70	130	5.072	1.4	20	
Boron	1.10	0.050	1	0	110	70	130	1.096	0.8	20	
Calcium	49.3	1.0	50	0	99	70	130	50.01	1.5	20	
Copper	1.03	0.012	1	0	103	70	130	1.008	2.1	20	
Iron	4.90	0.020	5	0	98	70	130	4.965	1.3	20	
Lithium	1.08	0.10	1	0	108	70	130	1.03	4.3	20	
Magnesium	50.5	1.0	50	0	101	70	130	50.18	0.6	20	
Manganese	5.04	0.0014	5	0.0027	101	70	130	5.049	0.1	20	
Potassium	52.4	1.0	50	0	105	70	130	51.02	2.6	20	
Sodium	52.7	1.0	50	0	105	70	130	50.89	3.6	20	
Strontium	1.02	0.010	1	0	102	70	130	1.011	0.6	20	
Zinc	1.11	0.010	1	0.00283	111	70	130	1.114	0.2	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181835

**Date:** 10-Apr-23

Run ID :Run Order: **ICP2-HE\_230125A: 111**      SampType: **Sample Matrix Spike Duplicate**      Lab ID: **H23010535-018BMSD2**      Method: **E200.7**  
 Analysis Date: **01/25/23 19:14**      Units: **mg/L**      Prep Info:    Prep Date:      Prep Method:  
 Analytes **12**      Result      PQL      SPK value    SPK Ref Val      %REC    LowLimit    HighLimit    RPD Ref Val      %RPD    RPDLimit    Qual

Associated samples: **H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B**

Run ID :Run Order: **ICP2-HE\_230125A: 122**      SampType: **Sample Matrix Spike**      Lab ID: **H23010535-025BMS2**      Method: **E200.7**  
 Analysis Date: **01/25/23 19:55**      Units: **mg/L**      Prep Info:    Prep Date:      Prep Method:  
 Analytes **12**      Result      PQL      SPK value    SPK Ref Val      %REC    LowLimit    HighLimit    RPD Ref Val      %RPD    RPDLimit    Qual

Analytes	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	45.7	0.030	5	40.39		70	130				A
Boron	1.08	0.050	1	0.08232	<b>100</b>	70	130				
Calcium	438	1.0	50	415.2		70	130				A
Copper	16.3	0.012	1	15.41		70	130				A
Iron	249	0.020	5	249.7		70	130				A
Lithium	1.84	0.10	1	0.7912	<b>105</b>	70	130				
Magnesium	294	1.0	50	252.7		70	130				A
Manganese	335	0.0014	5	348		70	130				A
Potassium	58.3	1.0	50	8.924	<b>99</b>	70	130				
Sodium	127	1.0	50	76.21	<b>101</b>	70	130				
Strontium	4.21	0.010	1	3.195	<b>102</b>	70	130				
Zinc	329	0.010	1	360.8		70	130				A

Associated samples: **H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B**

Run ID :Run Order: **ICP2-HE\_230125A: 123**      SampType: **Sample Matrix Spike Duplicate**      Lab ID: **H23010535-025BMSD2**      Method: **E200.7**  
 Analysis Date: **01/25/23 20:00**      Units: **mg/L**      Prep Info:    Prep Date:      Prep Method:  
 Analytes **12**      Result      PQL      SPK value    SPK Ref Val      %REC    LowLimit    HighLimit    RPD Ref Val      %RPD    RPDLimit    Qual

Analytes	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	45.7	0.030	5	40.39		70	130	45.68	<b>0.1</b>	20	A
Boron	1.07	0.050	1	0.08232	<b>99</b>	70	130	1.08	<b>0.9</b>	20	
Calcium	445	1.0	50	415.2		70	130	438	<b>1.6</b>	20	A
Copper	16.2	0.012	1	15.41		70	130	16.32	<b>0.8</b>	20	A
Iron	255	0.020	5	249.7		70	130	249.4	<b>2.3</b>	20	A
Lithium	1.87	0.10	1	0.7912	<b>108</b>	70	130	1.844	<b>1.5</b>	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181835

**Date:** 10-Apr-23

Run ID :Run Order: ICP2-HE_230125A: 123	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010535-025BMSD2				Method: E200.7		
Analysis Date: 01/25/23 20:00	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	301	1.0	50	252.7		70	130	294.3	2.2	20	A
Manganese	346	0.0014	5	348		70	130	335	3.1	20	A
Potassium	60.9	1.0	50	8.924	104	70	130	58.25	4.5	20	
Sodium	130	1.0	50	76.21	107	70	130	126.7	2.5	20	
Strontium	4.13	0.010	1	3.195	94	70	130	4.215	2.0	20	
Zinc	355	0.010	1	360.8		70	130	328.6	7.7	20	A

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010535

BatchID: R181863

Date: 10-Apr-23

Run ID :Run Order: ICPMS205-H_230125A: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 01/25/23 16:13	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0607	0.010	0.06	0	101	90	110				
Gallium	0.0608	0.010	0.06	0	101	90	110				
Lanthanum	0.0610	0.010	0.06	0	102	90	110				
Neodymium	0.0619	0.0050	0.06	0	103	90	110				
Niobium	0.0610	0.0010	0.06	0	102	90	110				
Palladium	0.0615	0.010	0.06	0	102	90	110				
Praseodymium	0.0604	0.0010	0.06	0	101	90	110				
Rubidium	0.0610	0.010	0.06	0	102	90	110				
Tungsten	0.0596	0.10	0.06	0	99	90	110				
Zirconium	0.0644	0.0050	0.06	0	107	90	110				

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Run ID :Run Order: ICPMS205-H_230125A: 20	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 01/25/23 16:27	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	ND	0.0002									
Gallium	ND	0.00009									
Lanthanum	ND	0.0001									
Neodymium	ND	0.00009									
Niobium	ND	0.0003									
Palladium	ND	0.0002									
Praseodymium	ND	0.0001									
Rubidium	ND	0.00007									
Tungsten	ND	0.0001									
Zirconium	ND	0.0003									

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181863

**Date:** 10-Apr-23

Run ID :Run Order: ICPMS205-H_230125A: 21		SampType: Laboratory Fortified Blank			Lab ID: LFB			Method: E200.8			
Analysis Date: 01/25/23 16:28		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0510	0.010	0.05	0	102	85	115				
Gallium	0.0511	0.010	0.05	0	102	85	115				
Lanthanum	0.0513	0.010	0.05	0	103	85	115				
Neodymium	0.0520	0.0050	0.05	0	104	85	115				
Niobium	0.0493	0.0010	0.05	0	99	85	115				
Palladium	0.0501	0.010	0.05	0	100	85	115				
Praseodymium	0.0514	0.0010	0.05	0	103	85	115				
Rubidium	0.0515	0.010	0.05	0	103	85	115				
Tungsten	0.0444	0.10	0.05	0	89	85	115				
Zirconium	0.0543	0.0050	0.05	0	109	85	115				

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Run ID :Run Order: ICPMS205-H_230125A: 81		SampType: Sample Matrix Spike			Lab ID: H23010433-038BMS			Method: E200.8			
Analysis Date: 01/25/23 17:58		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0508	0.010	0.05	0	102	70	130				
Gallium	0.0507	0.010	0.05	0.002095	97	70	130				
Lanthanum	0.0751	0.010	0.05	0.02254	105	70	130				
Neodymium	0.0676	0.0050	0.05	0.01413	107	70	130				
Niobium	0.0485	0.0010	0.05	0	97	70	130				
Palladium	0.0486	0.010	0.05	0	97	70	130				
Praseodymium	0.0566	0.0010	0.05	0.004123	105	70	130				
Rubidium	0.0545	0.010	0.05	0.004904	99	70	130				
Tungsten	0.0465	0.10	0.05	0	93	70	130				
Zirconium	0.0570	0.0050	0.05	0	114	70	130				

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010535

BatchID: R181863

Date: 10-Apr-23

Run ID :Run Order: ICPMS205-H_230125A: 82		SampType: Sample Matrix Spike Duplicate			Lab ID: H23010433-038BMSD				Method: E200.8		
Analysis Date: 01/25/23 18:00		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0506	0.010	0.05	0	101	70	130	0.05081	0.5	20	
Gallium	0.0498	0.010	0.05	0.002095	95	70	130	0.05073	1.9	20	
Lanthanum	0.0747	0.010	0.05	0.02254	104	70	130	0.07506	0.5	20	
Neodymium	0.0668	0.0050	0.05	0.01413	105	70	130	0.06755	1.2	20	
Niobium	0.0478	0.0010	0.05	0	96	70	130	0.04849			
Palladium	0.0481	0.010	0.05	0	96	70	130	0.04857	1.0	20	
Praseodymium	0.0560	0.0010	0.05	0.004123	104	70	130	0.05661			
Rubidium	0.0542	0.010	0.05	0.004904	98	70	130	0.05446	0.6	20	
Tungsten	0.0470	0.10	0.05	0	94	70	130	0.04646		20	
Zirconium	0.0569	0.0050	0.05	0	114	70	130	0.05704	0.2	20	

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Run ID :Run Order: ICPMS205-H_230125A: 83		SampType: Continuing Calibration Verification Standar			Lab ID: CCV				Method: E200.8		
Analysis Date: 01/25/23 18:01		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0502	0.010	0.05	0	100	90	110				
Gallium	0.0505	0.010	0.05	0	101	90	110				
Lanthanum	0.0512	0.010	0.05	0	102	90	110				
Neodymium	0.0512	0.0050	0.05	0	102	90	110				
Niobium	0.0518	0.0010	0.05	0	104	90	110				
Palladium	0.0518	0.010	0.05	0	104	90	110				
Praseodymium	0.0511	0.0010	0.05	0	102	90	110				
Rubidium	0.0509	0.010	0.05	0	102	90	110				
Tungsten	0.0521	0.10	0.05	0	104	90	110				
Zirconium	0.0522	0.0050	0.05	0	104	90	110				

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010535

BatchID: R181863

Date: 10-Apr-23

Run ID :Run Order: ICPMS205-H_230125A: 96	SampType: Sample Matrix Spike				Lab ID: H23010535-009BMS				Method: E200.8		
Analysis Date: 01/25/23 18:21	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0502	0.010	0.05	0	100	70	130				
Gallium	0.0491	0.010	0.05	0	98	70	130				
Lanthanum	0.0523	0.010	0.05	0	105	70	130				
Neodymium	0.0535	0.0050	0.05	0	107	70	130				
Niobium	0.0484	0.0010	0.05	0	97	70	130				
Palladium	0.0500	0.010	0.05	0	100	70	130				
Praseodymium	0.0521	0.0010	0.05	0	104	70	130				
Rubidium	0.0603	0.010	0.05	0.009839	101	70	130				
Tungsten	0.0462	0.10	0.05	0	92	70	130				
Zirconium	0.0559	0.0050	0.05	0	112	70	130				

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Run ID :Run Order: ICPMS205-H_230125A: 97	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010535-009BMSD				Method: E200.8		
Analysis Date: 01/25/23 18:22	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0506	0.010	0.05	0	101	70	130	0.05017	0.8	20	
Gallium	0.0496	0.010	0.05	0	99	70	130	0.04914	1.0	20	
Lanthanum	0.0521	0.010	0.05	0	104	70	130	0.05228	0.3	20	
Neodymium	0.0531	0.0050	0.05	0	106	70	130	0.05352	0.8	20	
Niobium	0.0488	0.0010	0.05	0	98	70	130	0.04842			
Palladium	0.0504	0.010	0.05	0	101	70	130	0.05001	0.7	20	
Praseodymium	0.0519	0.0010	0.05	0	104	70	130	0.05211			
Rubidium	0.0596	0.010	0.05	0.009839	100	70	130	0.06033	1.2	20	
Tungsten	0.0475	0.10	0.05	0	95	70	130	0.04622		20	
Zirconium	0.0565	0.0050	0.05	0	113	70	130	0.05592	1.0	20	

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181863

**Date:** 10-Apr-23

Run ID :Run Order:	ICPMS205-H_230125A: 98	SampType:	Continuing Calibration Verification Standar	Lab ID:	CCV	Method:	E200.8					
Analysis Date:	01/25/23 18:24	Units:	mg/L	Prep Info:	Prep Date:	Prep Method:						
Analytes	10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0493	0.010	0.05	0	99	90	110					
Gallium	0.0497	0.010	0.05	0	99	90	110					
Lanthanum	0.0506	0.010	0.05	0	101	90	110					
Neodymium	0.0499	0.0050	0.05	0	100	90	110					
Niobium	0.0511	0.0010	0.05	0	102	90	110					
Palladium	0.0516	0.010	0.05	0	103	90	110					
Praseodymium	0.0506	0.0010	0.05	0	101	90	110					
Rubidium	0.0500	0.010	0.05	0	100	90	110					
Tungsten	0.0523	0.10	0.05	0	105	90	110					
Zirconium	0.0513	0.0050	0.05	0	103	90	110					

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Run ID :Run Order:	ICPMS205-H_230125A: 110	SampType:	Sample Matrix Spike	Lab ID:	H23010535-019BMS	Method:	E200.8					
Analysis Date:	01/25/23 18:42	Units:	mg/L	Prep Info:	Prep Date:	Prep Method:						
Analytes	10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0500	0.010	0.05	0	100	70	130					
Gallium	0.0504	0.010	0.05	0	101	70	130					
Lanthanum	0.0516	0.010	0.05	0	103	70	130					
Neodymium	0.0520	0.0050	0.05	0	104	70	130					
Niobium	0.0470	0.0010	0.05	0	94	70	130					
Palladium	0.0528	0.010	0.05	0	105	70	130					
Praseodymium	0.0513	0.0010	0.05	0	103	70	130					
Rubidium	0.0500	0.010	0.05	0	100	70	130					
Tungsten	0.0462	0.10	0.05	0	92	70	130					
Zirconium	0.0536	0.0050	0.05	0	107	70	130					

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181863

**Date:** 10-Apr-23

Run ID :Run Order:	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010535-019BMSD				Method: E200.8		
Analysis Date: 01/25/23 18:43	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0504	0.010	0.05	0	101	70	130	0.05001	0.8	20	
Gallium	0.0499	0.010	0.05	0	100	70	130	0.05041	1.0	20	
Lanthanum	0.0520	0.010	0.05	0	104	70	130	0.05159	0.8	20	
Neodymium	0.0527	0.0050	0.05	0	105	70	130	0.05199	1.4	20	
Niobium	0.0478	0.0010	0.05	0	96	70	130	0.04705			
Palladium	0.0538	0.010	0.05	0	108	70	130	0.05275	2.0	20	
Praseodymium	0.0519	0.0010	0.05	0	104	70	130	0.05127			
Rubidium	0.0509	0.010	0.05	0	102	70	130	0.04996	1.9	20	
Tungsten	0.0463	0.10	0.05	0	93	70	130	0.04616		20	
Zirconium	0.0555	0.0050	0.05	0	111	70	130	0.0536	3.5	20	

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Run ID :Run Order:	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 01/25/23 18:45	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0497	0.010	0.05	0	99	90	110				
Gallium	0.0499	0.010	0.05	0	100	90	110				
Lanthanum	0.0512	0.010	0.05	0	102	90	110				
Neodymium	0.0508	0.0050	0.05	0	102	90	110				
Niobium	0.0504	0.0010	0.05	0	101	90	110				
Palladium	0.0526	0.010	0.05	0	105	90	110				
Praseodymium	0.0505	0.0010	0.05	0	101	90	110				
Rubidium	0.0496	0.010	0.05	0	99	90	110				
Tungsten	0.0529	0.10	0.05	0	106	90	110				
Zirconium	0.0513	0.0050	0.05	0	103	90	110				

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010535

BatchID: R181863

Date: 10-Apr-23

Run ID :Run Order: ICPMS205-H_230125A: 120	SampType: Sample Matrix Spike				Lab ID: H23010535-025BMS				Method: E200.8		
Analysis Date: 01/25/23 18:57	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0498	0.010	0.05	0	100	70	130				
Gallium	0.0615	0.010	0.05	0.01564	92	70	130				
Lanthanum	0.232	0.010	0.05	0.1796	104	70	130				
Neodymium	0.196	0.0050	0.05	0.1421	108	70	130				
Niobium	0.0467	0.0010	0.05	0	93	70	130				
Palladium	0.0501	0.010	0.05	0.0003822	99	70	130				
Praseodymium	0.0917	0.0010	0.05	0.03983	104	70	130				
Rubidium	0.0521	0.010	0.05	0.003845	97	70	130				
Tungsten	0.0472	0.10	0.05	0	94	70	130				
Zirconium	0.0543	0.0050	0.05	0.0004239	108	70	130				

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Run ID :Run Order: ICPMS205-H_230125A: 121	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010535-025BMSD				Method: E200.8		
Analysis Date: 01/25/23 18:58	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0502	0.010	0.05	0	100	70	130	0.04982	0.7	20	
Gallium	0.0612	0.010	0.05	0.01564	91	70	130	0.06154	0.6	20	
Lanthanum	0.233	0.010	0.05	0.1796	106	70	130	0.2317	0.5	20	
Neodymium	0.197	0.0050	0.05	0.1421	109	70	130	0.1962	0.3	20	
Niobium	0.0453	0.0010	0.05	0	91	70	130	0.04671			
Palladium	0.0502	0.010	0.05	0.0003822	100	70	130	0.05013	0.1	20	
Praseodymium	0.0923	0.0010	0.05	0.03983	105	70	130	0.09171			
Rubidium	0.0513	0.010	0.05	0.003845	95	70	130	0.0521	1.5	20	
Tungsten	0.0478	0.10	0.05	0	96	70	130	0.04722		20	
Zirconium	0.0544	0.0050	0.05	0.0004239	108	70	130	0.05429	0.1	20	

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181887

**Date:** 10-Apr-23

Run ID :Run Order: ICP2-HE_230126B: 6		SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.7		
Analysis Date: 01/26/23 10:25		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.795	0.10	0.8	0	99	95	105				
Calcium	40.3	1.0	40	0	101	95	105				
Copper	0.795	0.012	0.8	0	99	95	105				
Iron	3.98	0.020	4	0	100	95	105				
Lithium	0.793	0.10	0.8	0	99	95	105				
Manganese	3.97	0.010	4	0	99	95	105				
Zinc	0.795	0.010	0.8	0	99	95	105				

Associated samples: H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-010B, H23010535-012B, H23010535-014B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Run ID :Run Order: ICP2-HE_230126B: 7		SampType: Continuing Calibration Verification Standar				Lab ID: CCV-1			Method: E200.7		
Analysis Date: 01/26/23 10:28		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.38	0.10	2.5	0	95	95	105				
Calcium	25.3	1.0	25	0	101	95	105				
Copper	2.51	0.012	2.5	0	100	95	105				
Iron	2.51	0.020	2.5	0	100	95	105				
Lithium	1.25	0.10	1.25	0	100	95	105				
Manganese	2.49	0.010	2.5	0	99	95	105				
Zinc	2.42	0.010	2.5	0	97	95	105				

Associated samples: H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-010B, H23010535-012B, H23010535-014B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Run ID :Run Order: ICP2-HE_230126B: 13		SampType: Method Blank				Lab ID: MB			Method: E200.7		
Analysis Date: 01/26/23 10:53		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.004									
Calcium	ND	0.2									
Copper	ND	0.01									
Iron	ND	0.008									
Lithium	ND	0.002									
Manganese	ND	0.001									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181887

**Date:** 10-Apr-23

Run ID :Run Order: <b>ICP2-HE_230126B: 13</b>		SampType: <b>Method Blank</b>			Lab ID: <b>MB</b>			Method: <b>E200.7</b>		
Analysis Date: <b>01/26/23 10:53</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:		
Analytes <b>Z</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Zinc		ND	0.003							

Associated samples: **H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-010B, H23010535-012B, H23010535-014B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B**

Run ID :Run Order: <b>ICP2-HE_230126B: 14</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E200.7</b>		
Analysis Date: <b>01/26/23 10:57</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:		
Analytes <b>Z</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Boron		0.914	0.10	1	0	<b>91</b>	85	115		
Calcium		50.9	1.0	50	0	<b>102</b>	85	115		
Copper		1.02	0.012	1	0	<b>102</b>	85	115		
Iron		5.07	0.020	5	0	<b>101</b>	85	115		
Lithium		1.05	0.10	1	0	<b>105</b>	85	115		
Manganese		5.01	0.010	5	0	<b>100</b>	85	115		
Zinc		0.927	0.010	1	0	<b>93</b>	85	115		

Associated samples: **H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-010B, H23010535-012B, H23010535-014B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B**

Run ID :Run Order: <b>ICP2-HE_230126B: 24</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E200.7</b>		
Analysis Date: <b>01/26/23 14:43</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:		
Analytes <b>Z</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Boron		2.50	0.10	2.5	0	<b>100</b>	90	110		
Calcium		26.0	1.0	25	0	<b>104</b>	90	110		
Copper		2.49	0.012	2.5	0	<b>100</b>	90	110		
Iron		2.55	0.020	2.5	0	<b>102</b>	90	110		
Lithium		1.27	0.10	1.25	0	<b>101</b>	90	110		
Manganese		2.51	0.010	2.5	0	<b>100</b>	90	110		
Zinc		2.53	0.010	2.5	0	<b>101</b>	90	110		

Associated samples: **H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-010B, H23010535-012B, H23010535-014B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181887

**Date:** 10-Apr-23

Run ID :Run Order: ICP2-HE_230126B: 33	SampType: Sample Matrix Spike				Lab ID: H23010532-001BMS2				Method: E200.7		
Analysis Date: 01/26/23 15:17	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.18	0.10	2	0.2122	98	70	130				
Calcium	291	1.0	100	209	82	70	130				
Copper	1.96	0.024	2	0	98	70	130				
Iron	9.65	0.020	10	0.04004	96	70	130				
Lithium	2.36	0.10	2	0.2587	105	70	130				
Manganese	9.78	0.0027	10	0.4769	93	70	130				
Zinc	1.90	0.010	2	0	95	70	130				

Associated samples: H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-010B, H23010535-012B, H23010535-014B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Run ID :Run Order: ICP2-HE_230126B: 34	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010532-001BMSD2				Method: E200.7		
Analysis Date: 01/26/23 15:21	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.09	0.10	2	0.2122	94	70	130	2.181	4.4	20	
Calcium	292	1.0	100	209	83	70	130	291.3	0.2	20	
Copper	1.97	0.024	2	0	99	70	130	1.957	0.7	20	
Iron	9.67	0.020	10	0.04004	96	70	130	9.651	0.2	20	
Lithium	2.47	0.10	2	0.2587	110	70	130	2.364	4.2	20	
Manganese	9.79	0.0027	10	0.4769	93	70	130	9.777	0.1	20	
Zinc	1.84	0.010	2	0	92	70	130	1.897	2.9	20	

Associated samples: H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-010B, H23010535-012B, H23010535-014B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Run ID :Run Order: ICP2-HE_230126B: 36	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 01/26/23 15:28	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.49	0.10	2.5	0	100	90	110				
Calcium	24.4	1.0	25	0	97	90	110				
Copper	2.50	0.012	2.5	0	100	90	110				
Iron	2.50	0.020	2.5	0	100	90	110				
Lithium	1.37	0.10	1.25	0	110	90	110				
Manganese	2.45	0.010	2.5	0	98	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181887

**Date:** 10-Apr-23

Run ID :Run Order: <b>ICP2-HE_230126B: 36</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>				Method: <b>E200.7</b>		
Analysis Date: <b>01/26/23 15:28</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>Z</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	2.41	0.010	2.5	0	<b>96</b>	90	110				

Associated samples: **H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-010B, H23010535-012B, H23010535-014B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B**

Run ID :Run Order: <b>ICP2-HE_230126B: 39</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23010535-001BMS2</b>				Method: <b>E200.7</b>		
Analysis Date: <b>01/26/23 15:39</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>Z</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.10	0.050	2	0.2173	<b>94</b>	70	130				
Calcium	149	1.0	100	57.18	<b>92</b>	70	130				
Copper	2.13	0.024	2	0.1679	<b>98</b>	70	130				
Iron	9.48	0.020	10	0.02319	<b>95</b>	70	130				
Lithium	2.26	0.10	2	0.08504	<b>109</b>	70	130				
Manganese	20.0	0.0027	10	11.12	<b>89</b>	70	130				
Zinc	8.15	0.010	2	6.5	<b>83</b>	70	130				

Associated samples: **H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-010B, H23010535-012B, H23010535-014B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B**

Run ID :Run Order: <b>ICP2-HE_230126B: 40</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23010535-001BMSD2</b>				Method: <b>E200.7</b>		
Analysis Date: <b>01/26/23 15:43</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>Z</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.12	0.050	2	0.2173	<b>95</b>	70	130	2.098	<b>1.0</b>	20	
Calcium	154	1.0	100	57.18	<b>97</b>	70	130	149.1	<b>3.0</b>	20	
Copper	2.15	0.024	2	0.1679	<b>99</b>	70	130	2.135	<b>0.7</b>	20	
Iron	9.69	0.020	10	0.02319	<b>97</b>	70	130	9.476	<b>2.3</b>	20	
Lithium	2.20	0.10	2	0.08504	<b>106</b>	70	130	2.265	<b>2.8</b>	20	
Manganese	20.4	0.0027	10	11.12	<b>93</b>	70	130	20.01	<b>2.0</b>	20	
Zinc	8.35	0.010	2	6.5	<b>92</b>	70	130	8.15	<b>2.4</b>	20	

Associated samples: **H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-010B, H23010535-012B, H23010535-014B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181887

**Date:** 10-Apr-23

Run ID :Run Order:	ICP2-HE_230126B: 50	SampType:	Continuing Calibration Verification Standar	Lab ID:	CCV	Method:	E200.7					
Analysis Date:	01/26/23 16:45	Units:	mg/L	Prep Info:	Prep Date:	Prep Method:						
Analytes	Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		2.49	0.10	2.5	0	99	90	110				
Calcium		25.6	1.0	25	0	102	90	110				
Copper		2.51	0.012	2.5	0	100	90	110				
Iron		2.32	0.020	2.5	0	93	90	110				
Lithium		1.34	0.10	1.25	0	108	90	110				
Manganese		2.49	0.010	2.5	0	99	90	110				
Zinc		2.46	0.010	2.5	0	98	90	110				

Associated samples: H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-010B, H23010535-012B, H23010535-014B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Run ID :Run Order:	ICP2-HE_230126B: 53	SampType:	Sample Matrix Spike	Lab ID:	H23010535-008BMS2	Method:	E200.7					
Analysis Date:	01/26/23 16:56	Units:	mg/L	Prep Info:	Prep Date:	Prep Method:						
Analytes	Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		1.55	0.050	1	0.5296	102	70	130				
Calcium		230	1.0	50	176.4	106	70	130				
Copper		1.08	0.012	1	0.06506	101	70	130				
Iron		4.53	0.020	5	0	91	70	130				
Lithium		1.36	0.10	1	0.1665	120	70	130				
Manganese		41.0	0.0014	5	35.04		70	130				A
Zinc		10.6	0.010	1	9.041		70	130				A

Associated samples: H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-010B, H23010535-012B, H23010535-014B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Run ID :Run Order:	ICP2-HE_230126B: 54	SampType:	Sample Matrix Spike Duplicate	Lab ID:	H23010535-008BMSD2	Method:	E200.7					
Analysis Date:	01/26/23 17:00	Units:	mg/L	Prep Info:	Prep Date:	Prep Method:						
Analytes	Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		1.51	0.050	1	0.5296	98	70	130	1.549	2.9	20	
Calcium		229	1.0	50	176.4	106	70	130	229.5	0.1	20	
Copper		1.08	0.012	1	0.06506	102	70	130	1.079	0.1	20	
Iron		4.57	0.020	5	0	91	70	130	4.534	0.7	20	
Lithium		1.39	0.10	1	0.1665	122	70	130	1.364	1.8	20	
Manganese		41.2	0.0014	5	35.04		70	130	40.99	0.5	20	A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181887

**Date:** 10-Apr-23

Run ID :Run Order: ICP2-HE_230126B: 54	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010535-008BMSD2				Method: E200.7		
Analysis Date: 01/26/23 17:00	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>Z</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	10.5	0.010	1	9.041		70	130	10.64	1.6	20	A

Associated samples: H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-010B, H23010535-012B, H23010535-014B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Run ID :Run Order: ICP2-HE_230126B: 57	SampType: Sample Matrix Spike				Lab ID: H23010535-008BMS2				Method: E200.7		
Analysis Date: 01/26/23 17:11	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>Z</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.57	0.050	2	0.5193	102	70	130				
Calcium	282	1.0	100	179.9	102	70	130				
Copper	2.03	0.024	2	0.06148	99	70	130				
Iron	9.07	0.020	10	0	91	70	130				
Lithium	2.42	0.10	2	0.1745	113	70	130				
Manganese	46.6	0.0027	10	36.88	97	70	130				
Zinc	11.7	0.010	2	9.28		70	130				A

Associated samples: H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-010B, H23010535-012B, H23010535-014B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Run ID :Run Order: ICP2-HE_230126B: 58	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010535-008BMSD2				Method: E200.7		
Analysis Date: 01/26/23 17:15	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>Z</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.45	0.050	2	0.5193	96	70	130	2.565	4.8	20	
Calcium	274	1.0	100	179.9	94	70	130	281.8	2.8	20	
Copper	2.01	0.024	2	0.06148	97	70	130	2.034	1.2	20	
Iron	8.81	0.020	10	0	88	70	130	9.068	2.8	20	
Lithium	2.48	0.10	2	0.1745	116	70	130	2.425	2.4	20	
Manganese	45.5	0.0027	10	36.88	87	70	130	46.58	2.2	20	
Zinc	11.0	0.010	2	9.28		70	130	11.66	5.6	20	A

Associated samples: H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-010B, H23010535-012B, H23010535-014B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181887

**Date:** 10-Apr-23

Run ID :Run Order: ICP2-HE_230126B: 59	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 01/26/23 17:18	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>6</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.56	0.10	2.5	0	102	90	110				
Calcium	25.6	1.0	25	0	102	90	110				
Copper	2.53	0.012	2.5	0	101	90	110				
Iron	2.33	0.020	2.5	0	93	90	110				
Manganese	2.52	0.010	2.5	0	101	90	110				
Zinc	2.53	0.010	2.5	0	101	90	110				

Associated samples: H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-010B, H23010535-012B, H23010535-014B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Run ID :Run Order: ICP2-HE_230126B: 71	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 01/26/23 18:03	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>7</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.36	0.10	2.5	0	94	90	110				
Calcium	25.4	1.0	25	0	101	90	110				
Copper	2.48	0.012	2.5	0	99	90	110				
Iron	2.34	0.020	2.5	0	93	90	110				
Lithium	1.35	0.10	1.25	0	108	90	110				
Manganese	2.42	0.010	2.5	0	97	90	110				
Zinc	2.34	0.010	2.5	0	94	90	110				

Associated samples: H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-010B, H23010535-012B, H23010535-014B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Run ID :Run Order: ICP2-HE_230126B: 81	SampType: Sample Matrix Spike				Lab ID: H23010535-025BMS2				Method: E200.7		
Analysis Date: 01/26/23 18:40	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>7</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	10.2	0.050	10	0.05304	101	70	130				
Calcium	975	1.9	500	473.6	100	70	130				
Copper	25.0	0.12	10	15	100	70	130				
Iron	295	0.083	50	247.9		70	130				A
Lithium	12.1	0.10	10	0.8674	112	70	130				
Manganese	440	0.014	50	393.1		70	130				A
Zinc	382	0.028	10	370.6		70	130				A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181887

**Date:** 10-Apr-23

Run ID :Run Order: <b>ICP2-HE_230126B: 81</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23010535-025BMS2</b>	Method: <b>E200.7</b>								
Analysis Date: <b>01/26/23 18:40</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>Z</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-010B, H23010535-012B, H23010535-014B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B**

Run ID :Run Order: <b>ICP2-HE_230126B: 82</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23010535-025BMSD2</b>	Method: <b>E200.7</b>								
Analysis Date: <b>01/26/23 18:44</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>Z</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	9.39	0.050	10	0.05304	<b>93</b>	70	130	10.2	<b>8.2</b>	20	
Calcium	980	1.9	500	473.6	<b>101</b>	70	130	974.8	<b>0.5</b>	20	
Copper	24.7	0.12	10	15	<b>97</b>	70	130	25.01	<b>1.3</b>	20	
Iron	294	0.083	50	247.9		70	130	294.5	<b>0.3</b>	20	A
Lithium	12.1	0.10	10	0.8674	<b>113</b>	70	130	12.11	<b>0.1</b>	20	
Manganese	437	0.014	50	393.1		70	130	439.6	<b>0.5</b>	20	A
Zinc	363	0.028	10	370.6		70	130	382.5	<b>5.3</b>	20	A

Associated samples: **H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-010B, H23010535-012B, H23010535-014B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B**

<b>Qualifiers:</b> ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limit	N - Analyte concentration was not sufficiently high to calculate RPD
J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181890

**Date:** 10-Apr-23

Run ID :Run Order: <b>PHSC_101-H_230127A: 122</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MBLK</b>	Method: <b>A2320 B</b>
Analysis Date: <b>01/27/23 17:33</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
		LowLimit	HighLimit
		RPD Ref Val	%RPD
		RPDLimit	Qual

Alkalinity, Total as CaCO3	ND	2	
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Associated samples: H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A

Run ID :Run Order: <b>PHSC_101-H_230127A: 123</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS</b>	Method: <b>A2320 B</b>
Analysis Date: <b>01/27/23 17:39</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
		LowLimit	HighLimit
		RPD Ref Val	%RPD
		RPDLimit	Qual

Alkalinity, Total as CaCO3	590	4.0	600
			0
			99
			90
			110

Associated samples: H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A

Run ID :Run Order: <b>PHSC_101-H_230127A: 166</b>	SampType: <b>Sample Duplicate</b>	Lab ID: <b>H23010535-013ADUP</b>	Method: <b>A2320 B</b>
Analysis Date: <b>01/27/23 20:45</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>3</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
		LowLimit	HighLimit
		RPD Ref Val	%RPD
		RPDLimit	Qual

Alkalinity, Total as CaCO3	58	4.0	0
Bicarbonate as HCO3	70	4.0	0
Carbonate as CO3	ND	4.0	0
			55.15
			4.3
			10
			66.67
			4.4
			10
			0
			10

Associated samples: H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A

Run ID :Run Order: <b>PHSC_101-H_230127A: 176</b>	SampType: <b>Sample Duplicate</b>	Lab ID: <b>H23010535-015ADUP</b>	Method: <b>A2320 B</b>
Analysis Date: <b>01/27/23 21:24</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>3</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
		LowLimit	HighLimit
		RPD Ref Val	%RPD
		RPDLimit	Qual

Alkalinity, Total as CaCO3	210	4.0	0
Bicarbonate as HCO3	250	4.0	0
Carbonate as CO3	ND	4.0	0
			203.6
			1.0
			10
			247.7
			1.0
			10
			0
			10

Associated samples: H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181895

**Date:** 10-Apr-23

Run ID :Run Order: ICPMS205-H_230126B: 13	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.8			
Analysis Date: 01/26/23 17:03	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <u>27</u>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.314	0.10	0.3	0	105	90	110				
Antimony	0.0604	0.050	0.06	0	101	90	110				
Arsenic	0.0617	0.0050	0.06	0	103	90	110				
Barium	0.0604	0.10	0.06	0	101	90	110				
Beryllium	0.0297	0.0010	0.03	0	99	90	110				
Cadmium	0.0305	0.0010	0.03	0	102	90	110				
Chromium	0.0604	0.010	0.06	0	101	90	110				
Cobalt	0.0605	0.010	0.06	0	101	90	110				
Copper	0.0616	0.010	0.06	0	103	90	110				
Iron	0.313	0.020	0.3	0	104	90	110				
Lead	0.0600	0.010	0.06	0	100	90	110				
Lithium	0.0628	0.10	0.06	0	105	90	110				
Magnesium	3.12	0.50	3	0	104	90	110				
Manganese	0.297	0.010	0.3	0	99	90	110				
Molybdenum	0.0578	0.0050	0.06	0	96	90	110				
Nickel	0.0604	0.010	0.06	0	101	90	110				
Selenium	0.0617	0.0050	0.06	0	103	90	110				
Silver	0.0300	0.0050	0.03	0	100	90	110				
Sodium	3.15	0.50	3	0	105	90	110				
Strontium	0.0605	0.10	0.06	0	101	90	110				
Thallium	0.0598	0.10	0.06	0	100	90	110				
Thorium	0.0617	0.0010	0.06	0	103	90	110				
Tin	0.0613	0.10	0.06	0	102	90	110				
Titanium	0.0604	0.010	0.06	0	101	90	110				
Uranium	0.0604	0.00030	0.06	0	101	90	110				
Vanadium	0.0597	0.10	0.06	0	99	90	110				
Zinc	0.0622	0.010	0.06	0	104	90	110				

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
 Page 119 of 152



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010535

BatchID: R181895

Date: 10-Apr-23

Run ID :Run Order: ICPMS205-H_230126B: 23	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 01/26/23 17:28	Units: mg/L		Prep Info: Prep Date:				Prep Method:				
Analytes <u>27</u>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	ND	0.0002									
Arsenic	ND	0.0002									
Barium	ND	0.0002									
Beryllium	ND	0.0002									
Cadmium	ND	0.00002									
Chromium	ND	0.0001									
Cobalt	ND	0.001									
Copper	ND	0.0001									
Iron	ND	0.004									
Lead	ND	0.0001									
Lithium	ND	0.001									
Magnesium	ND	0.01									
Manganese	0.0008	0.0003									
Molybdenum	ND	0.0003									
Nickel	ND	0.0002									
Selenium	ND	0.00007									
Silver	ND	0.00008									
Sodium	ND	0.04									
Strontium	ND	0.0001									
Thallium	ND	0.00008									
Thorium	ND	0.0002									
Tin	0.0005	0.0002									
Titanium	ND	0.0005									
Uranium	ND	0.00002									
Vanadium	ND	0.0001									
Zinc	ND	0.001									

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
 Page 120 of 152



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010535

BatchID: R181895

Date: 10-Apr-23

Run ID :Run Order: ICPMS205-H_230126B: 24	SampType: Laboratory Fortified Blank				Lab ID: LFB			Method: E200.8			
Analysis Date: 01/26/23 17:30	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <u>27</u>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0568	0.10	0.05	0	114	85	115				
Antimony	0.0501	0.050	0.05	0	100	85	115				
Arsenic	0.0481	0.0050	0.05	0	96	85	115				
Barium	0.0478	0.10	0.05	0	96	85	115				
Beryllium	0.0475	0.0010	0.05	0	95	85	115				
Cadmium	0.0486	0.0010	0.05	0	97	85	115				
Chromium	0.0480	0.010	0.05	0	96	85	115				
Cobalt	0.0478	0.010	0.05	0	96	85	115				
Copper	0.0476	0.010	0.05	0	95	85	115				
Iron	0.159	0.020	0.15	0	106	85	115				
Lead	0.0479	0.010	0.05	0	96	85	115				
Lithium	0.0488	0.10	0.05	0	98	85	115				
Magnesium	0.998	0.50	1	0	100	85	115				
Manganese	0.0489	0.010	0.05	0	98	85	115				
Molybdenum	0.0464	0.0050	0.05	0	93	85	115				
Nickel	0.0478	0.010	0.05	0	96	85	115				
Selenium	0.0485	0.0050	0.05	0	97	85	115				
Silver	0.0192	0.0050	0.02	0	96	85	115				
Sodium	1.00	0.50	1	0	100	85	115				
Strontium	0.0480	0.10	0.05	0	96	85	115				
Thallium	0.0471	0.10	0.05	0	94	85	115				
Thorium	0.0461	0.0010	0.05	0	92	85	115				
Tin	0.0484	0.10	0.05	0	97	85	115				
Titanium	0.0470	0.010	0.05	0	94	85	115				
Uranium	0.0474	0.00030	0.05	0	95	85	115				
Vanadium	0.0473	0.10	0.05	0	95	85	115				
Zinc	0.0507	0.010	0.05	0	101	85	115				

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181895

**Date:** 10-Apr-23

Run ID :Run Order: ICPMS205-H_230126B: 63	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 01/26/23 19:49	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <u>27</u>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0542	0.10	0.05	0	108	90	110				
Antimony	0.0500	0.050	0.05	0	100	90	110				
Arsenic	0.0523	0.0050	0.05	0	105	90	110				
Barium	0.0504	0.10	0.05	0	101	90	110				
Beryllium	0.0510	0.0010	0.05	0	102	90	110				
Cadmium	0.0527	0.0010	0.05	0	105	90	110				
Chromium	0.0525	0.010	0.05	0	105	90	110				
Cobalt	0.0519	0.010	0.05	0	104	90	110				
Copper	0.0518	0.010	0.05	0	103	90	110				
Iron	1.36	0.020	1.3	0	105	90	110				
Lead	0.0510	0.010	0.05	0	102	90	110				
Lithium	0.662	0.10	0.625	0	106	90	110				
Magnesium	13.4	0.50	12.5	0	108	90	110				
Manganese	0.0506	0.010	0.05	0	101	90	110				
Molybdenum	0.0524	0.0050	0.05	0	105	90	110				
Nickel	0.0512	0.010	0.05	0	102	90	110				
Selenium	0.0523	0.0050	0.05	0	105	90	110				
Silver	0.0211	0.0050	0.02	0	105	90	110				
Sodium	13.8	0.50	12.5	0	110	90	110				
Strontium	0.0496	0.10	0.05	0	99	90	110				
Thallium	0.0512	0.10	0.05	0	102	90	110				
Thorium	0.0495	0.0010	0.05	0	99	90	110				
Tin	0.0517	0.10	0.05	0	103	90	110				
Titanium	0.0513	0.010	0.05	0	103	90	110				
Uranium	0.0504	0.00030	0.05	0	101	90	110				
Vanadium	0.0517	0.10	0.05	0	103	90	110				
Zinc	0.0533	0.010	0.05	0	107	90	110				

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181895

**Date:** 10-Apr-23

Run ID :Run Order: ICPMS205-H_230126B: 75	SampType: Sample Matrix Spike				Lab ID: H23010433-034BMS				Method: E200.8		
Analysis Date: 01/26/23 20:44	Units: mg/L				Prep Info: Prep Date:		Prep Method:				
Analytes <u>27</u>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0485	0.030	0.05	0	97	70	130				
Antimony	0.0521	0.0010	0.05	0	104	70	130				
Arsenic	0.0568	0.0010	0.05	0.003092	107	70	130				
Barium	0.0678	0.050	0.05	0.01923	97	70	130				
Beryllium	0.0475	0.0010	0.05	0	95	70	130				
Cadmium	0.0569	0.0010	0.05	0.005594	103	70	130				
Chromium	0.0515	0.0050	0.05	0.0002803	102	70	130				
Cobalt	0.0510	0.0050	0.05	0	102	70	130				
Copper	0.101	0.0050	0.05	0.05067	101	70	130				
Iron	0.158	0.020	0.15	0	105	70	130				
Lead	0.0522	0.0010	0.05	0	104	70	130				
Lithium	0.225	0.10	0.05	0.1773	95	70	130				
Magnesium	44.8	1.0	1	44.54		70	130				A
Manganese	0.0503	0.0010	0.05	0	101	70	130				
Molybdenum	0.0571	0.0010	0.05	0.006304	102	70	130				
Nickel	0.0520	0.0050	0.05	0.002701	98	70	130				
Selenium	0.0548	0.0010	0.05	0.0006826	108	70	130				
Silver	0.0204	0.0010	0.02	0.0001848	101	70	130				
Sodium	87.4	1.0	1	88.31		70	130				A
Strontium	1.98	0.010	0.05	1.919		70	130				A
Thallium	0.0514	0.00050	0.05	0	103	70	130				
Thorium	0.0510	0.0050	0.05	0	102	70	130				
Tin	0.0500	0.050	0.05	0	100	70	130				
Titanium	0.0493	0.0050	0.05	0	99	70	130				
Uranium	0.108	0.00030	0.05	0.05418	107	70	130				
Vanadium	0.0518	0.010	0.05	0.001206	101	70	130				
Zinc	0.784	0.010	0.05	0.7286		70	130				A

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010535

BatchID: R181895

Date: 10-Apr-23

Run ID :Run Order: ICPMS205-H_230126B: 76	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010433-034BMSD				Method: E200.8		
Analysis Date: 01/26/23 20:49	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <u>27</u>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0521	0.030	0.05	0	104	70	130	0.04852	7.2	20	
Antimony	0.0522	0.0010	0.05	0	104	70	130	0.05211	0.2	20	
Arsenic	0.0560	0.0010	0.05	0.003092	106	70	130	0.05684	1.6	20	
Barium	0.0688	0.050	0.05	0.01923	99	70	130	0.06784	1.3	20	
Beryllium	0.0474	0.0010	0.05	0	95	70	130	0.0475	0.1	20	
Cadmium	0.0564	0.0010	0.05	0.005594	102	70	130	0.0569	0.8	20	
Chromium	0.0518	0.0050	0.05	0.0002803	103	70	130	0.05153	0.5	20	
Cobalt	0.0503	0.0050	0.05	0	101	70	130	0.05098	1.4	20	
Copper	0.101	0.0050	0.05	0.05067	101	70	130	0.1014	0.4	20	
Iron	0.155	0.020	0.15	0	103	70	130	0.1581	2.0	20	
Lead	0.0524	0.0010	0.05	0	105	70	130	0.0522	0.4	20	
Lithium	0.224	0.10	0.05	0.1773	93	70	130	0.2246	0.4	20	
Magnesium	45.1	1.0	1	44.54		70	130	44.82	0.6	20	A
Manganese	0.0512	0.0010	0.05	0	102	70	130	0.05028	1.8	20	
Molybdenum	0.0571	0.0010	0.05	0.006304	102	70	130	0.05706	0.1	20	
Nickel	0.0519	0.0050	0.05	0.002701	98	70	130	0.05195	0.1	20	
Selenium	0.0548	0.0010	0.05	0.0006826	108	70	130	0.05484	0.1	20	
Silver	0.0204	0.0010	0.02	0.0001848	101	70	130	0.02043	0.2	20	
Sodium	87.6	1.0	1	88.31		70	130	87.37	0.3	20	A
Strontium	2.00	0.010	0.05	1.919		70	130	1.977	1.1	20	A
Thallium	0.0516	0.00050	0.05	0	103	70	130	0.05145	0.2	20	
Thorium	0.0515	0.0050	0.05	0	103	70	130	0.05102	0.9	20	
Tin	0.0497	0.050	0.05	0	99	70	130	0.04996		20	
Titanium	0.0508	0.0050	0.05	0	102	70	130	0.04926	3.1	20	
Uranium	0.109	0.00030	0.05	0.05418	109	70	130	0.1078	1.0	20	
Vanadium	0.0523	0.010	0.05	0.001206	102	70	130	0.0518	1.0	20	
Zinc	0.785	0.010	0.05	0.7286		70	130	0.7844	0.1	20	A

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010535

BatchID: R181895

Date: 10-Apr-23

Run ID :Run Order: ICPMS205-H_230126B: 99	SampType: Sample Matrix Spike				Lab ID: H23010478-001BMS				Method: E200.8		
Analysis Date: 01/26/23 22:35	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0470	0.030	0.05	0	94	70	130				
Antimony	0.0523	0.0010	0.05	0	105	70	130				
Arsenic	0.0496	0.0010	0.05	0.000664	98	70	130				
Barium	0.130	0.050	0.05	0.0812	99	70	130				
Beryllium	0.0477	0.0010	0.05	0	95	70	130				
Cadmium	0.0508	0.0010	0.05	0	102	70	130				
Chromium	0.0482	0.0050	0.05	0.0002411	96	70	130				
Cobalt	0.0478	0.0050	0.05	0	96	70	130				
Copper	0.0508	0.0050	0.05	0.003707	94	70	130				
Iron	0.146	0.020	0.15	0	98	70	130				
Lead	0.0503	0.0010	0.05	0.0001753	100	70	130				
Magnesium	33.5	1.0	1	32.92		70	130				A
Manganese	0.0472	0.0010	0.05	0	94	70	130				
Molybdenum	0.0534	0.0010	0.05	0.004356	98	70	130				
Nickel	0.0475	0.0050	0.05	0.0003895	94	70	130				
Selenium	0.0514	0.0010	0.05	0.001361	100	70	130				
Silver	0.0200	0.0010	0.02	0	100	70	130				
Sodium	27.1	1.0	1	26.67		70	130				A
Strontium	0.373	0.010	0.05	0.3258		70	130				A
Thallium	0.0498	0.00050	0.05	0	100	70	130				
Tin	0.0499	0.050	0.05	0	100	70	130				
Titanium	0.0485	0.0050	0.05	0	97	70	130				
Uranium	0.0566	0.00030	0.05	0.006309	101	70	130				
Vanadium	0.0482	0.010	0.05	0.0002544	96	70	130				
Zinc	0.0547	0.010	0.05	0.005268	99	70	130				

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Run ID :Run Order: ICPMS205-H_230126B: 100	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010478-001BMSD				Method: E200.8		
Analysis Date: 01/26/23 22:40	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0536	0.030	0.05	0	107	70	130	0.04703	13	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010535

BatchID: R181895

Date: 10-Apr-23

Run ID :Run Order: ICPMS205-H_230126B: 100	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010478-001BMSD				Method: E200.8		
Analysis Date: 01/26/23 22:40	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0537	0.0010	0.05	0	107	70	130	0.05228	2.6	20	
Arsenic	0.0509	0.0010	0.05	0.000664	100	70	130	0.04959	2.5	20	
Barium	0.130	0.050	0.05	0.0812	99	70	130	0.1305	0.0	20	
Beryllium	0.0489	0.0010	0.05	0	98	70	130	0.0477	2.4	20	
Cadmium	0.0516	0.0010	0.05	0	103	70	130	0.05084	1.4	20	
Chromium	0.0497	0.0050	0.05	0.0002411	99	70	130	0.04816	3.2	20	
Cobalt	0.0494	0.0050	0.05	0	99	70	130	0.04785	3.1	20	
Copper	0.0522	0.0050	0.05	0.003707	97	70	130	0.05085	2.6	20	
Iron	0.153	0.020	0.15	0	102	70	130	0.1464	4.3	20	
Lead	0.0513	0.0010	0.05	0.0001753	102	70	130	0.05028	2.1	20	
Magnesium	33.5	1.0	1	32.92		70	130	33.49	0.1	20	A
Manganese	0.0488	0.0010	0.05	0	98	70	130	0.04718	3.4	20	
Molybdenum	0.0541	0.0010	0.05	0.004356	99	70	130	0.0534	1.3	20	
Nickel	0.0496	0.0050	0.05	0.0003895	98	70	130	0.04746	4.4	20	
Selenium	0.0529	0.0010	0.05	0.001361	103	70	130	0.05139	2.8	20	
Silver	0.0206	0.0010	0.02	0	103	70	130	0.02	2.9	20	
Sodium	27.1	1.0	1	26.67		70	130	27.11	0.1	20	A
Strontium	0.376	0.010	0.05	0.3258		70	130	0.3727	0.9	20	A
Thallium	0.0508	0.00050	0.05	0	102	70	130	0.04977	2.0	20	
Tin	0.0514	0.050	0.05	0	103	70	130	0.04988		20	
Titanium	0.0493	0.0050	0.05	0	99	70	130	0.0485	1.6	20	
Uranium	0.0576	0.00030	0.05	0.006309	103	70	130	0.05659	1.8	20	
Vanadium	0.0496	0.010	0.05	0.0002544	99	70	130	0.04824	2.8	20	
Zinc	0.0561	0.010	0.05	0.005268	102	70	130	0.05468	2.6	20	

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Run ID :Run Order: ICPMS205-H_230126B: 101	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 01/26/23 22:44	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 27	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0529	0.10	0.05	0	106	90	110				
Antimony	0.0509	0.050	0.05	0	102	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010535

BatchID: R181895

Date: 10-Apr-23

Run ID :Run Order: ICPMS205-H_230126B: 101	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 01/26/23 22:44	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>27</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0509	0.0050	0.05	0	102	90	110				
Barium	0.0488	0.10	0.05	0	98	90	110				
Beryllium	0.0516	0.0010	0.05	0	103	90	110				
Cadmium	0.0516	0.0010	0.05	0	103	90	110				
Chromium	0.0497	0.010	0.05	0	99	90	110				
Cobalt	0.0503	0.010	0.05	0	101	90	110				
Copper	0.0504	0.010	0.05	0	101	90	110				
Iron	1.31	0.020	1.3	0	101	90	110				
Lead	0.0514	0.010	0.05	0	103	90	110				
Lithium	0.662	0.10	0.625	0	106	90	110				
Magnesium	13.5	0.50	12.5	0	108	90	110				
Manganese	0.0488	0.010	0.05	0	98	90	110				
Molybdenum	0.0499	0.0050	0.05	0	100	90	110				
Nickel	0.0495	0.010	0.05	0	99	90	110				
Selenium	0.0529	0.0050	0.05	0	106	90	110				
Silver	0.0206	0.0050	0.02	0	103	90	110				
Sodium	13.4	0.50	12.5	0	107	90	110				
Strontium	0.0501	0.10	0.05	0	100	90	110				
Thallium	0.0513	0.10	0.05	0	103	90	110				
Thorium	0.0505	0.0010	0.05	0	101	90	110				
Tin	0.0520	0.10	0.05	0	104	90	110				
Titanium	0.0508	0.010	0.05	0	102	90	110				
Uranium	0.0510	0.00030	0.05	0	102	90	110				
Vanadium	0.0500	0.10	0.05	0	100	90	110				
Zinc	0.0520	0.010	0.05	0	104	90	110				

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Run ID :Run Order: ICPMS205-H_230126B: 113	SampType: Sample Matrix Spike				Lab ID: H23010535-008BMS				Method: E200.8		
Analysis Date: 01/26/23 23:40	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>27</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0546	0.030	0.05	0	109	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181895

**Date:** 10-Apr-23

Run ID :Run Order: ICPMS205-H_230126B: 113	SampType: Sample Matrix Spike				Lab ID: H23010535-008BMS				Method: E200.8		
Analysis Date: 01/26/23 23:40	Units: mg/L		Prep Info:		Prep Date:			Prep Method:			
Analytes <u>27</u>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0536	0.0010	0.05	0.000237	107	70	130				
Arsenic	0.0564	0.0010	0.05	0.003545	106	70	130				
Barium	0.0864	0.050	0.05	0.03604	101	70	130				
Beryllium	0.0464	0.0010	0.05	0	93	70	130				
Cadmium	0.0803	0.0010	0.05	0.02894	103	70	130				
Chromium	0.0505	0.0050	0.05	0	101	70	130				
Cobalt	0.0600	0.0050	0.05	0.01094	98	70	130				
Copper	0.111	0.0050	0.05	0.06304	97	70	130				
Iron	0.156	0.020	0.15	0	104	70	130				
Lead	0.0522	0.0010	0.05	0	104	70	130				
Lithium	0.200	0.10	0.05	0.1534	94	70	130				
Magnesium	56.3	1.0	1	55.65		70	130				A
Manganese	37.4	0.0010	0.05	38.43		70	130				AE
Molybdenum	0.0714	0.0010	0.05	0.01985	103	70	130				
Nickel	0.104	0.0050	0.05	0.05725	94	70	130				
Selenium	0.0565	0.0010	0.05	0.0001038	113	70	130				
Silver	0.0208	0.0010	0.02	0	104	70	130				
Sodium	99.2	1.0	1	97.63		70	130				A
Strontium	1.45	0.010	0.05	1.457		70	130				A
Thallium	0.0534	0.00050	0.05	0	107	70	130				
Thorium	0.0514	0.0050	0.05	0	103	70	130				
Tin	0.0510	0.050	0.05	0	102	70	130				
Titanium	0.0493	0.0050	0.05	0	99	70	130				
Uranium	0.0915	0.00030	0.05	0.0389	105	70	130				
Vanadium	0.0521	0.010	0.05	0.00265	99	70	130				
Zinc	9.32	0.010	0.05	9.434		70	130				AE

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010535

BatchID: R181895

Date: 10-Apr-23

Run ID :Run Order: ICPMS205-H_230126B: 114	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010535-008BMSD				Method: E200.8		
Analysis Date: 01/26/23 23:44	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <u>27</u>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0521	0.030	0.05	0	104	70	130	0.05455	4.6	20	
Antimony	0.0542	0.0010	0.05	0.000237	108	70	130	0.0536	1.0	20	
Arsenic	0.0569	0.0010	0.05	0.003545	107	70	130	0.0564	0.8	20	
Barium	0.0867	0.050	0.05	0.03604	101	70	130	0.08635	0.4	20	
Beryllium	0.0465	0.0010	0.05	0	93	70	130	0.04645	0	20	
Cadmium	0.0809	0.0010	0.05	0.02894	104	70	130	0.0803	0.8	20	
Chromium	0.0511	0.0050	0.05	0	102	70	130	0.05052	1.1	20	
Cobalt	0.0608	0.0050	0.05	0.01094	100	70	130	0.06	1.2	20	
Copper	0.112	0.0050	0.05	0.06304	98	70	130	0.1114	0.5	20	
Iron	0.157	0.020	0.15	0	105	70	130	0.1558	0.8	20	
Lead	0.0531	0.0010	0.05	0	106	70	130	0.05218	1.7	20	
Lithium	0.198	0.10	0.05	0.1534	89	70	130	0.2004	1.2	20	
Magnesium	56.2	1.0	1	55.65		70	130	56.28	0.1	20	A
Manganese	37.9	0.0010	0.05	38.43		70	130	37.35	1.4	20	AE
Molybdenum	0.0723	0.0010	0.05	0.01985	105	70	130	0.07138	1.3	20	
Nickel	0.106	0.0050	0.05	0.05725	98	70	130	0.1045	1.5	20	
Selenium	0.0571	0.0010	0.05	0.0001038	114	70	130	0.05651	1.0	20	
Silver	0.0184	0.0010	0.02	0	92	70	130	0.02077	12	20	
Sodium	99.0	1.0	1	97.63		70	130	99.19	0.2	20	A
Strontium	1.46	0.010	0.05	1.457		70	130	1.446	0.6	20	A
Thallium	0.0540	0.00050	0.05	0	108	70	130	0.05344	1.1	20	
Thorium	0.0525	0.0050	0.05	0	105	70	130	0.05143	2.1	20	
Tin	0.0513	0.050	0.05	0	103	70	130	0.05103	0.4	20	
Titanium	0.0510	0.0050	0.05	0	102	70	130	0.04931	3.4	20	
Uranium	0.0925	0.00030	0.05	0.0389	107	70	130	0.09152	1.1	20	
Vanadium	0.0531	0.010	0.05	0.00265	101	70	130	0.05213	1.9	20	
Zinc	9.36	0.010	0.05	9.434		70	130	9.317	0.4	20	AE

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010535

BatchID: R181895

Date: 10-Apr-23

Run ID :Run Order: ICPMS205-H_230126B: 115	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 01/26/23 23:49	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 26	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0518	0.10	0.05	0	104	90	110				
Antimony	0.0519	0.050	0.05	0	104	90	110				
Arsenic	0.0532	0.0050	0.05	0	106	90	110				
Barium	0.0519	0.10	0.05	0	104	90	110				
Beryllium	0.0494	0.0010	0.05	0	99	90	110				
Cadmium	0.0538	0.0010	0.05	0	108	90	110				
Chromium	0.0524	0.010	0.05	0	105	90	110				
Cobalt	0.0523	0.010	0.05	0	105	90	110				
Copper	0.0528	0.010	0.05	0	106	90	110				
Iron	1.37	0.020	1.3	0	105	90	110				
Lead	0.0522	0.010	0.05	0	104	90	110				
Lithium	0.655	0.10	0.625	0	105	90	110				
Magnesium	13.6	0.50	12.5	0	109	90	110				
Manganese	0.0539	0.010	0.05	0	108	90	110				
Molybdenum	0.0523	0.0050	0.05	0	105	90	110				
Nickel	0.0524	0.010	0.05	0	105	90	110				
Selenium	0.0537	0.0050	0.05	0	107	90	110				
Silver	0.0217	0.0050	0.02	0	108	90	110				
Sodium	13.7	0.50	12.5	0	110	90	110				
Strontium	0.0509	0.10	0.05	0	102	90	110				
Thallium	0.0522	0.10	0.05	0	104	90	110				
Thorium	0.0512	0.0010	0.05	0	102	90	110				
Tin	0.0530	0.10	0.05	0	106	90	110				
Titanium	0.0510	0.010	0.05	0	102	90	110				
Uranium	0.0518	0.00030	0.05	0	104	90	110				
Vanadium	0.0521	0.10	0.05	0	104	90	110				

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181895

**Date:** 10-Apr-23

Run ID :Run Order: ICPMS205-H_230126B: 127	SampType: Sample Matrix Spike				Lab ID: H23010535-018BMS				Method: E200.8		
Analysis Date: 01/27/23 00:44	Units: mg/L				Prep Info: Prep Date:		Prep Method:				
Analytes <u>27</u>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0471	0.030	0.05	0	94	70	130				
Antimony	0.0518	0.0010	0.05	0	104	70	130				
Arsenic	0.0501	0.0010	0.05	0	100	70	130				
Barium	0.0495	0.050	0.05	0	99	70	130				
Beryllium	0.0491	0.0010	0.05	0	98	70	130				
Cadmium	0.0531	0.0010	0.05	0	106	70	130				
Chromium	0.0498	0.0050	0.05	0	100	70	130				
Cobalt	0.0503	0.0050	0.05	0	101	70	130				
Copper	0.0513	0.0050	0.05	0.0002579	102	70	130				
Iron	0.153	0.020	0.15	0	102	70	130				
Lead	0.0501	0.0010	0.05	0	100	70	130				
Lithium	0.0514	0.10	0.05	0	103	70	130				
Magnesium	1.07	1.0	1	0	107	70	130				
Manganese	0.0508	0.0010	0.05	0.001457	99	70	130				
Molybdenum	0.0483	0.0010	0.05	0	97	70	130				
Nickel	0.0501	0.0050	0.05	0	100	70	130				
Selenium	0.0554	0.0010	0.05	0	111	70	130				
Silver	0.0208	0.0010	0.02	0	104	70	130				
Sodium	1.09	1.0	1	0	109	70	130				
Strontium	0.0488	0.010	0.05	0	98	70	130				
Thallium	0.0488	0.00050	0.05	0	98	70	130				
Thorium	0.0456	0.0050	0.05	0	91	70	130				
Tin	0.0493	0.050	0.05	0	99	70	130				
Titanium	0.0480	0.0050	0.05	0	96	70	130				
Uranium	0.0489	0.00030	0.05	0	98	70	130				
Vanadium	0.0485	0.010	0.05	0	97	70	130				
Zinc	0.0561	0.010	0.05	0.001777	109	70	130				

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010535

BatchID: R181895

Date: 10-Apr-23

Run ID :Run Order: ICPMS205-H_230126B: 128	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010535-018BMSD				Method: E200.8		
Analysis Date: 01/27/23 00:49	Units: mg/L		Prep Info:		Prep Date:			Prep Method:			
Analytes <u>27</u>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0525	0.030	0.05	0	105	70	130	0.04707	11	20	
Antimony	0.0546	0.0010	0.05	0	109	70	130	0.05178	5.4	20	
Arsenic	0.0528	0.0010	0.05	0	106	70	130	0.0501	5.3	20	
Barium	0.0521	0.050	0.05	0	104	70	130	0.0495		20	
Beryllium	0.0500	0.0010	0.05	0	100	70	130	0.04914	1.7	20	
Cadmium	0.0553	0.0010	0.05	0	111	70	130	0.05311	4.0	20	
Chromium	0.0536	0.0050	0.05	0	107	70	130	0.04976	7.5	20	
Cobalt	0.0536	0.0050	0.05	0	107	70	130	0.05031	6.3	20	
Copper	0.0538	0.0050	0.05	0.0002579	107	70	130	0.05128	4.7	20	
Iron	0.162	0.020	0.15	0	108	70	130	0.1527	5.7	20	
Lead	0.0537	0.0010	0.05	0	107	70	130	0.05007	7.0	20	
Lithium	0.0529	0.10	0.05	0	106	70	130	0.05139		20	
Magnesium	1.12	1.0	1	0	112	70	130	1.073	4.6	20	
Manganese	0.0522	0.0010	0.05	0.001457	102	70	130	0.05079	2.8	20	
Molybdenum	0.0512	0.0010	0.05	0	102	70	130	0.0483	5.8	20	
Nickel	0.0533	0.0050	0.05	0	107	70	130	0.05006	6.3	20	
Selenium	0.0560	0.0010	0.05	0	112	70	130	0.05541	1.1	20	
Silver	0.0216	0.0010	0.02	0	108	70	130	0.02078	3.7	20	
Sodium	1.13	1.0	1	0	113	70	130	1.092	3.2	20	
Strontium	0.0521	0.010	0.05	0	104	70	130	0.04885	6.4	20	
Thallium	0.0531	0.00050	0.05	0	106	70	130	0.04877	8.6	20	
Thorium	0.0503	0.0050	0.05	0	101	70	130	0.04557	9.8	20	
Tin	0.0531	0.050	0.05	0	106	70	130	0.04933		20	
Titanium	0.0522	0.0050	0.05	0	104	70	130	0.04805	8.3	20	
Uranium	0.0527	0.00030	0.05	0	105	70	130	0.04886	7.6	20	
Vanadium	0.0516	0.010	0.05	0	103	70	130	0.04854	6.1	20	
Zinc	0.0579	0.010	0.05	0.001777	112	70	130	0.05613	3.2	20	

Associated samples: H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181895

**Date:** 10-Apr-23

Run ID :Run Order: <b>ICPMS205-H_230126B: 129</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>01/27/23 00:53</b>	Units: <b>mg/L</b>		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>27</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0542	0.10	0.05	0	108	90	110				
Antimony	0.0518	0.050	0.05	0	104	90	110				
Arsenic	0.0537	0.0050	0.05	0	107	90	110				
Barium	0.0524	0.10	0.05	0	105	90	110				
Beryllium	0.0500	0.0010	0.05	0	100	90	110				
Cadmium	0.0543	0.0010	0.05	0	109	90	110				
Chromium	0.0524	0.010	0.05	0	105	90	110				
Cobalt	0.0526	0.010	0.05	0	105	90	110				
Copper	0.0522	0.010	0.05	0	104	90	110				
Iron	1.37	0.020	1.3	0	105	90	110				
Lead	0.0526	0.010	0.05	0	105	90	110				
Lithium	0.644	0.10	0.625	0	103	90	110				
Magnesium	13.4	0.50	12.5	0	108	90	110				
Manganese	0.0522	0.010	0.05	0	104	90	110				
Molybdenum	0.0524	0.0050	0.05	0	105	90	110				
Nickel	0.0528	0.010	0.05	0	106	90	110				
Selenium	0.0535	0.0050	0.05	0	107	90	110				
Silver	0.0214	0.0050	0.02	0	107	90	110				
Sodium	13.5	0.50	12.5	0	108	90	110				
Strontium	0.0515	0.10	0.05	0	103	90	110				
Thallium	0.0523	0.10	0.05	0	105	90	110				
Thorium	0.0513	0.0010	0.05	0	103	90	110				
Tin	0.0532	0.10	0.05	0	106	90	110				
Titanium	0.0547	0.010	0.05	0	109	90	110				
Uranium	0.0523	0.00030	0.05	0	105	90	110				
Vanadium	0.0518	0.10	0.05	0	104	90	110				
Zinc	0.0543	0.010	0.05	0	109	90	110				

Associated samples: **H23010535-001B, H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-006B, H23010535-007B, H23010535-008B, H23010535-009B, H23010535-010B, H23010535-011B, H23010535-012B, H23010535-013B, H23010535-014B, H23010535-015B, H23010535-016B, H23010535-017B, H23010535-018B, H23010535-019B, H23010535-020B, H23010535-021B, H23010535-022B, H23010535-023B, H23010535-024B, H23010535-025B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181901

**Date:** 10-Apr-23

Run ID :Run Order: <b>ICPMS205-H_230127A: 13</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>				Method: <b>E200.8</b>		
Analysis Date: <b>01/27/23 12:14</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0314	0.0010	0.03	0	<b>105</b>	90	110				
Manganese	0.322	0.010	0.3	0	<b>107</b>	90	110				
Zinc	0.0650	0.010	0.06	0	<b>108</b>	90	110				

Associated samples: **H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-007B, H23010535-018B, H23010535-019B**

Run ID :Run Order: <b>ICPMS205-H_230127A: 23</b>	SampType: <b>Method Blank</b>				Lab ID: <b>LRB</b>				Method: <b>E200.8</b>		
Analysis Date: <b>01/27/23 13:04</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	ND	0.0002									
Manganese	ND	0.0003									
Zinc	ND	0.001									

Associated samples: **H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-007B, H23010535-018B, H23010535-019B**

Run ID :Run Order: <b>ICPMS205-H_230127A: 24</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>				Method: <b>E200.8</b>		
Analysis Date: <b>01/27/23 13:08</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0470	0.0010	0.05	0	<b>94</b>	85	115				
Manganese	0.0483	0.010	0.05	0	<b>97</b>	85	115				
Zinc	0.0502	0.010	0.05	0	<b>100</b>	85	115				

Associated samples: **H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-007B, H23010535-018B, H23010535-019B**

Run ID :Run Order: <b>ICPMS205-H_230127A: 91</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23010521-002EMS</b>				Method: <b>E200.8</b>		
Analysis Date: <b>01/27/23 20:54</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0898	0.0010	0.1	0	<b>90</b>	70	130				
Manganese	0.231	0.0010	0.1	0.1457	<b>86</b>	70	130				
Zinc	0.0909	0.010	0.1	0	<b>91</b>	70	130				

Associated samples: **H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-007B, H23010535-018B, H23010535-019B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount

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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010535

BatchID: R181901

Date: 10-Apr-23

Run ID :Run Order: ICPMS205-H_230127A: 92	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010521-002EMSD				Method: E200.8		
Analysis Date: 01/27/23 20:58	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0931	0.0010	0.1	0	93	70	130	0.08978	3.7	20	
Manganese	0.233	0.0010	0.1	0.1457	88	70	130	0.2314	0.9	20	
Zinc	0.0911	0.010	0.1	0	91	70	130	0.09094	0.2	20	

Associated samples: H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-007B, H23010535-018B, H23010535-019B

Run ID :Run Order: ICPMS205-H_230127A: 93	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 01/27/23 21:03	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0510	0.0010	0.05	0	102	90	110				
Manganese	0.0508	0.010	0.05	0	101	90	110				
Zinc	0.0505	0.010	0.05	0	101	90	110				

Associated samples: H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-007B, H23010535-018B, H23010535-019B

Run ID :Run Order: ICPMS205-H_230127A: 105	SampType: Sample Matrix Spike				Lab ID: H23010433-012BMS				Method: E200.8		
Analysis Date: 01/27/23 21:58	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0462	0.0010	0.05	0	92	70	130				
Manganese	0.0483	0.0010	0.05	0.0009849	95	70	130				
Zinc	0.0943	0.010	0.05	0.04608	96	70	130				

Associated samples: H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-007B, H23010535-018B, H23010535-019B

Run ID :Run Order: ICPMS205-H_230127A: 106	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010433-012BMSD				Method: E200.8		
Analysis Date: 01/27/23 22:03	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0464	0.0010	0.05	0	93	70	130	0.04622	0.5	20	
Manganese	0.0489	0.0010	0.05	0.0009849	96	70	130	0.04829	1.3	20	
Zinc	0.0964	0.010	0.05	0.04608	101	70	130	0.09426	2.2	20	

Associated samples: H23010535-002B, H23010535-003B, H23010535-004B, H23010535-005B, H23010535-007B, H23010535-018B, H23010535-019B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181919

**Date:** 10-Apr-23

Run ID :Run Order: <b>FIA203-HE_230127B: 10</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>			Method: <b>E353.2</b>			
Analysis Date: <b>01/27/23 14:13</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.01	0.010	1	0	<b>101</b>	90	110				

Associated samples: **H23010535-001C, H23010535-002C, H23010535-003C, H23010535-004C, H23010535-005C, H23010535-006C, H23010535-007C, H23010535-008C, H23010535-009C, H23010535-020C, H23010535-021C, H23010535-022C, H23010535-023C, H23010535-024C, H23010535-025C**

Run ID :Run Order: <b>FIA203-HE_230127B: 11</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>			Method: <b>E353.2</b>			
Analysis Date: <b>01/27/23 14:15</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.008									

Associated samples: **H23010535-001C, H23010535-002C, H23010535-003C, H23010535-004C, H23010535-005C, H23010535-006C, H23010535-007C, H23010535-008C, H23010535-009C, H23010535-020C, H23010535-021C, H23010535-022C, H23010535-023C, H23010535-024C, H23010535-025C**

Run ID :Run Order: <b>FIA203-HE_230127B: 12</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>			Method: <b>E353.2</b>			
Analysis Date: <b>01/27/23 14:16</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.987	0.011	1	0	<b>99</b>	90	110				

Associated samples: **H23010535-001C, H23010535-002C, H23010535-003C, H23010535-004C, H23010535-005C, H23010535-006C, H23010535-007C, H23010535-008C, H23010535-009C, H23010535-020C, H23010535-021C, H23010535-022C, H23010535-023C, H23010535-024C, H23010535-025C**

Run ID :Run Order: <b>FIA203-HE_230127B: 39</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>			Method: <b>E353.2</b>			
Analysis Date: <b>01/27/23 14:48</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.501	0.010	0.5	0	<b>100</b>	90	110				

Associated samples: **H23010535-001C, H23010535-002C, H23010535-003C, H23010535-004C, H23010535-005C, H23010535-006C, H23010535-007C, H23010535-008C, H23010535-009C, H23010535-020C, H23010535-021C, H23010535-022C, H23010535-023C, H23010535-024C, H23010535-025C**

Run ID :Run Order: <b>FIA203-HE_230127B: 44</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23010535-002CMS</b>			Method: <b>E353.2</b>			
Analysis Date: <b>01/27/23 14:54</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.03	0.011	1	0.0269	<b>100</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010535

BatchID: R181919

Date: 10-Apr-23

Run ID :Run Order: FIA203-HE_230127B: 44	SampType: Sample Matrix Spike	Lab ID: H23010535-002CMS	Method: E353.2								
Analysis Date: 01/27/23 14:54	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23010535-001C, H23010535-002C, H23010535-003C, H23010535-004C, H23010535-005C, H23010535-006C, H23010535-007C, H23010535-008C, H23010535-009C, H23010535-020C, H23010535-021C, H23010535-022C, H23010535-023C, H23010535-024C, H23010535-025C

Run ID :Run Order: FIA203-HE_230127B: 45	SampType: Sample Matrix Spike Duplicate	Lab ID: H23010535-002CMSD	Method: E353.2								
Analysis Date: 01/27/23 14:55	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrogen, Nitrate+Nitrite as N	1.04	0.011	1	0.0269	101	90	110	1.028	1.1	10	
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Associated samples: H23010535-001C, H23010535-002C, H23010535-003C, H23010535-004C, H23010535-005C, H23010535-006C, H23010535-007C, H23010535-008C, H23010535-009C, H23010535-020C, H23010535-021C, H23010535-022C, H23010535-023C, H23010535-024C, H23010535-025C

Run ID :Run Order: FIA203-HE_230127B: 53	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E353.2								
Analysis Date: 01/27/23 15:05	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrogen, Nitrate+Nitrite as N	0.507	0.010	0.5	0	101	90	110				
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Associated samples: H23010535-001C, H23010535-002C, H23010535-003C, H23010535-004C, H23010535-005C, H23010535-006C, H23010535-007C, H23010535-008C, H23010535-009C, H23010535-020C, H23010535-021C, H23010535-022C, H23010535-023C, H23010535-024C, H23010535-025C

Run ID :Run Order: FIA203-HE_230127B: 67	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E353.2								
Analysis Date: 01/27/23 15:21	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrogen, Nitrate+Nitrite as N	0.500	0.010	0.5	0	100	90	110				
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Associated samples: H23010535-001C, H23010535-002C, H23010535-003C, H23010535-004C, H23010535-005C, H23010535-006C, H23010535-007C, H23010535-008C, H23010535-009C, H23010535-020C, H23010535-021C, H23010535-022C, H23010535-023C, H23010535-024C, H23010535-025C

Run ID :Run Order: FIA203-HE_230127B: 79	SampType: Sample Matrix Spike	Lab ID: H23010535-020CMS	Method: E353.2								
Analysis Date: 01/27/23 15:35	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrogen, Nitrate+Nitrite as N	4.38	0.055	5	0	88	90	110				S
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Associated samples: H23010535-001C, H23010535-002C, H23010535-003C, H23010535-004C, H23010535-005C, H23010535-006C, H23010535-007C, H23010535-008C, H23010535-009C, H23010535-020C, H23010535-021C, H23010535-022C, H23010535-023C, H23010535-024C, H23010535-025C

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181919

**Date:** 10-Apr-23

Run ID :Run Order: <b>FIA203-HE_230127B: 80</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23010535-020CMSD</b>				Method: <b>E353.2</b>		
Analysis Date: <b>01/27/23 15:37</b>	Units: <b>mg/L</b>			Prep Info: Prep Date:				Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	4.37	0.055	5	0	<b>87</b>	90	110	4.378	<b>0.1</b>	10	S

Associated samples: **H23010535-001C, H23010535-002C, H23010535-003C, H23010535-004C, H23010535-005C, H23010535-006C, H23010535-007C, H23010535-008C, H23010535-009C, H23010535-020C, H23010535-021C, H23010535-022C, H23010535-023C, H23010535-024C, H23010535-025C**

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R181923

**Date:** 10-Apr-23

Run ID :Run Order: <b>IC METROHM_230127A: 2</b>		SampType: <b>Method Blank</b>			Lab ID: <b>ICB</b>			Method: <b>E300.0</b>			
Analysis Date: <b>01/27/23 11:12</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.02									
Sulfate	ND	0.06									
Bromide	ND	0.001									
Fluoride	ND	0.001									

Associated samples: H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A

Run ID :Run Order: <b>IC METROHM_230127A: 3</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>01/27/23 11:26</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	98.1	1.0	100	0	98	90	110				
Sulfate	383	1.0	400	0	96	90	110				
Bromide	5.12	0.50	5	0	102	90	110				
Fluoride	5.14	0.10	5	0	103	90	110				

Associated samples: H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A

Run ID :Run Order: <b>IC METROHM_230127A: 4</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E300.0</b>			
Analysis Date: <b>01/27/23 11:40</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	25.0	1.0	25	0	100	90	110				
Sulfate	104	1.0	100	0	104	90	110				
Bromide	1.29	0.50	1.25	0	103	90	110				
Fluoride	1.26	0.10	1.25	0	101	90	110				

Associated samples: H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010535

BatchID: R181923

Date: 10-Apr-23

Run ID :Run Order: IC METROHM_230127A: 60	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E300.0		
Analysis Date: 01/28/23 02:24	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	50.2	1.0	50	0	100	90	110				
Sulfate	204	1.0	200	0	102	90	110				
Bromide	2.75	0.50	2.5	0	110	90	110				
Fluoride	2.65	0.10	2.5	0	106	90	110				

Associated samples: H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A

Run ID :Run Order: IC METROHM_230127A: 63	SampType: Sample Matrix Spike				Lab ID: H23010535-001AMS				Method: E300.0		
Analysis Date: 01/28/23 03:22	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	111	1.0	25	85.11	102	90	110				
Sulfate	260	1.0	100	158.1	102	90	110				
Bromide	1.86	0.50	1.25	0.428	115	90	110				S
Fluoride	2.23	0.10	1.25	0.818	113	90	110				S

Associated samples: H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A

Run ID :Run Order: IC METROHM_230127A: 64	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010535-001AMSD				Method: E300.0		
Analysis Date: 01/28/23 03:36	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	111	1.0	25	85.11	103	90	110	110.7	0.1	20	
Sulfate	261	1.0	100	158.1	102	90	110	259.6	0.4	20	
Bromide	1.87	0.50	1.25	0.428	115	90	110	1.864	0.3	20	S
Fluoride	2.22	0.10	1.25	0.818	112	90	110	2.226	0.1	20	S

Associated samples: H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010535

BatchID: R181923

Date: 10-Apr-23

Run ID :Run Order: IC METROHM_230127A: 74	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E300.0		
Analysis Date: 01/28/23 06:01	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	51.0	1.0	50	0	102	90	110				
Sulfate	208	1.0	200	0	104	90	110				
Bromide	2.74	0.50	2.5	0	109	90	110				
Fluoride	2.70	0.10	2.5	0	108	90	110				

Associated samples: H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A

Run ID :Run Order: IC METROHM_230127A: 77	SampType: Sample Matrix Spike				Lab ID: H23010535-011AMS				Method: E300.0		
Analysis Date: 01/28/23 06:58	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	143	1.0	50	91.25	103	90	110				
Sulfate	1180	1.0	200	961.7		90	110				A
Bromide	3.14	0.50	2.5	0.302	114	90	110				S
Fluoride	3.22	0.10	2.5	0.506	109	90	110				

Associated samples: H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A

Run ID :Run Order: IC METROHM_230127A: 78	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010535-011AMSD				Method: E300.0		
Analysis Date: 01/28/23 07:13	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	141	1.0	50	91.25	100	90	110	142.6	1.0	20	
Sulfate	1180	1.0	200	961.7		90	110	1185	0.3	20	A
Bromide	3.06	0.50	2.5	0.302	110	90	110	3.142	2.7	20	
Fluoride	3.23	0.10	2.5	0.506	109	90	110	3.221	0.4	20	

Associated samples: H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010535

BatchID: R181923

Date: 10-Apr-23

Run ID :Run Order: IC METROHM_230127A: 88	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E300.0		
Analysis Date: 01/28/23 09:38	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	51.2	1.0	50	0	102	90	110				
Sulfate	210	1.0	200	0	105	90	110				
Bromide	2.75	0.50	2.5	0	110	90	110				
Fluoride	2.72	0.10	2.5	0	109	90	110				

Associated samples: H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A

Run ID :Run Order: IC METROHM_230127A: 91	SampType: Sample Matrix Spike				Lab ID: H23010535-021AMS				Method: E300.0		
Analysis Date: 01/28/23 10:35	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	217	1.0	50	168.2	97	90	110				
Sulfate	450	1.0	200	252.1	99	90	110				
Bromide	3.48	0.50	2.5	0.688	112	90	110				S
Fluoride	3.76	0.10	2.5	1.002	110	90	110				

Associated samples: H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A

Run ID :Run Order: IC METROHM_230127A: 92	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010535-021AMSD				Method: E300.0		
Analysis Date: 01/28/23 10:50	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	217	1.0	50	168.2	97	90	110	216.8	0	20	
Sulfate	451	1.0	200	252.1	99	90	110	450.1	0.1	20	
Bromide	3.48	0.50	2.5	0.688	112	90	110	3.478	0.1	20	S
Fluoride	3.63	0.10	2.5	1.002	105	90	110	3.762	3.6	20	

Associated samples: H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010535

BatchID: R182010

Date: 10-Apr-23

Run ID :Run Order: FIA203-HE_230201A: 39	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E353.2			
Analysis Date: 02/01/23 11:19	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.981	0.010	1	0	98	90	110				
Associated samples: H23010535-010C, H23010535-011C, H23010535-012C, H23010535-013C, H23010535-014C, H23010535-015C, H23010535-016C, H23010535-017C, H23010535-018C, H23010535-019C											

Run ID :Run Order: FIA203-HE_230201A: 40	SampType: Method Blank				Lab ID: MBLK			Method: E353.2			
Analysis Date: 02/01/23 11:20	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.008									
Associated samples: H23010535-010C, H23010535-011C, H23010535-012C, H23010535-013C, H23010535-014C, H23010535-015C, H23010535-016C, H23010535-017C, H23010535-018C, H23010535-019C											

Run ID :Run Order: FIA203-HE_230201A: 41	SampType: Laboratory Fortified Blank				Lab ID: LFB			Method: E353.2			
Analysis Date: 02/01/23 11:22	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.955	0.011	1	0	96	90	110				
Associated samples: H23010535-010C, H23010535-011C, H23010535-012C, H23010535-013C, H23010535-014C, H23010535-015C, H23010535-016C, H23010535-017C, H23010535-018C, H23010535-019C											

Run ID :Run Order: FIA203-HE_230201A: 59	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E353.2			
Analysis Date: 02/01/23 12:04	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.492	0.010	0.5	0	98	90	110				
Associated samples: H23010535-010C, H23010535-011C, H23010535-012C, H23010535-013C, H23010535-014C, H23010535-015C, H23010535-016C, H23010535-017C, H23010535-018C, H23010535-019C											

Run ID :Run Order: FIA203-HE_230201A: 68	SampType: Sample Matrix Spike				Lab ID: H23010535-010CMS			Method: E353.2			
Analysis Date: 02/01/23 12:14	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	41.8	0.55	50	0	84	90	110				S

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R182010

**Date:** 10-Apr-23

Run ID :Run Order: <b>FIA203-HE_230201A: 68</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23010535-010CMS</b>	Method: <b>E353.2</b>								
Analysis Date: <b>02/01/23 12:14</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H23010535-010C, H23010535-011C, H23010535-012C, H23010535-013C, H23010535-014C, H23010535-015C, H23010535-016C, H23010535-017C, H23010535-018C, H23010535-019C**

Run ID :Run Order: <b>FIA203-HE_230201A: 69</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23010535-010CMSD</b>	Method: <b>E353.2</b>								
Analysis Date: <b>02/01/23 12:16</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrogen, Nitrate+Nitrite as N	41.9	0.55	50	0	<b>84</b>	90	110	41.78	<b>0.3</b>	10	S
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Associated samples: **H23010535-010C, H23010535-011C, H23010535-012C, H23010535-013C, H23010535-014C, H23010535-015C, H23010535-016C, H23010535-017C, H23010535-018C, H23010535-019C**

Run ID :Run Order: <b>FIA203-HE_230201A: 78</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23010466-001EMS</b>	Method: <b>E353.2</b>								
Analysis Date: <b>02/01/23 12:26</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrogen, Nitrate+Nitrite as N	1.51	0.011	1	0.563	<b>95</b>	90	110				
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Associated samples: **H23010535-010C, H23010535-011C, H23010535-012C, H23010535-013C, H23010535-014C, H23010535-015C, H23010535-016C, H23010535-017C, H23010535-018C, H23010535-019C**

Run ID :Run Order: <b>FIA203-HE_230201A: 79</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23010466-001EMSD</b>	Method: <b>E353.2</b>								
Analysis Date: <b>02/01/23 12:27</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrogen, Nitrate+Nitrite as N	1.51	0.011	1	0.563	<b>95</b>	90	110	1.515	<b>0.1</b>	10	
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Associated samples: **H23010535-010C, H23010535-011C, H23010535-012C, H23010535-013C, H23010535-014C, H23010535-015C, H23010535-016C, H23010535-017C, H23010535-018C, H23010535-019C**

Run ID :Run Order: <b>FIA203-HE_230201A: 123</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E353.2</b>								
Analysis Date: <b>02/01/23 13:21</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrogen, Nitrate+Nitrite as N	0.468	0.010	0.5	0	<b>94</b>	90	110				
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Associated samples: **H23010535-010C, H23010535-011C, H23010535-012C, H23010535-013C, H23010535-014C, H23010535-015C, H23010535-016C, H23010535-017C, H23010535-018C, H23010535-019C**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010535

**BatchID:** R182010

**Date:** 10-Apr-23

Run ID :Run Order: <b>FIA203-HE_230201A: 127</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23010482-016EMS</b>				Method: <b>E353.2</b>		
Analysis Date: <b>02/01/23 13:25</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.938	0.011	1	0	<b>94</b>	90	110				

Associated samples: **H23010535-010C, H23010535-011C, H23010535-012C, H23010535-013C, H23010535-014C, H23010535-015C, H23010535-016C, H23010535-017C, H23010535-018C, H23010535-019C**

Run ID :Run Order: <b>FIA203-HE_230201A: 128</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23010482-016EMSD</b>				Method: <b>E353.2</b>		
Analysis Date: <b>02/01/23 13:27</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.948	0.011	1	0	<b>95</b>	90	110	0.9384	<b>1.0</b>	10	

Associated samples: **H23010535-010C, H23010535-011C, H23010535-012C, H23010535-013C, H23010535-014C, H23010535-015C, H23010535-016C, H23010535-017C, H23010535-018C, H23010535-019C**



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010535

BatchID: TDS230125A

Date: 10-Apr-23

Run ID :Run Order: ACCU-124 (14410200)_230125B: 1	SampType: Method Blank	Lab ID: MB-1_230125	Method: A2540 C								
Analysis Date: 01/25/23 12:58	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	ND	7									

Associated samples: H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A

Run ID :Run Order: ACCU-124 (14410200)_230125B: 2	SampType: Laboratory Control Sample	Lab ID: LCS-2_230125	Method: A2540 C								
Analysis Date: 01/25/23 12:58	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	1970	50	2000	0	99	90	110				

Associated samples: H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A

Run ID :Run Order: ACCU-124 (14410200)_230125B: 4	SampType: Sample Duplicate	Lab ID: H23010466-003B DUP	Method: A2540 C								
Analysis Date: 01/25/23 12:59	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	2770	50		0				2772	0.1	10	

Associated samples: H23010535-001A, H23010535-002A, H23010535-003A, H23010535-004A, H23010535-005A, H23010535-006A, H23010535-007A, H23010535-008A, H23010535-009A, H23010535-010A, H23010535-011A, H23010535-012A, H23010535-013A, H23010535-014A, H23010535-015A, H23010535-016A, H23010535-017A, H23010535-018A, H23010535-019A, H23010535-020A, H23010535-021A, H23010535-022A, H23010535-023A, H23010535-024A, H23010535-025A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



# Work Order Receipt Checklist

MT Dept of Justice

H23010535

Login completed by: Rebecca A. Tooke

Date Received: 1/25/2023

Reviewed by: tjones

Received by: rrs

Reviewed Date: 1/25/2023

Carrier name: Hand Deliver

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	2.0°C On Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

## Contact and Corrective Action Comments:

The temperature of the sample(s) for shipping container 1 was 2.0°C, shipping container 2 was 0.0°C, shipping container 3 was 2.0°C, and shipping container 4 was 1.8°C. MSD-02B container received partially frozen. 1/25/23 rt




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### Chain of Custody (COC) & Analytical Request Record

Lab Workorder # H23010535

**Project Information**

**Laboratory Use**

Client: MT Dept of Justice	Quote: 2187	Critical Hold Time: 48 Hours
Project: NRDEPM02 T08	BO#: 43087	# of Samples: 39
Purchase Order:	EE#: 5526	Matrix: Groundwater
Contact/Phone: Jim Ford (406) 444-4034/M: (406) 439-2108	Turn-Around Time: Standard	

Comments: C1- 2.0 TB  
 C2- 0.0 ON ICE  
 C3- 2.0 NO SEALS  
 C4- 1.8 HANDED

R SPONHOLZ Inform 012523 1134

Contact ELI prior to RUSH sample submit for charges, availability & scheduling. Samples submitted may be subcontracted to other laboratories to complete the test(s) requested; this will be clearly noted on the analytical report.

**Analysis Requested**

Sample Identification	Collection Date/Time	# of Containers	Matrix	RUSH TAT	Hold Time (Days)	14	N/A	28	28	Fld	7	180	14	180	28	2	28
					Alkalinity to pH 4.5 (A2320 B)	Anion - Cation Balance (A1030 E)	Conductivity (A2510 B)	Anions by Ion Chromatography (E300.0)	pH (A4500-H B)	Solids, Total Dissolved (A2540 C)	Rare Earth Metals, Dissolved (E200.7_8)	Metals by ICP/ICPMS, Dissolved (E200.7_8)	Hardness (A2340 B)	Nitrogen, Nitrate + Nitrite (E363.2)	Carbon, Dissolved Organic (A5310 C)	Carbon, Total Organic (A5310 C)	
C1 1 MSD-02A	1/19/23 1040	5	W		X	X	X	X	X	X	X	X	X	X	X	X	X
C3 2 PMP-07B	1/19/23 1520	5	W		X	X	X	X	X	X	X	X	X	X	X	X	X
C2 3 MF-11	1/23/23 1312	5	W		X	X	X	X	X	X	X	X	X	X	X	X	X
C2 4 MSD-04	1/23/23 1417	5	W		X	X	X	X	X	X	X	X	X	X	X	X	X
C2 5 PMP-07A	1/23/23 1521	5	W		X	X	X	X	X	X	X	X	X	X	X	X	X
C2 6 MSD-03	1/23/23 1625	5	W		X	X	X	X	X	X	X	X	X	X	X	X	X
C1 7 BPS11-17C	1/24/23 1030	5	W		X	X	X	X	X	X	X	X	X	X	X	X	X
C1 8 MF-07	↓ 1100	5	W		X	X	X	X	X	X	X	X	X	X	X	X	X
C1 9 MF-07B	↓ 1130	5	W		X	X	X	X	X	X	X	X	X	X	X	X	X
C2 10 BPS11-18B	1/24/23 1423	5	W		X	X	X	X	X	X	X	X	X	X	X	X	X
C2 11 BPS11-18C	↓ 1446	5	W		X	X	X	X	X	X	X	X	X	X	X	X	X
C2 12 MSD-02B	↓ 1537	5	W		X	X	X	X	X	X	X	X	X	X	X	X	X
C3 13 PMP-05A	1/18/23 1545	5	W		X	X	X	X	X	X	X	X	X	X	X	X	X
C3 14 PMP-05BR	↓ 1615	5	W		X	X	X	X	X	X	X	X	X	X	X	X	X
C3 15 PMP-06A	↓ 1445	5	W		X	X	X	X	X	X	X	X	X	X	X	X	X

Date Printed: 01/06/2024

*[Signature]*

EE-UC 5526

Christina Eggensperger *[Signature]*

1-25-23/1/24  
 Page 1 of 2



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### Chain of Custody (COC) & Analytical Request Record

Client: MT Dept of Justice

NRDPM02 T08

Lab Workorder #: **K13010538**

Comments: C1-2.0 TB  
 C2-0.0 ON ICE  
 C3-2.0 NO SEALS  
 C4-1.8 HANDED  
 R SPONHOLZ *[Signature]* 012523 1134

Contact ELI prior to RUSH sample submittal for charges, availability & scheduling. Samples submitted may be subcontracted to other laboratories to complete the test(s) requested, this will be clearly noted on the analytical report.

#### Analysis Requested

Sample Identification	Collection Date/Time	# of Containers	Matrix	RUSH TAT	Hold Time (Days)	14	N/A	28	28	Fld	7	180	14	180	28	2	28
						Alkalinity to pH 4.5 (A2320 B)	Anion - Cation Balance (A1030 E)	Conductivity (A2510 B)	Anions by Ion Chromatography (E300.0)	pH (A4500-H B)	Solids, Total Dissolved (A2540 C)	Rare Earth Metals, Dissolved (E200.7_8)	Metals by ICP/CPMS, Dissolved (E200.7_8)	Hardness (A2340 B)	Nitrogen, Nitrate + Nitrite (E353.2)	Carbon, Dissolved Organic (A5310 C)	Carbon, Total Organic (A5310 C)
C3 16 PMP-06B	1/18/23 1515	5	W			X	X	X	X	X	X	X	X	X	X	X	X
C4 17 DUP-3	1/23/23 1415	5	W			X	X	X	X	X	X	X	X	X	X	X	X
C4 18 FB-3	1420	5	W			X	X	X	X	X	X	X	X	X	X	X	X
C4 19 EB-3	1425	5	W			X	X	X	X	X	X	X	X	X	X	X	X
20 AMW-02A NO SAMPLE		5	W			X	X	X	X	X	X	X	X	X	X	X	X
C3 21 PMP-04B	1/19/23 1631	5	W			X	X	X	X	X	X	X	X	X	X	X	X
22 PMP-02A NO SAMPLE		5	W			X	X	X	X	X	X	X	X	X	X	X	X
23 PMP-02B NO SAMPLE		5	W			X	X	X	X	X	X	X	X	X	X	X	X
C4 24 PMP-01A	1/23/23 1340	5	W			X	X	X	X	X	X	X	X	X	X	X	X
25 PMP-03A		5	W			X	X	X	X	X	X	X	X	X	X	X	X
26 AMW-01C	WITH FINAL SETTLEMENT		5	W		X	X	X	X	X	X	X	X	X	X	X	X
27 AMW-01B	WITH FINAL SETTLEMENT		5	W		X	X	X	X	X	X	X	X	X	X	X	X
C4 28 PMP-01B	1/23/23 1410	5	W			X	X	X	X	X	X	X	X	X	X	X	X
29 BPS07-11A	WITH FINAL SETTLEMENT		5	W		X	X	X	X	X	X	X	X	X	X	X	X
30 BPS07-11B	WITH FINAL SETTLEMENT		5	W		X	X	X	X	X	X	X	X	X	X	X	X
C4 31 GS-40R	1/23/23 1300	5	W			X	X	X	X	X	X	X	X	X	X	X	X
C4 32 AMW-09	1/20/23 1500	5	W			X	X	X	X	X	X	X	X	X	X	X	X
C1 33 AMW-08	1/24/23 1300	5	W			X	X	X	X	X	X	X	X	X	X	X	X
34 AMW-20 NO SAMPLE		5	W			X	X	X	X	X	X	X	X	X	X	X	X
35 PT14-1 NO SAMPLE		5	W			X	X	X	X	X	X	X	X	X	X	X	X

Date Printed: 01/05/2023

CC-HE 5526

Christina Eppens-Pevey *[Signature]* 1-25-23/1134 Page 2 of 2





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# Chain of Custody & Analytical Request Record

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Page \_\_\_\_ of \_\_\_\_

### Account Information (Billing information)

Company/Name Tetra Tech  
 Contact Enianna Reed  
 Phone 406-422-7457  
 Mailing Address 825 W Casper Ave  
 City, State, Zip Helena MT 59602  
 Email Enianna.Reed@TetraTech.com  
 Receive Invoice  Hard Copy  Email  
 Receive Report  Hard Copy  Email  
 Purchase Order  Quote  Bottle Order  43299

### Report Information (if different than Account Information)

Company/Name  
 Contact  
 Phone  
 Mailing Address  
 City, State, Zip  
 Email  
 Receive Report  Hard Copy  Email  
 Special Report/Formats:  
 LEVEL IV  NELAC  EDD/EDT (contact laboratory)  Other

### Comments

### Project Information

Project Name, PWSID, Permit, etc. AAA Storage  
 Sampler Name Madison Moran Sampler Phone 412-527-5082  
 Sample Origin State MT EPA/State Compliance  Yes  No  
 Lab provided preservatives were used  Yes  No  
 MINING CLIENTS, please indicate sample type.  
 \*If ore has been processed or refined, call before sending.  
 Byproduct 11 (e)2 material  Unprocessed ore (NOT ground or refined)\*

### Matrix Codes

- A - Air
- W - Water
- S - Soils/Solids
- V - Vegetation
- B - Bioassay
- O - Other
- DW - Drinking Water

### Analysis Requested

Conductivity	Nitrate, Nitrogen	Dissolved Metals	Nitrate, Nitrogen	VOC	VPH	EOB	Heavy Metal Analysis
X	+	+	+	+	+	+	+
↓	↓	↓	↓	↓	↓	↓	↓

All turnaround times are standard unless marked as RUSH.  
 Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page

Sample Identification (Name, Location, Interval, etc.)	Collection		Number of Containers	Matrix (See Codes Above)	Analysis Requested							See Attached	RUSH TAT	ELI LAB ID Laboratory Use Only
	Date	Time			Conductivity	Nitrate, Nitrogen	Dissolved Metals	Nitrate, Nitrogen	VOC	VPH	EOB			
1 <u>ISOL-1</u>	<u>2-15-23</u>	<u>1445</u>	<u>14</u>	<u>W</u>	X	+	+	+	+	+	+	X		<u>A23620352</u>
2 <u>m-12</u>	<u>2-15-23</u>	<u>1320</u>	<u>14</u>	<u>W</u>	↓	↓	↓	↓	↓	↓	↓	X		
3 <u>FB-1</u>	<u>2-15-23</u>	<u>0910</u>	<u>14</u>	<u>W</u>	↓	↓	↓	↓	↓	↓	↓	X		
4														
5														
6														
7														
8														
9														
10														

Custody Record MUST be signed  
 Relinquished by (print) Madison Moran Date/Time 2-15-23/1600 Signature [Signature]  
 Relinquished by (print) \_\_\_\_\_ Date/Time \_\_\_\_\_ Signature \_\_\_\_\_  
 Received by (print) \_\_\_\_\_ Date/Time \_\_\_\_\_ Signature \_\_\_\_\_  
 Received by Laboratory (print) Taylor Jones Date/Time 2/15/23 1600 Signature [Signature]

LABORATORY USE ONLY

Shipped By <u>Hand</u>	Cooler ID(s) <u>Y</u>	Custody Seals <u>Y</u> <u>N</u> <u>C</u> <u>B</u>	Intact <u>Y</u> <u>N</u>	Receipt Temp <u>2.5</u> °C	Temp Blank <u>Y</u> <u>N</u>	On Ice <u>Y</u> <u>N</u>	Payment Type <u>CC</u> Cash Check	Amount \$	Receipt Number (cash/check only)
------------------------	-----------------------	---	--------------------------	----------------------------	------------------------------	--------------------------	-----------------------------------	-----------	----------------------------------

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.



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## BOTTLE ORDER 43299



**SHIPPED** Tetra Tech Inc

**TO:**

Contact: Madison Moran

Helena MT 59602

Phone: (412) 527-5082

Project: AAA Storage

Order Created by: Ravyn R. Sponholz

Shipped From: Helena, MT

Ship Date: 2/6/2023

VIA: PickUp

Quote Used: 2359

Bottle Size/Type	Bottles Per Samp	Method	Tests	Critical Hold Time	Preservative	Notes	Num of Samp
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### Ground Water ( 14 Sets)

500 mL Plastic	1	A2510 B E300.0 E353.2	Conductivity Anions by Ion Chromatography Nitrogen, Nitrite	48.00 hrs			1
250 mL Plastic	1	E200.7_8 MCAWW	Metals by ICP/ICPMS, Dissolved Preparation, Dissolved Filtration MCAWW		■ HNO3	Filter before preservation	1
250 mL Plastic	1	E353.2 E353.2	Nitrogen, Nitrate + Nitrite Nitrogen, Nitrate		■ H2SO4		1
40 mL Clear Glass VOA	3	MA-VPH	Volatile Petroleum Hydrocarbons		■ HCL	Zero headspace	1
40 mL Clear Glass VOA	3	SW8011 SW8011	SW8011 Microextraction EDB & EDC in Water by ECD		■ HCL	Zero headspace	1
40 mL Clear Glass VOA	3	SW8260B	8260-Volatile Organic Compounds-Short List		■ HCL		1
40 mL Clear Glass VOA	2	SW8015M	Headspace Gas Analysis		■ H2SO4	Zero headspace	1

### Trip Blank ( 2 Sets)

Trip Blank	1	MA-VPH	Volatile Petroleum Hydrocarbons		■ HCL	Zero headspace	1
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BO#: 43299

1 of 2



Supplies						
Chain of Custody	1	FIELD	Supplies			1
Custody Seal	1	FIELD	Supplies			1
Temp Blank	1	FIELD	Supplies			1

Comments

- HNO3 - Nitric Acid   
  H2SO4 - Sulfuric Acid   
  NaOH - Sodium Hydroxide  
 ZnAc - Zinc Acetate   
  HCl - Hydrochloric Acid   
  H3PO4 - Phosphoric Acid

**We strongly suggest that the samples are shipped the same day as they are collected.**

**Material Safety Data Sheets(MSDS) Available @ EnergyLab.com ->Services -> MSDS Sheets**

Corrosive Chemicals: Nitric, Sulfuric, Phosphoric, Hydrochloric Acids and Sodium Hydroxide. Zinc Acetate is a skin irritant.

Subcontracting of sample analyses to an outside laboratory may be required. If so, Energy Laboratories will utilize its branch laboratories or qualified contract laboratories for this service. Any such laboratories will be indicated within the Laboratory Analytical Report.



# ANALYTICAL SUMMARY REPORT

February 23, 2023

MT Dept of Justice  
Natural Resource Damage Program  
Helena, MT 59620-1425

Work Order: H23010553      Quote ID: H2187  
Project Name: NRDPM02 T08

Energy Laboratories Inc Helena MT received the following 15 samples for MT Dept of Justice on 1/26/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H23010553-001	SS-04	01/25/23 13:45	01/26/23	Surface Water	Rare Earth Metals, Dissolved Rare Earth Metals, Total Recoverable Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity to pH 4.5 Anion - Cation Balance Carbon, Dissolved Organic Conductivity Carbon, Total Organic Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Metals Digestion by E200.2 Rare Metals Digestion by E200.2 Solids, Total Dissolved
H23010553-002	MSDSG-05	01/25/23 13:15	01/26/23	Surface Water	Same As Above
H23010553-003	MSDSG-03	01/25/23 12:45	01/26/23	Surface Water	Same As Above
H23010553-004	MSDSG-02	01/25/23 13:25	01/26/23	Surface Water	Same As Above
H23010553-005	DUP-5	01/25/23 13:50	01/26/23	Surface Water	Same As Above
H23010553-006	FB-5	01/25/23 13:55	01/26/23	Surface Water	Rare Earth Metals, Dissolved Rare Earth Metals, Total Recoverable Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity to pH 4.5 Anion - Cation Balance Conductivity Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Metals Digestion by E200.2 Rare Metals Digestion by E200.2 Solids, Total Dissolved



# ANALYTICAL SUMMARY REPORT

H23010553-007	EB-5	01/25/23 14:00	01/26/23	Surface Water	Rare Earth Metals, Dissolved Rare Earth Metals, Total Recoverable Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity to pH 4.5 Anion - Cation Balance Carbon, Dissolved Organic Conductivity Carbon, Total Organic Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Metals Digestion by E200.2 Rare Metals Digestion by E200.2 Solids, Total Dissolved
H23010553-008	DUP-4	01/25/23 15:27	01/26/23	Groundwater	Rare Earth Metals, Dissolved Metals by ICP/ICPMS, Dissolved Alkalinity to pH 4.5 Anion - Cation Balance Carbon, Dissolved Organic Conductivity Carbon, Total Organic Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Solids, Total Dissolved
H23010553-009	FB-4	01/25/23 8:00	01/26/23	Groundwater	Rare Earth Metals, Dissolved Metals by ICP/ICPMS, Dissolved Alkalinity to pH 4.5 Anion - Cation Balance Conductivity Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Solids, Total Dissolved
H23010553-010	EB-4	01/25/23 8:05	01/26/23	Groundwater	Rare Earth Metals, Dissolved Metals by ICP/ICPMS, Dissolved Alkalinity to pH 4.5 Anion - Cation Balance Conductivity Carbon, Total Organic Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Solids, Total Dissolved
H23010553-011	PMP-03A	01/26/23 12:50	01/26/23	Groundwater	Rare Earth Metals, Dissolved Metals by ICP/ICPMS, Dissolved Alkalinity to pH 4.5 Anion - Cation Balance Carbon, Dissolved Organic Conductivity Carbon, Total Organic Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Solids, Total Dissolved



## ANALYTICAL SUMMARY REPORT

H23010553-012	AMW-01C	01/26/23 11:41	01/26/23	Groundwater	Rare Earth Metals, Dissolved Metals by ICP/ICPMS, Dissolved Alkalinity to pH 4.5 Anion - Cation Balance Conductivity Carbon, Total Organic Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Solids, Total Dissolved
H23010553-013	AMW-01B	01/25/23 15:26	01/26/23	Groundwater	Rare Earth Metals, Dissolved Metals by ICP/ICPMS, Dissolved Alkalinity to pH 4.5 Anion - Cation Balance Carbon, Dissolved Organic Conductivity Carbon, Total Organic Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Solids, Total Dissolved
H23010553-014	BPS07-11A	01/25/23 12:39	01/26/23	Groundwater	Same As Above
H23010553-015	BPS07-11B	01/25/23 12:58	01/26/23	Groundwater	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

Digitally signed by  
Jessica C. Smith  
Date: 2023.02.23 15:11:48 -07:00



**CLIENT:** MT Dept of Justice  
**Project:** NRDPM02 T08  
**Work Order:** H23010553

**Report Date:** 02/23/23

## **CASE NARRATIVE**

---

Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002.

Samples FB-5 and FB-4 for TOC and DOC, and samples EB-4 and AMW-01C for DOC were received frozen at Energy Laboratories Casper so were not analyzed. Client was contacted on 02/02/2023 regarding this issue. jcs 02/23/2023



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** SS-04  
**Lab ID:** H23010553-001  
**Matrix:** Surface Water

**Project:** NRDP02 T08  
**Collection Date:** 01/25/23 13:45  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.6	s.u.	H	0.1		A4500-H B	01/27/23 10:35 / ljs		PHSC_101-H_230127A : 13		R181890
pH Measurement Temp	10.5	°C				A4500-H B	01/27/23 10:35 / ljs		PHSC_101-H_230127A : 13		R181890
Conductivity @ 25 C	374	umhos/cm		5		A2510 B	01/27/23 10:35 / ljs		PHSC_101-H_230127A : 14		R181890
Solids, Total Dissolved TDS @ 180 C	233	mg/L	D	20		A2540 C	01/27/23 14:55 / SR		-124 (14410200)_230127A : 3		TDS230127A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	01/27/23 22:46 / ljs		PHSC_101-H_230127A : 204		R181890
Bicarbonate as HCO3	140	mg/L		4		A2320 B	01/27/23 22:46 / ljs		PHSC_101-H_230127A : 204		R181890
Carbonate as CO3	ND	mg/L		4		A2320 B	01/27/23 22:46 / ljs		PHSC_101-H_230127A : 204		R181890
Chloride	24	mg/L		1		E300.0	01/28/23 12:31 / ljs		IC METROHM_230127A : 99		R181923
Sulfate	38	mg/L		1		E300.0	01/28/23 12:31 / ljs		IC METROHM_230127A : 99		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 12:31 / ljs		IC METROHM_230127A : 99		R181923
Fluoride	0.3	mg/L		0.1		E300.0	01/28/23 12:31 / ljs		IC METROHM_230127A : 99		R181923
Hardness as CaCO3	144	mg/L		1		A2340 B	01/27/23 12:57 / SR		CALC_230201A : 850		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.3	mg/L		0.5		A5310 C	02/03/23 23:45 / eli-c		SUB-C291877 : 25		C_R291877
Organic Carbon, Total (TOC)	1.3	mg/L		0.5		A5310 C	02/03/23 15:46 / eli-c		SUB-C291877 : 4		C_R291877
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	1.35	mg/L		0.01		E353.2	02/02/23 12:40 / JAR		FIA203-HE_230202A : 66		R182042
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/30/23 22:46 / dck		ICPMS205-H_230130B : 38		R181965
Antimony	ND	mg/L		0.0005		E200.8	01/30/23 22:46 / dck		ICPMS205-H_230130B : 38		R181965
Arsenic	0.002	mg/L		0.001		E200.8	01/30/23 22:46 / dck		ICPMS205-H_230130B : 38		R181965
Barium	0.066	mg/L		0.003		E200.8	01/30/23 22:46 / dck		ICPMS205-H_230130B : 38		R181965
Beryllium	ND	mg/L		0.0008		E200.8	01/30/23 22:46 / dck		ICPMS205-H_230130B : 38		R181965
Boron	ND	mg/L		0.05		E200.7	01/27/23 12:57 / slj		ICP2-HE_230127A : 46		R181899
Cadmium	ND	mg/L		0.00003		E200.8	01/30/23 22:46 / dck		ICPMS205-H_230130B : 38		R181965
Cesium	ND	mg/L		0.01		E200.8	01/31/23 11:41 / dck		ICPMS205-H_230131A : 30		R181974

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** SS-04  
**Lab ID:** H23010553-001  
**Matrix:** Surface Water

**Project:** NRDP02 T08  
**Collection Date:** 01/25/23 13:45  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	41	mg/L		1		E200.7	01/27/23 12:57 / slj		ICP2-HE_230127A : 46		R181899
Chromium	ND	mg/L		0.005		E200.8	01/30/23 22:46 / dck		ICPMS205-H_230130B : 38		R181965
Cobalt	ND	mg/L		0.005		E200.8	01/30/23 22:46 / dck		ICPMS205-H_230130B : 38		R181965
Copper	ND	mg/L		0.002		E200.8	01/30/23 22:46 / dck		ICPMS205-H_230130B : 38		R181965
Gallium	ND	mg/L		0.01		E200.8	01/31/23 11:41 / dck		ICPMS205-H_230131A : 30		R181974
Iron	ND	mg/L		0.02		E200.8	01/30/23 22:46 / dck		ICPMS205-H_230130B : 38		R181965
Lead	ND	mg/L		0.0003		E200.8	01/30/23 22:46 / dck		ICPMS205-H_230130B : 38		R181965
Lanthanum	ND	mg/L		0.01		E200.8	01/31/23 11:41 / dck		ICPMS205-H_230131A : 30		R181974
Lithium	ND	mg/L		0.1		E200.7	01/27/23 12:57 / slj		ICP2-HE_230127A : 46		R181899
Magnesium	10	mg/L		1		E200.7	01/27/23 12:57 / slj		ICP2-HE_230127A : 46		R181899
Neodymium	ND	mg/L		0.005		E200.8	01/31/23 11:41 / dck		ICPMS205-H_230131A : 30		R181974
Niobium	ND	mg/L		0.01		E200.8	01/31/23 11:41 / dck		ICPMS205-H_230131A : 30		R181974
Manganese	0.054	mg/L		0.001		E200.8	01/30/23 22:46 / dck		ICPMS205-H_230130B : 38		R181965
Molybdenum	0.006	mg/L		0.001		E200.8	01/30/23 22:46 / dck		ICPMS205-H_230130B : 38		R181965
Nickel	ND	mg/L		0.002		E200.8	01/30/23 22:46 / dck		ICPMS205-H_230130B : 38		R181965
Palladium	ND	mg/L		0.01		E200.8	01/31/23 11:41 / dck		ICPMS205-H_230131A : 30		R181974
Praseodymium	ND	mg/L		0.01		E200.8	01/31/23 11:41 / dck		ICPMS205-H_230131A : 30		R181974
Rubidium	ND	mg/L		0.01		E200.8	01/31/23 11:41 / dck		ICPMS205-H_230131A : 30		R181974
Potassium	3	mg/L		1		E200.7	01/27/23 12:57 / slj		ICP2-HE_230127A : 46		R181899
Selenium	ND	mg/L		0.001		E200.8	01/30/23 22:46 / dck		ICPMS205-H_230130B : 38		R181965
Silver	ND	mg/L		0.0002		E200.8	01/30/23 22:46 / dck		ICPMS205-H_230130B : 38		R181965
Sodium	16	mg/L		1		E200.7	01/27/23 12:57 / slj		ICP2-HE_230127A : 46		R181899
Strontium	0.26	mg/L		0.01		E200.8	01/30/23 22:46 / dck		ICPMS205-H_230130B : 38		R181965
Thallium	ND	mg/L		0.0002		E200.8	01/30/23 22:46 / dck		ICPMS205-H_230130B : 38		R181965
Thorium	ND	mg/L		0.005		E200.8	01/30/23 22:46 / dck		ICPMS205-H_230130B : 38		R181965
Tin	ND	mg/L		0.05		E200.8	01/30/23 22:46 / dck		ICPMS205-H_230130B : 38		R181965
Titanium	ND	mg/L		0.005		E200.8	01/30/23 22:46 / dck		ICPMS205-H_230130B : 38		R181965
Tungsten	ND	mg/L		0.1		E200.8	01/31/23 11:41 / dck		ICPMS205-H_230131A : 30		R181974
Uranium	0.0054	mg/L		0.0002		E200.8	01/30/23 22:46 / dck		ICPMS205-H_230130B : 38		R181965
Vanadium	ND	mg/L		0.01		E200.8	01/30/23 22:46 / dck		ICPMS205-H_230130B : 38		R181965
Zinc	ND	mg/L		0.008		E200.8	01/30/23 22:46 / dck		ICPMS205-H_230130B : 38		R181965
Zirconium	ND	mg/L		0.005		E200.8	01/31/23 11:41 / dck		ICPMS205-H_230131A : 30		R181974

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** SS-04  
**Lab ID:** H23010553-001  
**Matrix:** Surface Water

**Project:** NRDP02 T08  
**Collection Date:** 01/25/23 13:45  
**DateReceived:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	0.022	mg/L		0.009		E200.8	01/30/23 22:50 / dck	01/27/23 08:47	ICPMS205-H_230130B : 39		65248
Antimony	ND	mg/L		0.0005		E200.8	01/30/23 22:50 / dck	01/27/23 08:47	ICPMS205-H_230130B : 39		65248
Arsenic	0.002	mg/L		0.001		E200.8	01/30/23 22:50 / dck	01/27/23 08:47	ICPMS205-H_230130B : 39		65248
Barium	0.068	mg/L		0.003		E200.8	01/30/23 22:50 / dck	01/27/23 08:47	ICPMS205-H_230130B : 39		65248
Beryllium	ND	mg/L		0.0008		E200.8	01/30/23 22:50 / dck	01/27/23 08:47	ICPMS205-H_230130B : 39		65248
Cesium	ND	mg/L		0.01		E200.8	01/31/23 11:43 / dck	01/27/23 08:48	ICPMS205-H_230131A : 31		65250
Cadmium	0.00003	mg/L		0.00003		E200.8	01/30/23 22:50 / dck	01/27/23 08:47	ICPMS205-H_230130B : 39		65248
Chromium	ND	mg/L		0.005		E200.8	01/30/23 22:50 / dck	01/27/23 08:47	ICPMS205-H_230130B : 39		65248
Cobalt	ND	mg/L		0.005		E200.8	01/30/23 22:50 / dck	01/27/23 08:47	ICPMS205-H_230130B : 39		65248
Copper	ND	mg/L		0.002		E200.8	01/30/23 22:50 / dck	01/27/23 08:47	ICPMS205-H_230130B : 39		65248
Gallium	ND	mg/L		0.01		E200.8	01/31/23 11:43 / dck	01/27/23 08:48	ICPMS205-H_230131A : 31		65250
Iron	0.14	mg/L		0.02		E200.8	01/30/23 22:50 / dck	01/27/23 08:47	ICPMS205-H_230130B : 39		65248
Lead	0.0003	mg/L		0.0003		E200.8	01/30/23 22:50 / dck	01/27/23 08:47	ICPMS205-H_230130B : 39		65248
Lanthanum	ND	mg/L		0.1		E200.8	01/31/23 11:43 / dck	01/27/23 08:48	ICPMS205-H_230131A : 31		65250
Lithium	ND	mg/L		0.1		E200.7	01/30/23 13:31 / slj	01/27/23 08:47	ICP2-HE_230130B : 24		65248
Neodymium	ND	mg/L		0.01		E200.8	01/31/23 11:43 / dck	01/27/23 08:48	ICPMS205-H_230131A : 31		65250
Niobium	ND	mg/L		0.01		E200.8	01/31/23 11:43 / dck	01/27/23 08:48	ICPMS205-H_230131A : 31		65250
Manganese	0.055	mg/L		0.001		E200.8	01/30/23 22:50 / dck	01/27/23 08:47	ICPMS205-H_230130B : 39		65248
Molybdenum	0.007	mg/L		0.001		E200.8	01/30/23 22:50 / dck	01/27/23 08:47	ICPMS205-H_230130B : 39		65248
Nickel	ND	mg/L		0.002		E200.8	01/30/23 22:50 / dck	01/27/23 08:47	ICPMS205-H_230130B : 39		65248
Palladium	ND	mg/L		0.01		E200.8	01/31/23 11:43 / dck	01/27/23 08:48	ICPMS205-H_230131A : 31		65250
Praseodymium	ND	mg/L		0.01		E200.8	01/31/23 11:43 / dck	01/27/23 08:48	ICPMS205-H_230131A : 31		65250
Rubidium	ND	mg/L		0.01		E200.8	01/31/23 11:43 / dck	01/27/23 08:48	ICPMS205-H_230131A : 31		65250
Selenium	ND	mg/L		0.001		E200.8	01/30/23 22:50 / dck	01/27/23 08:47	ICPMS205-H_230130B : 39		65248
Silver	ND	mg/L		0.0002		E200.8	01/30/23 22:50 / dck	01/27/23 08:47	ICPMS205-H_230130B : 39		65248
Strontium	0.26	mg/L		0.01		E200.8	01/30/23 22:50 / dck	01/27/23 08:47	ICPMS205-H_230130B : 39		65248
Thallium	ND	mg/L		0.0002		E200.8	01/30/23 22:50 / dck	01/27/23 08:47	ICPMS205-H_230130B : 39		65248
Tungsten	ND	mg/L		0.1		E200.8	01/31/23 11:43 / dck	01/27/23 08:48	ICPMS205-H_230131A : 31		65250
Tin	ND	mg/L		0.05		E200.8	01/30/23 22:50 / dck	01/27/23 08:47	ICPMS205-H_230130B : 39		65248
Titanium	ND	mg/L		0.005		E200.8	01/30/23 22:50 / dck	01/27/23 08:47	ICPMS205-H_230130B : 39		65248
Thorium	ND	mg/L		0.005		E200.8	01/30/23 22:50 / dck	01/27/23 08:47	ICPMS205-H_230130B : 39		65248
Uranium	0.0054	mg/L		0.0003		E200.8	01/30/23 22:50 / dck	01/27/23 08:47	ICPMS205-H_230130B : 39		65248

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** SS-04  
**Lab ID:** H23010553-001  
**Matrix:** Surface Water

**Project:** NRDPM02 T08  
**Collection Date:** 01/25/23 13:45 **DateReceived:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	01/30/23 22:50 / dck	01/27/23 08:47	ICPMS205-H_230130B : 39		65248
Zinc	0.010	mg/L		0.008		E200.8	01/30/23 22:50 / dck	01/27/23 08:47	ICPMS205-H_230130B : 39		65248
Zirconium	ND	mg/L		0.005		E200.8	01/31/23 11:43 / dck	01/27/23 08:48	ICPMS205-H_230131A : 31		65250
<b>DATA QUALITY</b>											
A/C Balance	-0.98	%				A1030 E	02/01/23 08:24 / SR		CALC_230201A : 848		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-05  
**Lab ID:** H23010553-002  
**Matrix:** Surface Water

**Project:** NRDPM02 T08  
**Collection Date:** 01/25/23 13:15  
**DateReceived:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.6	s.u.	H	0.1		A4500-H B	01/27/23 10:38 / ljs		PHSC_101-H_230127A : 15		R181890
pH Measurement Temp	10.7	°C				A4500-H B	01/27/23 10:38 / ljs		PHSC_101-H_230127A : 15		R181890
Conductivity @ 25 C	366	umhos/cm		5		A2510 B	01/27/23 10:38 / ljs		PHSC_101-H_230127A : 16		R181890
Solids, Total Dissolved TDS @ 180 C	231	mg/L	D	20		A2540 C	01/27/23 14:55 / SR		-124 (14410200)_230127A : 5		TDS230127A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	01/27/23 22:51 / ljs		PHSC_101-H_230127A : 206		R181890
Bicarbonate as HCO3	130	mg/L		4		A2320 B	01/27/23 22:51 / ljs		PHSC_101-H_230127A : 206		R181890
Carbonate as CO3	ND	mg/L		4		A2320 B	01/27/23 22:51 / ljs		PHSC_101-H_230127A : 206		R181890
Chloride	23	mg/L		1		E300.0	01/28/23 12:45 / ljs		C METROHM_230127A : 100		R181923
Sulfate	40	mg/L		1		E300.0	01/28/23 12:45 / ljs		C METROHM_230127A : 100		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 12:45 / ljs		C METROHM_230127A : 100		R181923
Fluoride	0.3	mg/L		0.1		E300.0	01/28/23 12:45 / ljs		C METROHM_230127A : 100		R181923
Hardness as CaCO3	139	mg/L		1		A2340 B	01/27/23 13:01 / SR		CALC_230201A : 861		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.2	mg/L		0.5		A5310 C	02/04/23 00:32 / eli-c		SUB-C291877 : 28		C_R291877
Organic Carbon, Total (TOC)	1.2	mg/L		0.5		A5310 C	02/03/23 16:32 / eli-c		SUB-C291877 : 7		C_R291877
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	1.34	mg/L		0.01		E353.2	02/02/23 12:41 / JAR		FIA203-HE_230202A : 67		R182042
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/30/23 22:55 / dck		ICPMS205-H_230130B : 40		R181965
Antimony	ND	mg/L		0.0005		E200.8	01/30/23 22:55 / dck		ICPMS205-H_230130B : 40		R181965
Arsenic	0.002	mg/L		0.001		E200.8	01/30/23 22:55 / dck		ICPMS205-H_230130B : 40		R181965
Barium	0.063	mg/L		0.003		E200.8	01/30/23 22:55 / dck		ICPMS205-H_230130B : 40		R181965
Beryllium	ND	mg/L		0.0008		E200.8	01/30/23 22:55 / dck		ICPMS205-H_230130B : 40		R181965
Boron	ND	mg/L		0.05		E200.7	01/27/23 13:01 / slj		ICP2-HE_230127A : 47		R181899
Cadmium	ND	mg/L		0.00003		E200.8	01/30/23 22:55 / dck		ICPMS205-H_230130B : 40		R181965
Cesium	ND	mg/L		0.01		E200.8	01/31/23 11:45 / dck		ICPMS205-H_230131A : 32		R181974

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** D - Reporting Limit (RL) increased due to sample matrix

H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-05  
**Lab ID:** H23010553-002  
**Matrix:** Surface Water

**Project:** NRDP02 T08  
**Collection Date:** 01/25/23 13:15  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	40	mg/L		1		E200.7	01/27/23 13:01 / slj		ICP2-HE_230127A : 47		R181899
Chromium	ND	mg/L		0.005		E200.8	01/30/23 22:55 / dck		ICPMS205-H_230130B : 40		R181965
Cobalt	ND	mg/L		0.005		E200.8	01/30/23 22:55 / dck		ICPMS205-H_230130B : 40		R181965
Copper	ND	mg/L		0.002		E200.8	01/30/23 22:55 / dck		ICPMS205-H_230130B : 40		R181965
Gallium	ND	mg/L		0.01		E200.8	01/31/23 11:45 / dck		ICPMS205-H_230131A : 32		R181974
Iron	ND	mg/L		0.02		E200.8	01/30/23 22:55 / dck		ICPMS205-H_230130B : 40		R181965
Lead	ND	mg/L		0.0003		E200.8	01/30/23 22:55 / dck		ICPMS205-H_230130B : 40		R181965
Lanthanum	ND	mg/L		0.01		E200.8	01/31/23 11:45 / dck		ICPMS205-H_230131A : 32		R181974
Lithium	ND	mg/L		0.1		E200.7	01/27/23 13:01 / slj		ICP2-HE_230127A : 47		R181899
Magnesium	10	mg/L		1		E200.7	01/27/23 13:01 / slj		ICP2-HE_230127A : 47		R181899
Neodymium	ND	mg/L		0.005		E200.8	01/31/23 11:45 / dck		ICPMS205-H_230131A : 32		R181974
Niobium	ND	mg/L		0.01		E200.8	01/31/23 11:45 / dck		ICPMS205-H_230131A : 32		R181974
Manganese	0.050	mg/L		0.001		E200.8	01/30/23 22:55 / dck		ICPMS205-H_230130B : 40		R181965
Molybdenum	0.007	mg/L		0.001		E200.8	01/30/23 22:55 / dck		ICPMS205-H_230130B : 40		R181965
Nickel	ND	mg/L		0.002		E200.8	01/30/23 22:55 / dck		ICPMS205-H_230130B : 40		R181965
Palladium	ND	mg/L		0.01		E200.8	01/31/23 11:45 / dck		ICPMS205-H_230131A : 32		R181974
Praseodymium	ND	mg/L		0.01		E200.8	01/31/23 11:45 / dck		ICPMS205-H_230131A : 32		R181974
Rubidium	ND	mg/L		0.01		E200.8	01/31/23 11:45 / dck		ICPMS205-H_230131A : 32		R181974
Potassium	3	mg/L		1		E200.7	01/27/23 13:01 / slj		ICP2-HE_230127A : 47		R181899
Selenium	ND	mg/L		0.001		E200.8	01/30/23 22:55 / dck		ICPMS205-H_230130B : 40		R181965
Silver	ND	mg/L		0.0002		E200.8	01/30/23 22:55 / dck		ICPMS205-H_230130B : 40		R181965
Sodium	16	mg/L		1		E200.7	01/27/23 13:01 / slj		ICP2-HE_230127A : 47		R181899
Strontium	0.25	mg/L		0.01		E200.7	01/27/23 13:01 / slj		ICP2-HE_230127A : 47		R181899
Thallium	ND	mg/L		0.0002		E200.8	01/30/23 22:55 / dck		ICPMS205-H_230130B : 40		R181965
Thorium	ND	mg/L		0.005		E200.8	01/30/23 22:55 / dck		ICPMS205-H_230130B : 40		R181965
Tin	ND	mg/L		0.05		E200.8	01/30/23 22:55 / dck		ICPMS205-H_230130B : 40		R181965
Titanium	ND	mg/L		0.005		E200.8	01/30/23 22:55 / dck		ICPMS205-H_230130B : 40		R181965
Tungsten	ND	mg/L		0.1		E200.8	01/31/23 11:45 / dck		ICPMS205-H_230131A : 32		R181974
Uranium	0.0054	mg/L		0.0002		E200.8	01/30/23 22:55 / dck		ICPMS205-H_230130B : 40		R181965
Vanadium	ND	mg/L		0.01		E200.8	01/30/23 22:55 / dck		ICPMS205-H_230130B : 40		R181965
Zinc	ND	mg/L		0.008		E200.8	01/30/23 22:55 / dck		ICPMS205-H_230130B : 40		R181965
Zirconium	ND	mg/L		0.005		E200.8	01/31/23 11:45 / dck		ICPMS205-H_230131A : 32		R181974

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-05  
**Lab ID:** H23010553-002  
**Matrix:** Surface Water

**Project:** NRDP02 T08  
**Collection Date:** 01/25/23 13:15  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	0.594	mg/L		0.009		E200.8	01/30/23 22:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 41		65248
Antimony	ND	mg/L		0.0005		E200.8	01/30/23 22:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 41		65248
Arsenic	0.003	mg/L		0.001		E200.8	01/30/23 22:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 41		65248
Barium	0.075	mg/L		0.003		E200.8	01/30/23 22:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 41		65248
Beryllium	ND	mg/L		0.0008		E200.8	01/30/23 22:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 41		65248
Cesium	ND	mg/L		0.01		E200.8	01/31/23 11:46 / dck	01/27/23 08:48	ICPMS205-H_230131A : 33		65250
Cadmium	0.00017	mg/L		0.00003		E200.8	01/30/23 22:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 41		65248
Chromium	ND	mg/L		0.005		E200.8	01/30/23 22:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 41		65248
Cobalt	ND	mg/L		0.005		E200.8	01/30/23 22:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 41		65248
Copper	0.012	mg/L		0.002		E200.8	01/30/23 22:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 41		65248
Gallium	ND	mg/L		0.01		E200.8	01/31/23 11:46 / dck	01/27/23 08:48	ICPMS205-H_230131A : 33		65250
Iron	1.23	mg/L		0.02		E200.7	01/30/23 13:49 / slj	01/27/23 08:47	ICP2-HE_230130B : 29		65248
Lead	0.0038	mg/L		0.0003		E200.8	01/30/23 22:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 41		65248
Lanthanum	ND	mg/L		0.1		E200.8	01/31/23 11:46 / dck	01/27/23 08:48	ICPMS205-H_230131A : 33		65250
Lithium	ND	mg/L		0.1		E200.7	01/30/23 13:49 / slj	01/27/23 08:47	ICP2-HE_230130B : 29		65248
Neodymium	ND	mg/L		0.01		E200.8	01/31/23 11:46 / dck	01/27/23 08:48	ICPMS205-H_230131A : 33		65250
Niobium	ND	mg/L		0.01		E200.8	01/31/23 11:46 / dck	01/27/23 08:48	ICPMS205-H_230131A : 33		65250
Manganese	0.076	mg/L		0.001		E200.8	01/30/23 22:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 41		65248
Molybdenum	0.007	mg/L		0.001		E200.8	01/30/23 22:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 41		65248
Nickel	ND	mg/L		0.002		E200.8	01/30/23 22:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 41		65248
Palladium	ND	mg/L		0.01		E200.8	01/31/23 11:46 / dck	01/27/23 08:48	ICPMS205-H_230131A : 33		65250
Praseodymium	ND	mg/L		0.01		E200.8	01/31/23 11:46 / dck	01/27/23 08:48	ICPMS205-H_230131A : 33		65250
Rubidium	ND	mg/L		0.01		E200.8	01/31/23 11:46 / dck	01/27/23 08:48	ICPMS205-H_230131A : 33		65250
Selenium	ND	mg/L		0.001		E200.8	01/30/23 22:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 41		65248
Silver	ND	mg/L		0.0002		E200.8	01/30/23 22:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 41		65248
Strontium	0.26	mg/L		0.01		E200.8	01/30/23 22:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 41		65248
Thallium	ND	mg/L		0.0002		E200.8	01/30/23 22:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 41		65248
Tungsten	ND	mg/L		0.1		E200.8	01/31/23 11:46 / dck	01/27/23 08:48	ICPMS205-H_230131A : 33		65250
Tin	ND	mg/L		0.05		E200.8	01/30/23 22:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 41		65248
Titanium	0.041	mg/L		0.005		E200.8	01/30/23 22:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 41		65248
Thorium	ND	mg/L		0.005		E200.8	01/30/23 22:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 41		65248
Uranium	0.0057	mg/L		0.0003		E200.8	01/30/23 22:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 41		65248

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



**LABORATORY ANALYTICAL REPORT**

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-05  
**Lab ID:** H23010553-002  
**Matrix:** Surface Water

**Project:** NRDPM02 T08  
**Collection Date:** 01/25/23 13:15 **DateReceived:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	01/30/23 22:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 41		65248
Zinc	0.043	mg/L		0.008		E200.8	01/30/23 22:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 41		65248
Zirconium	ND	mg/L		0.005		E200.8	01/31/23 11:46 / dck	01/27/23 08:48	ICPMS205-H_230131A : 33		65250
<b>DATA QUALITY</b>											
A/C Balance	-1.60	%				A1030 E	02/01/23 08:24 / SR		CALC_230201A : 859		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-03  
**Lab ID:** H23010553-003  
**Matrix:** Surface Water

**Project:** NRDP02 T08  
**Collection Date:** 01/25/23 12:45  
**DateReceived:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.1	s.u.	H	0.1		A4500-H B	01/27/23 10:40 / ljs		PHSC_101-H_230127A : 17		R181890
pH Measurement Temp	10.7	°C				A4500-H B	01/27/23 10:40 / ljs		PHSC_101-H_230127A : 17		R181890
Conductivity @ 25 C	332	umhos/cm		5		A2510 B	01/27/23 10:40 / ljs		PHSC_101-H_230127A : 18		R181890
Solids, Total Dissolved TDS @ 180 C	221	mg/L	D	20		A2540 C	01/27/23 14:55 / SR		-124 (14410200)_230127A : 6		TDS230127A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	90	mg/L		4		A2320 B	01/27/23 22:57 / ljs		PHSC_101-H_230127A : 208		R181890
Bicarbonate as HCO3	110	mg/L		4		A2320 B	01/27/23 22:57 / ljs		PHSC_101-H_230127A : 208		R181890
Carbonate as CO3	ND	mg/L		4		A2320 B	01/27/23 22:57 / ljs		PHSC_101-H_230127A : 208		R181890
Chloride	9	mg/L		1		E300.0	01/28/23 12:59 / ljs		C METROHM_230127A : 101		R181923
Sulfate	62	mg/L		1		E300.0	01/28/23 12:59 / ljs		C METROHM_230127A : 101		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 12:59 / ljs		C METROHM_230127A : 101		R181923
Fluoride	0.4	mg/L		0.1		E300.0	01/28/23 12:59 / ljs		C METROHM_230127A : 101		R181923
Hardness as CaCO3	125	mg/L		1		A2340 B	01/27/23 13:23 / SR		CALC_230201A : 872		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.2	mg/L		0.5		A5310 C	02/04/23 00:48 / eli-c		SUB-C291877 : 29		C_R291877
Organic Carbon, Total (TOC)	1.0	mg/L		0.5		A5310 C	02/03/23 16:52 / eli-c		SUB-C291877 : 8		C_R291877
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.55	mg/L		0.01		E353.2	02/02/23 12:43 / JAR		FIA203-HE_230202A : 68		R182042
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/30/23 23:04 / dck		ICPMS205-H_230130B : 42		R181965
Antimony	ND	mg/L		0.0005		E200.8	01/30/23 23:04 / dck		ICPMS205-H_230130B : 42		R181965
Arsenic	0.003	mg/L		0.001		E200.8	01/30/23 23:04 / dck		ICPMS205-H_230130B : 42		R181965
Barium	0.033	mg/L		0.003		E200.8	01/30/23 23:04 / dck		ICPMS205-H_230130B : 42		R181965
Beryllium	ND	mg/L		0.0008		E200.8	01/30/23 23:04 / dck		ICPMS205-H_230130B : 42		R181965
Boron	ND	mg/L		0.05		E200.7	01/27/23 13:23 / slj		ICP2-HE_230127A : 53		R181899
Cadmium	0.00006	mg/L		0.00003		E200.8	01/30/23 23:04 / dck		ICPMS205-H_230130B : 42		R181965
Cesium	ND	mg/L		0.01		E200.8	01/31/23 11:48 / dck		ICPMS205-H_230131A : 34		R181974

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-03  
**Lab ID:** H23010553-003  
**Matrix:** Surface Water

**Project:** NRDP02 T08  
**Collection Date:** 01/25/23 12:45  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	37	mg/L		1		E200.7	01/27/23 13:23 / slj		ICP2-HE_230127A : 53		R181899
Chromium	ND	mg/L		0.005		E200.8	01/30/23 23:04 / dck		ICPMS205-H_230130B : 42		R181965
Cobalt	ND	mg/L		0.005		E200.8	01/30/23 23:04 / dck		ICPMS205-H_230130B : 42		R181965
Copper	ND	mg/L		0.002		E200.8	01/30/23 23:04 / dck		ICPMS205-H_230130B : 42		R181965
Gallium	ND	mg/L		0.01		E200.8	01/31/23 11:48 / dck		ICPMS205-H_230131A : 34		R181974
Iron	0.15	mg/L		0.02		E200.8	01/30/23 23:04 / dck		ICPMS205-H_230130B : 42		R181965
Lead	ND	mg/L		0.0003		E200.8	01/30/23 23:04 / dck		ICPMS205-H_230130B : 42		R181965
Lanthanum	ND	mg/L		0.01		E200.8	01/31/23 11:48 / dck		ICPMS205-H_230131A : 34		R181974
Lithium	ND	mg/L		0.1		E200.7	01/27/23 13:23 / slj		ICP2-HE_230127A : 53		R181899
Magnesium	8	mg/L		1		E200.7	01/27/23 13:23 / slj		ICP2-HE_230127A : 53		R181899
Neodymium	ND	mg/L		0.005		E200.8	01/31/23 11:48 / dck		ICPMS205-H_230131A : 34		R181974
Niobium	ND	mg/L		0.01		E200.8	01/31/23 11:48 / dck		ICPMS205-H_230131A : 34		R181974
Manganese	0.151	mg/L		0.001		E200.8	01/30/23 23:04 / dck		ICPMS205-H_230130B : 42		R181965
Molybdenum	0.012	mg/L		0.001		E200.8	01/30/23 23:04 / dck		ICPMS205-H_230130B : 42		R181965
Nickel	ND	mg/L		0.002		E200.8	01/30/23 23:04 / dck		ICPMS205-H_230130B : 42		R181965
Palladium	ND	mg/L		0.01		E200.8	01/31/23 11:48 / dck		ICPMS205-H_230131A : 34		R181974
Praseodymium	ND	mg/L		0.01		E200.8	01/31/23 11:48 / dck		ICPMS205-H_230131A : 34		R181974
Rubidium	ND	mg/L		0.01		E200.8	01/31/23 11:48 / dck		ICPMS205-H_230131A : 34		R181974
Potassium	3	mg/L		1		E200.7	01/27/23 13:23 / slj		ICP2-HE_230127A : 53		R181899
Selenium	ND	mg/L		0.001		E200.8	01/30/23 23:04 / dck		ICPMS205-H_230130B : 42		R181965
Silver	ND	mg/L		0.0002		E200.8	01/30/23 23:04 / dck		ICPMS205-H_230130B : 42		R181965
Sodium	17	mg/L		1		E200.7	01/27/23 13:23 / slj		ICP2-HE_230127A : 53		R181899
Strontium	0.22	mg/L		0.01		E200.8	01/30/23 23:04 / dck		ICPMS205-H_230130B : 42		R181965
Thallium	ND	mg/L		0.0002		E200.8	01/30/23 23:04 / dck		ICPMS205-H_230130B : 42		R181965
Thorium	ND	mg/L		0.005		E200.8	01/30/23 23:04 / dck		ICPMS205-H_230130B : 42		R181965
Tin	ND	mg/L		0.05		E200.8	01/30/23 23:04 / dck		ICPMS205-H_230130B : 42		R181965
Titanium	ND	mg/L		0.005		E200.8	01/30/23 23:04 / dck		ICPMS205-H_230130B : 42		R181965
Tungsten	ND	mg/L		0.1		E200.8	01/31/23 11:48 / dck		ICPMS205-H_230131A : 34		R181974
Uranium	0.0021	mg/L		0.0002		E200.8	01/30/23 23:04 / dck		ICPMS205-H_230130B : 42		R181965
Vanadium	ND	mg/L		0.01		E200.8	01/30/23 23:04 / dck		ICPMS205-H_230130B : 42		R181965
Zinc	0.041	mg/L		0.008		E200.8	01/30/23 23:04 / dck		ICPMS205-H_230130B : 42		R181965
Zirconium	ND	mg/L		0.005		E200.8	01/31/23 11:48 / dck		ICPMS205-H_230131A : 34		R181974

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-03  
**Lab ID:** H23010553-003  
**Matrix:** Surface Water

**Project:** NRDP02 T08  
**Collection Date:** 01/25/23 12:45  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	0.016	mg/L		0.009		E200.8	01/30/23 23:09 / dck	01/27/23 08:47	ICPMS205-H_230130B : 43		65248
Antimony	ND	mg/L		0.0005		E200.8	01/30/23 23:09 / dck	01/27/23 08:47	ICPMS205-H_230130B : 43		65248
Arsenic	0.003	mg/L		0.001		E200.8	01/30/23 23:09 / dck	01/27/23 08:47	ICPMS205-H_230130B : 43		65248
Barium	0.034	mg/L		0.003		E200.8	01/30/23 23:09 / dck	01/27/23 08:47	ICPMS205-H_230130B : 43		65248
Beryllium	ND	mg/L		0.0008		E200.8	01/30/23 23:09 / dck	01/27/23 08:47	ICPMS205-H_230130B : 43		65248
Cesium	ND	mg/L		0.01		E200.8	01/31/23 11:49 / dck	01/27/23 08:48	ICPMS205-H_230131A : 35		65250
Cadmium	0.00024	mg/L		0.00003		E200.8	01/30/23 23:09 / dck	01/27/23 08:47	ICPMS205-H_230130B : 43		65248
Chromium	ND	mg/L		0.005		E200.8	01/30/23 23:09 / dck	01/27/23 08:47	ICPMS205-H_230130B : 43		65248
Cobalt	ND	mg/L		0.005		E200.8	01/30/23 23:09 / dck	01/27/23 08:47	ICPMS205-H_230130B : 43		65248
Copper	ND	mg/L		0.002		E200.8	01/30/23 23:09 / dck	01/27/23 08:47	ICPMS205-H_230130B : 43		65248
Gallium	ND	mg/L		0.01		E200.8	01/31/23 11:49 / dck	01/27/23 08:48	ICPMS205-H_230131A : 35		65250
Iron	0.26	mg/L		0.02		E200.8	01/30/23 23:09 / dck	01/27/23 08:47	ICPMS205-H_230130B : 43		65248
Lead	0.0004	mg/L		0.0003		E200.8	01/30/23 23:09 / dck	01/27/23 08:47	ICPMS205-H_230130B : 43		65248
Lanthanum	ND	mg/L		0.1		E200.8	01/31/23 11:49 / dck	01/27/23 08:48	ICPMS205-H_230131A : 35		65250
Lithium	ND	mg/L		0.1		E200.7	01/30/23 14:01 / slj	01/27/23 08:47	ICP2-HE_230130B : 32		65248
Neodymium	ND	mg/L		0.01		E200.8	01/31/23 11:49 / dck	01/27/23 08:48	ICPMS205-H_230131A : 35		65250
Niobium	ND	mg/L		0.01		E200.8	01/31/23 11:49 / dck	01/27/23 08:48	ICPMS205-H_230131A : 35		65250
Manganese	0.151	mg/L		0.001		E200.8	01/30/23 23:09 / dck	01/27/23 08:47	ICPMS205-H_230130B : 43		65248
Molybdenum	0.012	mg/L		0.001		E200.8	01/30/23 23:09 / dck	01/27/23 08:47	ICPMS205-H_230130B : 43		65248
Nickel	ND	mg/L		0.002		E200.8	01/30/23 23:09 / dck	01/27/23 08:47	ICPMS205-H_230130B : 43		65248
Palladium	ND	mg/L		0.01		E200.8	01/31/23 11:49 / dck	01/27/23 08:48	ICPMS205-H_230131A : 35		65250
Praseodymium	ND	mg/L		0.01		E200.8	01/31/23 11:49 / dck	01/27/23 08:48	ICPMS205-H_230131A : 35		65250
Rubidium	ND	mg/L		0.01		E200.8	01/31/23 11:49 / dck	01/27/23 08:48	ICPMS205-H_230131A : 35		65250
Selenium	ND	mg/L		0.001		E200.8	01/30/23 23:09 / dck	01/27/23 08:47	ICPMS205-H_230130B : 43		65248
Silver	ND	mg/L		0.0002		E200.8	01/30/23 23:09 / dck	01/27/23 08:47	ICPMS205-H_230130B : 43		65248
Strontium	0.22	mg/L		0.01		E200.8	01/30/23 23:09 / dck	01/27/23 08:47	ICPMS205-H_230130B : 43		65248
Thallium	ND	mg/L		0.0002		E200.8	01/30/23 23:09 / dck	01/27/23 08:47	ICPMS205-H_230130B : 43		65248
Tungsten	ND	mg/L		0.1		E200.8	01/31/23 11:49 / dck	01/27/23 08:48	ICPMS205-H_230131A : 35		65250
Tin	ND	mg/L		0.05		E200.8	01/30/23 23:09 / dck	01/27/23 08:47	ICPMS205-H_230130B : 43		65248
Titanium	ND	mg/L		0.005		E200.8	01/30/23 23:09 / dck	01/27/23 08:47	ICPMS205-H_230130B : 43		65248
Thorium	ND	mg/L		0.005		E200.8	01/30/23 23:09 / dck	01/27/23 08:47	ICPMS205-H_230130B : 43		65248
Uranium	0.0021	mg/L		0.0003		E200.8	01/30/23 23:09 / dck	01/27/23 08:47	ICPMS205-H_230130B : 43		65248

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-03  
**Lab ID:** H23010553-003  
**Matrix:** Surface Water

**Project:** NRDPM02 T08  
**Collection Date:** 01/25/23 12:45 **DateReceived:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	01/30/23 23:09 / dck	01/27/23 08:47	ICPMS205-H_230130B : 43		65248
Zinc	0.107	mg/L		0.008		E200.8	01/30/23 23:09 / dck	01/27/23 08:47	ICPMS205-H_230130B : 43		65248
Zirconium	ND	mg/L		0.005		E200.8	01/31/23 11:49 / dck	01/27/23 08:48	ICPMS205-H_230131A : 35		65250
<b>DATA QUALITY</b>											
A/C Balance	-1.21	%				A1030 E	02/01/23 08:24 / SR		CALC_230201A : 870		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-02  
**Lab ID:** H23010553-004  
**Matrix:** Surface Water

**Project:** NRDP02 T08  
**Collection Date:** 01/25/23 13:25  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.1	s.u.	H	0.1		A4500-H B	01/27/23 10:42 / ljs		PHSC_101-H_230127A : 19		R181890
pH Measurement Temp	11.4	°C				A4500-H B	01/27/23 10:42 / ljs		PHSC_101-H_230127A : 19		R181890
Conductivity @ 25 C	318	umhos/cm		5		A2510 B	01/27/23 10:42 / ljs		PHSC_101-H_230127A : 20		R181890
Solids, Total Dissolved TDS @ 180 C	208	mg/L	D	20		A2540 C	01/27/23 14:56 / SR		-124 (14410200)_230127A : 7		TDS230127A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	01/27/23 23:02 / ljs		PHSC_101-H_230127A : 210		R181890
Bicarbonate as HCO3	150	mg/L		4		A2320 B	01/27/23 23:02 / ljs		PHSC_101-H_230127A : 210		R181890
Carbonate as CO3	ND	mg/L		4		A2320 B	01/27/23 23:02 / ljs		PHSC_101-H_230127A : 210		R181890
Chloride	8	mg/L		1		E300.0	01/28/23 13:57 / ljs		C METROHM_230127A : 104		R181923
Sulfate	35	mg/L		1		E300.0	01/28/23 13:57 / ljs		C METROHM_230127A : 104		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 13:57 / ljs		C METROHM_230127A : 104		R181923
Fluoride	0.5	mg/L		0.1		E300.0	01/28/23 13:57 / ljs		C METROHM_230127A : 104		R181923
Hardness as CaCO3	123	mg/L		1		A2340 B	01/27/23 13:27 / SR		CALC_230201A : 883		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.2	mg/L		0.5		A5310 C	02/04/23 01:03 / eli-c		SUB-C291877 : 30		C_R291877
Organic Carbon, Total (TOC)	2.4	mg/L		0.5		A5310 C	02/03/23 17:07 / eli-c		SUB-C291877 : 9		C_R291877
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	02/02/23 12:44 / JAR		FIA203-HE_230202A : 69		R182042
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/30/23 23:13 / dck		ICPMS205-H_230130B : 44		R181965
Antimony	ND	mg/L		0.0005		E200.8	01/30/23 23:13 / dck		ICPMS205-H_230130B : 44		R181965
Arsenic	0.002	mg/L		0.001		E200.8	01/30/23 23:13 / dck		ICPMS205-H_230130B : 44		R181965
Barium	0.037	mg/L		0.003		E200.8	01/30/23 23:13 / dck		ICPMS205-H_230130B : 44		R181965
Beryllium	ND	mg/L		0.0008		E200.8	01/30/23 23:13 / dck		ICPMS205-H_230130B : 44		R181965
Boron	ND	mg/L		0.05		E200.7	01/27/23 13:27 / slj		ICP2-HE_230127A : 54		R181899
Cadmium	ND	mg/L		0.00003		E200.8	01/30/23 23:13 / dck		ICPMS205-H_230130B : 44		R181965
Cesium	ND	mg/L		0.01		E200.8	01/31/23 12:07 / dck		ICPMS205-H_230131A : 47		R181974

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-02  
**Lab ID:** H23010553-004  
**Matrix:** Surface Water

**Project:** NRDP02 T08  
**Collection Date:** 01/25/23 13:25  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	36	mg/L		1		E200.7	01/27/23 13:27 / slj		ICP2-HE_230127A : 54		R181899
Chromium	ND	mg/L		0.005		E200.8	01/30/23 23:13 / dck		ICPMS205-H_230130B : 44		R181965
Cobalt	ND	mg/L		0.005		E200.8	01/30/23 23:13 / dck		ICPMS205-H_230130B : 44		R181965
Copper	ND	mg/L		0.002		E200.8	01/30/23 23:13 / dck		ICPMS205-H_230130B : 44		R181965
Gallium	ND	mg/L		0.01		E200.8	01/31/23 12:07 / dck		ICPMS205-H_230131A : 47		R181974
Iron	0.31	mg/L		0.02		E200.8	01/30/23 23:13 / dck		ICPMS205-H_230130B : 44		R181965
Lead	ND	mg/L		0.0003		E200.8	01/30/23 23:13 / dck		ICPMS205-H_230130B : 44		R181965
Lanthanum	ND	mg/L		0.01		E200.8	01/31/23 12:07 / dck		ICPMS205-H_230131A : 47		R181974
Lithium	ND	mg/L		0.1		E200.7	01/27/23 13:27 / slj		ICP2-HE_230127A : 54		R181899
Magnesium	8	mg/L		1		E200.7	01/27/23 13:27 / slj		ICP2-HE_230127A : 54		R181899
Neodymium	ND	mg/L		0.005		E200.8	01/31/23 12:07 / dck		ICPMS205-H_230131A : 47		R181974
Niobium	ND	mg/L		0.01		E200.8	01/31/23 12:07 / dck		ICPMS205-H_230131A : 47		R181974
Manganese	0.571	mg/L		0.001		E200.8	01/30/23 23:13 / dck		ICPMS205-H_230130B : 44		R181965
Molybdenum	0.009	mg/L		0.001		E200.8	01/30/23 23:13 / dck		ICPMS205-H_230130B : 44		R181965
Nickel	ND	mg/L		0.002		E200.8	01/30/23 23:13 / dck		ICPMS205-H_230130B : 44		R181965
Palladium	ND	mg/L		0.01		E200.8	01/31/23 12:07 / dck		ICPMS205-H_230131A : 47		R181974
Praseodymium	ND	mg/L		0.01		E200.8	01/31/23 12:07 / dck		ICPMS205-H_230131A : 47		R181974
Rubidium	ND	mg/L		0.01		E200.8	01/31/23 12:07 / dck		ICPMS205-H_230131A : 47		R181974
Potassium	4	mg/L		1		E200.7	01/27/23 13:27 / slj		ICP2-HE_230127A : 54		R181899
Selenium	0.002	mg/L		0.001		E200.8	01/30/23 23:13 / dck		ICPMS205-H_230130B : 44		R181965
Silver	ND	mg/L		0.0002		E200.8	01/30/23 23:13 / dck		ICPMS205-H_230130B : 44		R181965
Sodium	18	mg/L		1		E200.7	01/27/23 13:27 / slj		ICP2-HE_230127A : 54		R181899
Strontium	0.22	mg/L		0.01		E200.8	01/30/23 23:13 / dck		ICPMS205-H_230130B : 44		R181965
Thallium	ND	mg/L		0.0002		E200.8	01/30/23 23:13 / dck		ICPMS205-H_230130B : 44		R181965
Thorium	ND	mg/L		0.005		E200.8	01/30/23 23:13 / dck		ICPMS205-H_230130B : 44		R181965
Tin	ND	mg/L		0.05		E200.8	01/30/23 23:13 / dck		ICPMS205-H_230130B : 44		R181965
Titanium	ND	mg/L		0.005		E200.8	01/30/23 23:13 / dck		ICPMS205-H_230130B : 44		R181965
Tungsten	ND	mg/L		0.1		E200.8	01/31/23 12:07 / dck		ICPMS205-H_230131A : 47		R181974
Uranium	0.0021	mg/L		0.0002		E200.8	01/30/23 23:13 / dck		ICPMS205-H_230130B : 44		R181965
Vanadium	ND	mg/L		0.01		E200.8	01/30/23 23:13 / dck		ICPMS205-H_230130B : 44		R181965
Zinc	ND	mg/L		0.008		E200.8	01/30/23 23:13 / dck		ICPMS205-H_230130B : 44		R181965
Zirconium	ND	mg/L		0.005		E200.8	01/31/23 12:07 / dck		ICPMS205-H_230131A : 47		R181974

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-02  
**Lab ID:** H23010553-004  
**Matrix:** Surface Water

**Project:** NRDP02 T08  
**Collection Date:** 01/25/23 13:25  
**DateReceived:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	0.174	mg/L		0.009		E200.8	01/30/23 23:18 / dck	01/27/23 08:47	ICPMS205-H_230130B : 45		65248
Antimony	ND	mg/L		0.0005		E200.8	01/30/23 23:18 / dck	01/27/23 08:47	ICPMS205-H_230130B : 45		65248
Arsenic	0.003	mg/L		0.001		E200.8	01/30/23 23:18 / dck	01/27/23 08:47	ICPMS205-H_230130B : 45		65248
Barium	0.044	mg/L		0.003		E200.8	01/30/23 23:18 / dck	01/27/23 08:47	ICPMS205-H_230130B : 45		65248
Beryllium	ND	mg/L		0.0008		E200.8	01/30/23 23:18 / dck	01/27/23 08:47	ICPMS205-H_230130B : 45		65248
Cesium	ND	mg/L		0.01		E200.8	01/31/23 12:09 / dck	01/27/23 08:48	ICPMS205-H_230131A : 48		65250
Cadmium	0.00013	mg/L		0.00003		E200.8	01/30/23 23:18 / dck	01/27/23 08:47	ICPMS205-H_230130B : 45		65248
Chromium	ND	mg/L		0.005		E200.8	01/30/23 23:18 / dck	01/27/23 08:47	ICPMS205-H_230130B : 45		65248
Cobalt	ND	mg/L		0.005		E200.8	01/30/23 23:18 / dck	01/27/23 08:47	ICPMS205-H_230130B : 45		65248
Copper	0.004	mg/L		0.002		E200.8	01/30/23 23:18 / dck	01/27/23 08:47	ICPMS205-H_230130B : 45		65248
Gallium	ND	mg/L		0.01		E200.8	01/31/23 12:09 / dck	01/27/23 08:48	ICPMS205-H_230131A : 48		65250
Iron	1.36	mg/L		0.02		E200.7	01/30/23 14:04 / slj	01/27/23 08:47	ICP2-HE_230130B : 33		65248
Lead	0.0020	mg/L		0.0003		E200.8	01/30/23 23:18 / dck	01/27/23 08:47	ICPMS205-H_230130B : 45		65248
Lanthanum	ND	mg/L		0.1		E200.8	01/31/23 12:09 / dck	01/27/23 08:48	ICPMS205-H_230131A : 48		65250
Lithium	ND	mg/L		0.1		E200.7	01/30/23 14:04 / slj	01/27/23 08:47	ICP2-HE_230130B : 33		65248
Neodymium	ND	mg/L		0.01		E200.8	01/31/23 12:09 / dck	01/27/23 08:48	ICPMS205-H_230131A : 48		65250
Niobium	ND	mg/L		0.01		E200.8	01/31/23 12:09 / dck	01/27/23 08:48	ICPMS205-H_230131A : 48		65250
Manganese	0.584	mg/L		0.001		E200.8	01/30/23 23:18 / dck	01/27/23 08:47	ICPMS205-H_230130B : 45		65248
Molybdenum	0.010	mg/L		0.001		E200.8	01/30/23 23:18 / dck	01/27/23 08:47	ICPMS205-H_230130B : 45		65248
Nickel	ND	mg/L		0.002		E200.8	01/30/23 23:18 / dck	01/27/23 08:47	ICPMS205-H_230130B : 45		65248
Palladium	ND	mg/L		0.01		E200.8	01/31/23 12:09 / dck	01/27/23 08:48	ICPMS205-H_230131A : 48		65250
Praseodymium	ND	mg/L		0.01		E200.8	01/31/23 12:09 / dck	01/27/23 08:48	ICPMS205-H_230131A : 48		65250
Rubidium	ND	mg/L		0.01		E200.8	01/31/23 12:09 / dck	01/27/23 08:48	ICPMS205-H_230131A : 48		65250
Selenium	ND	mg/L		0.001		E200.8	01/30/23 23:18 / dck	01/27/23 08:47	ICPMS205-H_230130B : 45		65248
Silver	ND	mg/L		0.0002		E200.8	01/30/23 23:18 / dck	01/27/23 08:47	ICPMS205-H_230130B : 45		65248
Strontium	0.22	mg/L		0.01		E200.8	01/30/23 23:18 / dck	01/27/23 08:47	ICPMS205-H_230130B : 45		65248
Thallium	ND	mg/L		0.0002		E200.8	01/30/23 23:18 / dck	01/27/23 08:47	ICPMS205-H_230130B : 45		65248
Tungsten	ND	mg/L		0.1		E200.8	01/31/23 12:09 / dck	01/27/23 08:48	ICPMS205-H_230131A : 48		65250
Tin	ND	mg/L		0.05		E200.8	01/30/23 23:18 / dck	01/27/23 08:47	ICPMS205-H_230130B : 45		65248
Titanium	0.012	mg/L		0.005		E200.8	01/30/23 23:18 / dck	01/27/23 08:47	ICPMS205-H_230130B : 45		65248
Thorium	ND	mg/L		0.005		E200.8	01/30/23 23:18 / dck	01/27/23 08:47	ICPMS205-H_230130B : 45		65248
Uranium	0.0019	mg/L		0.0003		E200.8	01/30/23 23:18 / dck	01/27/23 08:47	ICPMS205-H_230130B : 45		65248

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





**LABORATORY ANALYTICAL REPORT**

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-02  
**Lab ID:** H23010553-004  
**Matrix:** Surface Water

**Project:** NRDPM02 T08  
**Collection Date:** 01/25/23 13:25 **DateReceived:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	01/30/23 23:18 / dck	01/27/23 08:47	ICPMS205-H_230130B : 45		65248
Zinc	0.035	mg/L		0.008		E200.8	01/30/23 23:18 / dck	01/27/23 08:47	ICPMS205-H_230130B : 45		65248
Zirconium	ND	mg/L		0.005		E200.8	01/31/23 12:09 / dck	01/27/23 08:48	ICPMS205-H_230131A : 48		65250
<b>DATA QUALITY</b>											
A/C Balance	-0.90	%				A1030 E	02/01/23 08:25 / SR		CALC_230201A : 881		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-5  
**Lab ID:** H23010553-005  
**Matrix:** Surface Water

**Project:** NRDPM02 T08  
**Collection Date:** 01/25/23 13:50  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.6	s.u.	H	0.1		A4500-H B	01/27/23 10:44 / ljs		PHSC_101-H_230127A : 21		R181890
pH Measurement Temp	11.9	°C				A4500-H B	01/27/23 10:44 / ljs		PHSC_101-H_230127A : 21		R181890
Conductivity @ 25 C	372	umhos/cm		5		A2510 B	01/27/23 10:44 / ljs		PHSC_101-H_230127A : 22		R181890
Solids, Total Dissolved TDS @ 180 C	234	mg/L	D	20		A2540 C	01/27/23 14:56 / SR		-124 (14410200)_230127A : 8		TDS230127A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	01/30/23 15:36 / SR		PHSC_101-H_230130A : 18		R181943
Bicarbonate as HCO3	140	mg/L		4		A2320 B	01/30/23 15:36 / SR		PHSC_101-H_230130A : 18		R181943
Carbonate as CO3	ND	mg/L		4		A2320 B	01/30/23 15:36 / SR		PHSC_101-H_230130A : 18		R181943
Chloride	24	mg/L		1		E300.0	01/28/23 14:40 / ljs		C METROHM_230127A : 107		R181923
Sulfate	38	mg/L		1		E300.0	01/28/23 14:40 / ljs		C METROHM_230127A : 107		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 14:40 / ljs		C METROHM_230127A : 107		R181923
Fluoride	0.3	mg/L		0.1		E300.0	01/28/23 14:40 / ljs		C METROHM_230127A : 107		R181923
Hardness as CaCO3	149	mg/L		1		A2340 B	01/27/23 13:31 / SR		CALC_230201A : 894		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.3	mg/L		0.5		A5310 C	02/04/23 01:19 / eli-c		SUB-C291877 : 31		C_R291877
Organic Carbon, Total (TOC)	1.3	mg/L		0.5		A5310 C	02/03/23 17:23 / eli-c		SUB-C291877 : 10		C_R291877
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	1.35	mg/L		0.01		E353.2	02/02/23 12:45 / JAR		FIA203-HE_230202A : 70		R182042
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/30/23 23:22 / dck		ICPMS205-H_230130B : 46		R181965
Antimony	ND	mg/L		0.0005		E200.8	01/30/23 23:22 / dck		ICPMS205-H_230130B : 46		R181965
Arsenic	0.002	mg/L		0.001		E200.8	01/30/23 23:22 / dck		ICPMS205-H_230130B : 46		R181965
Barium	0.067	mg/L		0.003		E200.8	01/30/23 23:22 / dck		ICPMS205-H_230130B : 46		R181965
Beryllium	ND	mg/L		0.0008		E200.8	01/30/23 23:22 / dck		ICPMS205-H_230130B : 46		R181965
Boron	ND	mg/L		0.05		E200.7	01/27/23 13:31 / slj		ICP2-HE_230127A : 55		R181899
Cadmium	ND	mg/L		0.00003		E200.8	01/30/23 23:22 / dck		ICPMS205-H_230130B : 46		R181965
Cesium	ND	mg/L		0.01		E200.8	01/31/23 12:10 / dck		ICPMS205-H_230131A : 49		R181974

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-5  
**Lab ID:** H23010553-005  
**Matrix:** Surface Water

**Project:** NRDP02 T08  
**Collection Date:** 01/25/23 13:50  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	43	mg/L		1		E200.7	01/27/23 13:31 / slj		ICP2-HE_230127A : 55		R181899
Chromium	ND	mg/L		0.005		E200.8	01/30/23 23:22 / dck		ICPMS205-H_230130B : 46		R181965
Cobalt	ND	mg/L		0.005		E200.8	01/30/23 23:22 / dck		ICPMS205-H_230130B : 46		R181965
Copper	ND	mg/L		0.002		E200.8	01/30/23 23:22 / dck		ICPMS205-H_230130B : 46		R181965
Gallium	ND	mg/L		0.01		E200.8	01/31/23 12:10 / dck		ICPMS205-H_230131A : 49		R181974
Iron	ND	mg/L		0.02		E200.8	01/30/23 23:22 / dck		ICPMS205-H_230130B : 46		R181965
Lead	ND	mg/L		0.0003		E200.8	01/30/23 23:22 / dck		ICPMS205-H_230130B : 46		R181965
Lanthanum	ND	mg/L		0.01		E200.8	01/31/23 12:10 / dck		ICPMS205-H_230131A : 49		R181974
Lithium	ND	mg/L		0.1		E200.7	01/27/23 13:31 / slj		ICP2-HE_230127A : 55		R181899
Magnesium	10	mg/L		1		E200.7	01/27/23 13:31 / slj		ICP2-HE_230127A : 55		R181899
Neodymium	ND	mg/L		0.005		E200.8	01/31/23 12:10 / dck		ICPMS205-H_230131A : 49		R181974
Niobium	ND	mg/L		0.01		E200.8	01/31/23 12:10 / dck		ICPMS205-H_230131A : 49		R181974
Manganese	0.054	mg/L		0.001		E200.8	01/30/23 23:22 / dck		ICPMS205-H_230130B : 46		R181965
Molybdenum	0.006	mg/L		0.001		E200.8	01/30/23 23:22 / dck		ICPMS205-H_230130B : 46		R181965
Nickel	ND	mg/L		0.002		E200.8	01/30/23 23:22 / dck		ICPMS205-H_230130B : 46		R181965
Palladium	ND	mg/L		0.01		E200.8	01/31/23 12:10 / dck		ICPMS205-H_230131A : 49		R181974
Praseodymium	ND	mg/L		0.01		E200.8	01/31/23 12:10 / dck		ICPMS205-H_230131A : 49		R181974
Rubidium	ND	mg/L		0.01		E200.8	01/31/23 12:10 / dck		ICPMS205-H_230131A : 49		R181974
Potassium	3	mg/L		1		E200.7	01/27/23 13:31 / slj		ICP2-HE_230127A : 55		R181899
Selenium	ND	mg/L		0.001		E200.8	01/30/23 23:22 / dck		ICPMS205-H_230130B : 46		R181965
Silver	ND	mg/L		0.0002		E200.8	01/30/23 23:22 / dck		ICPMS205-H_230130B : 46		R181965
Sodium	16	mg/L		1		E200.7	01/27/23 13:31 / slj		ICP2-HE_230127A : 55		R181899
Strontium	0.26	mg/L		0.01		E200.8	01/30/23 23:22 / dck		ICPMS205-H_230130B : 46		R181965
Thallium	ND	mg/L		0.0002		E200.8	01/30/23 23:22 / dck		ICPMS205-H_230130B : 46		R181965
Thorium	ND	mg/L		0.005		E200.8	01/30/23 23:22 / dck		ICPMS205-H_230130B : 46		R181965
Tin	ND	mg/L		0.05		E200.8	01/30/23 23:22 / dck		ICPMS205-H_230130B : 46		R181965
Titanium	ND	mg/L		0.005		E200.8	01/30/23 23:22 / dck		ICPMS205-H_230130B : 46		R181965
Tungsten	ND	mg/L		0.1		E200.8	01/31/23 12:10 / dck		ICPMS205-H_230131A : 49		R181974
Uranium	0.0054	mg/L		0.0002		E200.8	01/30/23 23:22 / dck		ICPMS205-H_230130B : 46		R181965
Vanadium	ND	mg/L		0.01		E200.8	01/30/23 23:22 / dck		ICPMS205-H_230130B : 46		R181965
Zinc	ND	mg/L		0.008		E200.8	01/30/23 23:22 / dck		ICPMS205-H_230130B : 46		R181965
Zirconium	ND	mg/L		0.005		E200.8	01/31/23 12:10 / dck		ICPMS205-H_230131A : 49		R181974

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-5  
**Lab ID:** H23010553-005  
**Matrix:** Surface Water

**Project:** NRDP02 T08  
**Collection Date:** 01/25/23 13:50  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	0.021	mg/L		0.009		E200.8	01/30/23 23:27 / dck	01/27/23 08:47	ICPMS205-H_230130B : 47		65248
Antimony	ND	mg/L		0.0005		E200.8	01/30/23 23:27 / dck	01/27/23 08:47	ICPMS205-H_230130B : 47		65248
Arsenic	0.002	mg/L		0.001		E200.8	01/30/23 23:27 / dck	01/27/23 08:47	ICPMS205-H_230130B : 47		65248
Barium	0.066	mg/L		0.003		E200.8	01/30/23 23:27 / dck	01/27/23 08:47	ICPMS205-H_230130B : 47		65248
Beryllium	ND	mg/L		0.0008		E200.8	01/30/23 23:27 / dck	01/27/23 08:47	ICPMS205-H_230130B : 47		65248
Cesium	ND	mg/L		0.01		E200.8	01/31/23 12:12 / dck	01/27/23 08:48	ICPMS205-H_230131A : 50		65250
Cadmium	0.00003	mg/L		0.00003		E200.8	01/30/23 23:27 / dck	01/27/23 08:47	ICPMS205-H_230130B : 47		65248
Chromium	ND	mg/L		0.005		E200.8	01/30/23 23:27 / dck	01/27/23 08:47	ICPMS205-H_230130B : 47		65248
Cobalt	ND	mg/L		0.005		E200.8	01/30/23 23:27 / dck	01/27/23 08:47	ICPMS205-H_230130B : 47		65248
Copper	ND	mg/L		0.002		E200.8	01/30/23 23:27 / dck	01/27/23 08:47	ICPMS205-H_230130B : 47		65248
Gallium	ND	mg/L		0.01		E200.8	01/31/23 12:12 / dck	01/27/23 08:48	ICPMS205-H_230131A : 50		65250
Iron	0.14	mg/L		0.02		E200.8	01/30/23 23:27 / dck	01/27/23 08:47	ICPMS205-H_230130B : 47		65248
Lead	0.0003	mg/L		0.0003		E200.8	01/30/23 23:27 / dck	01/27/23 08:47	ICPMS205-H_230130B : 47		65248
Lanthanum	ND	mg/L		0.1		E200.8	01/31/23 12:12 / dck	01/27/23 08:48	ICPMS205-H_230131A : 50		65250
Lithium	ND	mg/L		0.1		E200.7	01/30/23 14:08 / slj	01/27/23 08:47	ICP2-HE_230130B : 34		65248
Neodymium	ND	mg/L		0.01		E200.8	01/31/23 12:12 / dck	01/27/23 08:48	ICPMS205-H_230131A : 50		65250
Niobium	ND	mg/L		0.01		E200.8	01/31/23 12:12 / dck	01/27/23 08:48	ICPMS205-H_230131A : 50		65250
Manganese	0.056	mg/L		0.001		E200.8	01/30/23 23:27 / dck	01/27/23 08:47	ICPMS205-H_230130B : 47		65248
Molybdenum	0.007	mg/L		0.001		E200.8	01/30/23 23:27 / dck	01/27/23 08:47	ICPMS205-H_230130B : 47		65248
Nickel	ND	mg/L		0.002		E200.8	01/30/23 23:27 / dck	01/27/23 08:47	ICPMS205-H_230130B : 47		65248
Palladium	ND	mg/L		0.01		E200.8	01/31/23 12:12 / dck	01/27/23 08:48	ICPMS205-H_230131A : 50		65250
Praseodymium	ND	mg/L		0.01		E200.8	01/31/23 12:12 / dck	01/27/23 08:48	ICPMS205-H_230131A : 50		65250
Rubidium	ND	mg/L		0.01		E200.8	01/31/23 12:12 / dck	01/27/23 08:48	ICPMS205-H_230131A : 50		65250
Selenium	ND	mg/L		0.001		E200.8	01/30/23 23:27 / dck	01/27/23 08:47	ICPMS205-H_230130B : 47		65248
Silver	ND	mg/L		0.0002		E200.8	01/30/23 23:27 / dck	01/27/23 08:47	ICPMS205-H_230130B : 47		65248
Strontium	0.26	mg/L		0.01		E200.8	01/30/23 23:27 / dck	01/27/23 08:47	ICPMS205-H_230130B : 47		65248
Thallium	ND	mg/L		0.0002		E200.8	01/30/23 23:27 / dck	01/27/23 08:47	ICPMS205-H_230130B : 47		65248
Tungsten	ND	mg/L		0.1		E200.8	01/31/23 12:12 / dck	01/27/23 08:48	ICPMS205-H_230131A : 50		65250
Tin	ND	mg/L		0.05		E200.8	01/30/23 23:27 / dck	01/27/23 08:47	ICPMS205-H_230130B : 47		65248
Titanium	ND	mg/L		0.005		E200.8	01/30/23 23:27 / dck	01/27/23 08:47	ICPMS205-H_230130B : 47		65248
Thorium	ND	mg/L		0.005		E200.8	01/30/23 23:27 / dck	01/27/23 08:47	ICPMS205-H_230130B : 47		65248
Uranium	0.0052	mg/L		0.0003		E200.8	01/30/23 23:27 / dck	01/27/23 08:47	ICPMS205-H_230130B : 47		65248

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



**LABORATORY ANALYTICAL REPORT**

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-5  
**Lab ID:** H23010553-005  
**Matrix:** Surface Water

**Project:** NRDPM02 T08  
**Collection Date:** 01/25/23 13:50  
**DateReceived:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	01/30/23 23:27 / dck	01/27/23 08:47	ICPMS205-H_230130B : 47		65248
Zinc	0.011	mg/L		0.008		E200.8	01/30/23 23:27 / dck	01/27/23 08:47	ICPMS205-H_230130B : 47		65248
Zirconium	ND	mg/L		0.005		E200.8	01/31/23 12:12 / dck	01/27/23 08:48	ICPMS205-H_230131A : 50		65250
<b>DATA QUALITY</b>											
A/C Balance	-0.04	%				A1030 E	02/01/23 08:25 / SR		CALC_230201A : 892		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-5  
**Lab ID:** H23010553-006  
**Matrix:** Surface Water

**Project:** NRDP M02 T08  
**Collection Date:** 01/25/23 13:55  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.7	s.u.	H	0.1		A4500-H B	01/27/23 10:47 / ljs		PHSC_101-H_230127A : 23		R181890
pH Measurement Temp	12.0	°C				A4500-H B	01/27/23 10:47 / ljs		PHSC_101-H_230127A : 23		R181890
Conductivity @ 25 C	6	umhos/cm		5		A2510 B	01/27/23 10:47 / ljs		PHSC_101-H_230127A : 24		R181890
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	D	20		A2540 C	01/27/23 14:56 / SR		-124 (14410200)_230127A : 9		TDS230127A
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.											
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	01/30/23 15:49 / SR		PHSC_101-H_230130A : 22		R181943
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	01/30/23 15:49 / SR		PHSC_101-H_230130A : 22		R181943
Carbonate as CO3	ND	mg/L		4		A2320 B	01/30/23 15:49 / SR		PHSC_101-H_230130A : 22		R181943
Chloride	ND	mg/L		1		E300.0	01/28/23 14:55 / ljs		C METROHM_230127A : 108		R181923
Sulfate	ND	mg/L		1		E300.0	01/28/23 14:55 / ljs		C METROHM_230127A : 108		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 14:55 / ljs		C METROHM_230127A : 108		R181923
Fluoride	ND	mg/L		0.1		E300.0	01/28/23 14:55 / ljs		C METROHM_230127A : 108		R181923
Hardness as CaCO3	ND	mg/L		1		A2340 B	01/27/23 13:34 / SR		CALC_230201A : 905		R181986
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	02/02/23 13:07 / JAR		FIA203-HE_230202A : 77		R182042
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/30/23 23:55 / dck		ICPMS205-H_230130B : 53		R181965
Antimony	ND	mg/L		0.0005		E200.8	01/30/23 23:55 / dck		ICPMS205-H_230130B : 53		R181965
Arsenic	ND	mg/L		0.001		E200.8	01/30/23 23:55 / dck		ICPMS205-H_230130B : 53		R181965
Barium	ND	mg/L		0.003		E200.8	01/30/23 23:55 / dck		ICPMS205-H_230130B : 53		R181965
Beryllium	ND	mg/L		0.0008		E200.8	01/30/23 23:55 / dck		ICPMS205-H_230130B : 53		R181965
Boron	ND	mg/L		0.05		E200.7	01/27/23 13:34 / slj		ICP2-HE_230127A : 56		R181899
Cadmium	ND	mg/L		0.00003		E200.8	01/30/23 23:55 / dck		ICPMS205-H_230130B : 53		R181965
Cesium	ND	mg/L		0.01		E200.8	01/31/23 12:13 / dck		ICPMS205-H_230131A : 51		R181974
Calcium	ND	mg/L		1		E200.7	01/27/23 13:34 / slj		ICP2-HE_230127A : 56		R181899
Chromium	ND	mg/L		0.005		E200.8	01/30/23 23:55 / dck		ICPMS205-H_230130B : 53		R181965
Cobalt	ND	mg/L		0.005		E200.8	01/30/23 23:55 / dck		ICPMS205-H_230130B : 53		R181965
Copper	ND	mg/L		0.002		E200.8	01/30/23 23:55 / dck		ICPMS205-H_230130B : 53		R181965

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** D - Reporting Limit (RL) increased due to sample matrix

H - Analysis performed past the method holding time



**LABORATORY ANALYTICAL REPORT**

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-5  
**Lab ID:** H23010553-006  
**Matrix:** Surface Water

**Project:** NRDP02 T08  
**Collection Date:** 01/25/23 13:55  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Gallium	ND	mg/L		0.01		E200.8	01/31/23 12:13 / dck		ICPMS205-H_230131A : 51		R181974
Iron	ND	mg/L		0.02		E200.8	01/30/23 23:55 / dck		ICPMS205-H_230130B : 53		R181965
Lead	ND	mg/L		0.0003		E200.8	01/30/23 23:55 / dck		ICPMS205-H_230130B : 53		R181965
Lanthanum	ND	mg/L		0.01		E200.8	01/31/23 12:13 / dck		ICPMS205-H_230131A : 51		R181974
Lithium	ND	mg/L		0.1		E200.7	01/27/23 13:34 / slj		ICP2-HE_230127A : 56		R181899
Magnesium	ND	mg/L		1		E200.7	01/27/23 13:34 / slj		ICP2-HE_230127A : 56		R181899
Neodymium	ND	mg/L		0.005		E200.8	01/31/23 12:13 / dck		ICPMS205-H_230131A : 51		R181974
Niobium	ND	mg/L		0.01		E200.8	01/31/23 12:13 / dck		ICPMS205-H_230131A : 51		R181974
Manganese	ND	mg/L		0.001		E200.8	02/01/23 18:51 / dck		ICPMS205-H_230201C : 45		R182013
Molybdenum	ND	mg/L		0.001		E200.8	01/30/23 23:55 / dck		ICPMS205-H_230130B : 53		R181965
Nickel	ND	mg/L		0.002		E200.8	01/30/23 23:55 / dck		ICPMS205-H_230130B : 53		R181965
Palladium	ND	mg/L		0.01		E200.8	01/31/23 12:13 / dck		ICPMS205-H_230131A : 51		R181974
Praseodymium	ND	mg/L		0.01		E200.8	01/31/23 12:13 / dck		ICPMS205-H_230131A : 51		R181974
Rubidium	ND	mg/L		0.01		E200.8	01/31/23 12:13 / dck		ICPMS205-H_230131A : 51		R181974
Potassium	ND	mg/L		1		E200.7	01/27/23 13:34 / slj		ICP2-HE_230127A : 56		R181899
Selenium	ND	mg/L		0.001		E200.8	01/30/23 23:55 / dck		ICPMS205-H_230130B : 53		R181965
Silver	ND	mg/L		0.0002		E200.8	01/30/23 23:55 / dck		ICPMS205-H_230130B : 53		R181965
Sodium	ND	mg/L		1		E200.7	01/27/23 13:34 / slj		ICP2-HE_230127A : 56		R181899
Strontium	ND	mg/L		0.01		E200.8	01/30/23 23:55 / dck		ICPMS205-H_230130B : 53		R181965
Thallium	ND	mg/L		0.0002		E200.8	01/30/23 23:55 / dck		ICPMS205-H_230130B : 53		R181965
Thorium	ND	mg/L		0.005		E200.8	01/30/23 23:55 / dck		ICPMS205-H_230130B : 53		R181965
Tin	ND	mg/L		0.05		E200.8	01/30/23 23:55 / dck		ICPMS205-H_230130B : 53		R181965
Titanium	ND	mg/L		0.005		E200.8	01/30/23 23:55 / dck		ICPMS205-H_230130B : 53		R181965
Tungsten	ND	mg/L		0.1		E200.8	01/31/23 12:13 / dck		ICPMS205-H_230131A : 51		R181974
Uranium	ND	mg/L		0.0002		E200.8	01/30/23 23:55 / dck		ICPMS205-H_230130B : 53		R181965
Vanadium	ND	mg/L		0.01		E200.8	01/30/23 23:55 / dck		ICPMS205-H_230130B : 53		R181965
Zinc	ND	mg/L		0.008		E200.8	02/01/23 18:51 / dck		ICPMS205-H_230201C : 45		R182013
Zirconium	ND	mg/L		0.005		E200.8	01/31/23 12:13 / dck		ICPMS205-H_230131A : 51		R181974

**METALS, TOTAL RECOVERABLE**

Aluminum	ND	mg/L		0.009		E200.8	01/30/23 23:59 / dck 01/27/23 08:47		ICPMS205-H_230130B : 54		65248
Antimony	ND	mg/L		0.0005		E200.8	01/30/23 23:59 / dck 01/27/23 08:47		ICPMS205-H_230130B : 54		65248

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-5  
**Lab ID:** H23010553-006  
**Matrix:** Surface Water

**Project:** NRDP02 T08  
**Collection Date:** 01/25/23 13:55  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Arsenic	ND	mg/L		0.001		E200.8	01/30/23 23:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 54		65248
Barium	ND	mg/L		0.003		E200.8	01/30/23 23:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 54		65248
Beryllium	ND	mg/L		0.0008		E200.8	01/30/23 23:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 54		65248
Cesium	ND	mg/L		0.01		E200.8	01/31/23 12:14 / dck	01/27/23 08:48	ICPMS205-H_230131A : 52		65250
Cadmium	ND	mg/L		0.00003		E200.8	01/30/23 23:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 54		65248
Chromium	ND	mg/L		0.005		E200.8	01/30/23 23:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 54		65248
Cobalt	ND	mg/L		0.005		E200.8	01/30/23 23:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 54		65248
Copper	ND	mg/L		0.002		E200.8	01/30/23 23:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 54		65248
Gallium	ND	mg/L		0.01		E200.8	01/31/23 12:14 / dck	01/27/23 08:48	ICPMS205-H_230131A : 52		65250
Iron	ND	mg/L		0.02		E200.8	01/30/23 23:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 54		65248
Lead	ND	mg/L		0.0003		E200.8	01/30/23 23:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 54		65248
Lanthanum	ND	mg/L		0.1		E200.8	01/31/23 12:14 / dck	01/27/23 08:48	ICPMS205-H_230131A : 52		65250
Lithium	ND	mg/L		0.1		E200.7	01/30/23 14:12 / slj	01/27/23 08:47	ICP2-HE_230130B : 35		65248
Neodymium	ND	mg/L		0.01		E200.8	01/31/23 12:14 / dck	01/27/23 08:48	ICPMS205-H_230131A : 52		65250
Niobium	ND	mg/L		0.01		E200.8	01/31/23 12:14 / dck	01/27/23 08:48	ICPMS205-H_230131A : 52		65250
Manganese	ND	mg/L		0.001		E200.8	02/01/23 18:54 / dck	01/27/23 08:47	ICPMS205-H_230201C : 46		65248
Molybdenum	ND	mg/L		0.001		E200.8	01/30/23 23:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 54		65248
Nickel	ND	mg/L		0.002		E200.8	01/30/23 23:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 54		65248
Palladium	ND	mg/L		0.01		E200.8	01/31/23 12:14 / dck	01/27/23 08:48	ICPMS205-H_230131A : 52		65250
Praseodymium	ND	mg/L		0.01		E200.8	01/31/23 12:14 / dck	01/27/23 08:48	ICPMS205-H_230131A : 52		65250
Rubidium	ND	mg/L		0.01		E200.8	01/31/23 12:14 / dck	01/27/23 08:48	ICPMS205-H_230131A : 52		65250
Selenium	ND	mg/L		0.001		E200.8	01/30/23 23:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 54		65248
Silver	ND	mg/L		0.0002		E200.8	01/30/23 23:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 54		65248
Strontium	ND	mg/L		0.01		E200.8	01/30/23 23:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 54		65248
Thallium	ND	mg/L		0.0002		E200.8	01/30/23 23:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 54		65248
Tungsten	ND	mg/L		0.1		E200.8	01/31/23 12:14 / dck	01/27/23 08:48	ICPMS205-H_230131A : 52		65250
Tin	ND	mg/L		0.05		E200.8	01/30/23 23:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 54		65248
Titanium	ND	mg/L		0.005		E200.8	01/30/23 23:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 54		65248
Thorium	ND	mg/L		0.005		E200.8	01/30/23 23:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 54		65248
Uranium	ND	mg/L		0.0003		E200.8	01/30/23 23:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 54		65248
Vanadium	ND	mg/L		0.01		E200.8	01/30/23 23:59 / dck	01/27/23 08:47	ICPMS205-H_230130B : 54		65248
Zinc	ND	mg/L		0.008		E200.8	02/01/23 18:54 / dck	01/27/23 08:47	ICPMS205-H_230201C : 46		65248

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-5  
**Lab ID:** H23010553-006  
**Matrix:** Surface Water

**Project:** NRDPM02 T08  
**Collection Date:** 01/25/23 13:55      **DateReceived:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Zirconium	ND	mg/L		0.005		E200.8	01/31/23 12:14 / dck	01/27/23 08:48	ICPMS205-H_230131A : 52		65250
<b>DATA QUALITY</b>											
A/C Balance	ND	%				A1030 E	02/01/23 08:25 / SR		CALC_230201A : 903		R181986
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-5  
**Lab ID:** H23010553-007  
**Matrix:** Surface Water

**Project:** NRDPM02 T08  
**Collection Date:** 01/25/23 14:00  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.6	s.u.	H	0.1		A4500-H B	01/27/23 10:49 / ljs		PHSC_101-H_230127A : 25		R181890
pH Measurement Temp	12.2	°C				A4500-H B	01/27/23 10:49 / ljs		PHSC_101-H_230127A : 25		R181890
Conductivity @ 25 C	10	umhos/cm		5		A2510 B	01/27/23 10:49 / ljs		PHSC_101-H_230127A : 26		R181890
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	D	20		A2540 C	01/27/23 14:56 / SR		I24 (14410200)_230127A : 10		TDS230127A
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.											
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	01/30/23 15:55 / SR		PHSC_101-H_230130A : 24		R181943
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	01/30/23 15:55 / SR		PHSC_101-H_230130A : 24		R181943
Carbonate as CO3	ND	mg/L		4		A2320 B	01/30/23 15:55 / SR		PHSC_101-H_230130A : 24		R181943
Chloride	ND	mg/L		1		E300.0	01/28/23 15:09 / ljs		C METROHM_230127A : 109		R181923
Sulfate	ND	mg/L		1		E300.0	01/28/23 15:09 / ljs		C METROHM_230127A : 109		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 15:09 / ljs		C METROHM_230127A : 109		R181923
Fluoride	ND	mg/L		0.1		E300.0	01/28/23 15:09 / ljs		C METROHM_230127A : 109		R181923
Hardness as CaCO3	ND	mg/L		1		A2340 B	01/27/23 13:38 / SR		CALC_230201A : 916		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	02/04/23 01:34 / eli-c		SUB-C291877 : 32		C_R291877
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	02/03/23 17:39 / eli-c		SUB-C291877 : 11		C_R291877
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	02/02/23 13:11 / JAR		FIA203-HE_230202A : 80		R182042
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/31/23 00:04 / dck		ICPMS205-H_230130B : 55		R181965
Antimony	ND	mg/L		0.0005		E200.8	01/31/23 00:04 / dck		ICPMS205-H_230130B : 55		R181965
Arsenic	ND	mg/L		0.001		E200.8	01/31/23 00:04 / dck		ICPMS205-H_230130B : 55		R181965
Barium	ND	mg/L		0.003		E200.8	01/31/23 00:04 / dck		ICPMS205-H_230130B : 55		R181965
Beryllium	ND	mg/L		0.0008		E200.8	01/31/23 00:04 / dck		ICPMS205-H_230130B : 55		R181965
Boron	ND	mg/L		0.05		E200.7	01/27/23 13:38 / slj		ICP2-HE_230127A : 57		R181899
Cadmium	ND	mg/L		0.00003		E200.8	01/31/23 00:04 / dck		ICPMS205-H_230130B : 55		R181965
Cesium	ND	mg/L		0.01		E200.8	02/17/23 16:06 / dck		ICPMS205-H_230217D : 40		R182395

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** D - Reporting Limit (RL) increased due to sample matrix

H - Analysis performed past the method holding time



**LABORATORY ANALYTICAL REPORT**

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-5  
**Lab ID:** H23010553-007  
**Matrix:** Surface Water

**Project:** NRDP02 T08  
**Collection Date:** 01/25/23 14:00  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	ND	mg/L		1		E200.7	01/27/23 13:38 / slj		ICP2-HE_230127A : 57		R181899
Chromium	ND	mg/L		0.005		E200.8	01/31/23 00:04 / dck		ICPMS205-H_230130B : 55		R181965
Cobalt	ND	mg/L		0.005		E200.8	01/31/23 00:04 / dck		ICPMS205-H_230130B : 55		R181965
Copper	ND	mg/L		0.002		E200.8	01/31/23 00:04 / dck		ICPMS205-H_230130B : 55		R181965
Gallium	ND	mg/L		0.01		E200.8	02/17/23 16:06 / dck		ICPMS205-H_230217D : 40		R182395
Iron	ND	mg/L		0.02		E200.8	01/31/23 00:04 / dck		ICPMS205-H_230130B : 55		R181965
Lead	ND	mg/L		0.0003		E200.8	01/31/23 00:04 / dck		ICPMS205-H_230130B : 55		R181965
Lanthanum	ND	mg/L		0.01		E200.8	02/17/23 16:06 / dck		ICPMS205-H_230217D : 40		R182395
Lithium	ND	mg/L		0.1		E200.7	01/27/23 13:38 / slj		ICP2-HE_230127A : 57		R181899
Magnesium	ND	mg/L		1		E200.7	01/27/23 13:38 / slj		ICP2-HE_230127A : 57		R181899
Neodymium	ND	mg/L		0.005		E200.8	02/17/23 16:06 / dck		ICPMS205-H_230217D : 40		R182395
Niobium	ND	mg/L		0.01		E200.8	02/17/23 16:06 / dck		ICPMS205-H_230217D : 40		R182395
Manganese	ND	mg/L		0.001		E200.8	02/01/23 18:56 / dck		ICPMS205-H_230201C : 47		R182013
Molybdenum	ND	mg/L		0.001		E200.8	01/31/23 00:04 / dck		ICPMS205-H_230130B : 55		R181965
Nickel	ND	mg/L		0.002		E200.8	01/31/23 00:04 / dck		ICPMS205-H_230130B : 55		R181965
Palladium	ND	mg/L		0.01		E200.8	02/17/23 16:06 / dck		ICPMS205-H_230217D : 40		R182395
Praseodymium	ND	mg/L		0.01		E200.8	02/17/23 16:06 / dck		ICPMS205-H_230217D : 40		R182395
Rubidium	ND	mg/L		0.01		E200.8	02/17/23 16:06 / dck		ICPMS205-H_230217D : 40		R182395
Potassium	ND	mg/L		1		E200.7	01/27/23 13:38 / slj		ICP2-HE_230127A : 57		R181899
Selenium	ND	mg/L		0.001		E200.8	01/31/23 00:04 / dck		ICPMS205-H_230130B : 55		R181965
Silver	ND	mg/L		0.0002		E200.8	01/31/23 00:04 / dck		ICPMS205-H_230130B : 55		R181965
Sodium	ND	mg/L		1		E200.7	01/27/23 13:38 / slj		ICP2-HE_230127A : 57		R181899
Strontium	ND	mg/L		0.01		E200.8	01/31/23 00:04 / dck		ICPMS205-H_230130B : 55		R181965
Thallium	ND	mg/L		0.0002		E200.8	01/31/23 00:04 / dck		ICPMS205-H_230130B : 55		R181965
Thorium	ND	mg/L		0.005		E200.8	01/31/23 00:04 / dck		ICPMS205-H_230130B : 55		R181965
Tin	ND	mg/L		0.05		E200.8	01/31/23 00:04 / dck		ICPMS205-H_230130B : 55		R181965
Titanium	ND	mg/L		0.005		E200.8	01/31/23 00:04 / dck		ICPMS205-H_230130B : 55		R181965
Tungsten	ND	mg/L		0.1		E200.8	02/17/23 16:06 / dck		ICPMS205-H_230217D : 40		R182395
Uranium	ND	mg/L		0.0002		E200.8	01/31/23 00:04 / dck		ICPMS205-H_230130B : 55		R181965
Vanadium	ND	mg/L		0.01		E200.8	01/31/23 00:04 / dck		ICPMS205-H_230130B : 55		R181965
Zinc	ND	mg/L		0.008		E200.8	02/01/23 18:56 / dck		ICPMS205-H_230201C : 47		R182013
Zirconium	ND	mg/L		0.005		E200.8	02/21/23 15:13 / dck		ICPMS205-H_230221C : 29		R182420

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-5  
**Lab ID:** H23010553-007  
**Matrix:** Surface Water

**Project:** NRDPM02 T08  
**Collection Date:** 01/25/23 14:00  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/31/23 00:08 / dck	01/27/23 08:47	ICPMS205-H_230130B : 56		65248
Antimony	ND	mg/L		0.0005		E200.8	01/31/23 00:08 / dck	01/27/23 08:47	ICPMS205-H_230130B : 56		65248
Arsenic	ND	mg/L		0.001		E200.8	01/31/23 00:08 / dck	01/27/23 08:47	ICPMS205-H_230130B : 56		65248
Barium	ND	mg/L		0.003		E200.8	01/31/23 00:08 / dck	01/27/23 08:47	ICPMS205-H_230130B : 56		65248
Beryllium	ND	mg/L		0.0008		E200.8	01/31/23 00:08 / dck	01/27/23 08:47	ICPMS205-H_230130B : 56		65248
Cesium	ND	mg/L		0.01		E200.8	01/31/23 12:17 / dck	01/27/23 08:48	ICPMS205-H_230131A : 54		65250
Cadmium	ND	mg/L		0.00003		E200.8	01/31/23 00:08 / dck	01/27/23 08:47	ICPMS205-H_230130B : 56		65248
Chromium	ND	mg/L		0.005		E200.8	01/31/23 00:08 / dck	01/27/23 08:47	ICPMS205-H_230130B : 56		65248
Cobalt	ND	mg/L		0.005		E200.8	01/31/23 00:08 / dck	01/27/23 08:47	ICPMS205-H_230130B : 56		65248
Copper	ND	mg/L		0.002		E200.8	01/31/23 00:08 / dck	01/27/23 08:47	ICPMS205-H_230130B : 56		65248
Gallium	ND	mg/L		0.01		E200.8	01/31/23 12:17 / dck	01/27/23 08:48	ICPMS205-H_230131A : 54		65250
Iron	ND	mg/L		0.02		E200.8	01/31/23 00:08 / dck	01/27/23 08:47	ICPMS205-H_230130B : 56		65248
Lead	ND	mg/L		0.0003		E200.8	01/31/23 00:08 / dck	01/27/23 08:47	ICPMS205-H_230130B : 56		65248
Lanthanum	ND	mg/L		0.1		E200.8	01/31/23 12:17 / dck	01/27/23 08:48	ICPMS205-H_230131A : 54		65250
Lithium	ND	mg/L		0.1		E200.7	01/30/23 14:16 / slj	01/27/23 08:47	ICP2-HE_230130B : 36		65248
Neodymium	ND	mg/L		0.01		E200.8	01/31/23 12:17 / dck	01/27/23 08:48	ICPMS205-H_230131A : 54		65250
Niobium	ND	mg/L		0.01		E200.8	01/31/23 12:17 / dck	01/27/23 08:48	ICPMS205-H_230131A : 54		65250
Manganese	ND	mg/L		0.001		E200.8	02/01/23 18:59 / dck	01/27/23 08:47	ICPMS205-H_230201C : 48		65248
Molybdenum	ND	mg/L		0.001		E200.8	01/31/23 00:08 / dck	01/27/23 08:47	ICPMS205-H_230130B : 56		65248
Nickel	ND	mg/L		0.002		E200.8	01/31/23 00:08 / dck	01/27/23 08:47	ICPMS205-H_230130B : 56		65248
Palladium	ND	mg/L		0.01		E200.8	01/31/23 12:17 / dck	01/27/23 08:48	ICPMS205-H_230131A : 54		65250
Praseodymium	ND	mg/L		0.01		E200.8	01/31/23 12:17 / dck	01/27/23 08:48	ICPMS205-H_230131A : 54		65250
Rubidium	ND	mg/L		0.01		E200.8	01/31/23 12:17 / dck	01/27/23 08:48	ICPMS205-H_230131A : 54		65250
Selenium	ND	mg/L		0.001		E200.8	01/31/23 00:08 / dck	01/27/23 08:47	ICPMS205-H_230130B : 56		65248
Silver	ND	mg/L		0.0002		E200.8	01/31/23 00:08 / dck	01/27/23 08:47	ICPMS205-H_230130B : 56		65248
Strontium	ND	mg/L		0.01		E200.8	01/31/23 00:08 / dck	01/27/23 08:47	ICPMS205-H_230130B : 56		65248
Thallium	ND	mg/L		0.0002		E200.8	01/31/23 00:08 / dck	01/27/23 08:47	ICPMS205-H_230130B : 56		65248
Tungsten	ND	mg/L		0.1		E200.8	01/31/23 12:17 / dck	01/27/23 08:48	ICPMS205-H_230131A : 54		65250
Tin	ND	mg/L		0.05		E200.8	01/31/23 00:08 / dck	01/27/23 08:47	ICPMS205-H_230130B : 56		65248
Titanium	ND	mg/L		0.005		E200.8	01/31/23 00:08 / dck	01/27/23 08:47	ICPMS205-H_230130B : 56		65248
Thorium	ND	mg/L		0.005		E200.8	01/31/23 00:08 / dck	01/27/23 08:47	ICPMS205-H_230130B : 56		65248
Uranium	ND	mg/L		0.0003		E200.8	01/31/23 00:08 / dck	01/27/23 08:47	ICPMS205-H_230130B : 56		65248

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-5  
**Lab ID:** H23010553-007  
**Matrix:** Surface Water

**Project:** NRDPM02 T08  
**Collection Date:** 01/25/23 14:00  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	01/31/23 00:08 / dck	01/27/23 08:47	ICPMS205-H_230130B : 56		65248
Zinc	ND	mg/L		0.008		E200.8	02/01/23 18:59 / dck	01/27/23 08:47	ICPMS205-H_230201C : 48		65248
Zirconium	ND	mg/L		0.005		E200.8	01/31/23 12:17 / dck	01/27/23 08:48	ICPMS205-H_230131A : 54		65250
<b>DATA QUALITY</b>											
A/C Balance	ND	%				A1030 E	02/01/23 08:25 / SR		CALC_230201A : 914		R181986
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-4  
**Lab ID:** H23010553-008  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/25/23 15:27  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.2	s.u.	H	0.1		A4500-H B	01/27/23 10:52 / ljs		PHSC_101-H_230127A : 27		R181890
pH Measurement Temp	12.4	°C				A4500-H B	01/27/23 10:52 / ljs		PHSC_101-H_230127A : 27		R181890
Conductivity @ 25 C	3790	umhos/cm		5		A2510 B	01/27/23 10:52 / ljs		PHSC_101-H_230127A : 28		R181890
Solids, Total Dissolved TDS @ 180 C	4240	mg/L	D	100		A2540 C	01/27/23 14:56 / SR		I24 (14410200)_230127A : 11		TDS230127A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	01/30/23 16:01 / SR		PHSC_101-H_230130A : 26		R181943
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	01/30/23 16:01 / SR		PHSC_101-H_230130A : 26		R181943
Carbonate as CO3	ND	mg/L		4		A2320 B	01/30/23 16:01 / SR		PHSC_101-H_230130A : 26		R181943
Chloride	181	mg/L		1		E300.0	01/28/23 15:23 / ljs		C METROHM_230127A : 110		R181923
Sulfate	2640	mg/L		1		E300.0	01/28/23 15:23 / ljs		C METROHM_230127A : 110		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 15:23 / ljs		C METROHM_230127A : 110		R181923
Fluoride	7.1	mg/L	*	0.1		E300.0	01/28/23 15:23 / ljs		C METROHM_230127A : 110		R181923
Hardness as CaCO3	1680	mg/L		1		A2340 B	01/27/23 13:42 / SR		CALC_230207A : 47		R182129
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.8	mg/L		0.5		A5310 C	02/04/23 01:51 / eli-c		SUB-C291877 : 33		C_R291877
Organic Carbon, Total (TOC)	0.9	mg/L		0.5		A5310 C	02/03/23 17:56 / eli-c		SUB-C291877 : 12		C_R291877
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	6.12	mg/L	D	0.05		E353.2	02/02/23 13:24 / JAR		FIA203-HE_230202A : 91		R182042
<b>METALS, DISSOLVED</b>											
Aluminum	9.85	mg/L	D	0.03		E200.7	01/27/23 13:42 / slj		ICP2-HE_230127A : 58		R181899
Antimony	ND	mg/L		0.0005		E200.8	01/31/23 00:13 / dck		ICPMS205-H_230130B : 57		R181965
Arsenic	0.002	mg/L		0.001		E200.8	01/31/23 00:13 / dck		ICPMS205-H_230130B : 57		R181965
Barium	0.011	mg/L		0.003		E200.8	01/31/23 00:13 / dck		ICPMS205-H_230130B : 57		R181965
Beryllium	0.0078	mg/L		0.0008		E200.8	01/31/23 00:13 / dck		ICPMS205-H_230130B : 57		R181965
Boron	0.18	mg/L		0.05		E200.7	01/27/23 13:42 / slj		ICP2-HE_230127A : 58		R181899
Cadmium	1.14	mg/L		0.00003		E200.8	01/31/23 00:13 / dck		ICPMS205-H_230130B : 57		R181965
Cesium	ND	mg/L		0.01		E200.8	01/31/23 12:19 / dck		ICPMS205-H_230131A : 55		R181974

**Report Definitions:** RL - Analyte Reporting Limit  
\* - The result exceeds the Maximum Contaminant Level (MCL)

MCL - Maximum Contaminant Level  
D - Reporting Limit (RL) increased due to sample matrix

ND - Not detected at the Reporting Limit (RL)  
H - Analysis performed past the method holding time





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-4  
**Lab ID:** H23010553-008  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/25/23 15:27  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	454	mg/L		1		E200.7	01/27/23 13:42 / slj		ICP2-HE_230127A : 58		R181899
Chromium	ND	mg/L		0.005		E200.8	01/31/23 00:13 / dck		ICPMS205-H_230130B : 57		R181965
Cobalt	0.384	mg/L		0.005		E200.8	01/31/23 00:13 / dck		ICPMS205-H_230130B : 57		R181965
Copper	81.4	mg/L	D	0.01		E200.7	01/27/23 13:42 / slj		ICP2-HE_230127A : 58		R181899
Gallium	0.01	mg/L		0.01		E200.8	01/31/23 12:19 / dck		ICPMS205-H_230131A : 55		R181974
Iron	0.25	mg/L		0.02		E200.8	01/31/23 00:13 / dck		ICPMS205-H_230130B : 57		R181965
Lead	0.0050	mg/L		0.0003		E200.8	01/31/23 00:13 / dck		ICPMS205-H_230130B : 57		R181965
Lanthanum	0.09	mg/L		0.01		E200.8	01/31/23 12:19 / dck		ICPMS205-H_230131A : 55		R181974
Lithium	0.7	mg/L		0.1		E200.7	01/27/23 13:42 / slj		ICP2-HE_230127A : 58		R181899
Magnesium	133	mg/L		1		E200.7	01/27/23 13:42 / slj		ICP2-HE_230127A : 58		R181899
Neodymium	0.059	mg/L		0.005		E200.8	01/31/23 12:19 / dck		ICPMS205-H_230131A : 55		R181974
Niobium	ND	mg/L		0.01		E200.8	01/31/23 12:19 / dck		ICPMS205-H_230131A : 55		R181974
Manganese	256	mg/L	D	0.01		E200.7	01/30/23 15:01 / slj		ICP2-HE_230130B : 48		R181955
Molybdenum	ND	mg/L		0.001		E200.8	01/31/23 00:13 / dck		ICPMS205-H_230130B : 57		R181965
Nickel	0.522	mg/L		0.002		E200.8	01/31/23 00:13 / dck		ICPMS205-H_230130B : 57		R181965
Palladium	ND	mg/L		0.01		E200.8	01/31/23 12:19 / dck		ICPMS205-H_230131A : 55		R181974
Praseodymium	0.02	mg/L		0.01		E200.8	01/31/23 12:19 / dck		ICPMS205-H_230131A : 55		R181974
Rubidium	0.04	mg/L		0.01		E200.8	01/31/23 12:19 / dck		ICPMS205-H_230131A : 55		R181974
Potassium	29	mg/L		1		E200.7	01/27/23 13:42 / slj		ICP2-HE_230127A : 58		R181899
Selenium	0.001	mg/L		0.001		E200.8	01/31/23 00:13 / dck		ICPMS205-H_230130B : 57		R181965
Silver	0.0090	mg/L		0.0002		E200.8	01/31/23 00:13 / dck		ICPMS205-H_230130B : 57		R181965
Sodium	69	mg/L		1		E200.7	01/27/23 13:42 / slj		ICP2-HE_230127A : 58		R181899
Strontium	4.15	mg/L		0.01		E200.7	01/27/23 13:42 / slj		ICP2-HE_230127A : 58		R181899
Thallium	ND	mg/L		0.0002		E200.8	01/31/23 00:13 / dck		ICPMS205-H_230130B : 57		R181965
Thorium	ND	mg/L		0.005		E200.8	01/31/23 00:13 / dck		ICPMS205-H_230130B : 57		R181965
Tin	ND	mg/L		0.05		E200.8	01/31/23 00:13 / dck		ICPMS205-H_230130B : 57		R181965
Titanium	ND	mg/L		0.005		E200.8	01/31/23 00:13 / dck		ICPMS205-H_230130B : 57		R181965
Tungsten	ND	mg/L		0.1		E200.8	01/31/23 12:19 / dck		ICPMS205-H_230131A : 55		R181974
Uranium	0.0320	mg/L		0.0002		E200.8	01/31/23 00:13 / dck		ICPMS205-H_230130B : 57		R181965
Vanadium	ND	mg/L		0.01		E200.8	01/31/23 00:13 / dck		ICPMS205-H_230130B : 57		R181965
Zinc	207	mg/L	D	0.03		E200.7	01/31/23 14:42 / slj		ICP2-HE_230131A : 60		R181987
Zirconium	ND	mg/L		0.005		E200.8	01/31/23 12:19 / dck		ICPMS205-H_230131A : 55		R181974

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

D - Reporting Limit (RL) increased due to sample matrix





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-4  
**Lab ID:** H23010553-008  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/25/23 15:27      **DateReceived:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-12.0	%				A1030 E	02/07/23 15:36 / SR		CALC_230207A : 45		R182129

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-4  
**Lab ID:** H23010553-009  
**Matrix:** Groundwater

**Project:** NRDP M02 T08  
**Collection Date:** 01/25/23 08:00  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.5	s.u.	H	0.1		A4500-H B	01/27/23 10:54 / ljs		PHSC_101-H_230127A : 29		R181890
pH Measurement Temp	12.6	°C				A4500-H B	01/27/23 10:54 / ljs		PHSC_101-H_230127A : 29		R181890
Conductivity @ 25 C	7	umhos/cm		5		A2510 B	01/27/23 10:54 / ljs		PHSC_101-H_230127A : 30		R181890
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	D	20		A2540 C	01/27/23 14:57 / SR		124 (14410200)_230127A : 12		TDS230127A
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.											
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	01/30/23 16:05 / SR		PHSC_101-H_230130A : 28		R181943
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	01/30/23 16:05 / SR		PHSC_101-H_230130A : 28		R181943
Carbonate as CO3	ND	mg/L		4		A2320 B	01/30/23 16:05 / SR		PHSC_101-H_230130A : 28		R181943
Chloride	ND	mg/L		1		E300.0	01/28/23 15:38 / ljs		C METROHM_230127A : 111		R181923
Sulfate	ND	mg/L		1		E300.0	01/28/23 15:38 / ljs		C METROHM_230127A : 111		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 15:38 / ljs		C METROHM_230127A : 111		R181923
Fluoride	ND	mg/L		0.1		E300.0	01/28/23 15:38 / ljs		C METROHM_230127A : 111		R181923
Hardness as CaCO3	ND	mg/L		1		A2340 B	01/27/23 13:46 / SR		CALC_230201A : 927		R181986
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	02/02/23 13:13 / JAR		FIA203-HE_230202A : 82		R182042
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/31/23 00:18 / dck		ICPMS205-H_230130B : 58		R181965
Antimony	ND	mg/L		0.0005		E200.8	01/31/23 00:18 / dck		ICPMS205-H_230130B : 58		R181965
Arsenic	ND	mg/L		0.001		E200.8	01/31/23 00:18 / dck		ICPMS205-H_230130B : 58		R181965
Barium	ND	mg/L		0.003		E200.8	01/31/23 00:18 / dck		ICPMS205-H_230130B : 58		R181965
Beryllium	ND	mg/L		0.0008		E200.8	01/31/23 00:18 / dck		ICPMS205-H_230130B : 58		R181965
Boron	ND	mg/L		0.05		E200.7	01/27/23 13:46 / slj		ICP2-HE_230127A : 59		R181899
Cadmium	ND	mg/L		0.00003		E200.8	01/31/23 00:18 / dck		ICPMS205-H_230130B : 58		R181965
Cesium	ND	mg/L		0.01		E200.8	01/31/23 12:28 / dck		ICPMS205-H_230131A : 61		R181974
Calcium	ND	mg/L		1		E200.7	01/27/23 13:46 / slj		ICP2-HE_230127A : 59		R181899
Chromium	ND	mg/L		0.005		E200.8	01/31/23 00:18 / dck		ICPMS205-H_230130B : 58		R181965
Cobalt	ND	mg/L		0.005		E200.8	01/31/23 00:18 / dck		ICPMS205-H_230130B : 58		R181965
Copper	ND	mg/L		0.002		E200.8	01/31/23 00:18 / dck		ICPMS205-H_230130B : 58		R181965

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** D - Reporting Limit (RL) increased due to sample matrix

H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-4  
**Lab ID:** H23010553-009  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/25/23 08:00  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Gallium	ND	mg/L		0.01		E200.8	01/31/23 12:28 / dck		ICPMS205-H_230131A : 61		R181974
Iron	ND	mg/L		0.02		E200.8	01/31/23 00:18 / dck		ICPMS205-H_230130B : 58		R181965
Lead	ND	mg/L		0.0003		E200.8	01/31/23 00:18 / dck		ICPMS205-H_230130B : 58		R181965
Lanthanum	ND	mg/L		0.01		E200.8	01/31/23 12:28 / dck		ICPMS205-H_230131A : 61		R181974
Lithium	ND	mg/L		0.1		E200.7	01/27/23 13:46 / slj		ICP2-HE_230127A : 59		R181899
Magnesium	ND	mg/L		1		E200.7	01/27/23 13:46 / slj		ICP2-HE_230127A : 59		R181899
Neodymium	ND	mg/L		0.005		E200.8	01/31/23 12:28 / dck		ICPMS205-H_230131A : 61		R181974
Niobium	ND	mg/L		0.01		E200.8	01/31/23 12:28 / dck		ICPMS205-H_230131A : 61		R181974
Manganese	ND	mg/L		0.001		E200.8	02/02/23 15:59 / dck		ICPMS205-H_230202A : 41		R182043
Molybdenum	ND	mg/L		0.001		E200.8	01/31/23 00:18 / dck		ICPMS205-H_230130B : 58		R181965
Nickel	ND	mg/L		0.002		E200.8	01/31/23 00:18 / dck		ICPMS205-H_230130B : 58		R181965
Palladium	ND	mg/L		0.01		E200.8	01/31/23 12:28 / dck		ICPMS205-H_230131A : 61		R181974
Praseodymium	ND	mg/L		0.01		E200.8	01/31/23 12:28 / dck		ICPMS205-H_230131A : 61		R181974
Rubidium	ND	mg/L		0.01		E200.8	01/31/23 12:28 / dck		ICPMS205-H_230131A : 61		R181974
Potassium	ND	mg/L		1		E200.7	01/27/23 13:46 / slj		ICP2-HE_230127A : 59		R181899
Selenium	ND	mg/L		0.001		E200.8	01/31/23 00:18 / dck		ICPMS205-H_230130B : 58		R181965
Silver	ND	mg/L		0.0002		E200.8	01/31/23 00:18 / dck		ICPMS205-H_230130B : 58		R181965
Sodium	ND	mg/L		1		E200.7	01/27/23 13:46 / slj		ICP2-HE_230127A : 59		R181899
Strontium	ND	mg/L		0.01		E200.8	01/31/23 00:18 / dck		ICPMS205-H_230130B : 58		R181965
Thallium	ND	mg/L		0.0002		E200.8	01/31/23 00:18 / dck		ICPMS205-H_230130B : 58		R181965
Thorium	ND	mg/L		0.005		E200.8	01/31/23 00:18 / dck		ICPMS205-H_230130B : 58		R181965
Tin	ND	mg/L		0.05		E200.8	01/31/23 00:18 / dck		ICPMS205-H_230130B : 58		R181965
Titanium	ND	mg/L		0.005		E200.8	01/31/23 00:18 / dck		ICPMS205-H_230130B : 58		R181965
Tungsten	ND	mg/L		0.1		E200.8	01/31/23 12:28 / dck		ICPMS205-H_230131A : 61		R181974
Uranium	ND	mg/L		0.0002		E200.8	01/31/23 00:18 / dck		ICPMS205-H_230130B : 58		R181965
Vanadium	ND	mg/L		0.01		E200.8	01/31/23 00:18 / dck		ICPMS205-H_230130B : 58		R181965
Zinc	ND	mg/L		0.008		E200.8	02/02/23 15:59 / dck		ICPMS205-H_230202A : 41		R182043
Zirconium	ND	mg/L		0.005		E200.8	01/31/23 12:28 / dck		ICPMS205-H_230131A : 61		R181974

#### DATA QUALITY

A/C Balance	ND	%				A1030 E	02/01/23 08:26 / SR		CALC_230201A : 925		R181986
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The Anion/Cation Balance Difference is <math>\leq \pm 0.2 \text{ meq/L}</math>

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-4  
**Lab ID:** H23010553-010  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/25/23 08:05  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.6	s.u.	H	0.1		A4500-H B	01/27/23 10:56 / ljs		PHSC_101-H_230127A : 31		R181890
pH Measurement Temp	12.5	°C				A4500-H B	01/27/23 10:56 / ljs		PHSC_101-H_230127A : 31		R181890
Conductivity @ 25 C	6	umhos/cm		5		A2510 B	01/27/23 10:56 / ljs		PHSC_101-H_230127A : 32		R181890
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	D	20		A2540 C	01/27/23 14:57 / SR		I24 (14410200)_230127A : 13		TDS230127A
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.											
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	01/30/23 16:11 / SR		PHSC_101-H_230130A : 30		R181943
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	01/30/23 16:11 / SR		PHSC_101-H_230130A : 30		R181943
Carbonate as CO3	ND	mg/L		4		A2320 B	01/30/23 16:11 / SR		PHSC_101-H_230130A : 30		R181943
Chloride	ND	mg/L		1		E300.0	01/28/23 15:52 / ljs		C METROHM_230127A : 112		R181923
Sulfate	ND	mg/L		1		E300.0	01/28/23 15:52 / ljs		C METROHM_230127A : 112		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 15:52 / ljs		C METROHM_230127A : 112		R181923
Fluoride	ND	mg/L		0.1		E300.0	01/28/23 15:52 / ljs		C METROHM_230127A : 112		R181923
Hardness as CaCO3	ND	mg/L		1		A2340 B	01/27/23 13:50 / SR		CALC_230201A : 938		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	02/03/23 18:12 / eli-c		SUB-C291877 : 13		C_R291877
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	02/02/23 13:14 / JAR		FIA203-HE_230202A : 83		R182042
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	01/31/23 00:22 / dck		ICPMS205-H_230130B : 59		R181965
Antimony	ND	mg/L		0.0005		E200.8	01/31/23 00:22 / dck		ICPMS205-H_230130B : 59		R181965
Arsenic	ND	mg/L		0.001		E200.8	01/31/23 00:22 / dck		ICPMS205-H_230130B : 59		R181965
Barium	ND	mg/L		0.003		E200.8	01/31/23 00:22 / dck		ICPMS205-H_230130B : 59		R181965
Beryllium	ND	mg/L		0.0008		E200.8	01/31/23 00:22 / dck		ICPMS205-H_230130B : 59		R181965
Boron	ND	mg/L		0.05		E200.7	01/27/23 13:50 / slj		ICP2-HE_230127A : 60		R181899
Cadmium	ND	mg/L		0.00003		E200.8	01/31/23 00:22 / dck		ICPMS205-H_230130B : 59		R181965
Cesium	ND	mg/L		0.01		E200.8	01/31/23 12:30 / dck		ICPMS205-H_230131A : 62		R181974
Calcium	ND	mg/L		1		E200.7	01/27/23 13:50 / slj		ICP2-HE_230127A : 60		R181899

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** D - Reporting Limit (RL) increased due to sample matrix

H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-4  
**Lab ID:** H23010553-010  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/25/23 08:05  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Chromium	ND	mg/L		0.005		E200.8	01/31/23 00:22 / dck		ICPMS205-H_230130B : 59		R181965
Cobalt	ND	mg/L		0.005		E200.8	01/31/23 00:22 / dck		ICPMS205-H_230130B : 59		R181965
Copper	ND	mg/L		0.002		E200.8	01/31/23 00:22 / dck		ICPMS205-H_230130B : 59		R181965
Gallium	ND	mg/L		0.01		E200.8	01/31/23 12:30 / dck		ICPMS205-H_230131A : 62		R181974
Iron	ND	mg/L		0.02		E200.8	01/31/23 00:22 / dck		ICPMS205-H_230130B : 59		R181965
Lead	ND	mg/L		0.0003		E200.8	01/31/23 00:22 / dck		ICPMS205-H_230130B : 59		R181965
Lanthanum	ND	mg/L		0.01		E200.8	01/31/23 12:30 / dck		ICPMS205-H_230131A : 62		R181974
Lithium	ND	mg/L		0.1		E200.7	01/27/23 13:50 / slj		ICP2-HE_230127A : 60		R181899
Magnesium	ND	mg/L		1		E200.7	01/27/23 13:50 / slj		ICP2-HE_230127A : 60		R181899
Neodymium	ND	mg/L		0.005		E200.8	01/31/23 12:30 / dck		ICPMS205-H_230131A : 62		R181974
Niobium	ND	mg/L		0.01		E200.8	01/31/23 12:30 / dck		ICPMS205-H_230131A : 62		R181974
Manganese	ND	mg/L		0.001		E200.8	02/02/23 16:01 / dck		ICPMS205-H_230202A : 42		R182043
Molybdenum	ND	mg/L		0.001		E200.8	01/31/23 00:22 / dck		ICPMS205-H_230130B : 59		R181965
Nickel	ND	mg/L		0.002		E200.8	01/31/23 00:22 / dck		ICPMS205-H_230130B : 59		R181965
Palladium	ND	mg/L		0.01		E200.8	01/31/23 12:30 / dck		ICPMS205-H_230131A : 62		R181974
Praseodymium	ND	mg/L		0.01		E200.8	01/31/23 12:30 / dck		ICPMS205-H_230131A : 62		R181974
Rubidium	ND	mg/L		0.01		E200.8	01/31/23 12:30 / dck		ICPMS205-H_230131A : 62		R181974
Potassium	ND	mg/L		1		E200.7	01/27/23 13:50 / slj		ICP2-HE_230127A : 60		R181899
Selenium	ND	mg/L		0.001		E200.8	01/31/23 00:22 / dck		ICPMS205-H_230130B : 59		R181965
Silver	ND	mg/L		0.0002		E200.8	01/31/23 00:22 / dck		ICPMS205-H_230130B : 59		R181965
Sodium	ND	mg/L		1		E200.7	01/27/23 13:50 / slj		ICP2-HE_230127A : 60		R181899
Strontium	ND	mg/L		0.01		E200.8	01/31/23 00:22 / dck		ICPMS205-H_230130B : 59		R181965
Thallium	ND	mg/L		0.0002		E200.8	01/31/23 00:22 / dck		ICPMS205-H_230130B : 59		R181965
Thorium	ND	mg/L		0.005		E200.8	01/31/23 00:22 / dck		ICPMS205-H_230130B : 59		R181965
Tin	ND	mg/L		0.05		E200.8	01/31/23 00:22 / dck		ICPMS205-H_230130B : 59		R181965
Titanium	ND	mg/L		0.005		E200.8	01/31/23 00:22 / dck		ICPMS205-H_230130B : 59		R181965
Tungsten	ND	mg/L		0.1		E200.8	01/31/23 12:30 / dck		ICPMS205-H_230131A : 62		R181974
Uranium	ND	mg/L		0.0002		E200.8	01/31/23 00:22 / dck		ICPMS205-H_230130B : 59		R181965
Vanadium	ND	mg/L		0.01		E200.8	01/31/23 00:22 / dck		ICPMS205-H_230130B : 59		R181965
Zinc	ND	mg/L		0.008		E200.8	02/01/23 19:06 / dck		ICPMS205-H_230201C : 51		R182013
Zirconium	ND	mg/L		0.005		E200.8	01/31/23 12:30 / dck		ICPMS205-H_230131A : 62		R181974

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



**LABORATORY ANALYTICAL REPORT**

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-4  
**Lab ID:** H23010553-010  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/25/23 08:05  
**DateReceived:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	ND	%				A1030 E	02/01/23 08:26 / SR		CALC_230201A : 936		R181986
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-03A  
**Lab ID:** H23010553-011  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/26/23 12:50  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.9	s.u.	H	0.1		A4500-H B	01/27/23 10:59 / ljs		PHSC_101-H_230127A : 33		R181890
pH Measurement Temp	12.7	°C				A4500-H B	01/27/23 10:59 / ljs		PHSC_101-H_230127A : 33		R181890
Conductivity @ 25 C	3930	umhos/cm		5		A2510 B	01/27/23 10:59 / ljs		PHSC_101-H_230127A : 34		R181890
Solids, Total Dissolved TDS @ 180 C	4340	mg/L	D	100		A2540 C	01/27/23 14:57 / SR		I24 (14410200)_230127A : 14		TDS230127A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	01/30/23 16:17 / SR		PHSC_101-H_230130A : 32		R181943
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	01/30/23 16:17 / SR		PHSC_101-H_230130A : 32		R181943
Carbonate as CO3	ND	mg/L		4		A2320 B	01/30/23 16:17 / SR		PHSC_101-H_230130A : 32		R181943
Chloride	251	mg/L		1		E300.0	01/28/23 16:07 / ljs		C METROHM_230127A : 113		R181923
Sulfate	2660	mg/L		1		E300.0	01/28/23 16:07 / ljs		C METROHM_230127A : 113		R181923
Bromide	1.0	mg/L		0.5		E300.0	01/28/23 16:07 / ljs		C METROHM_230127A : 113		R181923
Fluoride	1.4	mg/L		0.1		E300.0	01/28/23 16:07 / ljs		C METROHM_230127A : 113		R181923
Hardness as CaCO3	1380	mg/L		1		A2340 B	01/27/23 13:54 / SR		CALC_230201A : 1191		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.6	mg/L		0.5		A5310 C	02/04/23 02:11 / eli-c		SUB-C291877 : 34		C_R291877
Organic Carbon, Total (TOC)	3.0	mg/L		0.5		A5310 C	02/03/23 18:34 / eli-c		SUB-C291877 : 14		C_R291877
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	02/02/23 13:15 / JAR		FIA203-HE_230202A : 84		R182042
<b>METALS, DISSOLVED</b>											
Aluminum	1.00	mg/L		0.009		E200.8	01/31/23 00:27 / dck		ICPMS205-H_230130B : 60		R181965
Antimony	ND	mg/L		0.0005		E200.8	01/31/23 00:27 / dck		ICPMS205-H_230130B : 60		R181965
Arsenic	0.054	mg/L		0.001		E200.8	01/31/23 00:27 / dck		ICPMS205-H_230130B : 60		R181965
Barium	0.017	mg/L		0.003		E200.8	01/31/23 00:27 / dck		ICPMS205-H_230130B : 60		R181965
Beryllium	0.0049	mg/L		0.0008		E200.8	01/31/23 00:27 / dck		ICPMS205-H_230130B : 60		R181965
Boron	0.41	mg/L		0.05		E200.7	01/27/23 13:54 / slj		ICP2-HE_230127A : 61		R181899
Cadmium	1.11	mg/L		0.00003		E200.8	01/31/23 00:27 / dck		ICPMS205-H_230130B : 60		R181965
Cesium	ND	mg/L		0.01		E200.8	01/31/23 12:31 / dck		ICPMS205-H_230131A : 63		R181974

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-03A  
**Lab ID:** H23010553-011  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/26/23 12:50  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	362	mg/L		1		E200.7	01/27/23 13:54 / slj		ICP2-HE_230127A : 61		R181899
Chromium	ND	mg/L		0.005		E200.8	01/31/23 00:27 / dck		ICPMS205-H_230130B : 60		R181965
Cobalt	1.01	mg/L		0.005		E200.8	01/31/23 00:27 / dck		ICPMS205-H_230130B : 60		R181965
Copper	6.17	mg/L	D	0.01		E200.7	01/27/23 13:54 / slj		ICP2-HE_230127A : 61		R181899
Gallium	ND	mg/L		0.01		E200.8	01/31/23 12:31 / dck		ICPMS205-H_230131A : 63		R181974
Iron	417	mg/L	D	0.08		E200.7	01/30/23 15:30 / slj		ICP2-HE_230130B : 56		R181955
Lead	0.0009	mg/L		0.0003		E200.8	01/31/23 00:27 / dck		ICPMS205-H_230130B : 60		R181965
Lanthanum	ND	mg/L		0.01		E200.8	01/31/23 12:31 / dck		ICPMS205-H_230131A : 63		R181974
Lithium	0.7	mg/L		0.1		E200.7	01/27/23 13:54 / slj		ICP2-HE_230127A : 61		R181899
Magnesium	116	mg/L		1		E200.7	01/27/23 13:54 / slj		ICP2-HE_230127A : 61		R181899
Neodymium	ND	mg/L		0.005		E200.8	01/31/23 12:31 / dck		ICPMS205-H_230131A : 63		R181974
Niobium	ND	mg/L		0.01		E200.8	01/31/23 12:31 / dck		ICPMS205-H_230131A : 63		R181974
Manganese	144	mg/L	D	0.01		E200.7	01/30/23 15:30 / slj		ICP2-HE_230130B : 56		R181955
Molybdenum	ND	mg/L		0.001		E200.8	01/31/23 00:27 / dck		ICPMS205-H_230130B : 60		R181965
Nickel	0.402	mg/L		0.002		E200.8	01/31/23 00:27 / dck		ICPMS205-H_230130B : 60		R181965
Palladium	ND	mg/L		0.01		E200.8	01/31/23 12:31 / dck		ICPMS205-H_230131A : 63		R181974
Praseodymium	ND	mg/L		0.01		E200.8	01/31/23 12:31 / dck		ICPMS205-H_230131A : 63		R181974
Rubidium	ND	mg/L		0.01		E200.8	01/31/23 12:31 / dck		ICPMS205-H_230131A : 63		R181974
Potassium	17	mg/L		1		E200.7	01/27/23 13:54 / slj		ICP2-HE_230127A : 61		R181899
Selenium	ND	mg/L		0.001		E200.8	01/31/23 00:27 / dck		ICPMS205-H_230130B : 60		R181965
Silver	ND	mg/L		0.0002		E200.8	01/31/23 00:27 / dck		ICPMS205-H_230130B : 60		R181965
Sodium	104	mg/L		1		E200.7	01/27/23 13:54 / slj		ICP2-HE_230127A : 61		R181899
Strontium	2.50	mg/L		0.01		E200.7	01/27/23 13:54 / slj		ICP2-HE_230127A : 61		R181899
Thallium	ND	mg/L		0.0002		E200.8	01/31/23 00:27 / dck		ICPMS205-H_230130B : 60		R181965
Thorium	ND	mg/L		0.005		E200.8	01/31/23 00:27 / dck		ICPMS205-H_230130B : 60		R181965
Tin	ND	mg/L		0.05		E200.8	01/31/23 00:27 / dck		ICPMS205-H_230130B : 60		R181965
Titanium	ND	mg/L		0.005		E200.8	01/31/23 00:27 / dck		ICPMS205-H_230130B : 60		R181965
Tungsten	ND	mg/L		0.1		E200.8	01/31/23 12:31 / dck		ICPMS205-H_230131A : 63		R181974
Uranium	0.0012	mg/L		0.0002		E200.8	01/31/23 00:27 / dck		ICPMS205-H_230130B : 60		R181965
Vanadium	ND	mg/L		0.01		E200.8	01/31/23 00:27 / dck		ICPMS205-H_230130B : 60		R181965
Zinc	157	mg/L	D	0.03		E200.7	01/31/23 15:11 / slj		ICP2-HE_230131A : 68		R181987
Zirconium	ND	mg/L		0.005		E200.8	01/31/23 12:31 / dck		ICPMS205-H_230131A : 63		R181974

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

D - Reporting Limit (RL) increased due to sample matrix



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-03A  
**Lab ID:** H23010553-011  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/26/23 12:50      **DateReceived:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.97	%				A1030 E	02/01/23 08:47 / SR		CALC_230201A : 1189		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01C  
**Lab ID:** H23010553-012  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/26/23 11:41  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.6	s.u.	H	0.1		A4500-H B	01/27/23 11:01 / ljs		PHSC_101-H_230127A : 35		R181890
pH Measurement Temp	13.2	°C				A4500-H B	01/27/23 11:01 / ljs		PHSC_101-H_230127A : 35		R181890
Conductivity @ 25 C	2780	umhos/cm		5		A2510 B	01/27/23 11:01 / ljs		PHSC_101-H_230127A : 36		R181890
Solids, Total Dissolved TDS @ 180 C	2660	mg/L	D	100		A2540 C	01/27/23 14:57 / SR		I24 (14410200)_230127A : 15		TDS230127A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	21	mg/L		4		A2320 B	01/30/23 16:20 / SR		PHSC_101-H_230130A : 34		R181943
Bicarbonate as HCO3	25	mg/L		4		A2320 B	01/30/23 16:20 / SR		PHSC_101-H_230130A : 34		R181943
Carbonate as CO3	ND	mg/L		4		A2320 B	01/30/23 16:20 / SR		PHSC_101-H_230130A : 34		R181943
Chloride	15	mg/L		1		E300.0	01/28/23 16:21 / ljs		C METROHM_230127A : 114		R181923
Sulfate	1890	mg/L		1		E300.0	01/28/23 16:21 / ljs		C METROHM_230127A : 114		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 16:21 / ljs		C METROHM_230127A : 114		R181923
Fluoride	1.2	mg/L		0.1		E300.0	01/28/23 16:21 / ljs		C METROHM_230127A : 114		R181923
Hardness as CaCO3	1350	mg/L		1		A2340 B	01/27/23 13:58 / SR		CALC_230201A : 1202		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Total (TOC)	0.8	mg/L		0.5		A5310 C	02/03/23 18:52 / eli-c		SUB-C291877 : 15		C_R291877
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	02/02/23 13:17 / JAR		FIA203-HE_230202A : 85		R182042
<b>METALS, DISSOLVED</b>											
Aluminum	0.298	mg/L		0.009		E200.8	01/31/23 00:32 / dck		ICPMS205-H_230130B : 61		R181965
Antimony	ND	mg/L		0.0005		E200.8	01/31/23 00:32 / dck		ICPMS205-H_230130B : 61		R181965
Arsenic	0.004	mg/L		0.001		E200.8	01/31/23 00:32 / dck		ICPMS205-H_230130B : 61		R181965
Barium	0.004	mg/L		0.003		E200.8	01/31/23 00:32 / dck		ICPMS205-H_230130B : 61		R181965
Beryllium	ND	mg/L		0.0008		E200.8	01/31/23 00:32 / dck		ICPMS205-H_230130B : 61		R181965
Boron	0.24	mg/L		0.05		E200.7	01/27/23 13:58 / slj		ICP2-HE_230127A : 62		R181899
Cadmium	0.136	mg/L		0.00003		E200.8	01/31/23 00:32 / dck		ICPMS205-H_230130B : 61		R181965
Cesium	ND	mg/L		0.01		E200.8	01/31/23 12:33 / dck		ICPMS205-H_230131A : 64		R181974
Calcium	391	mg/L		1		E200.7	01/27/23 13:58 / slj		ICP2-HE_230127A : 62		R181899

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01C  
**Lab ID:** H23010553-012  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/26/23 11:41  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Chromium	ND	mg/L		0.005		E200.8	01/31/23 00:32 / dck		ICPMS205-H_230130B : 61		R181965
Cobalt	ND	mg/L		0.005		E200.8	01/31/23 00:32 / dck		ICPMS205-H_230130B : 61		R181965
Copper	4.74	mg/L	D	0.01		E200.7	01/27/23 13:58 / slj		ICP2-HE_230127A : 62		R181899
Gallium	ND	mg/L		0.01		E200.8	01/31/23 12:33 / dck		ICPMS205-H_230131A : 64		R181974
Iron	0.79	mg/L		0.02		E200.8	01/31/23 00:32 / dck		ICPMS205-H_230130B : 61		R181965
Lead	0.0030	mg/L		0.0003		E200.8	01/31/23 00:32 / dck		ICPMS205-H_230130B : 61		R181965
Lanthanum	ND	mg/L		0.01		E200.8	01/31/23 12:33 / dck		ICPMS205-H_230131A : 64		R181974
Lithium	0.8	mg/L		0.1		E200.7	01/27/23 13:58 / slj		ICP2-HE_230127A : 62		R181899
Magnesium	91	mg/L		1		E200.7	01/27/23 13:58 / slj		ICP2-HE_230127A : 62		R181899
Neodymium	ND	mg/L		0.005		E200.8	01/31/23 12:33 / dck		ICPMS205-H_230131A : 64		R181974
Niobium	ND	mg/L		0.01		E200.8	01/31/23 12:33 / dck		ICPMS205-H_230131A : 64		R181974
Manganese	20.0	mg/L		0.001		E200.7	01/27/23 13:58 / slj		ICP2-HE_230127A : 62		R181899
Molybdenum	ND	mg/L		0.001		E200.8	01/31/23 00:32 / dck		ICPMS205-H_230130B : 61		R181965
Nickel	0.151	mg/L		0.002		E200.8	01/31/23 00:32 / dck		ICPMS205-H_230130B : 61		R181965
Palladium	ND	mg/L		0.01		E200.8	01/31/23 12:33 / dck		ICPMS205-H_230131A : 64		R181974
Praseodymium	ND	mg/L		0.01		E200.8	01/31/23 12:33 / dck		ICPMS205-H_230131A : 64		R181974
Rubidium	0.07	mg/L		0.01		E200.8	01/31/23 12:33 / dck		ICPMS205-H_230131A : 64		R181974
Potassium	31	mg/L		1		E200.7	01/27/23 13:58 / slj		ICP2-HE_230127A : 62		R181899
Selenium	ND	mg/L		0.001		E200.8	01/31/23 00:32 / dck		ICPMS205-H_230130B : 61		R181965
Silver	ND	mg/L		0.0002		E200.8	01/31/23 00:32 / dck		ICPMS205-H_230130B : 61		R181965
Sodium	183	mg/L		1		E200.7	01/27/23 13:58 / slj		ICP2-HE_230127A : 62		R181899
Strontium	8.56	mg/L		0.01		E200.7	01/27/23 13:58 / slj		ICP2-HE_230127A : 62		R181899
Thallium	ND	mg/L		0.0002		E200.8	01/31/23 00:32 / dck		ICPMS205-H_230130B : 61		R181965
Thorium	ND	mg/L		0.005		E200.8	01/31/23 00:32 / dck		ICPMS205-H_230130B : 61		R181965
Tin	ND	mg/L		0.05		E200.8	01/31/23 00:32 / dck		ICPMS205-H_230130B : 61		R181965
Titanium	ND	mg/L		0.005		E200.8	01/31/23 00:32 / dck		ICPMS205-H_230130B : 61		R181965
Tungsten	ND	mg/L		0.1		E200.8	01/31/23 12:33 / dck		ICPMS205-H_230131A : 64		R181974
Uranium	0.0009	mg/L		0.0002		E200.8	01/31/23 00:32 / dck		ICPMS205-H_230130B : 61		R181965
Vanadium	ND	mg/L		0.01		E200.8	01/31/23 00:32 / dck		ICPMS205-H_230130B : 61		R181965
Zinc	29.5	mg/L		0.008		E200.7	01/27/23 13:58 / slj		ICP2-HE_230127A : 62		R181899
Zirconium	ND	mg/L		0.005		E200.8	01/31/23 12:33 / dck		ICPMS205-H_230131A : 64		R181974

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

D - Reporting Limit (RL) increased due to sample matrix



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01C  
**Lab ID:** H23010553-012  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/26/23 11:41  
**DateReceived:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.63	%				A1030 E	02/01/23 08:47 / SR		CALC_230201A : 1200		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01B  
**Lab ID:** H23010553-013  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/25/23 15:26  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.3	s.u.	H	0.1		A4500-H B	01/27/23 11:03 / ljs		PHSC_101-H_230127A : 37		R181890
pH Measurement Temp	13.2	°C				A4500-H B	01/27/23 11:03 / ljs		PHSC_101-H_230127A : 37		R181890
Conductivity @ 25 C	3780	umhos/cm		5		A2510 B	01/27/23 11:03 / ljs		PHSC_101-H_230127A : 38		R181890
Solids, Total Dissolved TDS @ 180 C	4250	mg/L	D	100		A2540 C	01/27/23 14:58 / SR		I24 (14410200)_230127A : 16		TDS230127A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	01/30/23 16:27 / SR		PHSC_101-H_230130A : 36		R181943
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	01/30/23 16:27 / SR		PHSC_101-H_230130A : 36		R181943
Carbonate as CO3	ND	mg/L		4		A2320 B	01/30/23 16:27 / SR		PHSC_101-H_230130A : 36		R181943
Chloride	183	mg/L		1		E300.0	01/28/23 16:36 / ljs		C METROHM_230127A : 115		R181923
Sulfate	2720	mg/L		1		E300.0	01/28/23 16:36 / ljs		C METROHM_230127A : 115		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 16:36 / ljs		C METROHM_230127A : 115		R181923
Fluoride	7.3	mg/L	*	0.1		E300.0	01/28/23 16:36 / ljs		C METROHM_230127A : 115		R181923
Hardness as CaCO3	1690	mg/L		1		A2340 B	01/27/23 14:21 / SR		CALC_230207A : 58		R182129
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.8	mg/L		0.5		A5310 C	02/04/23 02:31 / eli-c		SUB-C291877 : 35		C_R291877
Organic Carbon, Total (TOC)	0.8	mg/L		0.5		A5310 C	02/03/23 19:41 / eli-c		SUB-C291877 : 17		C_R291877
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	6.16	mg/L	D	0.05		E353.2	02/02/23 13:25 / JAR		FIA203-HE_230202A : 92		R182042
<b>METALS, DISSOLVED</b>											
Aluminum	9.79	mg/L	D	0.03		E200.7	01/27/23 14:21 / slj		ICP2-HE_230127A : 68		R181899
Antimony	ND	mg/L		0.0005		E200.8	01/31/23 00:36 / dck		ICPMS205-H_230130B : 62		R181965
Arsenic	0.002	mg/L		0.001		E200.8	01/31/23 00:36 / dck		ICPMS205-H_230130B : 62		R181965
Barium	0.011	mg/L		0.003		E200.8	01/31/23 00:36 / dck		ICPMS205-H_230130B : 62		R181965
Beryllium	0.0075	mg/L		0.0008		E200.8	01/31/23 00:36 / dck		ICPMS205-H_230130B : 62		R181965
Boron	0.19	mg/L		0.05		E200.7	01/27/23 14:21 / slj		ICP2-HE_230127A : 68		R181899
Cadmium	1.16	mg/L		0.00003		E200.8	01/31/23 00:36 / dck		ICPMS205-H_230130B : 62		R181965
Cesium	ND	mg/L		0.01		E200.8	01/31/23 12:34 / dck		ICPMS205-H_230131A : 65		R181974

**Report Definitions:**  
 RL - Analyte Reporting Limit  
 \* - The result exceeds the Maximum Contaminant Level (MCL)

MCL - Maximum Contaminant Level  
 D - Reporting Limit (RL) increased due to sample matrix

ND - Not detected at the Reporting Limit (RL)  
 H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01B  
**Lab ID:** H23010553-013  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/25/23 15:26  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	456	mg/L		1		E200.7	01/27/23 14:21 / slj		ICP2-HE_230127A : 68		R181899
Chromium	ND	mg/L		0.005		E200.8	01/31/23 00:36 / dck		ICPMS205-H_230130B : 62		R181965
Cobalt	0.398	mg/L		0.005		E200.8	01/31/23 00:36 / dck		ICPMS205-H_230130B : 62		R181965
Copper	80.7	mg/L	D	0.01		E200.7	01/27/23 14:21 / slj		ICP2-HE_230127A : 68		R181899
Gallium	ND	mg/L		0.01		E200.8	01/31/23 12:34 / dck		ICPMS205-H_230131A : 65		R181974
Iron	0.26	mg/L		0.02		E200.8	01/31/23 00:36 / dck		ICPMS205-H_230130B : 62		R181965
Lead	0.0050	mg/L		0.0003		E200.8	01/31/23 00:36 / dck		ICPMS205-H_230130B : 62		R181965
Lanthanum	0.09	mg/L		0.01		E200.8	01/31/23 12:34 / dck		ICPMS205-H_230131A : 65		R181974
Lithium	0.7	mg/L		0.1		E200.7	01/27/23 14:21 / slj		ICP2-HE_230127A : 68		R181899
Magnesium	133	mg/L		1		E200.7	01/27/23 14:21 / slj		ICP2-HE_230127A : 68		R181899
Neodymium	0.059	mg/L		0.005		E200.8	01/31/23 12:34 / dck		ICPMS205-H_230131A : 65		R181974
Niobium	ND	mg/L		0.01		E200.8	01/31/23 12:34 / dck		ICPMS205-H_230131A : 65		R181974
Manganese	250	mg/L	D	0.01		E200.7	01/30/23 15:38 / slj		ICP2-HE_230130B : 58		R181955
Molybdenum	ND	mg/L		0.001		E200.8	01/31/23 00:36 / dck		ICPMS205-H_230130B : 62		R181965
Nickel	0.541	mg/L		0.002		E200.8	01/31/23 00:36 / dck		ICPMS205-H_230130B : 62		R181965
Palladium	ND	mg/L		0.01		E200.8	01/31/23 12:34 / dck		ICPMS205-H_230131A : 65		R181974
Praseodymium	0.02	mg/L		0.01		E200.8	01/31/23 12:34 / dck		ICPMS205-H_230131A : 65		R181974
Rubidium	0.03	mg/L		0.01		E200.8	01/31/23 12:34 / dck		ICPMS205-H_230131A : 65		R181974
Potassium	29	mg/L		1		E200.7	01/27/23 14:21 / slj		ICP2-HE_230127A : 68		R181899
Selenium	ND	mg/L		0.001		E200.8	01/31/23 00:36 / dck		ICPMS205-H_230130B : 62		R181965
Silver	0.0093	mg/L		0.0002		E200.8	01/31/23 00:36 / dck		ICPMS205-H_230130B : 62		R181965
Sodium	68	mg/L		1		E200.7	01/27/23 14:21 / slj		ICP2-HE_230127A : 68		R181899
Strontium	4.06	mg/L		0.01		E200.7	01/27/23 14:21 / slj		ICP2-HE_230127A : 68		R181899
Thallium	ND	mg/L		0.0002		E200.8	01/31/23 00:36 / dck		ICPMS205-H_230130B : 62		R181965
Thorium	ND	mg/L		0.005		E200.8	01/31/23 00:36 / dck		ICPMS205-H_230130B : 62		R181965
Tin	ND	mg/L		0.05		E200.8	01/31/23 00:36 / dck		ICPMS205-H_230130B : 62		R181965
Titanium	ND	mg/L		0.005		E200.8	01/31/23 00:36 / dck		ICPMS205-H_230130B : 62		R181965
Tungsten	ND	mg/L		0.1		E200.8	01/31/23 12:34 / dck		ICPMS205-H_230131A : 65		R181974
Uranium	0.0317	mg/L		0.0002		E200.8	01/31/23 00:36 / dck		ICPMS205-H_230130B : 62		R181965
Vanadium	ND	mg/L		0.01		E200.8	01/31/23 00:36 / dck		ICPMS205-H_230130B : 62		R181965
Zinc	204	mg/L	D	0.03		E200.7	01/31/23 15:19 / slj		ICP2-HE_230131A : 70		R181987
Zirconium	ND	mg/L		0.005		E200.8	01/31/23 12:34 / dck		ICPMS205-H_230131A : 65		R181974

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01B  
**Lab ID:** H23010553-013  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/25/23 15:26      **DateReceived:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-13.6	%				A1030 E	02/07/23 15:38 / SR		CALC_230207A : 56		R182129

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-11A  
**Lab ID:** H23010553-014  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/25/23 12:39  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.5	s.u.	H	0.1		A4500-H B	01/27/23 11:05 / ljs		PHSC_101-H_230127A : 39		R181890
pH Measurement Temp	13.6	°C				A4500-H B	01/27/23 11:05 / ljs		PHSC_101-H_230127A : 39		R181890
Conductivity @ 25 C	737	umhos/cm		5		A2510 B	01/27/23 11:05 / ljs		PHSC_101-H_230127A : 40		R181890
Solids, Total Dissolved TDS @ 180 C	569	mg/L	D	20		A2540 C	01/27/23 14:58 / SR		I24 (14410200)_230127A : 17		TDS230127A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	28	mg/L		4		A2320 B	01/30/23 16:31 / SR		PHSC_101-H_230130A : 38		R181943
Bicarbonate as HCO3	34	mg/L		4		A2320 B	01/30/23 16:31 / SR		PHSC_101-H_230130A : 38		R181943
Carbonate as CO3	ND	mg/L		4		A2320 B	01/30/23 16:31 / SR		PHSC_101-H_230130A : 38		R181943
Chloride	23	mg/L		1		E300.0	01/28/23 17:33 / ljs		C METROHM_230127A : 118		R181923
Sulfate	323	mg/L		1		E300.0	01/28/23 17:33 / ljs		C METROHM_230127A : 118		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 17:33 / ljs		C METROHM_230127A : 118		R181923
Fluoride	0.4	mg/L		0.1		E300.0	01/28/23 17:33 / ljs		C METROHM_230127A : 118		R181923
Hardness as CaCO3	293	mg/L		1		A2340 B	01/27/23 14:25 / SR		CALC_230201A : 1213		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.3	mg/L		0.5		A5310 C	02/04/23 02:53 / eli-c		SUB-C291877 : 36		C_R291877
Organic Carbon, Total (TOC)	1.2	mg/L		0.5		A5310 C	02/03/23 20:42 / eli-c		SUB-C291877 : 20		C_R291877
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.63	mg/L		0.01		E353.2	02/02/23 13:19 / JAR		FIA203-HE_230202A : 87		R182042
<b>METALS, DISSOLVED</b>											
Aluminum	0.201	mg/L		0.009		E200.8	01/31/23 01:04 / dck		ICPMS205-H_230130B : 68		R181965
Antimony	ND	mg/L		0.0005		E200.8	01/31/23 01:04 / dck		ICPMS205-H_230130B : 68		R181965
Arsenic	ND	mg/L		0.001		E200.8	01/31/23 01:04 / dck		ICPMS205-H_230130B : 68		R181965
Barium	0.020	mg/L		0.003		E200.8	01/31/23 01:04 / dck		ICPMS205-H_230130B : 68		R181965
Beryllium	ND	mg/L		0.0008		E200.8	01/31/23 01:04 / dck		ICPMS205-H_230130B : 68		R181965
Boron	0.21	mg/L		0.05		E200.7	01/27/23 14:25 / slj		ICP2-HE_230127A : 69		R181899
Cadmium	0.0250	mg/L		0.00003		E200.8	01/31/23 01:04 / dck		ICPMS205-H_230130B : 68		R181965
Cesium	ND	mg/L		0.01		E200.8	01/31/23 12:36 / dck		ICPMS205-H_230131A : 66		R181974

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-11A  
**Lab ID:** H23010553-014  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/25/23 12:39  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	86	mg/L		1		E200.7	01/27/23 14:25 / slj		ICP2-HE_230127A : 69		R181899
Chromium	ND	mg/L		0.005		E200.8	01/31/23 01:04 / dck		ICPMS205-H_230130B : 68		R181965
Cobalt	0.025	mg/L		0.005		E200.8	01/31/23 01:04 / dck		ICPMS205-H_230130B : 68		R181965
Copper	0.154	mg/L		0.002		E200.8	01/31/23 01:04 / dck		ICPMS205-H_230130B : 68		R181965
Gallium	ND	mg/L		0.01		E200.8	01/31/23 12:36 / dck		ICPMS205-H_230131A : 66		R181974
Iron	ND	mg/L		0.02		E200.8	01/31/23 01:04 / dck		ICPMS205-H_230130B : 68		R181965
Lead	ND	mg/L		0.0003		E200.8	01/31/23 01:04 / dck		ICPMS205-H_230130B : 68		R181965
Lanthanum	ND	mg/L		0.01		E200.8	01/31/23 12:36 / dck		ICPMS205-H_230131A : 66		R181974
Lithium	0.1	mg/L		0.1		E200.7	01/27/23 14:25 / slj		ICP2-HE_230127A : 69		R181899
Magnesium	19	mg/L		1		E200.7	01/27/23 14:25 / slj		ICP2-HE_230127A : 69		R181899
Neodymium	ND	mg/L		0.005		E200.8	01/31/23 12:36 / dck		ICPMS205-H_230131A : 66		R181974
Niobium	ND	mg/L		0.01		E200.8	01/31/23 12:36 / dck		ICPMS205-H_230131A : 66		R181974
Manganese	10.9	mg/L		0.001		E200.7	01/27/23 14:25 / slj		ICP2-HE_230127A : 69		R181899
Molybdenum	ND	mg/L		0.001		E200.8	01/31/23 01:04 / dck		ICPMS205-H_230130B : 68		R181965
Nickel	0.023	mg/L		0.002		E200.8	01/31/23 01:04 / dck		ICPMS205-H_230130B : 68		R181965
Palladium	ND	mg/L		0.01		E200.8	01/31/23 12:36 / dck		ICPMS205-H_230131A : 66		R181974
Praseodymium	ND	mg/L		0.01		E200.8	01/31/23 12:36 / dck		ICPMS205-H_230131A : 66		R181974
Rubidium	ND	mg/L		0.01		E200.8	01/31/23 12:36 / dck		ICPMS205-H_230131A : 66		R181974
Potassium	6	mg/L		1		E200.7	01/27/23 14:25 / slj		ICP2-HE_230127A : 69		R181899
Selenium	ND	mg/L		0.001		E200.8	01/31/23 01:04 / dck		ICPMS205-H_230130B : 68		R181965
Silver	ND	mg/L		0.0002		E200.8	01/31/23 01:04 / dck		ICPMS205-H_230130B : 68		R181965
Sodium	25	mg/L		1		E200.7	01/27/23 14:25 / slj		ICP2-HE_230127A : 69		R181899
Strontium	0.52	mg/L		0.01		E200.8	01/31/23 01:04 / dck		ICPMS205-H_230130B : 68		R181965
Thallium	ND	mg/L		0.0002		E200.8	01/31/23 01:04 / dck		ICPMS205-H_230130B : 68		R181965
Thorium	ND	mg/L		0.005		E200.8	01/31/23 01:04 / dck		ICPMS205-H_230130B : 68		R181965
Tin	ND	mg/L		0.05		E200.8	01/31/23 01:04 / dck		ICPMS205-H_230130B : 68		R181965
Titanium	ND	mg/L		0.005		E200.8	01/31/23 01:04 / dck		ICPMS205-H_230130B : 68		R181965
Tungsten	ND	mg/L		0.1		E200.8	01/31/23 12:36 / dck		ICPMS205-H_230131A : 66		R181974
Uranium	0.0008	mg/L		0.0002		E200.8	01/31/23 01:04 / dck		ICPMS205-H_230130B : 68		R181965
Vanadium	ND	mg/L		0.01		E200.8	01/31/23 01:04 / dck		ICPMS205-H_230130B : 68		R181965
Zinc	2.74	mg/L		0.008		E200.7	01/27/23 14:25 / slj		ICP2-HE_230127A : 69		R181899
Zirconium	ND	mg/L		0.005		E200.8	01/31/23 12:36 / dck		ICPMS205-H_230131A : 66		R181974

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-11A  
**Lab ID:** H23010553-014  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/25/23 12:39  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-2.88	%				A1030 E	02/01/23 08:49 / SR		CALC_230201A : 1211		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-11B  
**Lab ID:** H23010553-015  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/25/23 12:58  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.1	s.u.	H	0.1		A4500-H B	01/27/23 11:08 / ljs		PHSC_101-H_230127A : 41		R181890
pH Measurement Temp	14.1	°C				A4500-H B	01/27/23 11:08 / ljs		PHSC_101-H_230127A : 41		R181890
Conductivity @ 25 C	1440	umhos/cm		5		A2510 B	01/27/23 11:08 / ljs		PHSC_101-H_230127A : 42		R181890
Solids, Total Dissolved TDS @ 180 C	1240	mg/L	D	20		A2540 C	01/27/23 14:58 / SR		I24 (14410200)_230127A : 18		TDS230127A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	7	mg/L		4		A2320 B	01/30/23 16:37 / SR		PHSC_101-H_230130A : 40		R181943
Bicarbonate as HCO3	8	mg/L		4		A2320 B	01/30/23 16:37 / SR		PHSC_101-H_230130A : 40		R181943
Carbonate as CO3	ND	mg/L		4		A2320 B	01/30/23 16:37 / SR		PHSC_101-H_230130A : 40		R181943
Chloride	73	mg/L		1		E300.0	01/28/23 18:17 / ljs		C METROHM_230127A : 121		R181923
Sulfate	749	mg/L		1		E300.0	01/28/23 18:17 / ljs		C METROHM_230127A : 121		R181923
Bromide	ND	mg/L		0.5		E300.0	01/28/23 18:17 / ljs		C METROHM_230127A : 121		R181923
Fluoride	0.4	mg/L		0.1		E300.0	01/28/23 18:17 / ljs		C METROHM_230127A : 121		R181923
Hardness as CaCO3	619	mg/L		1		A2340 B	01/27/23 14:28 / SR		CALC_230201A : 1224		R181986
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.3	mg/L		0.5		A5310 C	02/04/23 03:39 / eli-c		SUB-C291877 : 38		C_R291877
Organic Carbon, Total (TOC)	1.1	mg/L		0.5		A5310 C	02/03/23 20:59 / eli-c		SUB-C291877 : 21		C_R291877
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	02/02/23 13:20 / JAR		FIA203-HE_230202A : 88		R182042
<b>METALS, DISSOLVED</b>											
Aluminum	0.325	mg/L		0.009		E200.8	01/31/23 01:08 / dck		ICPMS205-H_230130B : 69		R181965
Antimony	ND	mg/L		0.0005		E200.8	01/31/23 01:08 / dck		ICPMS205-H_230130B : 69		R181965
Arsenic	ND	mg/L		0.001		E200.8	01/31/23 01:08 / dck		ICPMS205-H_230130B : 69		R181965
Barium	0.015	mg/L		0.003		E200.8	01/31/23 01:08 / dck		ICPMS205-H_230130B : 69		R181965
Beryllium	ND	mg/L		0.0008		E200.8	01/31/23 01:08 / dck		ICPMS205-H_230130B : 69		R181965
Boron	0.12	mg/L		0.05		E200.7	01/27/23 14:28 / slj		ICP2-HE_230127A : 70		R181899
Cadmium	0.0879	mg/L		0.00003		E200.8	01/31/23 01:08 / dck		ICPMS205-H_230130B : 69		R181965
Cesium	ND	mg/L		0.01		E200.8	01/31/23 12:37 / dck		ICPMS205-H_230131A : 67		R181974

**Report Definitions:** RL - Analyte Reporting Limit  
D - Reporting Limit (RL) increased due to sample matrix

MCL - Maximum Contaminant Level  
H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-11B  
**Lab ID:** H23010553-015  
**Matrix:** Groundwater

**Project:** NRDP02 T08  
**Collection Date:** 01/25/23 12:58  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	172	mg/L		1		E200.7	01/27/23 14:28 / slj		ICP2-HE_230127A : 70		R181899
Chromium	ND	mg/L		0.005		E200.8	01/31/23 01:08 / dck		ICPMS205-H_230130B : 69		R181965
Cobalt	0.330	mg/L		0.005		E200.8	01/31/23 01:08 / dck		ICPMS205-H_230130B : 69		R181965
Copper	0.736	mg/L		0.002		E200.8	01/31/23 01:08 / dck		ICPMS205-H_230130B : 69		R181965
Gallium	ND	mg/L		0.01		E200.8	01/31/23 12:37 / dck		ICPMS205-H_230131A : 67		R181974
Iron	22.5	mg/L		0.02		E200.7	01/27/23 14:28 / slj		ICP2-HE_230127A : 70		R181899
Lead	0.0020	mg/L		0.0003		E200.8	01/31/23 01:08 / dck		ICPMS205-H_230130B : 69		R181965
Lanthanum	ND	mg/L		0.01		E200.8	01/31/23 12:37 / dck		ICPMS205-H_230131A : 67		R181974
Lithium	0.2	mg/L		0.1		E200.7	01/27/23 14:28 / slj		ICP2-HE_230127A : 70		R181899
Magnesium	46	mg/L		1		E200.7	01/27/23 14:28 / slj		ICP2-HE_230127A : 70		R181899
Neodymium	ND	mg/L		0.005		E200.8	01/31/23 12:37 / dck		ICPMS205-H_230131A : 67		R181974
Niobium	ND	mg/L		0.01		E200.8	01/31/23 12:37 / dck		ICPMS205-H_230131A : 67		R181974
Manganese	30.5	mg/L		0.001		E200.7	01/27/23 14:28 / slj		ICP2-HE_230127A : 70		R181899
Molybdenum	ND	mg/L		0.001		E200.8	01/31/23 01:08 / dck		ICPMS205-H_230130B : 69		R181965
Nickel	0.091	mg/L		0.002		E200.8	01/31/23 01:08 / dck		ICPMS205-H_230130B : 69		R181965
Palladium	ND	mg/L		0.01		E200.8	01/31/23 12:37 / dck		ICPMS205-H_230131A : 67		R181974
Praseodymium	ND	mg/L		0.01		E200.8	01/31/23 12:37 / dck		ICPMS205-H_230131A : 67		R181974
Rubidium	ND	mg/L		0.01		E200.8	01/31/23 12:37 / dck		ICPMS205-H_230131A : 67		R181974
Potassium	11	mg/L		1		E200.7	01/27/23 14:28 / slj		ICP2-HE_230127A : 70		R181899
Selenium	ND	mg/L		0.001		E200.8	01/31/23 01:08 / dck		ICPMS205-H_230130B : 69		R181965
Silver	0.0002	mg/L		0.0002		E200.8	01/31/23 01:08 / dck		ICPMS205-H_230130B : 69		R181965
Sodium	42	mg/L		1		E200.7	01/27/23 14:28 / slj		ICP2-HE_230127A : 70		R181899
Strontium	0.98	mg/L		0.01		E200.7	01/27/23 14:28 / slj		ICP2-HE_230127A : 70		R181899
Thallium	ND	mg/L		0.0002		E200.8	01/31/23 01:08 / dck		ICPMS205-H_230130B : 69		R181965
Thorium	ND	mg/L		0.005		E200.8	01/31/23 01:08 / dck		ICPMS205-H_230130B : 69		R181965
Tin	ND	mg/L		0.05		E200.8	01/31/23 01:08 / dck		ICPMS205-H_230130B : 69		R181965
Titanium	ND	mg/L		0.005		E200.8	01/31/23 01:08 / dck		ICPMS205-H_230130B : 69		R181965
Tungsten	ND	mg/L		0.1		E200.8	01/31/23 12:37 / dck		ICPMS205-H_230131A : 67		R181974
Uranium	0.0009	mg/L		0.0002		E200.8	01/31/23 01:08 / dck		ICPMS205-H_230130B : 69		R181965
Vanadium	ND	mg/L		0.01		E200.8	01/31/23 01:08 / dck		ICPMS205-H_230130B : 69		R181965
Zinc	19.7	mg/L		0.008		E200.7	01/27/23 14:28 / slj		ICP2-HE_230127A : 70		R181899
Zirconium	ND	mg/L		0.005		E200.8	01/31/23 12:37 / dck		ICPMS205-H_230131A : 67		R181974

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-11B  
**Lab ID:** H23010553-015  
**Matrix:** Groundwater

**Project:** NRDPM02 T08  
**Collection Date:** 01/25/23 12:58  
**Date Received:** 01/26/23  
**Report Date:** 02/23/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-3.31	%				A1030 E	02/01/23 08:49 / SR		CALC_230201A : 1222		R181986

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** 65248

**Date:** 23-Feb-23

Run ID :Run Order: <b>ICP2-HE_230130B: 16</b>		SampType: <b>Method Blank</b>			Lab ID: <b>MB-65248</b>				Method: <b>E200.7</b>			
Analysis Date: <b>01/30/23 12:56</b>		Units: <b>mg/L</b>			Prep Info: Prep Date: <b>1/27/2023</b>				Prep Method: <b>E200.2</b>			
Analytes <b>2</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron		ND	0.02									
Lithium		ND	0.003									

Associated samples: **H23010553-001F, H23010553-002F, H23010553-003F, H23010553-004F, H23010553-005F, H23010553-006F, H23010553-007F**

Run ID :Run Order: <b>ICP2-HE_230130B: 17</b>		SampType: <b>Laboratory Control Sample</b>			Lab ID: <b>LCS-65248</b>				Method: <b>E200.7</b>			
Analysis Date: <b>01/30/23 13:00</b>		Units: <b>mg/L</b>			Prep Info: Prep Date: <b>1/27/2023</b>				Prep Method: <b>E200.2</b>			
Analytes <b>2</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron		2.61	0.020	2.5	0	104	85	115				
Lithium		0.541	0.10	0.5	0	108	85	115				

Associated samples: **H23010553-001F, H23010553-002F, H23010553-003F, H23010553-004F, H23010553-005F, H23010553-006F, H23010553-007F**

Run ID :Run Order: <b>ICP2-HE_230130B: 25</b>		SampType: <b>Serial Dilution</b>			Lab ID: <b>H23010553-001FDIL</b>				Method: <b>E200.7</b>			
Analysis Date: <b>01/30/23 13:35</b>		Units: <b>mg/L</b>			Prep Info: Prep Date: <b>1/27/2023</b>				Prep Method:			
Analytes <b>2</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron		0.166	0.092		0		0	0	0.1452		10	N
Lithium		ND	0.10		0		0	0	0.01017		10	

Associated samples: **H23010553-001F, H23010553-002F, H23010553-003F, H23010553-004F, H23010553-005F, H23010553-006F, H23010553-007F**

Run ID :Run Order: <b>ICP2-HE_230130B: 27</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23010553-001FMS3</b>				Method: <b>E200.7</b>			
Analysis Date: <b>01/30/23 13:42</b>		Units: <b>mg/L</b>			Prep Info: Prep Date: <b>1/27/2023</b>				Prep Method: <b>E200.2</b>			
Analytes <b>2</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron		2.79	0.020	2.5	0.1452	106	70	130				
Lithium		0.554	0.10	0.5	0.01017	109	70	130				

Associated samples: **H23010553-001F, H23010553-002F, H23010553-003F, H23010553-004F, H23010553-005F, H23010553-006F, H23010553-007F**

Run ID :Run Order: <b>ICP2-HE_230130B: 28</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23010553-001FMSD3</b>				Method: <b>E200.7</b>			
Analysis Date: <b>01/30/23 13:46</b>		Units: <b>mg/L</b>			Prep Info: Prep Date: <b>1/27/2023</b>				Prep Method: <b>E200.2</b>			
Analytes <b>2</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron		2.78	0.020	2.5	0.1452	106	70	130	2.787	0.1	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice  
**Work Order:** H23010553

Prepared by Helena, MT Branch  
**BatchID:** 65248

**Date:** 23-Feb-23

Run ID :Run Order: ICP2-HE_230130B: 28	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010553-001FMSD3				Method: E200.7		
Analysis Date: 01/30/23 13:46	Units: mg/L				Prep Info: Prep Date: 1/27/2023				Prep Method: E200.2		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lithium	0.538	0.10	0.5	0.01017	105	70	130	0.5536	2.9	20	

Associated samples: H23010553-001F, H23010553-002F, H23010553-003F, H23010553-004F, H23010553-005F, H23010553-006F, H23010553-007F

Run ID :Run Order: ICP2-HE_230131A: 24	SampType: Method Blank				Lab ID: MB-65248				Method: E200.7		
Analysis Date: 01/31/23 12:26	Units: mg/L				Prep Info: Prep Date: 1/27/2023				Prep Method: E200.2		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	0.02									
Lithium	ND	0.003									

Associated samples: H23010553-001F, H23010553-002F, H23010553-003F, H23010553-004F, H23010553-005F, H23010553-006F, H23010553-007F

Run ID :Run Order: ICP2-HE_230131A: 48	SampType: Serial Dilution				Lab ID: H23010553-001FDIL				Method: E200.7		
Analysis Date: 01/31/23 13:57	Units: mg/L				Prep Info: Prep Date: 1/27/2023				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.160	0.092		0		0	0	0.1452		10	N
Lithium	ND	0.10		0		0	0	0.01134		10	

Associated samples: H23010553-001F, H23010553-002F, H23010553-003F, H23010553-004F, H23010553-005F, H23010553-006F, H23010553-007F

Run ID :Run Order: ICP2-HE_230131A: 52	SampType: Sample Matrix Spike				Lab ID: H23010553-001FMS3				Method: E200.7		
Analysis Date: 01/31/23 14:12	Units: mg/L				Prep Info: Prep Date: 1/27/2023				Prep Method: E200.2		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	2.81	0.020	2.5	0.1452	106	70	130				
Lithium	0.545	0.10	0.5	0.01134	107	70	130				

Associated samples: H23010553-001F, H23010553-002F, H23010553-003F, H23010553-004F, H23010553-005F, H23010553-006F, H23010553-007F

Run ID :Run Order: ICP2-HE_230131A: 53	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010553-001FMSD3				Method: E200.7		
Analysis Date: 01/31/23 14:15	Units: mg/L				Prep Info: Prep Date: 1/27/2023				Prep Method: E200.2		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	2.75	0.020	2.5	0.1452	104	70	130	2.805	2.1	20	
Lithium	0.568	0.10	0.5	0.01134	111	70	130	0.5446	4.2	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** 65248

**Date:** 23-Feb-23

Run ID :Run Order: <b>ICP2-HE_230131A: 53</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23010553-001FMSD3</b>	Method: <b>E200.7</b>								
Analysis Date: <b>01/31/23 14:15</b>	Units: <b>mg/L</b>	Prep Info: Prep Date: <b>1/27/2023</b>	Prep Method: <b>E200.2</b>								
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H23010553-001F, H23010553-002F, H23010553-003F, H23010553-004F, H23010553-005F, H23010553-006F, H23010553-007F**

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** 65248

**Date:** 23-Feb-23

Run ID :Run Order: ICPMS205-H_230130B: 26	SampType: Method Blank				Lab ID: MB-65248				Method: E200.8		
Analysis Date: 01/30/23 21:50	Units: mg/L		Prep Info: Prep Date: 1/27/2023				Prep Method: E200.2				
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.006									
Antimony	ND	0.0002									
Arsenic	ND	0.0001									
Barium	ND	0.0002									
Beryllium	ND	0.0002									
Cadmium	ND	0.00003									
Chromium	ND	0.0002									
Cobalt	ND	0.0003									
Copper	ND	0.0003									
Iron	ND	0.009									
Lead	ND	0.0001									
Manganese	ND	0.0003									
Molybdenum	ND	0.0002									
Nickel	ND	0.0002									
Selenium	ND	0.0001									
Silver	ND	0.00006									
Strontium	ND	0.0002									
Thallium	ND	0.0001									
Tin	ND	0.0004									
Titanium	ND	0.002									
Thorium	ND	0.0003									
Uranium	ND	0.00003									
Vanadium	ND	0.0001									
Zinc	ND	0.001									

Associated samples: H23010553-001F, H23010553-002F, H23010553-003F, H23010553-004F, H23010553-005F, H23010553-006F, H23010553-007F

Run ID :Run Order: ICPMS205-H_230130B: 33	SampType: Laboratory Control Sample				Lab ID: LCS-65248				Method: E200.8		
Analysis Date: 01/30/23 22:23	Units: mg/L		Prep Info: Prep Date: 1/27/2023				Prep Method: E200.2				
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.55	0.030	2.5	0	102	85	115				
Antimony	0.545	0.0010	0.5	0	109	85	115				
Arsenic	0.503	0.0010	0.5	0	101	85	115				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** 65248

**Date:** 23-Feb-23

Run ID :Run Order: ICPMS205-H_230130B: 33	SampType: Laboratory Control Sample				Lab ID: LCS-65248				Method: E200.8		
Analysis Date: 01/30/23 22:23	Units: mg/L				Prep Info: Prep Date: 1/27/2023				Prep Method: E200.2		
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.541	0.050	0.5	0	108	85	115				
Beryllium	0.247	0.0010	0.25	0	99	85	115				
Cadmium	0.268	0.0010	0.25	0	107	85	115				
Chromium	0.521	0.0050	0.5	0	104	85	115				
Cobalt	0.520	0.0050	0.5	0	104	85	115				
Copper	0.521	0.0050	0.5	0	104	85	115				
Iron	2.61	0.020	2.5	0	104	85	115				
Lead	0.528	0.0010	0.5	0	106	85	115				
Manganese	2.59	0.0010	2.5	0	104	85	115				
Molybdenum	0.521	0.0010	0.5	0	104	85	115				
Nickel	0.523	0.0050	0.5	0	105	85	115				
Selenium	0.491	0.0010	0.5	0	98	85	115				
Silver	0.0510	0.0010	0.05	0	102	85	115				
Strontium	0.532	0.010	0.5	0	106	85	115				
Thallium	0.549	0.00050	0.5	0	110	85	115				
Tin	0.543	0.050	0.5	0	109	85	115				
Titanium	0.534	0.0050	0.5	0	107	85	115				
Thorium	0.0545	0.0050	0.05	0	109	85	115				
Uranium	0.532	0.00030	0.5	0	106	85	115				
Vanadium	0.516	0.010	0.5	0	103	85	115				
Zinc	0.511	0.010	0.5	0	102	85	115				

Associated samples: H23010553-001F, H23010553-002F, H23010553-003F, H23010553-004F, H23010553-005F, H23010553-006F, H23010553-007F

Run ID :Run Order: ICPMS205-H_230130B: 48	SampType: Sample Matrix Spike				Lab ID: H23010553-001FMS3				Method: E200.8		
Analysis Date: 01/30/23 23:32	Units: mg/L				Prep Info: Prep Date: 1/27/2023				Prep Method: E200.2		
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.52	0.030	2.5	0.02151	100	70	130				
Antimony	0.539	0.0010	0.5	0	108	70	130				
Arsenic	0.503	0.0010	0.5	0.001984	100	70	130				
Barium	0.597	0.050	0.5	0.06836	106	70	130				
Beryllium	0.237	0.0010	0.25	0	95	70	130				
Cadmium	0.260	0.0010	0.25	0.0000315	104	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** 65248

**Date:** 23-Feb-23

Run ID :Run Order: ICPMS205-H_230130B: 48	SampType: Sample Matrix Spike				Lab ID: H23010553-001FMS3				Method: E200.8		
Analysis Date: 01/30/23 23:32	Units: mg/L				Prep Info: Prep Date: 1/27/2023				Prep Method: E200.2		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.507	0.0050	0.5	0.0003105	101	70	130				
Cobalt	0.507	0.0050	0.5	0	101	70	130				
Copper	0.503	0.0050	0.5	0.001598	100	70	130				
Iron	2.70	0.020	2.5	0.1374	102	70	130				
Lead	0.517	0.0010	0.5	0.0003196	103	70	130				
Manganese	2.58	0.0010	2.5	0.05543	101	70	130				
Molybdenum	0.520	0.0010	0.5	0.006758	103	70	130				
Nickel	0.505	0.0050	0.5	0.0002354	101	70	130				
Selenium	0.490	0.0010	0.5	0.000174	98	70	130				
Silver	0.0498	0.0010	0.05	0	100	70	130				
Strontium	0.783	0.010	0.5	0.258	105	70	130				
Thallium	0.538	0.00050	0.5	0	108	70	130				
Tin	0.534	0.050	0.5	0	107	70	130				
Titanium	0.510	0.0050	0.5	0	102	70	130				
Thorium	0.0535	0.0050	0.05	0	107	70	130				
Uranium	0.531	0.00030	0.5	0.005449	105	70	130				
Vanadium	0.509	0.010	0.5	0.003218	101	70	130				
Zinc	0.505	0.010	0.5	0.01021	99	70	130				

Associated samples: H23010553-001F, H23010553-002F, H23010553-003F, H23010553-004F, H23010553-005F, H23010553-006F, H23010553-007F

Run ID :Run Order: ICPMS205-H_230130B: 49	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010553-001FMSD3				Method: E200.8		
Analysis Date: 01/30/23 23:36	Units: mg/L				Prep Info: Prep Date: 1/27/2023				Prep Method: E200.2		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.54	0.030	2.5	0.02151	101	70	130	2.516	0.8	20	
Antimony	0.539	0.0010	0.5	0	108	70	130	0.5386	0	20	
Arsenic	0.511	0.0010	0.5	0.001984	102	70	130	0.5034	1.5	20	
Barium	0.594	0.050	0.5	0.06836	105	70	130	0.5972	0.5	20	
Beryllium	0.237	0.0010	0.25	0	95	70	130	0.2367	0	20	
Cadmium	0.260	0.0010	0.25	0.0000315	104	70	130	0.2595	0.3	20	
Chromium	0.513	0.0050	0.5	0.0003105	103	70	130	0.507	1.3	20	
Cobalt	0.513	0.0050	0.5	0	103	70	130	0.5066	1.3	20	
Copper	0.512	0.0050	0.5	0.001598	102	70	130	0.5027	1.8	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** 65248

**Date:** 23-Feb-23

Run ID :Run Order: ICPMS205-H_230130B: 49	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010553-001FMSD3				Method: E200.8		
Analysis Date: 01/30/23 23:36	Units: mg/L				Prep Info: Prep Date: 1/27/2023				Prep Method: E200.2		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	2.73	0.020	2.5	0.1374	104	70	130	2.697	1.3	20	
Lead	0.524	0.0010	0.5	0.0003196	105	70	130	0.5171	1.3	20	
Manganese	2.63	0.0010	2.5	0.05543	103	70	130	2.583	1.8	20	
Molybdenum	0.520	0.0010	0.5	0.006758	103	70	130	0.5201	0.1	20	
Nickel	0.511	0.0050	0.5	0.0002354	102	70	130	0.5051	1.2	20	
Selenium	0.485	0.0010	0.5	0.000174	97	70	130	0.4899	1.1	20	
Silver	0.0492	0.0010	0.05	0	98	70	130	0.04985	1.4	20	
Strontium	0.801	0.010	0.5	0.258	109	70	130	0.7828	2.3	20	
Thallium	0.543	0.00050	0.5	0	109	70	130	0.5377	1.0	20	
Tin	0.532	0.050	0.5	0	106	70	130	0.5341	0.3	20	
Titanium	0.517	0.0050	0.5	0	103	70	130	0.5099	1.5	20	
Thorium	0.0547	0.0050	0.05	0	109	70	130	0.05352	2.2	20	
Uranium	0.539	0.00030	0.5	0.005449	107	70	130	0.5309	1.5	20	
Vanadium	0.515	0.010	0.5	0.003218	102	70	130	0.5094	1.2	20	
Zinc	0.514	0.010	0.5	0.01021	101	70	130	0.5046	1.9	20	

Associated samples: H23010553-001F, H23010553-002F, H23010553-003F, H23010553-004F, H23010553-005F, H23010553-006F, H23010553-007F

Run ID :Run Order: ICPMS205-H_230201C: 44	SampType: Method Blank				Lab ID: MB-65248				Method: E200.8		
Analysis Date: 02/01/23 18:49	Units: mg/L				Prep Info: Prep Date: 1/27/2023				Prep Method: E200.2		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.006									
Antimony	ND	0.0002									
Arsenic	ND	0.0001									
Barium	ND	0.0002									
Beryllium	ND	0.0002									
Cadmium	ND	0.00003									
Chromium	ND	0.0002									
Cobalt	ND	0.0003									
Copper	ND	0.0003									
Iron	ND	0.009									
Lead	ND	0.0001									
Manganese	ND	0.0003									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** 65248

**Date:** 23-Feb-23

Run ID :Run Order: ICPMS205-H_230201C: 44	SampType: Method Blank	Lab ID: MB-65248	Method: E200.8								
Analysis Date: 02/01/23 18:49	Units: mg/L	Prep Info: Prep Date: 1/27/2023	Prep Method: E200.2								
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	ND	0.0002									
Nickel	ND	0.0002									
Selenium	ND	0.0001									
Silver	ND	0.00006									
Strontium	ND	0.0002									
Thallium	ND	0.0001									
Tin	ND	0.0004									
Titanium	ND	0.002									
Thorium	ND	0.0003									
Uranium	ND	0.00003									
Vanadium	ND	0.0001									
Zinc	ND	0.001									

Associated samples: H23010553-001F, H23010553-002F, H23010553-003F, H23010553-004F, H23010553-005F, H23010553-006F, H23010553-007F



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** 65250

**Date:** 23-Feb-23

Run ID :Run Order: ICPMS205-H_230131A: 29	SampType: Method Blank				Lab ID: MB-65250				Method: E200.8		
Analysis Date: 01/31/23 11:40	Units: mg/L				Prep Info: Prep Date: 1/27/2023				Prep Method: E200.2		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	ND	0.0002									
Gallium	ND	0.0001									
Lanthanum	ND	0.00009									
Neodymium	ND	0.0001									
Niobium	ND	0.0004									
Palladium	ND	0.0001									
Praseodymium	ND	0.0001									
Rubidium	ND	0.00009									
Tungsten	ND	0.0001									
Zirconium	ND	0.0008									

Associated samples: H23010553-001F, H23010553-002F, H23010553-003F, H23010553-004F, H23010553-005F, H23010553-006F, H23010553-007F

Run ID :Run Order: ICPMS205-H_230131A: 41	SampType: Laboratory Control Sample				Lab ID: LCS-65250				Method: E200.8		
Analysis Date: 01/31/23 11:58	Units: mg/L				Prep Info: Prep Date: 1/27/2023				Prep Method: E200.2		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0503	0.010	0.05	0	101	85	115				
Gallium	0.0512	0.010	0.05	0	102	85	115				
Lanthanum	0.0500	0.10	0.05	0	100	85	115				
Neodymium	0.0506	0.0010	0.05	0	101	85	115				
Niobium	0.0510	0.0010	0.05	0	102	85	115				
Palladium	0.0503	0.010	0.05	0	101	85	115				
Praseodymium	0.0506	0.0010	0.05	0	101	85	115				
Rubidium	0.0511	0.010	0.05	0	102	85	115				
Tungsten	0.0496	0.10	0.05	0	99	85	115				
Zirconium	0.0564	0.0050	0.05	0	113	85	115				

Associated samples: H23010553-001F, H23010553-002F, H23010553-003F, H23010553-004F, H23010553-005F, H23010553-006F, H23010553-007F

Run ID :Run Order: ICPMS205-H_230131A: 42	SampType: Sample Matrix Spike				Lab ID: H23010553-002FMS3				Method: E200.8		
Analysis Date: 01/31/23 12:00	Units: mg/L				Prep Info: Prep Date: 1/27/2023				Prep Method: E200.2		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0517	0.010	0.05	0	103	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** 65250

**Date:** 23-Feb-23

Run ID :Run Order: ICPMS205-H_230131A: 42	SampType: Sample Matrix Spike				Lab ID: H23010553-002FMS3				Method: E200.8		
Analysis Date: 01/31/23 12:00	Units: mg/L				Prep Info: Prep Date: 1/27/2023				Prep Method: E200.2		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gallium	0.0520	0.010	0.05	0.0003163	103	70	130				
Lanthanum	0.0524	0.10	0.05	0.0008034	103	70	130				
Neodymium	0.0536	0.0010	0.05	0.0005896	106	70	130				
Niobium	0.0419	0.0010	0.05	0	84	70	130				
Palladium	0.0432	0.010	0.05	0	86	70	130				
Praseodymium	0.0523	0.0010	0.05	0.0001513	104	70	130				
Rubidium	0.0540	0.010	0.05	0.001965	104	70	130				
Tungsten	0.0507	0.10	0.05	0.0005051	100	70	130				
Zirconium	0.0468	0.0050	0.05	0	94	70	130				

Associated samples: H23010553-001F, H23010553-002F, H23010553-003F, H23010553-004F, H23010553-005F, H23010553-006F, H23010553-007F

Run ID :Run Order: ICPMS205-H_230131A: 56	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010553-002FMSD3				Method: E200.8		
Analysis Date: 01/31/23 12:20	Units: mg/L				Prep Info: Prep Date: 1/27/2023				Prep Method: E200.2		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0517	0.010	0.05	0	103	70	130	0.05171	0.1	20	
Gallium	0.0509	0.010	0.05	0.0003163	101	70	130	0.05203	2.2	20	
Lanthanum	0.0524	0.10	0.05	0.0008034	103	70	130	0.05236		20	
Neodymium	0.0533	0.0010	0.05	0.0005896	105	70	130	0.05357	0.5	20	
Niobium	0.0418	0.0010	0.05	0	84	70	130	0.04189	0.1	20	
Palladium	0.0421	0.010	0.05	0	84	70	130	0.04317	2.6	20	
Praseodymium	0.0524	0.0010	0.05	0.0001513	104	70	130	0.05232	0.1	20	
Rubidium	0.0542	0.010	0.05	0.001965	105	70	130	0.054	0.4	20	
Tungsten	0.0503	0.10	0.05	0.0005051	100	70	130	0.05067		20	
Zirconium	0.0439	0.0050	0.05	0	88	70	130	0.04681	6.4	20	

Associated samples: H23010553-001F, H23010553-002F, H23010553-003F, H23010553-004F, H23010553-005F, H23010553-006F, H23010553-007F



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** C\_R291877

**Date:** 23-Feb-23

Run ID :Run Order: <b>SUB-C291877: 1</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MBLK</b>	Method: <b>A5310 C</b>
Analysis Date: <b>02/03/23 14:56</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
		LowLimit	HighLimit
		RPD Ref Val	%RPD
		RPDLimit	Qual

Organic Carbon, Total (TOC)	ND	0.2	
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Associated samples: H23010553-001D, H23010553-001E, H23010553-002D, H23010553-002E, H23010553-003D, H23010553-003E, H23010553-004D, H23010553-004E, H23010553-005D, H23010553-005E, H23010553-007D, H23010553-007E, H23010553-008D, H23010553-008E, H23010553-010E, H23010553-011D, H23010553-011E, H23010553-012E, H23010553-013D, H23010553-013E, H23010553-014D, H23010553-014E, H23010553-015D, H23010553-015E

Run ID :Run Order: <b>SUB-C291877: 2</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS-11923</b>	Method: <b>A5310 C</b>
Analysis Date: <b>02/03/23 15:15</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
		LowLimit	HighLimit
		RPD Ref Val	%RPD
		RPDLimit	Qual

Organic Carbon, Total (TOC)	4.97	0.50	5
			0
			<b>99</b>
			90
			111
			0

Associated samples: H23010553-001D, H23010553-001E, H23010553-002D, H23010553-002E, H23010553-003D, H23010553-003E, H23010553-004D, H23010553-004E, H23010553-005D, H23010553-005E, H23010553-007D, H23010553-007E, H23010553-008D, H23010553-008E, H23010553-010E, H23010553-011D, H23010553-011E, H23010553-012E, H23010553-013D, H23010553-013E, H23010553-014D, H23010553-014E, H23010553-015D, H23010553-015E

Run ID :Run Order: <b>SUB-C291877: 3</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV-11940</b>	Method: <b>A5310 C</b>
Analysis Date: <b>02/03/23 15:30</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
		LowLimit	HighLimit
		RPD Ref Val	%RPD
		RPDLimit	Qual

Organic Carbon, Total (TOC)	5.16	0.50	5
			0
			<b>103</b>
			90
			110
			0

Associated samples: H23010553-001D, H23010553-001E, H23010553-002D, H23010553-002E, H23010553-003D, H23010553-003E, H23010553-004D, H23010553-004E, H23010553-005D, H23010553-005E, H23010553-007D, H23010553-007E, H23010553-008D, H23010553-008E, H23010553-010E, H23010553-011D, H23010553-011E, H23010553-012E, H23010553-013D, H23010553-013E, H23010553-014D, H23010553-014E, H23010553-015D, H23010553-015E

Run ID :Run Order: <b>SUB-C291877: 5</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23010553-001E</b>	Method: <b>A5310 C</b>
Analysis Date: <b>02/03/23 16:02</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
		LowLimit	HighLimit
		RPD Ref Val	%RPD
		RPDLimit	Qual

Organic Carbon, Total (TOC)	6.09	0.50	5
			1.293
			<b>96</b>
			90
			111
			0

Associated samples: H23010553-001D, H23010553-001E, H23010553-002D, H23010553-002E, H23010553-003D, H23010553-003E, H23010553-004D, H23010553-004E, H23010553-005D, H23010553-005E, H23010553-007D, H23010553-007E, H23010553-008D, H23010553-008E, H23010553-010E, H23010553-011D, H23010553-011E, H23010553-012E, H23010553-013D, H23010553-013E, H23010553-014D, H23010553-014E, H23010553-015D, H23010553-015E

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010553

BatchID: C\_R291877

Date: 23-Feb-23

Run ID :Run Order: <b>SUB-C291877: 6</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23010553-001E</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>02/03/23 16:17</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	6.05	0.50	5	1.293	<b>95</b>	90	111	6.092	<b>0.6</b>	20	

Associated samples: H23010553-001D, H23010553-001E, H23010553-002D, H23010553-002E, H23010553-003D, H23010553-003E, H23010553-004D, H23010553-004E, H23010553-005D, H23010553-005E, H23010553-007D, H23010553-007E, H23010553-008D, H23010553-008E, H23010553-010E, H23010553-011D, H23010553-011E, H23010553-012E, H23010553-013D, H23010553-013E, H23010553-014D, H23010553-014E, H23010553-015D, H23010553-015E

Run ID :Run Order: <b>SUB-C291877: 16</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV-11940</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>02/03/23 19:08</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.13	0.50	5	0	<b>103</b>	90	110	0			

Associated samples: H23010553-001D, H23010553-001E, H23010553-002D, H23010553-002E, H23010553-003D, H23010553-003E, H23010553-004D, H23010553-004E, H23010553-005D, H23010553-005E, H23010553-007D, H23010553-007E, H23010553-008D, H23010553-008E, H23010553-010E, H23010553-011D, H23010553-011E, H23010553-012E, H23010553-013D, H23010553-013E, H23010553-014D, H23010553-014E, H23010553-015D, H23010553-015E

Run ID :Run Order: <b>SUB-C291877: 18</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23010553-013E</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>02/03/23 20:06</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.54	0.50	5	0.8334	<b>94</b>	90	111	0			

Associated samples: H23010553-001D, H23010553-001E, H23010553-002D, H23010553-002E, H23010553-003D, H23010553-003E, H23010553-004D, H23010553-004E, H23010553-005D, H23010553-005E, H23010553-007D, H23010553-007E, H23010553-008D, H23010553-008E, H23010553-010E, H23010553-011D, H23010553-011E, H23010553-012E, H23010553-013D, H23010553-013E, H23010553-014D, H23010553-014E, H23010553-015D, H23010553-015E

Run ID :Run Order: <b>SUB-C291877: 19</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23010553-013E</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>02/03/23 20:25</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.56	0.50	5	0.8334	<b>95</b>	90	111	5.538	<b>0.4</b>	20	

Associated samples: H23010553-001D, H23010553-001E, H23010553-002D, H23010553-002E, H23010553-003D, H23010553-003E, H23010553-004D, H23010553-004E, H23010553-005D, H23010553-005E, H23010553-007D, H23010553-007E, H23010553-008D, H23010553-008E, H23010553-010E, H23010553-011D, H23010553-011E, H23010553-012E, H23010553-013D, H23010553-013E, H23010553-014D, H23010553-014E, H23010553-015D, H23010553-015E

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** C\_R291877

**Date:** 23-Feb-23

Run ID :Run Order: <b>SUB-C291877: 22</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>02/03/23 22:55</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	ND	0.4									

Associated samples: H23010553-001D, H23010553-001E, H23010553-002D, H23010553-002E, H23010553-003D, H23010553-003E, H23010553-004D, H23010553-004E, H23010553-005D, H23010553-005E, H23010553-007D, H23010553-007E, H23010553-008D, H23010553-008E, H23010553-010E, H23010553-011D, H23010553-011E, H23010553-012E, H23010553-013D, H23010553-013E, H23010553-014D, H23010553-014E, H23010553-015D, H23010553-015E

Run ID :Run Order: <b>SUB-C291877: 23</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS-11923</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>02/03/23 23:15</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.98	0.50	5	0	100	88	112	0			

Associated samples: H23010553-001D, H23010553-001E, H23010553-002D, H23010553-002E, H23010553-003D, H23010553-003E, H23010553-004D, H23010553-004E, H23010553-005D, H23010553-005E, H23010553-007D, H23010553-007E, H23010553-008D, H23010553-008E, H23010553-010E, H23010553-011D, H23010553-011E, H23010553-012E, H23010553-013D, H23010553-013E, H23010553-014D, H23010553-014E, H23010553-015D, H23010553-015E

Run ID :Run Order: <b>SUB-C291877: 24</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV-11940</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>02/03/23 23:30</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.10	0.50	5	0	102	90	110	0			

Associated samples: H23010553-001D, H23010553-001E, H23010553-002D, H23010553-002E, H23010553-003D, H23010553-003E, H23010553-004D, H23010553-004E, H23010553-005D, H23010553-005E, H23010553-007D, H23010553-007E, H23010553-008D, H23010553-008E, H23010553-010E, H23010553-011D, H23010553-011E, H23010553-012E, H23010553-013D, H23010553-013E, H23010553-014D, H23010553-014E, H23010553-015D, H23010553-015E

Run ID :Run Order: <b>SUB-C291877: 26</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23010553-001D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>02/04/23 00:01</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	6.06	0.50	5	1.261	96	88	112	0			

Associated samples: H23010553-001D, H23010553-001E, H23010553-002D, H23010553-002E, H23010553-003D, H23010553-003E, H23010553-004D, H23010553-004E, H23010553-005D, H23010553-005E, H23010553-007D, H23010553-007E, H23010553-008D, H23010553-008E, H23010553-010E, H23010553-011D, H23010553-011E, H23010553-012E, H23010553-013D, H23010553-013E, H23010553-014D, H23010553-014E, H23010553-015D, H23010553-015E

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010553

BatchID: C\_R291877

Date: 23-Feb-23

Run ID :Run Order: <b>SUB-C291877: 27</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23010553-001D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>02/04/23 00:16</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	6.09	0.50	5	1.261	<b>97</b>	88	112	6.058	<b>0.5</b>	20	
Associated samples: <b>H23010553-001D, H23010553-001E, H23010553-002D, H23010553-002E, H23010553-003D, H23010553-003E, H23010553-004D, H23010553-004E, H23010553-005D, H23010553-005E, H23010553-007D, H23010553-007E, H23010553-008D, H23010553-008E, H23010553-010E, H23010553-011D, H23010553-011E, H23010553-012E, H23010553-013D, H23010553-013E, H23010553-014D, H23010553-014E, H23010553-015D, H23010553-015E</b>											

Run ID :Run Order: <b>SUB-C291877: 37</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV-11940</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>02/04/23 03:08</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.10	0.50	5	0	<b>102</b>	90	110	0			
Associated samples: <b>H23010553-001D, H23010553-001E, H23010553-002D, H23010553-002E, H23010553-003D, H23010553-003E, H23010553-004D, H23010553-004E, H23010553-005D, H23010553-005E, H23010553-007D, H23010553-007E, H23010553-008D, H23010553-008E, H23010553-010E, H23010553-011D, H23010553-011E, H23010553-012E, H23010553-013D, H23010553-013E, H23010553-014D, H23010553-014E, H23010553-015D, H23010553-015E</b>											

Run ID :Run Order: <b>SUB-C291877: 39</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23010553-015D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>02/04/23 03:56</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	6.10	0.50	5	1.329	<b>95</b>	88	112	0			
Associated samples: <b>H23010553-001D, H23010553-001E, H23010553-002D, H23010553-002E, H23010553-003D, H23010553-003E, H23010553-004D, H23010553-004E, H23010553-005D, H23010553-005E, H23010553-007D, H23010553-007E, H23010553-008D, H23010553-008E, H23010553-010E, H23010553-011D, H23010553-011E, H23010553-012E, H23010553-013D, H23010553-013E, H23010553-014D, H23010553-014E, H23010553-015D, H23010553-015E</b>											

Run ID :Run Order: <b>SUB-C291877: 40</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23010553-015D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>02/04/23 04:12</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	6.11	0.50	5	1.329	<b>96</b>	88	112	6.097	<b>0.1</b>	20	
Associated samples: <b>H23010553-001D, H23010553-001E, H23010553-002D, H23010553-002E, H23010553-003D, H23010553-003E, H23010553-004D, H23010553-004E, H23010553-005D, H23010553-005E, H23010553-007D, H23010553-007E, H23010553-008D, H23010553-008E, H23010553-010E, H23010553-011D, H23010553-011E, H23010553-012E, H23010553-013D, H23010553-013E, H23010553-014D, H23010553-014E, H23010553-015D, H23010553-015E</b>											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R181890

**Date:** 23-Feb-23

Run ID :Run Order: <b>PHSC_101-H_230127A: 168</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MBLK</b>	Method: <b>A2320 B</b>								
Analysis Date: <b>01/27/23 20:51</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									

Associated samples: **H23010553-001A, H23010553-002A, H23010553-003A, H23010553-004A**

Run ID :Run Order: <b>PHSC_101-H_230127A: 169</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS</b>	Method: <b>A2320 B</b>								
Analysis Date: <b>01/27/23 20:57</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	590	4.0	600	0	<b>98</b>	90	110				

Associated samples: **H23010553-001A, H23010553-002A, H23010553-003A, H23010553-004A**

Run ID :Run Order: <b>PHSC_101-H_230127A: 212</b>	SampType: <b>Sample Duplicate</b>	Lab ID: <b>H23010553-004ADUP</b>	Method: <b>A2320 B</b>								
Analysis Date: <b>01/27/23 23:08</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	120	4.0		0				121.1	<b>1.4</b>	10	
Bicarbonate as HCO3	150	4.0		0				147.1	<b>1.4</b>	10	
Carbonate as CO3	ND	4.0		0				0		10	

Associated samples: **H23010553-001A, H23010553-002A, H23010553-003A, H23010553-004A**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010553

BatchID: R181890

Date: 23-Feb-23

Run ID :Run Order: PHSC_101-H_230127A: 2	SampType: Initial Calibration Verification Standard				Lab ID: SC 150			Method: A2510 B			
Analysis Date: 01/27/23 09:45	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	147	5.0	150	0	98	90	110				
Associated samples: H23010553-001A, H23010553-002A, H23010553-003A, H23010553-004A, H23010553-005A, H23010553-006A, H23010553-007A, H23010553-008A, H23010553-009A, H23010553-010A, H23010553-011A, H23010553-012A, H23010553-013A, H23010553-014A, H23010553-015A											

Run ID :Run Order: PHSC_101-H_230127A: 3	SampType: Initial Calibration Verification Standard				Lab ID: SC 20000			Method: A2510 B			
Analysis Date: 01/27/23 09:48	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	18400	5.0	20000	0	92	90	110				
Associated samples: H23010553-001A, H23010553-002A, H23010553-003A, H23010553-004A, H23010553-005A, H23010553-006A, H23010553-007A, H23010553-008A, H23010553-009A, H23010553-010A, H23010553-011A, H23010553-012A, H23010553-013A, H23010553-014A, H23010553-015A											

Run ID :Run Order: PHSC_101-H_230127A: 4	SampType: Initial Calibration Verification Standard				Lab ID: SC 5000			Method: A2510 B			
Analysis Date: 01/27/23 09:50	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	4710	5.0	5000	0	94	90	110				
Associated samples: H23010553-001A, H23010553-002A, H23010553-003A, H23010553-004A, H23010553-005A, H23010553-006A, H23010553-007A, H23010553-008A, H23010553-009A, H23010553-010A, H23010553-011A, H23010553-012A, H23010553-013A, H23010553-014A, H23010553-015A											

Run ID :Run Order: PHSC_101-H_230127A: 5	SampType: Laboratory Control Sample				Lab ID: SC 1000			Method: A2510 B			
Analysis Date: 01/27/23 09:52	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	949	5.0	1000	0	95	90	110				
Associated samples: H23010553-001A, H23010553-002A, H23010553-003A, H23010553-004A, H23010553-005A, H23010553-006A, H23010553-007A, H23010553-008A, H23010553-009A, H23010553-010A, H23010553-011A, H23010553-012A, H23010553-013A, H23010553-014A, H23010553-015A											

Run ID :Run Order: PHSC_101-H_230127A: 6	SampType: Method Blank				Lab ID: MBLK			Method: A2510 B			
Analysis Date: 01/27/23 10:26	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	ND	5									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R181890

**Date:** 23-Feb-23

Run ID :Run Order: <b>PHSC_101-H_230127A: 6</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MBLK</b>	Method: <b>A2510 B</b>
Analysis Date: <b>01/27/23 10:26</b>	Units: <b>umhos/cm</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
			LowLimit
			HighLimit
			RPD Ref Val
			%RPD
			RPDLimit
			Qual

Associated samples: **H23010553-001A, H23010553-002A, H23010553-003A, H23010553-004A, H23010553-005A, H23010553-006A, H23010553-007A, H23010553-008A, H23010553-009A, H23010553-010A, H23010553-011A, H23010553-012A, H23010553-013A, H23010553-014A, H23010553-015A**

Run ID :Run Order: <b>PHSC_101-H_230127A: 10</b>	SampType: <b>Sample Duplicate</b>	Lab ID: <b>H23010537-001BDUP</b>	Method: <b>A2510 B</b>
Analysis Date: <b>01/27/23 10:31</b>	Units: <b>umhos/cm</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
			LowLimit
			HighLimit
			RPD Ref Val
			%RPD
			RPDLimit
			Qual

Conductivity @ 25 C	66.9	5.0	0	67.7	<b>1.2</b>	10
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Associated samples: **H23010553-001A, H23010553-002A, H23010553-003A, H23010553-004A, H23010553-005A, H23010553-006A, H23010553-007A, H23010553-008A, H23010553-009A, H23010553-010A, H23010553-011A, H23010553-012A, H23010553-013A, H23010553-014A, H23010553-015A**



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R181890

**Date:** 23-Feb-23

Run ID :Run Order: <b>PHSC_101-H_230127A: 1</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>pH 7</b>			Method: <b>A4500-H B</b>				
Analysis Date: <b>01/27/23 09:40</b>		Units: <b>s.u.</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>2</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH		7.0	0.1	7	0	100	98	102				
pH Measurement Temp		21.3			0		0	0				

Associated samples: **H23010553-001A, H23010553-002A, H23010553-003A, H23010553-004A, H23010553-005A, H23010553-006A, H23010553-007A, H23010553-008A, H23010553-009A, H23010553-010A, H23010553-011A, H23010553-012A, H23010553-013A, H23010553-014A, H23010553-015A**

Run ID :Run Order: <b>PHSC_101-H_230127A: 9</b>		SampType: <b>Sample Duplicate</b>			Lab ID: <b>H23010537-001BDUP</b>			Method: <b>A4500-H B</b>				
Analysis Date: <b>01/27/23 10:31</b>		Units: <b>s.u.</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>2</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH		6.0	0.1		0				6	0.3	3	
pH Measurement Temp		9.7			0				10.3			

Associated samples: **H23010553-001A, H23010553-002A, H23010553-003A, H23010553-004A, H23010553-005A, H23010553-006A, H23010553-007A, H23010553-008A, H23010553-009A, H23010553-010A, H23010553-011A, H23010553-012A, H23010553-013A, H23010553-014A, H23010553-015A**

Run ID :Run Order: <b>PHSC_101-H_230127A: 76</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV - pH 7</b>			Method: <b>A4500-H B</b>				
Analysis Date: <b>01/27/23 11:51</b>		Units: <b>s.u.</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>2</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH		7.0	0.1	7	0	100	98	102				
pH Measurement Temp		20.4			0		0	0				

Associated samples: **H23010553-001A, H23010553-002A, H23010553-003A, H23010553-004A, H23010553-005A, H23010553-006A, H23010553-007A, H23010553-008A, H23010553-009A, H23010553-010A, H23010553-011A, H23010553-012A, H23010553-013A, H23010553-014A, H23010553-015A**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010553

BatchID: R181899

Date: 23-Feb-23

Run ID :Run Order: ICP2-HE_230127A: 14	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.7			
Analysis Date: 01/27/23 10:57	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.08	0.10	4	0	102	95	105				
Boron	0.779	0.10	0.8	0	97	95	105				
Calcium	40.7	1.0	40	0	102	95	105				
Copper	0.803	0.012	0.8	0	100	95	105				
Iron	4.00	0.020	4	0	100	95	105				
Lithium	0.829	0.10	0.8	0	104	95	105				
Magnesium	40.1	1.0	40	0	100	95	105				
Manganese	3.99	0.010	4	0	100	95	105				
Potassium	40.5	1.0	40	0	101	95	105				
Sodium	40.7	1.0	40	0	102	95	105				
Strontium	0.784	0.10	0.8	0	98	95	105				
Zinc	0.789	0.010	0.8	0	99	95	105				

Associated samples: H23010553-001B, H23010553-002B, H23010553-003B, H23010553-004B, H23010553-005B, H23010553-006B, H23010553-007B, H23010553-008B, H23010553-009B, H23010553-010B, H23010553-011B, H23010553-012B, H23010553-013B, H23010553-014B, H23010553-015B

Run ID :Run Order: ICP2-HE_230127A: 15	SampType: Continuing Calibration Verification Standar				Lab ID: CCV-1			Method: E200.7			
Analysis Date: 01/27/23 11:00	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.54	0.10	2.5	0	101	95	105				
Boron	2.50	0.10	2.5	0	100	95	105				
Calcium	25.0	1.0	25	0	100	95	105				
Copper	2.48	0.012	2.5	0	99	95	105				
Iron	2.43	0.020	2.5	0	97	95	105				
Lithium	1.29	0.10	1.25	0	103	95	105				
Magnesium	24.5	1.0	25	0	98	95	105				
Manganese	2.45	0.010	2.5	0	98	95	105				
Potassium	25.3	1.0	25	0	101	95	105				
Sodium	25.4	1.0	25	0	102	95	105				
Strontium	2.43	0.10	2.5	0	97	95	105				
Zinc	2.47	0.010	2.5	0	99	95	105				

Associated samples: H23010553-001B, H23010553-002B, H23010553-003B, H23010553-004B, H23010553-005B, H23010553-006B, H23010553-007B, H23010553-008B, H23010553-009B, H23010553-010B, H23010553-011B, H23010553-012B, H23010553-013B, H23010553-014B, H23010553-015B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R181899

**Date:** 23-Feb-23

Run ID :Run Order: ICP2-HE_230127A: 21	SampType: Method Blank				Lab ID: MB				Method: E200.7		
Analysis Date: 01/27/23 11:23	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.03									
Boron	ND	0.004									
Calcium	ND	0.2									
Copper	ND	0.01									
Iron	ND	0.008									
Lithium	ND	0.002									
Magnesium	ND	0.05									
Manganese	ND	0.001									
Potassium	ND	0.06									
Sodium	ND	0.03									
Strontium	ND	0.0003									
Zinc	ND	0.003									

Associated samples: H23010553-001B, H23010553-002B, H23010553-003B, H23010553-004B, H23010553-005B, H23010553-006B, H23010553-007B, H23010553-008B, H23010553-009B, H23010553-010B, H23010553-011B, H23010553-012B, H23010553-013B, H23010553-014B, H23010553-015B

Run ID :Run Order: ICP2-HE_230127A: 22	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.7		
Analysis Date: 01/27/23 11:27	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.11	0.10	5	0	102	85	115				
Boron	0.873	0.10	1	0	87	85	115				
Calcium	50.3	1.0	50	0	101	85	115				
Copper	1.01	0.012	1	0	101	85	115				
Iron	4.82	0.020	5	0	96	85	115				
Lithium	1.06	0.10	1	0	106	85	115				
Magnesium	48.6	1.0	50	0	97	85	115				
Manganese	4.80	0.010	5	0	96	85	115				
Potassium	50.0	1.0	50	0	100	85	115				
Sodium	50.9	1.0	50	0	102	85	115				
Strontium	0.993	0.10	1	0	99	85	115				
Zinc	0.879	0.010	1	0	88	85	115				

Associated samples: H23010553-001B, H23010553-002B, H23010553-003B, H23010553-004B, H23010553-005B, H23010553-006B, H23010553-007B, H23010553-008B, H23010553-009B, H23010553-010B, H23010553-011B, H23010553-012B, H23010553-013B, H23010553-014B, H23010553-015B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010553

BatchID: R181899

Date: 23-Feb-23

Run ID :Run Order: ICP2-HE_230127A: 39	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.7			
Analysis Date: 01/27/23 12:31	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.54	0.10	2.5	0	102	90	110				
Boron	2.41	0.10	2.5	0	96	90	110				
Calcium	24.6	1.0	25	0	98	90	110				
Copper	2.51	0.012	2.5	0	100	90	110				
Iron	2.30	0.020	2.5	0	92	90	110				
Lithium	1.33	0.10	1.25	0	106	90	110				
Magnesium	23.4	1.0	25	0	94	90	110				
Manganese	2.30	0.010	2.5	0	92	90	110				
Potassium	25.0	1.0	25	0	100	90	110				
Sodium	25.6	1.0	25	0	102	90	110				
Strontium	2.53	0.10	2.5	0	101	90	110				
Zinc	2.33	0.010	2.5	0	93	90	110				

Associated samples: H23010553-001B, H23010553-002B, H23010553-003B, H23010553-004B, H23010553-005B, H23010553-006B, H23010553-007B, H23010553-008B, H23010553-009B, H23010553-010B, H23010553-011B, H23010553-012B, H23010553-013B, H23010553-014B, H23010553-015B

Run ID :Run Order: ICP2-HE_230127A: 49	SampType: Sample Matrix Spike				Lab ID: H23010553-002BMS2			Method: E200.7			
Analysis Date: 01/27/23 13:09	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.24	0.030	5	0	105	70	130				
Boron	0.930	0.050	1	0.02303	91	70	130				
Calcium	88.5	1.0	50	39.59	98	70	130				
Copper	1.03	0.012	1	0	103	70	130				
Iron	4.68	0.020	5	0.01695	93	70	130				
Lithium	1.15	0.10	1	0.00918	114	70	130				
Magnesium	57.3	1.0	50	9.688	95	70	130				
Manganese	4.66	0.0014	5	0.04703	92	70	130				
Potassium	55.4	1.0	50	3.18	104	70	130				
Sodium	69.8	1.0	50	15.76	108	70	130				
Strontium	1.28	0.010	1	0.2465	103	70	130				
Zinc	0.885	0.010	1	0.00703	88	70	130				

Associated samples: H23010553-001B, H23010553-002B, H23010553-003B, H23010553-004B, H23010553-005B, H23010553-006B, H23010553-007B, H23010553-008B, H23010553-009B, H23010553-010B, H23010553-011B, H23010553-012B, H23010553-013B, H23010553-014B, H23010553-015B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R181899

**Date:** 23-Feb-23

Run ID :Run Order:	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010553-002BMSD2				Method: E200.7		
Analysis Date: 01/27/23 13:12	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.21	0.030	5	0	104	70	130	5.24	0.5	20	
Boron	0.912	0.050	1	0.02303	89	70	130	0.9304	2.0	20	
Calcium	86.7	1.0	50	39.59	94	70	130	88.5	2.0	20	
Copper	1.03	0.012	1	0	103	70	130	1.034	0.3	20	
Iron	4.59	0.020	5	0.01695	92	70	130	4.675	1.8	20	
Lithium	1.12	0.10	1	0.00918	111	70	130	1.147	2.0	20	
Magnesium	56.9	1.0	50	9.688	94	70	130	57.35	0.7	20	
Manganese	4.57	0.0014	5	0.04703	91	70	130	4.656	1.8	20	
Potassium	53.8	1.0	50	3.18	101	70	130	55.39	2.9	20	
Sodium	68.3	1.0	50	15.76	105	70	130	69.77	2.2	20	
Strontium	1.28	0.010	1	0.2465	103	70	130	1.277	0.1	20	
Zinc	0.865	0.010	1	0.00703	86	70	130	0.8853	2.3	20	

Associated samples: H23010553-001B, H23010553-002B, H23010553-003B, H23010553-004B, H23010553-005B, H23010553-006B, H23010553-007B, H23010553-008B, H23010553-009B, H23010553-010B, H23010553-011B, H23010553-012B, H23010553-013B, H23010553-014B, H23010553-015B

Run ID :Run Order:	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 01/27/23 13:16	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.56	0.10	2.5	0	103	90	110				
Boron	2.46	0.10	2.5	0	98	90	110				
Calcium	25.3	1.0	25	0	101	90	110				
Copper	2.55	0.012	2.5	0	102	90	110				
Iron	2.40	0.020	2.5	0	96	90	110				
Lithium	1.30	0.10	1.25	0	104	90	110				
Magnesium	23.9	1.0	25	0	96	90	110				
Manganese	2.37	0.010	2.5	0	95	90	110				
Potassium	24.7	1.0	25	0	99	90	110				
Sodium	25.1	1.0	25	0	101	90	110				
Strontium	2.56	0.10	2.5	0	102	90	110				
Zinc	2.42	0.010	2.5	0	97	90	110				

Associated samples: H23010553-001B, H23010553-002B, H23010553-003B, H23010553-004B, H23010553-005B, H23010553-006B, H23010553-007B, H23010553-008B, H23010553-009B, H23010553-010B, H23010553-011B, H23010553-012B, H23010553-013B, H23010553-014B, H23010553-015B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R181899

**Date:** 23-Feb-23

Run ID :Run Order: **ICP2-HE\_230127A: 63**

SampType: **Continuing Calibration Verification Standar**

Lab ID: **CCV**

Method: **E200.7**

Analysis Date: **01/27/23 14:02**

Units: **mg/L**

Prep Info: Prep Date:

Prep Method:

Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.53	0.10	2.5	0	101	90	110				
Boron	2.47	0.10	2.5	0	99	90	110				
Calcium	27.2	1.0	25	0	109	90	110				
Copper	2.52	0.012	2.5	0	101	90	110				
Iron	2.46	0.020	2.5	0	98	90	110				
Lithium	1.23	0.10	1.25	0	98	90	110				
Magnesium	24.0	1.0	25	0	96	90	110				
Manganese	2.43	0.010	2.5	0	97	90	110				
Potassium	24.7	1.0	25	0	99	90	110				
Sodium	24.7	1.0	25	0	99	90	110				
Strontium	2.53	0.10	2.5	0	101	90	110				
Zinc	2.53	0.010	2.5	0	101	90	110				

Associated samples: **H23010553-001B, H23010553-002B, H23010553-003B, H23010553-004B, H23010553-005B, H23010553-006B, H23010553-007B, H23010553-008B, H23010553-009B, H23010553-010B, H23010553-011B, H23010553-012B, H23010553-013B, H23010553-014B, H23010553-015B**

Run ID :Run Order: **ICP2-HE\_230127A: 66**

SampType: **Sample Matrix Spike**

Lab ID: **H23010553-012BMS2**

Method: **E200.7**

Analysis Date: **01/27/23 14:13**

Units: **mg/L**

Prep Info: Prep Date:

Prep Method:

Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.51	0.030	5	0.3092	104	70	130				
Boron	1.14	0.050	1	0.2431	90	70	130				
Calcium	423	1.0	50	391		70	130				A
Copper	5.76	0.012	1	4.741		70	130				A
Iron	5.48	0.020	5	0.7976	94	70	130				
Lithium	1.85	0.10	1	0.827	102	70	130				
Magnesium	136	1.0	50	91.38	90	70	130				
Manganese	24.0	0.0014	5	20.02		70	130				A
Potassium	79.6	1.0	50	31.26	97	70	130				
Sodium	231	1.0	50	183.5	96	70	130				
Strontium	9.43	0.010	1	8.564		70	130				A
Zinc	29.1	0.010	1	29.51		70	130				A

Associated samples: **H23010553-001B, H23010553-002B, H23010553-003B, H23010553-004B, H23010553-005B, H23010553-006B, H23010553-007B, H23010553-008B, H23010553-009B, H23010553-010B, H23010553-011B, H23010553-012B, H23010553-013B, H23010553-014B, H23010553-015B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R181899

**Date:** 23-Feb-23

Run ID :Run Order: ICP2-HE_230127A: 67	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010553-012BMSD2				Method: E200.7		
Analysis Date: 01/27/23 14:17	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.48	0.030	5	0.3092	103	70	130	5.508	0.6	20	
Boron	1.13	0.050	1	0.2431	88	70	130	1.14	1.2	20	
Calcium	427	1.0	50	391		70	130	423	0.9	20	A
Copper	5.77	0.012	1	4.741		70	130	5.764	0.1	20	A
Iron	5.43	0.020	5	0.7976	93	70	130	5.481	0.9	20	
Lithium	1.91	0.10	1	0.827	108	70	130	1.846	3.4	20	
Magnesium	136	1.0	50	91.38	90	70	130	136.3	0	20	
Manganese	24.1	0.0014	5	20.02		70	130	24.03	0.2	20	A
Potassium	82.4	1.0	50	31.26	102	70	130	79.62	3.5	20	
Sodium	243	1.0	50	183.5	119	70	130	231.3	4.9	20	
Strontium	9.69	0.010	1	8.564		70	130	9.429	2.8	20	A
Zinc	28.7	0.010	1	29.51		70	130	29.09	1.3	20	A

Associated samples: H23010553-001B, H23010553-002B, H23010553-003B, H23010553-004B, H23010553-005B, H23010553-006B, H23010553-007B, H23010553-008B, H23010553-009B, H23010553-010B, H23010553-011B, H23010553-012B, H23010553-013B, H23010553-014B, H23010553-015B



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R181923

**Date:** 23-Feb-23

Run ID :Run Order: <b>IC METROHM_230127A: 2</b>		SampType: <b>Method Blank</b>			Lab ID: <b>ICB</b>			Method: <b>E300.0</b>			
Analysis Date: <b>01/27/23 11:12</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.02									
Sulfate	ND	0.06									
Bromide	ND	0.001									
Fluoride	ND	0.001									

Associated samples: **H23010553-001A, H23010553-002A, H23010553-003A, H23010553-004A, H23010553-005A, H23010553-006A, H23010553-007A, H23010553-008A, H23010553-009A, H23010553-010A, H23010553-011A, H23010553-012A, H23010553-013A, H23010553-014A, H23010553-015A**

Run ID :Run Order: <b>IC METROHM_230127A: 3</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>01/27/23 11:26</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	98.1	1.0	100	0	<b>98</b>	90	110				
Sulfate	383	1.0	400	0	<b>96</b>	90	110				
Bromide	5.12	0.50	5	0	<b>102</b>	90	110				
Fluoride	5.14	0.10	5	0	<b>103</b>	90	110				

Associated samples: **H23010553-001A, H23010553-002A, H23010553-003A, H23010553-004A, H23010553-005A, H23010553-006A, H23010553-007A, H23010553-008A, H23010553-009A, H23010553-010A, H23010553-011A, H23010553-012A, H23010553-013A, H23010553-014A, H23010553-015A**

Run ID :Run Order: <b>IC METROHM_230127A: 4</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E300.0</b>			
Analysis Date: <b>01/27/23 11:40</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	25.0	1.0	25	0	<b>100</b>	90	110				
Sulfate	104	1.0	100	0	<b>104</b>	90	110				
Bromide	1.29	0.50	1.25	0	<b>103</b>	90	110				
Fluoride	1.26	0.10	1.25	0	<b>101</b>	90	110				

Associated samples: **H23010553-001A, H23010553-002A, H23010553-003A, H23010553-004A, H23010553-005A, H23010553-006A, H23010553-007A, H23010553-008A, H23010553-009A, H23010553-010A, H23010553-011A, H23010553-012A, H23010553-013A, H23010553-014A, H23010553-015A**

Run ID :Run Order: <b>IC METROHM_230127A: 88</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>01/28/23 09:38</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	51.2	1.0	50	0	<b>102</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010553

BatchID: R181923

Date: 23-Feb-23

Run ID :Run Order: <b>IC METROHM_230127A: 88</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>				Method: <b>E300.0</b>		
Analysis Date: <b>01/28/23 09:38</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	210	1.0	200	0	105	90	110				
Bromide	2.75	0.50	2.5	0	110	90	110				
Fluoride	2.72	0.10	2.5	0	109	90	110				

Associated samples: H23010553-001A, H23010553-002A, H23010553-003A, H23010553-004A, H23010553-005A, H23010553-006A, H23010553-007A, H23010553-008A, H23010553-009A, H23010553-010A, H23010553-011A, H23010553-012A, H23010553-013A, H23010553-014A, H23010553-015A

Run ID :Run Order: <b>IC METROHM_230127A: 102</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>				Method: <b>E300.0</b>		
Analysis Date: <b>01/28/23 13:14</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	51.2	1.0	50	0	102	90	110				
Sulfate	207	1.0	200	0	103	90	110				
Bromide	2.69	0.50	2.5	0	107	90	110				
Fluoride	2.71	0.10	2.5	0	109	90	110				

Associated samples: H23010553-001A, H23010553-002A, H23010553-003A, H23010553-004A, H23010553-005A, H23010553-006A, H23010553-007A, H23010553-008A, H23010553-009A, H23010553-010A, H23010553-011A, H23010553-012A, H23010553-013A, H23010553-014A, H23010553-015A

Run ID :Run Order: <b>IC METROHM_230127A: 105</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23010553-004AMS</b>				Method: <b>E300.0</b>		
Analysis Date: <b>01/28/23 14:11</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	34.3	1.0	25	7.871	106	90	110				
Sulfate	141	1.0	100	35.12	106	90	110				
Bromide	1.49	0.50	1.25	0.055	115	90	110				S
Fluoride	1.90	0.10	1.25	0.513	111	90	110				S

Associated samples: H23010553-001A, H23010553-002A, H23010553-003A, H23010553-004A, H23010553-005A, H23010553-006A, H23010553-007A, H23010553-008A, H23010553-009A, H23010553-010A, H23010553-011A, H23010553-012A, H23010553-013A, H23010553-014A, H23010553-015A

Run ID :Run Order: <b>IC METROHM_230127A: 106</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23010553-004AMSD</b>				Method: <b>E300.0</b>		
Analysis Date: <b>01/28/23 14:26</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	34.9	1.0	25	7.871	108	90	110	34.32	1.8	20	
Sulfate	145	1.0	100	35.12	109	90	110	141.1	2.4	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R181923

**Date:** 23-Feb-23

Run ID :Run Order: <b>IC METROHM_230127A: 106</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23010553-004AMSD</b>				Method: <b>E300.0</b>		
Analysis Date: <b>01/28/23 14:26</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	1.53	0.50	1.25	0.055	<b>118</b>	90	110	1.495	<b>2.3</b>	20	S
Fluoride	1.93	0.10	1.25	0.513	<b>114</b>	90	110	1.901	<b>1.7</b>	20	S

Associated samples: **H23010553-001A, H23010553-002A, H23010553-003A, H23010553-004A, H23010553-005A, H23010553-006A, H23010553-007A, H23010553-008A, H23010553-009A, H23010553-010A, H23010553-011A, H23010553-012A, H23010553-013A, H23010553-014A, H23010553-015A**

Run ID :Run Order: <b>IC METROHM_230127A: 116</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>				Method: <b>E300.0</b>		
Analysis Date: <b>01/28/23 16:50</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	51.4	1.0	50	0	<b>103</b>	90	110				
Sulfate	210	1.0	200	0	<b>105</b>	90	110				
Bromide	2.74	0.50	2.5	0	<b>110</b>	90	110				
Fluoride	2.62	0.10	2.5	0	<b>105</b>	90	110				

Associated samples: **H23010553-001A, H23010553-002A, H23010553-003A, H23010553-004A, H23010553-005A, H23010553-006A, H23010553-007A, H23010553-008A, H23010553-009A, H23010553-010A, H23010553-011A, H23010553-012A, H23010553-013A, H23010553-014A, H23010553-015A**

Run ID :Run Order: <b>IC METROHM_230127A: 119</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23010553-014AMS</b>				Method: <b>E300.0</b>		
Analysis Date: <b>01/28/23 17:48</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	49.5	1.0	25	23.36	<b>105</b>	90	110				
Sulfate	433	1.0	100	323	<b>110</b>	90	110				
Bromide	1.49	0.50	1.25	0.05	<b>115</b>	90	110				S
Fluoride	1.81	0.10	1.25	0.426	<b>111</b>	90	110				S

Associated samples: **H23010553-001A, H23010553-002A, H23010553-003A, H23010553-004A, H23010553-005A, H23010553-006A, H23010553-007A, H23010553-008A, H23010553-009A, H23010553-010A, H23010553-011A, H23010553-012A, H23010553-013A, H23010553-014A, H23010553-015A**

Run ID :Run Order: <b>IC METROHM_230127A: 120</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23010553-014AMSD</b>				Method: <b>E300.0</b>		
Analysis Date: <b>01/28/23 18:02</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	49.6	1.0	25	23.36	<b>105</b>	90	110	49.55	<b>0.2</b>	20	
Sulfate	435	1.0	100	323	<b>112</b>	90	110	432.9	<b>0.5</b>	20	S
Bromide	1.49	0.50	1.25	0.05	<b>115</b>	90	110	1.489	<b>0.3</b>	20	S

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R181923

**Date:** 23-Feb-23

Run ID :Run Order: <b>IC METROHM_230127A: 120</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23010553-014AMSD</b>				Method: <b>E300.0</b>		
Analysis Date: <b>01/28/23 18:02</b>	Units: <b>mg/L</b>		Prep Info: Prep Date:				Prep Method:				
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.81	0.10	1.25	0.426	<b>111</b>	90	110	1.812	<b>0.1</b>	20	S

Associated samples: **H23010553-001A, H23010553-002A, H23010553-003A, H23010553-004A, H23010553-005A, H23010553-006A, H23010553-007A, H23010553-008A, H23010553-009A, H23010553-010A, H23010553-011A, H23010553-012A, H23010553-013A, H23010553-014A, H23010553-015A**





## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R181943

**Date:** 23-Feb-23

Run ID :Run Order: <b>PHSC_101-H_230130A: 2</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MBLK</b>	Method: <b>A2320 B</b>
Analysis Date: <b>01/30/23 14:21</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
		Qual	
Alkalinity, Total as CaCO3	ND	2	

Associated samples: **H23010553-005A, H23010553-006A, H23010553-007A, H23010553-008A, H23010553-009A, H23010553-010A, H23010553-011A, H23010553-012A, H23010553-013A, H23010553-014A, H23010553-015A**

Run ID :Run Order: <b>PHSC_101-H_230130A: 3</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS</b>	Method: <b>A2320 B</b>
Analysis Date: <b>01/30/23 14:27</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
		Qual	
Alkalinity, Total as CaCO3	600	4.0	600
		0	99
		90	110

Associated samples: **H23010553-005A, H23010553-006A, H23010553-007A, H23010553-008A, H23010553-009A, H23010553-010A, H23010553-011A, H23010553-012A, H23010553-013A, H23010553-014A, H23010553-015A**

Run ID :Run Order: <b>PHSC_101-H_230130A: 20</b>	SampType: <b>Sample Duplicate</b>	Lab ID: <b>H23010553-005ADUP</b>	Method: <b>A2320 B</b>
Analysis Date: <b>01/30/23 15:42</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>3</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
		Qual	
Alkalinity, Total as CaCO3	110	4.0	0
Bicarbonate as HCO3	140	4.0	0
Carbonate as CO3	ND	4.0	0
			113
			137.2
			0
			0
			10
			10
			10

Associated samples: **H23010553-005A, H23010553-006A, H23010553-007A, H23010553-008A, H23010553-009A, H23010553-010A, H23010553-011A, H23010553-012A, H23010553-013A, H23010553-014A, H23010553-015A**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R181955

**Date:** 23-Feb-23

Run ID :Run Order: <b>ICP2-HE_230130B: 6</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>			Method: <b>E200.7</b>			
Analysis Date: <b>01/30/23 12:16</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	4.04	0.020	4	0	101	95	105				
Lithium	0.823	0.10	0.8	0	103	95	105				
Manganese	3.94	0.010	4	0	98	95	105				

Associated samples: **H23010553-001F, H23010553-002F, H23010553-003F, H23010553-004F, H23010553-005F, H23010553-006F, H23010553-007F, H23010553-008B, H23010553-011B, H23010553-013B**

Run ID :Run Order: <b>ICP2-HE_230130B: 8</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV-1</b>			Method: <b>E200.7</b>			
Analysis Date: <b>01/30/23 12:26</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	2.54	0.020	2.5	0	102	95	105				
Lithium	1.29	0.10	1.25	0	103	95	105				
Manganese	2.48	0.010	2.5	0	99	95	105				

Associated samples: **H23010553-001F, H23010553-002F, H23010553-003F, H23010553-004F, H23010553-005F, H23010553-006F, H23010553-007F, H23010553-008B, H23010553-011B, H23010553-013B**

Run ID :Run Order: <b>ICP2-HE_230130B: 14</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MB</b>			Method: <b>E200.7</b>			
Analysis Date: <b>01/30/23 12:48</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	0.008									
Manganese	0.001	0.001									

Associated samples: **H23010553-008B, H23010553-011B, H23010553-013B**

Run ID :Run Order: <b>ICP2-HE_230130B: 15</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>			Method: <b>E200.7</b>			
Analysis Date: <b>01/30/23 12:52</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	5.02	0.020	5	0	100	85	115				
Manganese	4.90	0.010	5	0	98	85	115				

Associated samples: **H23010553-008B, H23010553-011B, H23010553-013B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R181955

**Date:** 23-Feb-23

Run ID :Run Order: <b>ICP2-HE_230130B: 18</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E200.7</b>				
Analysis Date: <b>01/30/23 13:03</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>3</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron		2.52	0.020	2.5	0	101	90	110				
Lithium		1.24	0.10	1.25	0	99	90	110				
Manganese		2.46	0.010	2.5	0	99	90	110				

Associated samples: **H23010553-001F, H23010553-002F, H23010553-003F, H23010553-004F, H23010553-005F, H23010553-006F, H23010553-007F, H23010553-008B, H23010553-011B, H23010553-013B**

Run ID :Run Order: <b>ICP2-HE_230130B: 30</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E200.7</b>				
Analysis Date: <b>01/30/23 13:53</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>3</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron		2.53	0.020	2.5	0	101	90	110				
Lithium		1.19	0.10	1.25	0	96	90	110				
Manganese		2.47	0.010	2.5	0	99	90	110				

Associated samples: **H23010553-001F, H23010553-002F, H23010553-003F, H23010553-004F, H23010553-005F, H23010553-006F, H23010553-007F, H23010553-008B, H23010553-011B, H23010553-013B**

Run ID :Run Order: <b>ICP2-HE_230130B: 42</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E200.7</b>				
Analysis Date: <b>01/30/23 14:39</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>3</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron		2.54	0.020	2.5	0	102	90	110				
Lithium		1.31	0.10	1.25	0	105	90	110				
Manganese		2.49	0.010	2.5	0	100	90	110				

Associated samples: **H23010553-001F, H23010553-002F, H23010553-003F, H23010553-004F, H23010553-005F, H23010553-006F, H23010553-007F, H23010553-008B, H23010553-011B, H23010553-013B**

Run ID :Run Order: <b>ICP2-HE_230130B: 50</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23010553-008BMS2</b>			Method: <b>E200.7</b>				
Analysis Date: <b>01/30/23 15:08</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>2</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron		49.1	0.083	50	0.3101	98	70	130				
Manganese		299	0.014	50	255.9		70	130				A

Associated samples: **H23010553-008B, H23010553-011B, H23010553-013B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R181955

**Date:** 23-Feb-23

Run ID :Run Order:	ICP2-HE_230130B: 51	SampType:	Sample Matrix Spike Duplicate	Lab ID:	H23010553-008BMSD2	Method:	E200.7					
Analysis Date:	01/30/23 15:12	Units:	mg/L	Prep Info:	Prep Date:	Prep Method:						
Analytes	2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron		49.3	0.083	50	0.3101	98	70	130	49.12	0.3	20	
Manganese		300	0.014	50	255.9		70	130	298.8	0.3	20	A

Associated samples: H23010553-008B, H23010553-011B, H23010553-013B

Run ID :Run Order:	ICP2-HE_230130B: 54	SampType:	Continuing Calibration Verification Standar	Lab ID:	CCV	Method:	E200.7					
Analysis Date:	01/30/23 15:23	Units:	mg/L	Prep Info:	Prep Date:	Prep Method:						
Analytes	3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron		2.49	0.020	2.5	0	99	90	110				
Lithium		1.30	0.10	1.25	0	104	90	110				
Manganese		2.44	0.010	2.5	0	98	90	110				

Associated samples: H23010553-001F, H23010553-002F, H23010553-003F, H23010553-004F, H23010553-005F, H23010553-006F, H23010553-007F, H23010553-008B, H23010553-011B, H23010553-013B

Run ID :Run Order:	ICP2-HE_230130B: 65	SampType:	Sample Matrix Spike	Lab ID:	H23010572-003BMS2	Method:	E200.7					
Analysis Date:	01/30/23 16:04	Units:	mg/L	Prep Info:	Prep Date:	Prep Method:						
Analytes	2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron		4.98	0.020	5	0	100	70	130				
Manganese		4.87	0.0014	5	0.00177	97	70	130				

Associated samples: H23010553-008B, H23010553-011B, H23010553-013B

Run ID :Run Order:	ICP2-HE_230130B: 76	SampType:	Sample Matrix Spike Duplicate	Lab ID:	H23010572-003BMSD2	Method:	E200.7					
Analysis Date:	01/30/23 16:45	Units:	mg/L	Prep Info:	Prep Date:	Prep Method:						
Analytes	2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron		4.84	0.020	5	0	97	70	130	4.982	2.8	20	
Manganese		4.87	0.0014	5	0.00177	97	70	130	4.866	0	20	

Associated samples: H23010553-008B, H23010553-011B, H23010553-013B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R181965

**Date:** 23-Feb-23

Run ID :Run Order: ICPMS205-H_230130B: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 01/30/23 20:46	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.305	0.10	0.3	0	102	90	110				
Antimony	0.0614	0.050	0.06	0	102	90	110				
Arsenic	0.0602	0.0050	0.06	0	100	90	110				
Barium	0.0603	0.10	0.06	0	101	90	110				
Beryllium	0.0309	0.0010	0.03	0	103	90	110				
Cadmium	0.0309	0.0010	0.03	0	103	90	110				
Chromium	0.0603	0.010	0.06	0	100	90	110				
Cobalt	0.0618	0.010	0.06	0	103	90	110				
Copper	0.0615	0.010	0.06	0	102	90	110				
Iron	0.298	0.020	0.3	0	99	90	110				
Lead	0.0606	0.010	0.06	0	101	90	110				
Manganese	0.304	0.010	0.3	0	101	90	110				
Molybdenum	0.0588	0.0050	0.06	0	98	90	110				
Nickel	0.0614	0.010	0.06	0	102	90	110				
Selenium	0.0608	0.0050	0.06	0	101	90	110				
Silver	0.0305	0.0050	0.03	0	102	90	110				
Strontium	0.0604	0.10	0.06	0	101	90	110				
Thallium	0.0607	0.10	0.06	0	101	90	110				
Thorium	0.0612	0.0010	0.06	0	102	90	110				
Tin	0.0613	0.10	0.06	0	102	90	110				
Titanium	0.0605	0.010	0.06	0	101	90	110				
Uranium	0.0597	0.00030	0.06	0	99	90	110				
Vanadium	0.0597	0.10	0.06	0	99	90	110				
Zinc	0.0620	0.010	0.06	0	103	90	110				

Associated samples: H23010553-001B, H23010553-001F, H23010553-002B, H23010553-002F, H23010553-003B, H23010553-003F, H23010553-004B, H23010553-004F, H23010553-005B, H23010553-005F, H23010553-006B, H23010553-006F, H23010553-007B, H23010553-007F, H23010553-008B, H23010553-009B, H23010553-010B, H23010553-011B, H23010553-012B, H23010553-013B, H23010553-014B, H23010553-015B

Run ID :Run Order: ICPMS205-H_230130B: 22	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 01/30/23 21:32	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	ND	0.0002									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R181965

**Date:** 23-Feb-23

Run ID :Run Order: **ICPMS205-H\_230130B: 22**      SampType: **Method Blank**      Lab ID: **LRB**      Method: **E200.8**

Analysis Date: **01/30/23 21:32**      Units: **mg/L**      Prep Info:    Prep Date:      Prep Method:

Analytes **24**      Result      PQL      SPK value    SPK Ref Val      %REC    LowLimit    HighLimit    RPD Ref Val      %RPD    RPDLimit    Qual

Arsenic	ND	0.0002									
Barium	ND	0.0002									
Beryllium	ND	0.0002									
Cadmium	ND	0.00002									
Chromium	ND	0.0001									
Cobalt	ND	0.001									
Copper	ND	0.0001									
Iron	ND	0.004									
Lead	ND	0.0001									
Manganese	ND	0.0003									
Molybdenum	ND	0.0003									
Nickel	ND	0.0002									
Selenium	ND	0.00007									
Silver	ND	0.00008									
Strontium	ND	0.0001									
Thallium	ND	0.00008									
Thorium	ND	0.0002									
Tin	ND	0.0002									
Titanium	ND	0.0005									
Uranium	ND	0.00002									
Vanadium	ND	0.0001									
Zinc	ND	0.001									

Associated samples: **H23010553-001B, H23010553-002B, H23010553-003B, H23010553-004B, H23010553-005B, H23010553-006B, H23010553-007B, H23010553-008B, H23010553-009B, H23010553-010B, H23010553-011B, H23010553-012B, H23010553-013B, H23010553-014B, H23010553-015B**

Run ID :Run Order: **ICPMS205-H\_230130B: 23**      SampType: **Laboratory Fortified Blank**      Lab ID: **LFB**      Method: **E200.8**

Analysis Date: **01/30/23 21:36**      Units: **mg/L**      Prep Info:    Prep Date:      Prep Method:

Analytes **24**      Result      PQL      SPK value    SPK Ref Val      %REC    LowLimit    HighLimit    RPD Ref Val      %RPD    RPDLimit    Qual

Aluminum	0.0492	0.10	0.05	0	<b>98</b>	85	115				
Antimony	0.0512	0.050	0.05	0	<b>102</b>	85	115				
Arsenic	0.0491	0.0050	0.05	0	<b>98</b>	85	115				
Barium	0.0504	0.10	0.05	0	<b>101</b>	85	115				
Beryllium	0.0463	0.0010	0.05	0	<b>93</b>	85	115				

**Qualifiers:**    ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
                     J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010553

BatchID: R181965

Date: 23-Feb-23

Run ID :Run Order: ICPMS205-H_230130B: 23	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.8		
Analysis Date: 01/30/23 21:36	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0509	0.0010	0.05	0	102	85	115				
Chromium	0.0495	0.010	0.05	0	99	85	115				
Cobalt	0.0502	0.010	0.05	0	100	85	115				
Copper	0.0505	0.010	0.05	0	101	85	115				
Iron	0.146	0.020	0.15	0	98	85	115				
Lead	0.0496	0.010	0.05	0	99	85	115				
Manganese	0.0498	0.010	0.05	0	100	85	115				
Molybdenum	0.0490	0.0050	0.05	0	98	85	115				
Nickel	0.0503	0.010	0.05	0	101	85	115				
Selenium	0.0494	0.0050	0.05	0	99	85	115				
Silver	0.0201	0.0050	0.02	0	100	85	115				
Strontium	0.0509	0.10	0.05	0	102	85	115				
Thallium	0.0492	0.10	0.05	0	98	85	115				
Thorium	0.0473	0.0010	0.05	0	95	85	115				
Tin	0.0495	0.10	0.05	0	99	85	115				
Titanium	0.0512	0.010	0.05	0	102	85	115				
Uranium	0.0479	0.00030	0.05	0	96	85	115				
Vanadium	0.0485	0.10	0.05	0	97	85	115				
Zinc	0.0516	0.010	0.05	0	103	85	115				

Associated samples: H23010553-001B, H23010553-002B, H23010553-003B, H23010553-004B, H23010553-005B, H23010553-006B, H23010553-007B, H23010553-008B, H23010553-009B, H23010553-010B, H23010553-011B, H23010553-012B, H23010553-013B, H23010553-014B, H23010553-015B

Run ID :Run Order: ICPMS205-H_230130B: 34	SampType: Sample Matrix Spike				Lab ID: H23010482-008CMS				Method: E200.8		
Analysis Date: 01/30/23 22:27	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0450	0.030	0.05	0	90	70	130				
Antimony	0.0545	0.0010	0.05	0.004406	100	70	130				
Arsenic	0.0524	0.0010	0.05	0.003359	98	70	130				
Barium	0.0913	0.050	0.05	0.04296	97	70	130				
Beryllium	0.0452	0.0010	0.05	0	90	70	130				
Cadmium	0.0495	0.0010	0.05	0.0002001	99	70	130				
Chromium	0.0480	0.0050	0.05	0.0002225	96	70	130				
Cobalt	0.0483	0.0050	0.05	0	97	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R181965

**Date:** 23-Feb-23

Run ID :Run Order: ICPMS205-H_230130B: 34	SampType: Sample Matrix Spike				Lab ID: H23010482-008CMS				Method: E200.8		
Analysis Date: 01/30/23 22:27	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0478	0.0050	0.05	0.0002909	95	70	130				
Iron	0.150	0.020	0.15	0.008952	94	70	130				
Lead	0.0505	0.0010	0.05	0.0003895	100	70	130				
Manganese	0.0494	0.0010	0.05	0.001778	95	70	130				
Molybdenum	0.0520	0.0010	0.05	0.003652	97	70	130				
Nickel	0.0480	0.0050	0.05	0.0002468	95	70	130				
Selenium	0.0568	0.0010	0.05	0.005045	103	70	130				
Silver	0.0195	0.0010	0.02	0	98	70	130				
Strontium	0.332	0.010	0.05	0.2884		70	130				A
Thallium	0.0492	0.00050	0.05	0	98	70	130				
Thorium	0.0477	0.0050	0.05	0	95	70	130				
Tin	0.0485	0.050	0.05	0	97	70	130				
Titanium	0.0502	0.0050	0.05	0	100	70	130				
Uranium	0.0542	0.00030	0.05	0.004889	99	70	130				
Vanadium	0.0484	0.010	0.05	0.0009058	95	70	130				
Zinc	0.0524	0.010	0.05	0.003578	98	70	130				

Associated samples: H23010553-001B, H23010553-002B, H23010553-003B, H23010553-004B, H23010553-005B, H23010553-006B, H23010553-007B, H23010553-008B, H23010553-009B, H23010553-010B, H23010553-011B, H23010553-012B, H23010553-013B, H23010553-014B, H23010553-015B

Run ID :Run Order: ICPMS205-H_230130B: 35	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010482-008CMSD				Method: E200.8		
Analysis Date: 01/30/23 22:32	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0467	0.030	0.05	0	93	70	130	0.04501	3.6	20	
Antimony	0.0543	0.0010	0.05	0.004406	100	70	130	0.05451	0.4	20	
Arsenic	0.0512	0.0010	0.05	0.003359	96	70	130	0.05237	2.2	20	
Barium	0.0915	0.050	0.05	0.04296	97	70	130	0.09131	0.2	20	
Beryllium	0.0450	0.0010	0.05	0	90	70	130	0.04522	0.5	20	
Cadmium	0.0485	0.0010	0.05	0.0002001	97	70	130	0.04953	2.0	20	
Chromium	0.0474	0.0050	0.05	0.0002225	94	70	130	0.04804	1.3	20	
Cobalt	0.0473	0.0050	0.05	0	95	70	130	0.04827	2.0	20	
Copper	0.0475	0.0050	0.05	0.0002909	94	70	130	0.04779	0.6	20	
Iron	0.147	0.020	0.15	0.008952	92	70	130	0.1497	2.1	20	
Lead	0.0505	0.0010	0.05	0.0003895	100	70	130	0.0505	0	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010553

BatchID: R181965

Date: 23-Feb-23

Run ID :Run Order: ICPMS205-H_230130B: 35	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010482-008CMSD				Method: E200.8		
Analysis Date: 01/30/23 22:32	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.0493	0.0010	0.05	0.001778	95	70	130	0.04939	0.2	20	
Molybdenum	0.0516	0.0010	0.05	0.003652	96	70	130	0.05205	0.8	20	
Nickel	0.0471	0.0050	0.05	0.0002468	94	70	130	0.04799	1.9	20	
Selenium	0.0564	0.0010	0.05	0.005045	103	70	130	0.05679	0.6	20	
Silver	0.0195	0.0010	0.02	0	97	70	130	0.01953	0.4	20	
Strontium	0.325	0.010	0.05	0.2884		70	130	0.3322	2.2	20	A
Thallium	0.0487	0.00050	0.05	0	97	70	130	0.04919	1.0	20	
Thorium	0.0474	0.0050	0.05	0	95	70	130	0.04773	0.7	20	
Tin	0.0480	0.050	0.05	0	96	70	130	0.0485		20	
Titanium	0.0462	0.0050	0.05	0	92	70	130	0.05016	8.2	20	
Uranium	0.0537	0.00030	0.05	0.004889	98	70	130	0.05417	0.9	20	
Vanadium	0.0476	0.010	0.05	0.0009058	93	70	130	0.04837	1.6	20	
Zinc	0.0517	0.010	0.05	0.003578	96	70	130	0.05236	1.2	20	

Associated samples: H23010553-001B, H23010553-002B, H23010553-003B, H23010553-004B, H23010553-005B, H23010553-006B, H23010553-007B, H23010553-008B, H23010553-009B, H23010553-010B, H23010553-011B, H23010553-012B, H23010553-013B, H23010553-014B, H23010553-015B

Run ID :Run Order: ICPMS205-H_230130B: 36	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 01/30/23 22:36	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0499	0.10	0.05	0	100	90	110				
Antimony	0.0493	0.050	0.05	0	99	90	110				
Arsenic	0.0503	0.0050	0.05	0	101	90	110				
Barium	0.0489	0.10	0.05	0	98	90	110				
Beryllium	0.0484	0.0010	0.05	0	97	90	110				
Cadmium	0.0494	0.0010	0.05	0	99	90	110				
Chromium	0.0493	0.010	0.05	0	99	90	110				
Cobalt	0.0502	0.010	0.05	0	100	90	110				
Copper	0.0503	0.010	0.05	0	101	90	110				
Iron	1.26	0.020	1.3	0	97	90	110				
Lead	0.0498	0.010	0.05	0	100	90	110				
Manganese	0.0496	0.010	0.05	0	99	90	110				
Molybdenum	0.0497	0.0050	0.05	0	99	90	110				
Nickel	0.0499	0.010	0.05	0	100	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010553

BatchID: R181965

Date: 23-Feb-23

Run ID :Run Order: ICPMS205-H_230130B: 36	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 01/30/23 22:36	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.0497	0.0050	0.05	0	99	90	110				
Silver	0.0200	0.0050	0.02	0	100	90	110				
Strontium	0.0500	0.10	0.05	0	100	90	110				
Thallium	0.0492	0.10	0.05	0	98	90	110				
Thorium	0.0484	0.0010	0.05	0	97	90	110				
Tin	0.0499	0.10	0.05	0	100	90	110				
Titanium	0.0478	0.010	0.05	0	96	90	110				
Uranium	0.0486	0.00030	0.05	0	97	90	110				
Vanadium	0.0497	0.10	0.05	0	99	90	110				
Zinc	0.0512	0.010	0.05	0	102	90	110				

Associated samples: H23010553-001B, H23010553-001F, H23010553-002B, H23010553-002F, H23010553-003B, H23010553-003F, H23010553-004B, H23010553-004F, H23010553-005B, H23010553-005F, H23010553-006B, H23010553-006F, H23010553-007B, H23010553-007F, H23010553-008B, H23010553-009B, H23010553-010B, H23010553-011B, H23010553-012B, H23010553-013B, H23010553-014B, H23010553-015B

Run ID :Run Order: ICPMS205-H_230130B: 51	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 01/30/23 23:45	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0505	0.10	0.05	0	101	90	110				
Antimony	0.0497	0.050	0.05	0	99	90	110				
Arsenic	0.0493	0.0050	0.05	0	99	90	110				
Barium	0.0492	0.10	0.05	0	98	90	110				
Beryllium	0.0487	0.0010	0.05	0	97	90	110				
Cadmium	0.0500	0.0010	0.05	0	100	90	110				
Chromium	0.0489	0.010	0.05	0	98	90	110				
Cobalt	0.0498	0.010	0.05	0	100	90	110				
Copper	0.0501	0.010	0.05	0	100	90	110				
Iron	1.25	0.020	1.3	0	96	90	110				
Lead	0.0496	0.010	0.05	0	99	90	110				
Manganese	0.0496	0.010	0.05	0	99	90	110				
Molybdenum	0.0494	0.0050	0.05	0	99	90	110				
Nickel	0.0496	0.010	0.05	0	99	90	110				
Selenium	0.0496	0.0050	0.05	0	99	90	110				
Silver	0.0200	0.0050	0.02	0	100	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R181965

**Date:** 23-Feb-23

Run ID :Run Order: ICPMS205-H_230130B: 51	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8			
Analysis Date: 01/30/23 23:45	Units: mg/L				Prep Info: Prep Date:				Prep Method:			
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Strontium	0.0500	0.10	0.05	0	100	90	110					
Thallium	0.0493	0.10	0.05	0	99	90	110					
Thorium	0.0479	0.0010	0.05	0	96	90	110					
Tin	0.0497	0.10	0.05	0	99	90	110					
Titanium	0.0478	0.010	0.05	0	96	90	110					
Uranium	0.0482	0.00030	0.05	0	96	90	110					
Vanadium	0.0488	0.10	0.05	0	98	90	110					
Zinc	0.0502	0.010	0.05	0	100	90	110					

Associated samples: H23010553-001B, H23010553-001F, H23010553-002B, H23010553-002F, H23010553-003B, H23010553-003F, H23010553-004B, H23010553-004F, H23010553-005B, H23010553-005F, H23010553-006B, H23010553-006F, H23010553-007B, H23010553-007F, H23010553-008B, H23010553-009B, H23010553-010B, H23010553-011B, H23010553-012B, H23010553-013B, H23010553-014B, H23010553-015B

Run ID :Run Order: ICPMS205-H_230130B: 63	SampType: Sample Matrix Spike				Lab ID: H23010553-008BMS				Method: E200.8			
Analysis Date: 01/31/23 00:41	Units: mg/L				Prep Info: Prep Date:				Prep Method:			
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Aluminum	8.92	0.030	0.05	9.175		70	130				A	
Antimony	0.0500	0.0010	0.05	0	100	70	130					
Arsenic	0.0492	0.0010	0.05	0.001681	95	70	130					
Barium	0.0608	0.050	0.05	0.01088	100	70	130					
Beryllium	0.0471	0.0010	0.05	0.007819	79	70	130					
Cadmium	1.20	0.0010	0.05	1.143		70	130				A	
Chromium	0.0489	0.0050	0.05	0.0006594	96	70	130					
Cobalt	0.437	0.0050	0.05	0.3845		70	130				A	
Copper	82.4	0.0050	0.05	80.7		70	130				AE	
Iron	0.391	0.020	0.15	0.2465	96	70	130					
Lead	0.0560	0.0010	0.05	0.00502	102	70	130					
Manganese	269	0.0010	0.05	264.5		70	130				AE	
Molybdenum	0.0503	0.0010	0.05	0	101	70	130					
Nickel	0.578	0.0050	0.05	0.5224		70	130				A	
Selenium	0.0521	0.0010	0.05	0.001161	102	70	130					
Silver	0.0281	0.0010	0.02	0.009044	95	70	130					
Strontium	4.36	0.010	0.05	4.31		70	130				A	
Thallium	0.0504	0.00050	0.05	0.0001861	100	70	130					

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R181965

**Date:** 23-Feb-23

Run ID :Run Order: ICPMS205-H_230130B: 63	SampType: Sample Matrix Spike				Lab ID: H23010553-008BMS				Method: E200.8		
Analysis Date: 01/31/23 00:41	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0528	0.0050	0.05	0	106	70	130				
Tin	0.0489	0.050	0.05	0	98	70	130				
Titanium	0.0494	0.0050	0.05	0	99	70	130				
Uranium	0.0831	0.00030	0.05	0.03202	102	70	130				
Vanadium	0.0482	0.010	0.05	0	96	70	130				
Zinc	183	0.010	0.05	180.4		70	130				AE

Associated samples: H23010553-001B, H23010553-002B, H23010553-003B, H23010553-004B, H23010553-005B, H23010553-006B, H23010553-007B, H23010553-008B, H23010553-009B, H23010553-010B, H23010553-011B, H23010553-012B, H23010553-013B, H23010553-014B, H23010553-015B

Run ID :Run Order: ICPMS205-H_230130B: 64	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010553-008BMSD				Method: E200.8		
Analysis Date: 01/31/23 00:45	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	8.96	0.030	0.05	9.175		70	130	8.922	0.5	20	A
Antimony	0.0499	0.0010	0.05	0	100	70	130	0.04996	0	20	
Arsenic	0.0506	0.0010	0.05	0.001681	98	70	130	0.04925	2.7	20	
Barium	0.0619	0.050	0.05	0.01088	102	70	130	0.06084	1.8	20	
Beryllium	0.0475	0.0010	0.05	0.007819	79	70	130	0.04707	0.8	20	
Cadmium	1.20	0.0010	0.05	1.143		70	130	1.195	0.8	20	A
Chromium	0.0484	0.0050	0.05	0.0006594	95	70	130	0.04886	1.0	20	
Cobalt	0.442	0.0050	0.05	0.3845		70	130	0.4374	1.1	20	A
Copper	82.8	0.0050	0.05	80.7		70	130	82.44	0.5	20	AE
Iron	0.395	0.020	0.15	0.2465	99	70	130	0.391	1.0	20	
Lead	0.0564	0.0010	0.05	0.00502	103	70	130	0.05604	0.6	20	
Manganese	271	0.0010	0.05	264.5		70	130	268.6	0.8	20	AE
Molybdenum	0.0504	0.0010	0.05	0	101	70	130	0.05034	0.2	20	
Nickel	0.582	0.0050	0.05	0.5224		70	130	0.5779	0.7	20	A
Selenium	0.0522	0.0010	0.05	0.001161	102	70	130	0.05214	0	20	
Silver	0.0285	0.0010	0.02	0.009044	97	70	130	0.02806	1.7	20	
Strontium	4.37	0.010	0.05	4.31		70	130	4.357	0.2	20	A
Thallium	0.0508	0.00050	0.05	0.0001861	101	70	130	0.05036	0.8	20	
Thorium	0.0533	0.0050	0.05	0	107	70	130	0.05283	0.9	20	
Tin	0.0493	0.050	0.05	0	99	70	130	0.0489		20	
Titanium	0.0488	0.0050	0.05	0	98	70	130	0.04941	1.2	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R181965

**Date:** 23-Feb-23

Run ID :Run Order:	ICPMS205-H_230130B: 64	SampType:	Sample Matrix Spike Duplicate	Lab ID:	H23010553-008BMSD	Method:	E200.8					
Analysis Date:	01/31/23 00:45	Units:	mg/L	Prep Info:	Prep Date:	Prep Method:						
Analytes	24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.0842	0.00030	0.05	0.03202	104	70	130	0.08307	1.4	20		
Vanadium	0.0486	0.010	0.05	0	97	70	130	0.04815	0.9	20		
Zinc	183	0.010	0.05	180.4		70	130	182.7	0.4	20	AE	

Associated samples: H23010553-001B, H23010553-002B, H23010553-003B, H23010553-004B, H23010553-005B, H23010553-006B, H23010553-007B, H23010553-008B, H23010553-009B, H23010553-010B, H23010553-011B, H23010553-012B, H23010553-013B, H23010553-014B, H23010553-015B

Run ID :Run Order:	ICPMS205-H_230130B: 65	SampType:	Continuing Calibration Verification Standar	Lab ID:	CCV	Method:	E200.8					
Analysis Date:	01/31/23 00:50	Units:	mg/L	Prep Info:	Prep Date:	Prep Method:						
Analytes	22	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0505	0.10	0.05	0	101	90	110					
Antimony	0.0511	0.050	0.05	0	102	90	110					
Arsenic	0.0512	0.0050	0.05	0	102	90	110					
Barium	0.0516	0.10	0.05	0	103	90	110					
Beryllium	0.0466	0.0010	0.05	0	93	90	110					
Cadmium	0.0521	0.0010	0.05	0	104	90	110					
Chromium	0.0504	0.010	0.05	0	101	90	110					
Cobalt	0.0510	0.010	0.05	0	102	90	110					
Copper	0.0539	0.010	0.05	0	108	90	110					
Iron	1.28	0.020	1.3	0	99	90	110					
Lead	0.0516	0.010	0.05	0	103	90	110					
Molybdenum	0.0521	0.0050	0.05	0	104	90	110					
Nickel	0.0514	0.010	0.05	0	103	90	110					
Selenium	0.0514	0.0050	0.05	0	103	90	110					
Silver	0.0210	0.0050	0.02	0	105	90	110					
Strontium	0.0515	0.10	0.05	0	103	90	110					
Thallium	0.0511	0.10	0.05	0	102	90	110					
Thorium	0.0503	0.0010	0.05	0	101	90	110					
Tin	0.0519	0.10	0.05	0	104	90	110					
Titanium	0.0528	0.010	0.05	0	106	90	110					
Uranium	0.0502	0.00030	0.05	0	100	90	110					
Vanadium	0.0497	0.10	0.05	0	99	90	110					

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R181965

**Date:** 23-Feb-23

Run ID :Run Order: <b>ICPMS205-H_230130B: 65</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E200.8</b>								
Analysis Date: <b>01/31/23 00:50</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>22</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H23010553-001B, H23010553-001F, H23010553-002B, H23010553-002F, H23010553-003B, H23010553-003F, H23010553-004B, H23010553-004F, H23010553-005B, H23010553-005F, H23010553-006B, H23010553-006F, H23010553-007B, H23010553-007F, H23010553-008B, H23010553-009B, H23010553-010B, H23010553-011B, H23010553-012B, H23010553-013B, H23010553-014B, H23010553-015B**





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R181974

**Date:** 23-Feb-23

Run ID :Run Order:	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 01/31/23 10:48	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0591	0.010	0.06	0	99	90	110				
Gallium	0.0604	0.010	0.06	0	101	90	110				
Lanthanum	0.0592	0.010	0.06	0	99	90	110				
Neodymium	0.0592	0.0050	0.06	0	99	90	110				
Niobium	0.0610	0.0010	0.06	0	102	90	110				
Palladium	0.0589	0.010	0.06	0	98	90	110				
Praseodymium	0.0598	0.0010	0.06	0	100	90	110				
Rubidium	0.0597	0.010	0.06	0	99	90	110				
Tungsten	0.0577	0.10	0.06	0	96	90	110				
Zirconium	0.0644	0.0050	0.06	0	107	90	110				

Associated samples: H23010553-001B, H23010553-001F, H23010553-002B, H23010553-002F, H23010553-003B, H23010553-003F, H23010553-004B, H23010553-004F, H23010553-005B, H23010553-005F, H23010553-006B, H23010553-006F, H23010553-007F, H23010553-008B, H23010553-009B, H23010553-010B, H23010553-011B, H23010553-012B, H23010553-013B, H23010553-014B, H23010553-015B

Run ID :Run Order:	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 01/31/23 11:13	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0500	0.010	0.05	0	100	90	110				
Gallium	0.0509	0.010	0.05	0	102	90	110				
Lanthanum	0.0498	0.010	0.05	0	99	90	110				
Neodymium	0.0498	0.0050	0.05	0	100	90	110				
Niobium	0.0500	0.0010	0.05	0	100	90	110				
Palladium	0.0496	0.010	0.05	0	99	90	110				
Praseodymium	0.0503	0.0010	0.05	0	101	90	110				
Rubidium	0.0509	0.010	0.05	0	102	90	110				
Tungsten	0.0491	0.10	0.05	0	98	90	110				
Zirconium	0.0476	0.0050	0.05	0	95	90	110				

Associated samples: H23010553-001B, H23010553-001F, H23010553-002B, H23010553-002F, H23010553-003B, H23010553-003F, H23010553-004B, H23010553-004F, H23010553-005B, H23010553-005F, H23010553-006B, H23010553-006F, H23010553-007F, H23010553-008B, H23010553-009B, H23010553-010B, H23010553-011B, H23010553-012B, H23010553-013B, H23010553-014B, H23010553-015B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R181974

**Date:** 23-Feb-23

Run ID :Run Order: ICPMS205-H_230131A: 24		SampType: Method Blank			Lab ID: LRB				Method: E200.8		
Analysis Date: 01/31/23 11:23		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	ND	0.0002									
Gallium	ND	0.00009									
Lanthanum	ND	0.0001									
Neodymium	ND	0.00009									
Niobium	ND	0.0003									
Palladium	ND	0.0002									
Praseodymium	ND	0.0001									
Rubidium	ND	0.00007									
Tungsten	ND	0.0001									
Zirconium	ND	0.0003									

Associated samples: H23010553-001B, H23010553-002B, H23010553-003B, H23010553-004B, H23010553-005B, H23010553-006B, H23010553-008B, H23010553-009B, H23010553-010B, H23010553-011B, H23010553-012B, H23010553-013B, H23010553-014B, H23010553-015B

Run ID :Run Order: ICPMS205-H_230131A: 27		SampType: Laboratory Fortified Blank			Lab ID: LFB				Method: E200.8		
Analysis Date: 01/31/23 11:37		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0497	0.010	0.05	0	99	85	115				
Gallium	0.0501	0.010	0.05	0	100	85	115				
Lanthanum	0.0483	0.010	0.05	0	97	85	115				
Neodymium	0.0489	0.0050	0.05	0	98	85	115				
Niobium	0.0500	0.0010	0.05	0	100	85	115				
Palladium	0.0482	0.010	0.05	0	96	85	115				
Praseodymium	0.0494	0.0010	0.05	0	99	85	115				
Rubidium	0.0501	0.010	0.05	0	100	85	115				
Tungsten	0.0465	0.10	0.05	0	93	85	115				
Zirconium	0.0539	0.0050	0.05	0	108	85	115				

Associated samples: H23010553-001B, H23010553-002B, H23010553-003B, H23010553-004B, H23010553-005B, H23010553-006B, H23010553-008B, H23010553-009B, H23010553-010B, H23010553-011B, H23010553-012B, H23010553-013B, H23010553-014B, H23010553-015B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R181974

**Date:** 23-Feb-23

Run ID :Run Order: ICPMS205-H_230131A: 38		SampType: Sample Matrix Spike Duplicate			Lab ID: H23010553-001BMSD				Method: E200.8		
Analysis Date: 01/31/23 11:54		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0511	0.010	0.05	0	102	70	130	0.04913	3.9	20	
Gallium	0.0502	0.010	0.05	0	100	70	130	0.0494	1.5	20	
Lanthanum	0.0504	0.010	0.05	0	101	70	130	0.04876	3.4	20	
Neodymium	0.0511	0.0050	0.05	0	102	70	130	0.04955	3.1	20	
Niobium	0.0464	0.0010	0.05	0	93	70	130	0.04575			
Palladium	0.0474	0.010	0.05	0	95	70	130	0.04558	4.0	20	
Praseodymium	0.0507	0.0010	0.05	0	101	70	130	0.04943			
Rubidium	0.0512	0.010	0.05	0.0002017	102	70	130	0.05056	1.2	20	
Tungsten	0.0429	0.10	0.05	0.0002955	85	70	130	0.0417		20	
Zirconium	0.0562	0.0050	0.05	0	112	70	130	0.05548	1.3	20	

Associated samples: H23010553-001B, H23010553-002B, H23010553-003B, H23010553-004B, H23010553-005B, H23010553-006B, H23010553-008B, H23010553-009B, H23010553-010B, H23010553-011B, H23010553-012B, H23010553-013B, H23010553-014B, H23010553-015B

Run ID :Run Order: ICPMS205-H_230131A: 39		SampType: Sample Matrix Spike			Lab ID: H23010553-001BMS				Method: E200.8		
Analysis Date: 01/31/23 11:55		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0491	0.010	0.05	0	98	70	130				
Gallium	0.0494	0.010	0.05	0	99	70	130				
Lanthanum	0.0488	0.010	0.05	0	98	70	130				
Neodymium	0.0496	0.0050	0.05	0	99	70	130				
Niobium	0.0458	0.0010	0.05	0	91	70	130				
Palladium	0.0456	0.010	0.05	0	91	70	130				
Praseodymium	0.0494	0.0010	0.05	0	99	70	130				
Rubidium	0.0506	0.010	0.05	0.0002017	101	70	130				
Tungsten	0.0417	0.10	0.05	0.0002955	83	70	130				
Zirconium	0.0555	0.0050	0.05	0	111	70	130				

Associated samples: H23010553-001B, H23010553-002B, H23010553-003B, H23010553-004B, H23010553-005B, H23010553-006B, H23010553-008B, H23010553-009B, H23010553-010B, H23010553-011B, H23010553-012B, H23010553-013B, H23010553-014B, H23010553-015B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R181974

**Date:** 23-Feb-23

Run ID :Run Order:	ICPMS205-H_230131A: 45	SampType:	Continuing Calibration Verification Standar	Lab ID:	CCV	Method:	E200.8					
Analysis Date:	01/31/23 12:04	Units:	mg/L	Prep Info:	Prep Date:	Prep Method:						
Analytes	10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0495	0.010	0.05	0	99	90	110					
Gallium	0.0515	0.010	0.05	0	103	90	110					
Lanthanum	0.0499	0.010	0.05	0	100	90	110					
Neodymium	0.0502	0.0050	0.05	0	100	90	110					
Niobium	0.0505	0.0010	0.05	0	101	90	110					
Palladium	0.0495	0.010	0.05	0	99	90	110					
Praseodymium	0.0505	0.0010	0.05	0	101	90	110					
Rubidium	0.0506	0.010	0.05	0	101	90	110					
Tungsten	0.0498	0.10	0.05	0	100	90	110					
Zirconium	0.0488	0.0050	0.05	0	98	90	110					

Associated samples: H23010553-001B, H23010553-001F, H23010553-002B, H23010553-002F, H23010553-003B, H23010553-003F, H23010553-004B, H23010553-004F, H23010553-005B, H23010553-005F, H23010553-006B, H23010553-006F, H23010553-007F, H23010553-008B, H23010553-009B, H23010553-010B, H23010553-011B, H23010553-012B, H23010553-013B, H23010553-014B, H23010553-015B

Run ID :Run Order:	ICPMS205-H_230131A: 57	SampType:	Sample Matrix Spike	Lab ID:	H23010553-008BMS	Method:	E200.8					
Analysis Date:	01/31/23 12:22	Units:	mg/L	Prep Info:	Prep Date:	Prep Method:						
Analytes	10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0507	0.010	0.05	0	101	70	130					
Gallium	0.0583	0.010	0.05	0.01035	96	70	130					
Lanthanum	0.139	0.010	0.05	0.09084	96	70	130					
Neodymium	0.110	0.0050	0.05	0.05886	102	70	130					
Niobium	0.0470	0.0010	0.05	0	94	70	130					
Palladium	0.0471	0.010	0.05	0.0002705	94	70	130					
Praseodymium	0.0691	0.0010	0.05	0.01797	102	70	130					
Rubidium	0.0843	0.010	0.05	0.03535	98	70	130					
Tungsten	0.0428	0.10	0.05	0	86	70	130					
Zirconium	0.0584	0.0050	0.05	0.0006609	116	70	130					

Associated samples: H23010553-001B, H23010553-002B, H23010553-003B, H23010553-004B, H23010553-005B, H23010553-006B, H23010553-008B, H23010553-009B, H23010553-010B, H23010553-011B, H23010553-012B, H23010553-013B, H23010553-014B, H23010553-015B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23010553

BatchID: R181974

Date: 23-Feb-23

Run ID :Run Order: ICPMS205-H_230131A: 58	SampType: Sample Matrix Spike Duplicate				Lab ID: H23010553-008BMSD				Method: E200.8		
Analysis Date: 01/31/23 12:23	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0511	0.010	0.05	0	102	70	130	0.05067	0.8	20	
Gallium	0.0575	0.010	0.05	0.01035	94	70	130	0.05831	1.4	20	
Lanthanum	0.139	0.010	0.05	0.09084	97	70	130	0.139	0.1	20	
Neodymium	0.110	0.0050	0.05	0.05886	103	70	130	0.1097	0.6	20	
Niobium	0.0470	0.0010	0.05	0	94	70	130	0.04705			
Palladium	0.0476	0.010	0.05	0.0002705	95	70	130	0.04708	1.0	20	
Praseodymium	0.0695	0.0010	0.05	0.01797	103	70	130	0.06913			
Rubidium	0.0844	0.010	0.05	0.03535	98	70	130	0.08434	0	20	
Tungsten	0.0431	0.10	0.05	0	86	70	130	0.04279		20	
Zirconium	0.0583	0.0050	0.05	0.0006609	115	70	130	0.05842	0.1	20	

Associated samples: H23010553-001B, H23010553-002B, H23010553-003B, H23010553-004B, H23010553-005B, H23010553-006B, H23010553-008B, H23010553-009B, H23010553-010B, H23010553-011B, H23010553-012B, H23010553-013B, H23010553-014B, H23010553-015B

Run ID :Run Order: ICPMS205-H_230131A: 59	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 01/31/23 12:25	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0491	0.010	0.05	0	98	90	110				
Gallium	0.0508	0.010	0.05	0	102	90	110				
Lanthanum	0.0499	0.010	0.05	0	100	90	110				
Neodymium	0.0495	0.0050	0.05	0	99	90	110				
Niobium	0.0510	0.0010	0.05	0	102	90	110				
Palladium	0.0496	0.010	0.05	0	99	90	110				
Praseodymium	0.0504	0.0010	0.05	0	101	90	110				
Rubidium	0.0503	0.010	0.05	0	101	90	110				
Tungsten	0.0504	0.10	0.05	0	101	90	110				
Zirconium	0.0478	0.0050	0.05	0	96	90	110				

Associated samples: H23010553-001B, H23010553-001F, H23010553-002B, H23010553-002F, H23010553-003B, H23010553-003F, H23010553-004B, H23010553-004F, H23010553-005B, H23010553-005F, H23010553-006B, H23010553-006F, H23010553-007F, H23010553-008B, H23010553-009B, H23010553-010B, H23010553-011B, H23010553-012B, H23010553-013B, H23010553-014B, H23010553-015B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R181987

**Date:** 23-Feb-23

Run ID :Run Order: <b>ICP2-HE_230131A: 6</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E200.7</b>			
Analysis Date: <b>01/31/23 11:05</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.809	0.010	0.8	0	<b>101</b>	95	105				

Associated samples: **H23010553-008B, H23010553-011B, H23010553-013B**

Run ID :Run Order: <b>ICP2-HE_230131A: 14</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E200.7</b>			
Analysis Date: <b>01/31/23 11:47</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.797	0.010	0.8	0	<b>100</b>	95	105				

Associated samples: **H23010553-008B, H23010553-011B, H23010553-013B**

Run ID :Run Order: <b>ICP2-HE_230131A: 16</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV-1</b>			Method: <b>E200.7</b>			
Analysis Date: <b>01/31/23 11:56</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	2.57	0.010	2.5	0	<b>103</b>	95	105				

Associated samples: **H23010553-008B, H23010553-011B, H23010553-013B**

Run ID :Run Order: <b>ICP2-HE_230131A: 22</b>		SampType: <b>Method Blank</b>			Lab ID: <b>MB</b>			Method: <b>E200.7</b>			
Analysis Date: <b>01/31/23 12:19</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	ND	0.003									

Associated samples: **H23010553-008B, H23010553-011B, H23010553-013B**

Run ID :Run Order: <b>ICP2-HE_230131A: 23</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E200.7</b>			
Analysis Date: <b>01/31/23 12:22</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.987	0.010	1	0	<b>99</b>	85	115				

Associated samples: **H23010553-008B, H23010553-011B, H23010553-013B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R181987

**Date:** 23-Feb-23

Run ID :Run Order: <b>ICP2-HE_230131A: 38</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E200.7</b>			
Analysis Date: <b>01/31/23 13:19</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	2.57	0.010	2.5	0	<b>103</b>	90	110				

Associated samples: **H23010553-008B, H23010553-011B, H23010553-013B**

Run ID :Run Order: <b>ICP2-HE_230131A: 50</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E200.7</b>			
Analysis Date: <b>01/31/23 14:04</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	2.57	0.010	2.5	0	<b>103</b>	90	110				

Associated samples: **H23010553-008B, H23010553-011B, H23010553-013B**

Run ID :Run Order: <b>ICP2-HE_230131A: 62</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E200.7</b>			
Analysis Date: <b>01/31/23 14:49</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	2.48	0.010	2.5	0	<b>99</b>	90	110				

Associated samples: **H23010553-008B, H23010553-011B, H23010553-013B**

Run ID :Run Order: <b>ICP2-HE_230131A: 64</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23010553-008BMS2</b>			Method: <b>E200.7</b>			
Analysis Date: <b>01/31/23 14:56</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	199	0.028	10	207.2		70	130				A

Associated samples: **H23010553-008B, H23010553-011B, H23010553-013B**

Run ID :Run Order: <b>ICP2-HE_230131A: 65</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23010553-008BMSD2</b>			Method: <b>E200.7</b>			
Analysis Date: <b>01/31/23 15:00</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	187	0.028	10	207.2		70	130	198.7	<b>6.0</b>	20	A

Associated samples: **H23010553-008B, H23010553-011B, H23010553-013B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R182013

**Date:** 23-Feb-23

Run ID :Run Order: <b>ICPMS205-H_230201C: 13</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>02/01/23 14:57</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.279	0.010	0.3	0	93	90	110				
Zinc	0.0586	0.010	0.06	0	98	90	110				

Associated samples: **H23010553-006B, H23010553-006F, H23010553-007B, H23010553-007F, H23010553-010B**

Run ID :Run Order: <b>ICPMS205-H_230201C: 27</b>		SampType: <b>Method Blank</b>			Lab ID: <b>LRB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>02/01/23 15:35</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.0003									
Zinc	ND	0.001									

Associated samples: **H23010553-006B, H23010553-007B, H23010553-010B**

Run ID :Run Order: <b>ICPMS205-H_230201C: 28</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>02/01/23 15:37</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.0472	0.010	0.05	0	94	85	115				
Zinc	0.0495	0.010	0.05	0	99	85	115				

Associated samples: **H23010553-006B, H23010553-007B, H23010553-010B**

Run ID :Run Order: <b>ICPMS205-H_230201C: 42</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>02/01/23 18:44</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.0505	0.010	0.05	0	101	90	110				
Zinc	0.0512	0.010	0.05	0	102	90	110				

Associated samples: **H23010553-006B, H23010553-006F, H23010553-007B, H23010553-007F, H23010553-010B**

Run ID :Run Order: <b>ICPMS205-H_230201C: 54</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23010553-006BMS</b>			Method: <b>E200.8</b>			
Analysis Date: <b>02/01/23 19:14</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.0566	0.0010	0.05	0	113	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R182013

**Date:** 23-Feb-23

Run ID :Run Order: <b>ICPMS205-H_230201C: 54</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23010553-006BMS</b>				Method: <b>E200.8</b>		
Analysis Date: <b>02/01/23 19:14</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.0634	0.010	0.05	0	<b>127</b>	70	130				

Associated samples: **H23010553-006B, H23010553-007B, H23010553-010B**

Run ID :Run Order: <b>ICPMS205-H_230201C: 55</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23010553-006BMSD</b>				Method: <b>E200.8</b>		
Analysis Date: <b>02/01/23 19:16</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.0517	0.0010	0.05	0	<b>103</b>	70	130	0.05659	<b>9.0</b>	20	
Zinc	0.0569	0.010	0.05	0	<b>114</b>	70	130	0.06339	<b>11</b>	20	

Associated samples: **H23010553-006B, H23010553-007B, H23010553-010B**



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R182042

**Date:** 23-Feb-23

Run ID :Run Order: <b>FIA203-HE_230202A: 10</b>	SampType: <b>Initial Calibration Verification Standard</b>	Lab ID: <b>ICV</b>	Method: <b>E353.2</b>								
Analysis Date: <b>02/02/23 11:20</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.992	0.010	1	0	<b>99</b>	90	110				

Associated samples: **H23010553-001C, H23010553-002C, H23010553-003C, H23010553-004C, H23010553-005C, H23010553-006C, H23010553-007C, H23010553-008C, H23010553-009C, H23010553-010C, H23010553-011C, H23010553-012C, H23010553-013C, H23010553-014C, H23010553-015C**

Run ID :Run Order: <b>FIA203-HE_230202A: 11</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MBLK</b>	Method: <b>E353.2</b>								
Analysis Date: <b>02/02/23 11:21</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.008									

Associated samples: **H23010553-001C, H23010553-002C, H23010553-003C, H23010553-004C, H23010553-005C, H23010553-006C, H23010553-007C, H23010553-008C, H23010553-009C, H23010553-010C, H23010553-011C, H23010553-012C, H23010553-013C, H23010553-014C, H23010553-015C**

Run ID :Run Order: <b>FIA203-HE_230202A: 12</b>	SampType: <b>Laboratory Fortified Blank</b>	Lab ID: <b>LFB</b>	Method: <b>E353.2</b>								
Analysis Date: <b>02/02/23 11:22</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.921	0.011	1	0	<b>92</b>	90	110				

Associated samples: **H23010553-001C, H23010553-002C, H23010553-003C, H23010553-004C, H23010553-005C, H23010553-006C, H23010553-007C, H23010553-008C, H23010553-009C, H23010553-010C, H23010553-011C, H23010553-012C, H23010553-013C, H23010553-014C, H23010553-015C**

Run ID :Run Order: <b>FIA203-HE_230202A: 25</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E353.2</b>								
Analysis Date: <b>02/02/23 11:37</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.487	0.010	0.5	0	<b>97</b>	90	110				

Associated samples: **H23010553-001C, H23010553-002C, H23010553-003C, H23010553-004C, H23010553-005C, H23010553-006C, H23010553-007C, H23010553-008C, H23010553-009C, H23010553-010C, H23010553-011C, H23010553-012C, H23010553-013C, H23010553-014C, H23010553-015C**

Run ID :Run Order: <b>FIA203-HE_230202A: 56</b>	SampType: <b>Initial Calibration Verification Standard</b>	Lab ID: <b>ICV</b>	Method: <b>E353.2</b>								
Analysis Date: <b>02/02/23 12:22</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.01	0.010	1	0	<b>101</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R182042

**Date:** 23-Feb-23

Run ID :Run Order: <b>FIA203-HE_230202A: 56</b>	SampType: <b>Initial Calibration Verification Standard</b>	Lab ID: <b>ICV</b>	Method: <b>E353.2</b>
Analysis Date: <b>02/02/23 12:22</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Associated samples: **H23010553-001C, H23010553-002C, H23010553-003C, H23010553-004C, H23010553-005C, H23010553-006C, H23010553-007C, H23010553-008C, H23010553-009C, H23010553-010C, H23010553-011C, H23010553-012C, H23010553-013C, H23010553-014C, H23010553-015C**

Run ID :Run Order: <b>FIA203-HE_230202A: 58</b>	SampType: <b>Laboratory Fortified Blank</b>	Lab ID: <b>LFB</b>	Method: <b>E353.2</b>
Analysis Date: <b>02/02/23 12:31</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Nitrogen, Nitrate+Nitrite as N      0.946      0.011      1      0      **95**      90      110

Associated samples: **H23010553-001C, H23010553-002C, H23010553-003C, H23010553-004C, H23010553-005C, H23010553-006C, H23010553-007C, H23010553-008C, H23010553-009C, H23010553-010C, H23010553-011C, H23010553-012C, H23010553-013C, H23010553-014C, H23010553-015C**

Run ID :Run Order: <b>FIA203-HE_230202A: 60</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23010524-001AMS</b>	Method: <b>E353.2</b>
Analysis Date: <b>02/02/23 12:33</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Nitrogen, Nitrate+Nitrite as N      1.49      0.011      1      0.5261      **97**      90      110

Associated samples: **H23010553-001C, H23010553-002C, H23010553-003C, H23010553-004C, H23010553-005C, H23010553-006C, H23010553-007C, H23010553-008C, H23010553-009C, H23010553-010C, H23010553-011C, H23010553-012C, H23010553-013C, H23010553-014C, H23010553-015C**

Run ID :Run Order: <b>FIA203-HE_230202A: 61</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23010524-001AMSD</b>	Method: <b>E353.2</b>
Analysis Date: <b>02/02/23 12:34</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Nitrogen, Nitrate+Nitrite as N      1.48      0.011      1      0.5261      **96**      90      110      1.493      **0.6**      10

Associated samples: **H23010553-001C, H23010553-002C, H23010553-003C, H23010553-004C, H23010553-005C, H23010553-006C, H23010553-007C, H23010553-008C, H23010553-009C, H23010553-010C, H23010553-011C, H23010553-012C, H23010553-013C, H23010553-014C, H23010553-015C**

Run ID :Run Order: <b>FIA203-HE_230202A: 76</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E353.2</b>
Analysis Date: <b>02/02/23 13:03</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Nitrogen, Nitrate+Nitrite as N      0.531      0.010      0.5      0      **106**      90      110

Associated samples: **H23010553-001C, H23010553-002C, H23010553-003C, H23010553-004C, H23010553-005C, H23010553-006C, H23010553-007C, H23010553-008C, H23010553-009C, H23010553-010C, H23010553-011C, H23010553-012C, H23010553-013C, H23010553-014C, H23010553-015C**

<b>Qualifiers:</b> ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limit	N - Analyte concentration was not sufficiently high to calculate RPD
J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R182042

**Date:** 23-Feb-23

Run ID :Run Order: <b>FIA203-HE_230202A: 78</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23010553-006CMS</b>				Method: <b>E353.2</b>		
Analysis Date: <b>02/02/23 13:08</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	5.03	0.055	5	0	<b>101</b>	90	110				
Associated samples: <b>H23010553-001C, H23010553-002C, H23010553-003C, H23010553-004C, H23010553-005C, H23010553-006C, H23010553-007C, H23010553-008C, H23010553-009C, H23010553-010C, H23010553-011C, H23010553-012C, H23010553-013C, H23010553-014C, H23010553-015C</b>											

Run ID :Run Order: <b>FIA203-HE_230202A: 79</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23010553-006CMSD</b>				Method: <b>E353.2</b>		
Analysis Date: <b>02/02/23 13:09</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	5.08	0.055	5	0	<b>102</b>	90	110	5.025	<b>1.0</b>	10	
Associated samples: <b>H23010553-001C, H23010553-002C, H23010553-003C, H23010553-004C, H23010553-005C, H23010553-006C, H23010553-007C, H23010553-008C, H23010553-009C, H23010553-010C, H23010553-011C, H23010553-012C, H23010553-013C, H23010553-014C, H23010553-015C</b>											

Run ID :Run Order: <b>FIA203-HE_230202A: 89</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>				Method: <b>E353.2</b>		
Analysis Date: <b>02/02/23 13:21</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.525	0.010	0.5	0	<b>105</b>	90	110				
Associated samples: <b>H23010553-001C, H23010553-002C, H23010553-003C, H23010553-004C, H23010553-005C, H23010553-006C, H23010553-007C, H23010553-008C, H23010553-009C, H23010553-010C, H23010553-011C, H23010553-012C, H23010553-013C, H23010553-014C, H23010553-015C</b>											



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R182043

**Date:** 23-Feb-23

Run ID :Run Order: <b>ICPMS205-H_230202A: 12</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>02/02/23 14:18</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
<b>Analytes 2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.305	0.010	0.3	0	102	90	110				
Zinc	0.0629	0.010	0.06	0	105	90	110				

Associated samples: **H23010553-009B, H23010553-010B**

Run ID :Run Order: <b>ICPMS205-H_230202A: 22</b>	SampType: <b>Method Blank</b>				Lab ID: <b>LRB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>02/02/23 15:12</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
<b>Analytes 2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.0003									
Zinc	ND	0.001									

Associated samples: **H23010553-009B, H23010553-010B**

Run ID :Run Order: <b>ICPMS205-H_230202A: 23</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>02/02/23 15:14</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
<b>Analytes 2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.0488	0.010	0.05	0	98	85	115				
Zinc	0.0516	0.010	0.05	0	103	85	115				

Associated samples: **H23010553-009B, H23010553-010B**

Run ID :Run Order: <b>ICPMS205-H_230202A: 37</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>02/02/23 15:49</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
<b>Analytes 2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.0492	0.010	0.05	0	98	90	110				
Zinc	0.0514	0.010	0.05	0	103	90	110				

Associated samples: **H23010553-009B, H23010553-010B**

Run ID :Run Order: <b>ICPMS205-H_230202A: 47</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23010553-009BMS</b>			Method: <b>E200.8</b>			
Analysis Date: <b>02/02/23 16:14</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
<b>Analytes 2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.0512	0.0010	0.05	0	102	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R182043

**Date:** 23-Feb-23

Run ID :Run Order: <b>ICPMS205-H_230202A: 47</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23010553-009BMS</b>			Method: <b>E200.8</b>			
Analysis Date: <b>02/02/23 16:14</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.0549	0.010	0.05	0	<b>110</b>	70	130				

Associated samples: **H23010553-009B, H23010553-010B**

Run ID :Run Order: <b>ICPMS205-H_230202A: 48</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23010553-009BMSD</b>			Method: <b>E200.8</b>			
Analysis Date: <b>02/02/23 16:16</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.0505	0.0010	0.05	0	<b>101</b>	70	130	0.05123	<b>1.5</b>	20	
Zinc	0.0526	0.010	0.05	0	<b>105</b>	70	130	0.05494	<b>4.4</b>	20	

Associated samples: **H23010553-009B, H23010553-010B**





## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R182395

**Date:** 23-Feb-23

Run ID :Run Order: <b>ICPMS205-H_230217D: 22</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>02/17/23 15:01</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <span style="color: red;">9</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0585	0.010	0.06	0	98	90	110				
Gallium	0.0584	0.010	0.06	0	97	90	110				
Lanthanum	0.0580	0.010	0.06	0	97	90	110				
Neodymium	0.0589	0.0050	0.06	0	98	90	110				
Niobium	0.0605	0.0010	0.06	0	101	90	110				
Palladium	0.0588	0.010	0.06	0	98	90	110				
Praseodymium	0.0588	0.0010	0.06	0	98	90	110				
Rubidium	0.0585	0.010	0.06	0	97	90	110				
Tungsten	0.0576	0.10	0.06	0	96	90	110				

Associated samples: **H23010553-007B**

Run ID :Run Order: <b>ICPMS205-H_230217D: 28</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>02/17/23 15:22</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <span style="color: red;">9</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0520	0.010	0.05	0	104	90	110				
Gallium	0.0520	0.010	0.05	0	104	90	110				
Lanthanum	0.0516	0.010	0.05	0	103	90	110				
Neodymium	0.0522	0.0050	0.05	0	104	90	110				
Niobium	0.0515	0.0010	0.05	0	103	90	110				
Palladium	0.0521	0.010	0.05	0	104	90	110				
Praseodymium	0.0518	0.0010	0.05	0	104	90	110				
Rubidium	0.0521	0.010	0.05	0	104	90	110				
Tungsten	0.0519	0.10	0.05	0	104	90	110				

Associated samples: **H23010553-007B**

Run ID :Run Order: <b>ICPMS205-H_230217D: 30</b>		SampType: <b>Method Blank</b>			Lab ID: <b>LRB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>02/17/23 15:29</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <span style="color: red;">9</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	ND	0.0002									
Gallium	ND	0.00009									
Lanthanum	ND	0.0001									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R182395

**Date:** 23-Feb-23

Run ID :Run Order: <b>ICPMS205-H_230217D: 30</b>		SampType: <b>Method Blank</b>			Lab ID: <b>LRB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>02/17/23 15:29</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <span style="color: red;">9</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Neodymium	ND	0.00009									
Niobium	ND	0.0003									
Palladium	ND	0.0002									
Praseodymium	ND	0.0001									
Rubidium	ND	0.00007									
Tungsten	ND	0.0001									

Associated samples: **H23010553-007B**

Run ID :Run Order: <b>ICPMS205-H_230217D: 31</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>02/17/23 15:33</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <span style="color: red;">9</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0499	0.010	0.05	0	100	85	115				
Gallium	0.0503	0.010	0.05	0	101	85	115				
Lanthanum	0.0495	0.010	0.05	0	99	85	115				
Neodymium	0.0502	0.0050	0.05	0	100	85	115				
Niobium	0.0498	0.0010	0.05	0	100	85	115				
Palladium	0.0496	0.010	0.05	0	99	85	115				
Praseodymium	0.0498	0.0010	0.05	0	100	85	115				
Rubidium	0.0505	0.010	0.05	0	101	85	115				
Tungsten	0.0448	0.10	0.05	0	90	85	115				

Associated samples: **H23010553-007B**

Run ID :Run Order: <b>ICPMS205-H_230217D: 41</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23010553-007BMS</b>			Method: <b>E200.8</b>			
Analysis Date: <b>02/17/23 16:10</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <span style="color: red;">9</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0500	0.010	0.05	0	100	70	130				
Gallium	0.0501	0.010	0.05	0	100	70	130				
Lanthanum	0.0493	0.010	0.05	0	99	70	130				
Neodymium	0.0500	0.0050	0.05	0	100	70	130				
Niobium	0.0479	0.0010	0.05	0	96	70	130				
Palladium	0.0487	0.010	0.05	0	97	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R182395

**Date:** 23-Feb-23

Run ID :Run Order: <b>ICPMS205-H_230217D: 41</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23010553-007BMS</b>			Method: <b>E200.8</b>			
Analysis Date: <b>02/17/23 16:10</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <span style="color: red;">9</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Praseodymium	0.0498	0.0010	0.05	0	100	70	130				
Rubidium	0.0501	0.010	0.05	0	100	70	130				
Tungsten	0.0428	0.10	0.05	0	86	70	130				

Associated samples: **H23010553-007B**

Run ID :Run Order: <b>ICPMS205-H_230217D: 42</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23010553-007BMSD</b>			Method: <b>E200.8</b>			
Analysis Date: <b>02/17/23 16:13</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <span style="color: red;">9</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0497	0.010	0.05	0	99	70	130	0.05001	0.6	20	
Gallium	0.0504	0.010	0.05	0	101	70	130	0.05013	0.5	20	
Lanthanum	0.0490	0.010	0.05	0	98	70	130	0.04926	0.4	20	
Neodymium	0.0497	0.0050	0.05	0	99	70	130	0.05	0.5	20	
Niobium	0.0477	0.0010	0.05	0	95	70	130	0.04792			
Palladium	0.0487	0.010	0.05	0	97	70	130	0.04874	0.1	20	
Praseodymium	0.0494	0.0010	0.05	0	99	70	130	0.04982			
Rubidium	0.0500	0.010	0.05	0	100	70	130	0.05014	0.4	20	
Tungsten	0.0424	0.10	0.05	0	85	70	130	0.04278			20

Associated samples: **H23010553-007B**

Run ID :Run Order: <b>ICPMS205-H_230217D: 48</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>02/17/23 16:26</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <span style="color: red;">9</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0506	0.010	0.05	0	101	90	110				
Gallium	0.0506	0.010	0.05	0	101	90	110				
Lanthanum	0.0500	0.010	0.05	0	100	90	110				
Neodymium	0.0504	0.0050	0.05	0	101	90	110				
Niobium	0.0497	0.0010	0.05	0	99	90	110				
Palladium	0.0506	0.010	0.05	0	101	90	110				
Praseodymium	0.0500	0.0010	0.05	0	100	90	110				
Rubidium	0.0505	0.010	0.05	0	101	90	110				
Tungsten	0.0500	0.10	0.05	0	100	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R182395

**Date:** 23-Feb-23

Run ID :Run Order: <b>ICPMS205-H_230217D: 48</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E200.8</b>								
Analysis Date: <b>02/17/23 16:26</b>	Units: <b>mg/L</b>	<b>Prep Info:</b> Prep Date:	Prep Method:								
Analytes <b>9</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H23010553-007B**

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R182420

**Date:** 23-Feb-23

Run ID :Run Order: <b>ICPMS205-H_230221C: 12</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E200.8</b>		
Analysis Date: <b>02/21/23 13:42</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:		
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Zirconium		0.0578	0.0050	0.06	0	96	90	110		

Associated samples: **H23010553-007B**

Run ID :Run Order: <b>ICPMS205-H_230221C: 18</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E200.8</b>		
Analysis Date: <b>02/21/23 14:47</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:		
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Zirconium		0.0515	0.0050	0.05	0	103	90	110		

Associated samples: **H23010553-007B**

Run ID :Run Order: <b>ICPMS205-H_230221C: 20</b>		SampType: <b>Method Blank</b>			Lab ID: <b>LRB</b>			Method: <b>E200.8</b>		
Analysis Date: <b>02/21/23 14:59</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:		
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Zirconium		ND	0.0003							

Associated samples: **H23010553-007B**

Run ID :Run Order: <b>ICPMS205-H_230221C: 21</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E200.8</b>		
Analysis Date: <b>02/21/23 15:01</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:		
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Zirconium		0.0491	0.0050	0.05	0	98	85	115		

Associated samples: **H23010553-007B**

Run ID :Run Order: <b>ICPMS205-H_230221C: 30</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23010553-007BMS</b>			Method: <b>E200.8</b>		
Analysis Date: <b>02/21/23 15:14</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:		
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Zirconium		0.0466	0.0050	0.05	0	93	70	130		

Associated samples: **H23010553-007B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
Page 116 of 121



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** R182420

**Date:** 23-Feb-23

Run ID :Run Order: <b>ICPMS205-H_230221C: 31</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23010553-007BMSD</b>	Method: <b>E200.8</b>								
Analysis Date: <b>02/21/23 15:16</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zirconium	0.0482	0.0050	0.05	0	<b>96</b>	70	130	0.04657	<b>3.5</b>	20	

Associated samples: **H23010553-007B**

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23010553

**BatchID:** TDS230127A

**Date:** 23-Feb-23

Run ID :Run Order: <b>ACCU-124 (14410200)_230127A: 1</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MB-1_230127</b>	Method: <b>A2540 C</b>
Analysis Date: <b>01/27/23 14:54</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
		LowLimit	HighLimit
		RPD Ref Val	%RPD
		RPDLimit	Qual

Associated samples: **H23010553-001A, H23010553-002A, H23010553-003A, H23010553-004A, H23010553-005A, H23010553-006A, H23010553-007A, H23010553-008A, H23010553-009A, H23010553-010A, H23010553-011A, H23010553-012A, H23010553-013A, H23010553-014A, H23010553-015A**

Run ID :Run Order: <b>ACCU-124 (14410200)_230127A: 2</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS-2_230127</b>	Method: <b>A2540 C</b>
Analysis Date: <b>01/27/23 14:55</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
		LowLimit	HighLimit
		RPD Ref Val	%RPD
		RPDLimit	Qual

Associated samples: **H23010553-001A, H23010553-002A, H23010553-003A, H23010553-004A, H23010553-005A, H23010553-006A, H23010553-007A, H23010553-008A, H23010553-009A, H23010553-010A, H23010553-011A, H23010553-012A, H23010553-013A, H23010553-014A, H23010553-015A**

Run ID :Run Order: <b>ACCU-124 (14410200)_230127A: 4</b>	SampType: <b>Sample Duplicate</b>	Lab ID: <b>H23010553-001A DUP</b>	Method: <b>A2540 C</b>
Analysis Date: <b>01/27/23 14:55</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
		LowLimit	HighLimit
		RPD Ref Val	%RPD
		RPDLimit	Qual

Associated samples: **H23010553-001A, H23010553-002A, H23010553-003A, H23010553-004A, H23010553-005A, H23010553-006A, H23010553-007A, H23010553-008A, H23010553-009A, H23010553-010A, H23010553-011A, H23010553-012A, H23010553-013A, H23010553-014A, H23010553-015A**





# Work Order Receipt Checklist

MT Dept of Justice

H23010553

Login completed by: Wanda Johnson

Date Received: 1/26/2023

Reviewed by: tjones

Received by: rrs

Reviewed Date: 1/27/2023

Carrier name: Hand Deliver

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	2.9°C On Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

## Contact and Corrective Action Comments:

The temperature of the sample(s) for shipping container 1 was 0.0°C, shipping container 2 was 2.9°C and shipping container 3 was 1.4°C. wjj 1/26/2023



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### Chain of Custody (COC) & Analytical Request Record

Lab Workorder #: *H23010553*

#### Project Information

Client: MT Dept of Justice  
 Project: NRDP M02 T08  
 Purchase Order:  
 Contact/Phone: Jim Ford (406) 444-4034/M: (406) 439-2108

#### Laboratory Use

Quote: 2187  
 BO#: 43088  
 EE#: 5527  
 Turn-Around Time: Standard  
 Critical Hold Time: 48 Hours  
 # of Samples: 11  
 Matrix: Surface Water



Comments: *C1-0.0*  
*C2-2.9*  
*C3-1.4*  
 On Ice:  Y  N  
 Temp Blank:  Y  N  
*no seal handed*

#### Analysis Requested

Hold Time (Days)	14	N/A	28	28	Fld	7	180	14	180	28	2	28	179	180
# of Containers														
Matrix														
RUSH TAT														
Alkalinity to pH 4.5 (A2320 B)														
Anion - Cation Balance (A1030 E)														
Conductivity (A2510 B)														
Anions by Ion Chromatography (E300.0)														
pH (A4500-H B)														
Solids, Total Dissolved (A2540 C)														
Rare Earth Metals, Dissolved (E200.7_8)														
Metals by ICP/ICPMS, Dissolved (E200.7_8)														
Hardness (A2340 B)														
Nitrogen, Nitrate + Nitrite (E353.2)														
Carbon, Dissolved Organic (A5310 C)														
Carbon, Total Organic (A5310 C)														
Rare Earth Metals, Total Recoverable (E200.7_8)														
Metals by ICP/ICPMS, Tot. Rec. (E200.7_8)														

Contact ELI prior to RUSH sample submittal for charges, availability & scheduling. Samples submitted may be subcontracted to other laboratories to complete the test(s) requested; this will be clearly noted on the analytical report.

Sample Identification	Collection Date/Time	# of Containers	Matrix	RUSH TAT	Alkalinity to pH 4.5 (A2320 B)	Anion - Cation Balance (A1030 E)	Conductivity (A2510 B)	Anions by Ion Chromatography (E300.0)	pH (A4500-H B)	Solids, Total Dissolved (A2540 C)	Rare Earth Metals, Dissolved (E200.7_8)	Metals by ICP/ICPMS, Dissolved (E200.7_8)	Hardness (A2340 B)	Nitrogen, Nitrate + Nitrite (E353.2)	Carbon, Dissolved Organic (A5310 C)	Carbon, Total Organic (A5310 C)	Rare Earth Metals, Total Recoverable (E200.7_8)	Metals by ICP/ICPMS, Tot. Rec. (E200.7_8)	
<del>FMP-12</del> <i>no sample</i>		6	W		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2 SS-04	<i>1/25/23 1245</i>	6	W		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
3 MSDSG-05	<i>1315</i>	6	W		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
4 MSDSG-03	<i>1245</i>	6	W		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
5 MSDSG-02	<i>1325</i>	6	W		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
6 DUP-5	<i>1350</i>	6	W		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
7 FB-5	<i>1355</i>	6	W		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
8 EB-5	<i>1400</i>	6	W		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
9 MH-MSD108		6	W		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
10 MH-MSD113		6	W		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
11 MH-MSD116		6	W		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

*C3*  
*C3*  
*C3*  
*C3*  
*C3*  
*C2*  
*C2*

*IN SHIPMENT #1*

Custody Record MUST be signed

Lab provided preservatives were used  Yes  No

Sampler Name (if different than Relinquished by): *John Brascock* Sampler Phone: *406-990-9578*

Relinquished by (print): <i>Rachel Brasnow</i>	Date/Time: <i>1/26/23 1515</i>	Signature: <i>[Signature]</i>	Received by (print):	Date/Time:	Signature:
Relinquished by (print):	Date/Time:	Signature:	Received by Laboratory (print): <i>R. SPONHOLZ</i>	Date/Time: <i>012623 1515</i>	Signature: <i>[Signature]</i>

Date Printed: 01/06/2023

EE-HE 5527

COC: Page 1 of 1





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### Chain of Custody (COC) & Analytical Request Record

Client: MT Dept of Justice

NRDPM02 T08

Lab Workorder #: *1423010553*

Comments: C1-0.0 C2-2.9 C3-1.4 On Ice: <input checked="" type="checkbox"/> N Temp Blank: <input checked="" type="checkbox"/> N <i>no seal handed</i>			Analysis Requested														
			Hold Time (Days)	14	N/A	28	28	Fld	7	180	14	180	28	2	28		
Sample Identification		Collection Date/Time	# of Containers	Matrix	RUSH TAT	Alkalinity to pH 4.5 (A2320 B)	Anion - Cation Balance (A1030 E)	Conductivity (A2510 B)	Anions by Ion Chromatography (E300.0)	pH (A4500-H B)	Solids, Total Dissolved (A2540 C)	Rare Earth Metals, Dissolved (E200.7 B)	Metals by ICP/ICPMS, Dissolved (E200.7_8)	Hardness (A2340 B)	Nitrogen, Nitrate + Nitrite (E353.2)	Carbon, Dissolved Organic (A5310 C)	Carbon, Total Organic (A5310 C)
36	IDW-OUTFALL <i>NO SAMPLE</i>		5	W		X	X	X	X	X	X	X	X	X	X	X	X
37	DUP-4	<i>1/25/23 1527</i>	5	W		X	X	X	X	X	X	X	X	X	X	X	X
38	FB-4	<i>0800</i>	5	W		X	X	X	X	X	X	X	X	X	X	X	X
39	EB-4	<i>0805</i>	5	W		X	X	X	X	X	X	X	X	X	X	X	X
40																	
41	<i>Imp-03A</i>	<i>1/26/23 1250</i>	5	W		X	X	X	X	X	X	X	X	X	X	X	X
42	<i>AMW-01C</i>	<i>1/26/23 1141</i>	5	V		X	X	X	X	X	X	X	X	X	X	X	X
43	<i>AMW-01B</i>	<i>1/25/23 1526</i>	5	W		X	X	X	X	X	X	X	X	X	X	X	X
44	<i>BPS 07-11A</i>	<i>1239</i>	5	W		X	X	X	X	X	X	X	X	X	X	X	X
45	<i>BPS 07-11B</i>	<i>1258</i>	5	W		X	X	X	X	X	X	X	X	X	X	X	X
46																	
47																	
48																	
49																	
50																	
51																	

Custody Record MUST be signed	Lab provided preservatives were used <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Sampler Name (if different than Relinquished by): <i>John Basrow</i>			Sampler Phone: <i>406-490-4570</i>		
	Relinquished by (print) <i>Rachel Basrow</i>	Date/Time <i>1/26/23 1515</i>	Signature <i>REB</i>	Received by (print)		Date/Time	Signature	
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print) <i>R SPONHOLZ</i>		Date/Time <i>012623 1515</i>	Signature <i>[Signature]</i>	



# ANALYTICAL SUMMARY REPORT

May 26, 2023

MT Dept of Justice  
Natural Resource Damage Program  
Helena, MT 59620-1425

Work Order: H23050305      Quote ID: H2187  
Project Name: NRDPM16 TO2-Task 001

Energy Laboratories Inc Helena MT received the following 25 samples for MT Dept of Justice on 5/10/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H23050305-001	GS-29SR	05/08/23 14:11	05/10/23	Groundwater	Rare Earth Metals, Dissolved Metals by ICP/ICPMS, Dissolved Alkalinity to pH 4.5 Anion - Cation Balance Carbon, Dissolved Organic Conductivity Carbon, Total Organic Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Solids, Total Dissolved
H23050305-002	BPS11-11A1	05/08/23 14:20	05/10/23	Groundwater	Same As Above
H23050305-003	DUP-2	05/08/23 14:25	05/10/23	Groundwater	Same As Above
H23050305-004	EB-2	05/08/23 14:45	05/10/23	Groundwater	Same As Above
H23050305-005	PMP-11A	05/08/23 14:48	05/10/23	Groundwater	Same As Above
H23050305-006	FB-2	05/08/23 15:00	05/10/23	Groundwater	Same As Above
H23050305-007	AMW-13B	05/08/23 15:23	05/10/23	Groundwater	Same As Above
H23050305-008	BPS11-11A2	05/08/23 15:25	05/10/23	Groundwater	Same As Above
H23050305-009	AMW-13B2	05/08/23 15:51	05/10/23	Groundwater	Same As Above
H23050305-010	BPS11-11B	05/08/23 16:12	05/10/23	Groundwater	Same As Above
H23050305-011	AMW-13C	05/08/23 16:19	05/10/23	Groundwater	Same As Above
H23050305-012	PMP-09A	05/09/23 11:21	05/10/23	Groundwater	Same As Above
H23050305-013	BPS07-23	05/09/23 11:31	05/10/23	Groundwater	Same As Above
H23050305-014	BPS11-11C	05/09/23 11:32	05/10/23	Groundwater	Same As Above
H23050305-015	PMP-08A2	05/09/23 11:57	05/10/23	Groundwater	Same As Above
H23050305-016	BPS11-10A	05/09/23 14:29	05/10/23	Groundwater	Same As Above
H23050305-017	BPS07-07	05/09/23 14:37	05/10/23	Groundwater	Same As Above
H23050305-018	DUP-1	05/09/23 14:39	05/10/23	Groundwater	Same As Above
H23050305-019	FB-1	05/09/23 14:45	05/10/23	Groundwater	Same As Above
H23050305-020	PMP-08B	05/09/23 14:47	05/10/23	Groundwater	Same As Above
H23050305-021	BPS11-10B	05/09/23 15:25	05/10/23	Groundwater	Same As Above

## ANALYTICAL SUMMARY REPORT


H23050305-022	BPS11-10C	05/09/23 16:17	05/10/23	Groundwater	Same As Above
H23050305-023	PMP-10A	05/09/23 16:20	05/10/23	Groundwater	Same As Above
H23050305-024	BPS07-07B	05/09/23 16:24	05/10/23	Groundwater	Same As Above
H23050305-025	PMP-10B	05/09/23 16:48	05/10/23	Groundwater	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:



Digitally signed by  
Jessica C. Smith  
Date: 2023.05.26 13:06:06 -06:00



**CLIENT:** MT Dept of Justice  
**Project:** NRDPM16 TO2-Task 001  
**Work Order:** H23050305

**Report Date:** 05/26/23

## **CASE NARRATIVE**

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Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002.





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-29SR  
**Lab ID:** H23050305-001  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 14:11 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.1	s.u.	H	0.1		A4500-H B	05/11/23 09:06 / ams		PHSC_101-H_230511A : 19		R184429
pH Measurement Temp	11.3	°C				A4500-H B	05/11/23 09:06 / ams		PHSC_101-H_230511A : 19		R184429
Conductivity @ 25 C	459	umhos/cm		5		A2510 B	05/11/23 09:06 / ams		PHSC_101-H_230511A : 20		R184429
Solids, Total Dissolved TDS @ 180 C	280	mg/L		20		A2540 C	05/11/23 11:51 / ams		-124 (14410200)_230511A : 8		TDS230511A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	100	mg/L		4		A2320 B	05/11/23 16:33 / ams		PHSC_101-H_230511A : 151		R184429
Bicarbonate as HCO3	120	mg/L		4		A2320 B	05/11/23 16:33 / ams		PHSC_101-H_230511A : 151		R184429
Carbonate as CO3	ND	mg/L		4		A2320 B	05/11/23 16:33 / ams		PHSC_101-H_230511A : 151		R184429
Chloride	21	mg/L		1		E300.0	05/12/23 01:29 / ljs		IC METROHM_230511A : 58		R184473
Sulfate	72	mg/L		1		E300.0	05/12/23 01:29 / ljs		IC METROHM_230511A : 58		R184473
Bromide	ND	mg/L		0.5		E300.0	05/12/23 01:29 / ljs		IC METROHM_230511A : 58		R184473
Fluoride	1.4	mg/L		0.1		E300.0	05/12/23 01:29 / ljs		IC METROHM_230511A : 58		R184473
Hardness as CaCO3	142	mg/L		1		A2340 B	05/11/23 14:05 / SR		CALC_230517A : 300		R184598
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.7	mg/L		0.5		A5310 C	05/12/23 22:12 / eli-c		SUB-C294513 : 32		C_R294513
Organic Carbon, Total (TOC)	0.7	mg/L		0.5		A5310 C	05/12/23 12:41 / eli-c		SUB-C294513 : 4		C_R294513
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	2.24	mg/L		0.02		E353.2	05/17/23 15:04 / JAR		FIA203-HE_230517A : 57		R184632
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/11/23 17:24 / dck		ICPMS205-H_230511A : 115		R184444
Antimony	ND	mg/L		0.0005		E200.8	05/11/23 17:24 / dck		ICPMS205-H_230511A : 115		R184444
Arsenic	0.003	mg/L		0.001		E200.8	05/11/23 17:24 / dck		ICPMS205-H_230511A : 115		R184444
Barium	0.043	mg/L		0.003		E200.8	05/11/23 17:24 / dck		ICPMS205-H_230511A : 115		R184444
Beryllium	ND	mg/L		0.0008		E200.8	05/11/23 17:24 / dck		ICPMS205-H_230511A : 115		R184444
Boron	0.05	mg/L		0.05		E200.8	05/11/23 17:24 / dck		ICPMS205-H_230511A : 115		R184444
Cadmium	0.00458	mg/L		0.00003		E200.8	05/11/23 17:24 / dck		ICPMS205-H_230511A : 115		R184444
Cesium	ND	mg/L		0.01		E200.8	05/11/23 17:41 / dck		ICPMS206-H_230511C : 30		R184474

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-29SR  
**Lab ID:** H23050305-001  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 14:11 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	42	mg/L		1		E200.7	05/11/23 14:05 / slj		ICP2-HE_230511A : 65		R184450
Chromium	ND	mg/L		0.005		E200.8	05/11/23 17:24 / dck		ICPMS205-H_230511A : 115		R184444
Cobalt	ND	mg/L		0.005		E200.8	05/11/23 17:24 / dck		ICPMS205-H_230511A : 115		R184444
Copper	0.239	mg/L		0.002		E200.8	05/11/23 17:24 / dck		ICPMS205-H_230511A : 115		R184444
Gallium	ND	mg/L		0.01		E200.8	05/11/23 17:41 / dck		ICPMS206-H_230511C : 30		R184474
Iron	ND	mg/L		0.02		E200.8	05/11/23 17:24 / dck		ICPMS205-H_230511A : 115		R184444
Lead	ND	mg/L		0.0003		E200.8	05/11/23 17:24 / dck		ICPMS205-H_230511A : 115		R184444
Lanthanum	ND	mg/L		0.01		E200.8	05/11/23 17:41 / dck		ICPMS206-H_230511C : 30		R184474
Lithium	ND	mg/L		0.1		E200.7	05/11/23 14:05 / slj		ICP2-HE_230511A : 65		R184450
Magnesium	9	mg/L		1		E200.7	05/11/23 14:05 / slj		ICP2-HE_230511A : 65		R184450
Neodymium	ND	mg/L		0.005		E200.8	05/11/23 17:41 / dck		ICPMS206-H_230511C : 30		R184474
Niobium	ND	mg/L		0.01		E200.8	05/11/23 17:41 / dck		ICPMS206-H_230511C : 30		R184474
Manganese	0.031	mg/L		0.001		E200.8	05/11/23 17:24 / dck		ICPMS205-H_230511A : 115		R184444
Molybdenum	0.012	mg/L		0.001		E200.8	05/11/23 17:24 / dck		ICPMS205-H_230511A : 115		R184444
Nickel	ND	mg/L		0.002		E200.8	05/11/23 17:24 / dck		ICPMS205-H_230511A : 115		R184444
Palladium	ND	mg/L		0.01		E200.8	05/11/23 17:41 / dck		ICPMS206-H_230511C : 30		R184474
Praseodymium	ND	mg/L		0.01		E200.8	05/11/23 17:41 / dck		ICPMS206-H_230511C : 30		R184474
Rubidium	ND	mg/L		0.01		E200.8	05/11/23 17:41 / dck		ICPMS206-H_230511C : 30		R184474
Potassium	4	mg/L		1		E200.7	05/11/23 14:05 / slj		ICP2-HE_230511A : 65		R184450
Selenium	ND	mg/L		0.001		E200.8	05/11/23 17:24 / dck		ICPMS205-H_230511A : 115		R184444
Silver	ND	mg/L		0.0002		E200.8	05/11/23 17:24 / dck		ICPMS205-H_230511A : 115		R184444
Sodium	31	mg/L		1		E200.7	05/11/23 14:05 / slj		ICP2-HE_230511A : 65		R184450
Strontium	0.31	mg/L		0.01		E200.8	05/11/23 17:24 / dck		ICPMS205-H_230511A : 115		R184444
Thallium	ND	mg/L		0.0002		E200.8	05/11/23 17:24 / dck		ICPMS205-H_230511A : 115		R184444
Thorium	ND	mg/L		0.005		E200.8	05/11/23 17:41 / dck		ICPMS206-H_230511C : 97		R184474
Tin	ND	mg/L		0.05		E200.8	05/11/23 17:24 / dck		ICPMS205-H_230511A : 115		R184444
Titanium	ND	mg/L		0.005		E200.8	05/11/23 17:24 / dck		ICPMS205-H_230511A : 115		R184444
Tungsten	ND	mg/L		0.1		E200.8	05/11/23 17:41 / dck		ICPMS206-H_230511C : 30		R184474
Uranium	0.0082	mg/L		0.0002		E200.8	05/11/23 17:24 / dck		ICPMS205-H_230511A : 115		R184444
Vanadium	ND	mg/L		0.01		E200.8	05/11/23 17:24 / dck		ICPMS205-H_230511A : 115		R184444
Zinc	1.07	mg/L		0.008		E200.7	05/11/23 14:05 / slj		ICP2-HE_230511A : 65		R184450
Zirconium	ND	mg/L		0.005		E200.8	05/11/23 17:41 / dck		ICPMS206-H_230511C : 30		R184474

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-29SR  
**Lab ID:** H23050305-001  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 14:11      **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	0.99	%				A1030 E	05/17/23 10:36 / SR		CALC_230517A : 298		R184598

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11A1  
**Lab ID:** H23050305-002  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 14:20 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.1	s.u.	H	0.1		A4500-H B	05/11/23 09:08 / ams		PHSC_101-H_230511A : 21		R184429
pH Measurement Temp	11.4	°C				A4500-H B	05/11/23 09:08 / ams		PHSC_101-H_230511A : 21		R184429
Conductivity @ 25 C	440	umhos/cm		5		A2510 B	05/11/23 09:08 / ams		PHSC_101-H_230511A : 22		R184429
Solids, Total Dissolved TDS @ 180 C	268	mg/L		20		A2540 C	05/11/23 11:52 / ams		-124 (14410200)_230511A : 9		TDS230511A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	97	mg/L		4		A2320 B	05/11/23 16:40 / ams		PHSC_101-H_230511A : 153		R184429
Bicarbonate as HCO3	120	mg/L		4		A2320 B	05/11/23 16:40 / ams		PHSC_101-H_230511A : 153		R184429
Carbonate as CO3	ND	mg/L		4		A2320 B	05/11/23 16:40 / ams		PHSC_101-H_230511A : 153		R184429
Chloride	25	mg/L		1		E300.0	05/12/23 02:12 / ljs		IC METROHM_230511A : 61		R184473
Sulfate	69	mg/L		1		E300.0	05/12/23 02:12 / ljs		IC METROHM_230511A : 61		R184473
Bromide	ND	mg/L		0.5		E300.0	05/12/23 02:12 / ljs		IC METROHM_230511A : 61		R184473
Fluoride	0.5	mg/L		0.1		E300.0	05/12/23 02:12 / ljs		IC METROHM_230511A : 61		R184473
Hardness as CaCO3	157	mg/L		1		A2340 B	05/11/23 14:27 / SR		CALC_230517A : 311		R184598
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.1	mg/L		0.5		A5310 C	05/12/23 23:05 / eli-c		SUB-C294513 : 35		C_R294513
Organic Carbon, Total (TOC)	1.1	mg/L		0.5		A5310 C	05/12/23 13:34 / eli-c		SUB-C294513 : 7		C_R294513
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	1.45	mg/L		0.02		E353.2	05/17/23 15:06 / JAR		FIA203-HE_230517A : 58		R184632
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/11/23 17:27 / dck		ICPMS205-H_230511A : 116		R184444
Antimony	ND	mg/L		0.0005		E200.8	05/11/23 17:27 / dck		ICPMS205-H_230511A : 116		R184444
Arsenic	0.002	mg/L		0.001		E200.8	05/11/23 17:27 / dck		ICPMS205-H_230511A : 116		R184444
Barium	0.021	mg/L		0.003		E200.8	05/11/23 17:27 / dck		ICPMS205-H_230511A : 116		R184444
Beryllium	ND	mg/L		0.0008		E200.8	05/11/23 17:27 / dck		ICPMS205-H_230511A : 116		R184444
Boron	0.05	mg/L		0.05		E200.8	05/11/23 17:27 / dck		ICPMS205-H_230511A : 116		R184444
Cadmium	0.00088	mg/L		0.00003		E200.8	05/11/23 17:27 / dck		ICPMS205-H_230511A : 116		R184444
Cesium	ND	mg/L		0.01		E200.8	05/11/23 17:43 / dck		ICPMS206-H_230511C : 31		R184474

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11A1  
**Lab ID:** H23050305-002  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 14:20 **DateReceived:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	46	mg/L		1		E200.7	05/11/23 14:27 / slj		ICP2-HE_230511A : 71		R184450
Chromium	ND	mg/L		0.005		E200.8	05/11/23 17:27 / dck		ICPMS205-H_230511A : 116		R184444
Cobalt	ND	mg/L		0.005		E200.8	05/11/23 17:27 / dck		ICPMS205-H_230511A : 116		R184444
Copper	ND	mg/L		0.002		E200.8	05/11/23 17:27 / dck		ICPMS205-H_230511A : 116		R184444
Gallium	ND	mg/L		0.01		E200.8	05/11/23 17:43 / dck		ICPMS206-H_230511C : 31		R184474
Iron	ND	mg/L		0.02		E200.8	05/11/23 17:27 / dck		ICPMS205-H_230511A : 116		R184444
Lead	ND	mg/L		0.0003		E200.8	05/11/23 17:27 / dck		ICPMS205-H_230511A : 116		R184444
Lanthanum	ND	mg/L		0.01		E200.8	05/11/23 17:43 / dck		ICPMS206-H_230511C : 31		R184474
Lithium	ND	mg/L		0.1		E200.7	05/11/23 14:27 / slj		ICP2-HE_230511A : 71		R184450
Magnesium	10	mg/L		1		E200.7	05/11/23 14:27 / slj		ICP2-HE_230511A : 71		R184450
Neodymium	ND	mg/L		0.005		E200.8	05/11/23 17:43 / dck		ICPMS206-H_230511C : 31		R184474
Niobium	ND	mg/L		0.01		E200.8	05/11/23 17:43 / dck		ICPMS206-H_230511C : 31		R184474
Manganese	0.134	mg/L		0.001		E200.8	05/11/23 17:27 / dck		ICPMS205-H_230511A : 116		R184444
Molybdenum	0.014	mg/L		0.001		E200.8	05/11/23 17:27 / dck		ICPMS205-H_230511A : 116		R184444
Nickel	ND	mg/L		0.002		E200.8	05/11/23 17:27 / dck		ICPMS205-H_230511A : 116		R184444
Palladium	ND	mg/L		0.01		E200.8	05/11/23 17:43 / dck		ICPMS206-H_230511C : 31		R184474
Praseodymium	ND	mg/L		0.01		E200.8	05/11/23 17:43 / dck		ICPMS206-H_230511C : 31		R184474
Rubidium	ND	mg/L		0.01		E200.8	05/11/23 17:43 / dck		ICPMS206-H_230511C : 31		R184474
Potassium	4	mg/L		1		E200.7	05/11/23 14:27 / slj		ICP2-HE_230511A : 71		R184450
Selenium	ND	mg/L		0.001		E200.8	05/11/23 17:27 / dck		ICPMS205-H_230511A : 116		R184444
Silver	ND	mg/L		0.0002		E200.8	05/11/23 17:27 / dck		ICPMS205-H_230511A : 116		R184444
Sodium	19	mg/L		1		E200.7	05/11/23 14:27 / slj		ICP2-HE_230511A : 71		R184450
Strontium	0.27	mg/L		0.01		E200.8	05/11/23 17:27 / dck		ICPMS205-H_230511A : 116		R184444
Thallium	ND	mg/L		0.0002		E200.8	05/11/23 17:27 / dck		ICPMS205-H_230511A : 116		R184444
Thorium	ND	mg/L		0.005		E200.8	05/11/23 17:43 / dck		ICPMS206-H_230511C : 98		R184474
Tin	ND	mg/L		0.05		E200.8	05/11/23 17:27 / dck		ICPMS205-H_230511A : 116		R184444
Titanium	ND	mg/L		0.005		E200.8	05/11/23 17:27 / dck		ICPMS205-H_230511A : 116		R184444
Tungsten	ND	mg/L		0.1		E200.8	05/11/23 17:43 / dck		ICPMS206-H_230511C : 31		R184474
Uranium	0.0041	mg/L		0.0002		E200.8	05/11/23 17:27 / dck		ICPMS205-H_230511A : 116		R184444
Vanadium	ND	mg/L		0.01		E200.8	05/11/23 17:27 / dck		ICPMS205-H_230511A : 116		R184444
Zinc	0.079	mg/L		0.008		E200.8	05/11/23 17:27 / dck		ICPMS205-H_230511A : 116		R184444
Zirconium	ND	mg/L		0.005		E200.8	05/11/23 17:43 / dck		ICPMS206-H_230511C : 31		R184474

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11A1  
**Lab ID:** H23050305-002  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 14:20    **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-0.38	%				A1030 E	05/17/23 10:36 / SR		CALC_230517A : 309		R184598

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-2  
**Lab ID:** H23050305-003  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 14:25 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.1	s.u.	H	0.1		A4500-H B	05/11/23 09:10 / ams		PHSC_101-H_230511A : 23		R184429
pH Measurement Temp	11.6	°C				A4500-H B	05/11/23 09:10 / ams		PHSC_101-H_230511A : 23		R184429
Conductivity @ 25 C	436	umhos/cm		5		A2510 B	05/11/23 09:10 / ams		PHSC_101-H_230511A : 24		R184429
Solids, Total Dissolved TDS @ 180 C	268	mg/L		20		A2540 C	05/11/23 11:52 / ams		I24 (14410200)_230511A : 10		TDS230511A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	94	mg/L		4		A2320 B	05/11/23 16:47 / ams		PHSC_101-H_230511A : 155		R184429
Bicarbonate as HCO3	110	mg/L		4		A2320 B	05/11/23 16:47 / ams		PHSC_101-H_230511A : 155		R184429
Carbonate as CO3	ND	mg/L		4		A2320 B	05/11/23 16:47 / ams		PHSC_101-H_230511A : 155		R184429
Chloride	24	mg/L		1		E300.0	05/12/23 02:27 / ljs		IC METROHM_230511A : 62		R184473
Sulfate	68	mg/L		1		E300.0	05/12/23 02:27 / ljs		IC METROHM_230511A : 62		R184473
Bromide	ND	mg/L		0.5		E300.0	05/12/23 02:27 / ljs		IC METROHM_230511A : 62		R184473
Fluoride	0.5	mg/L		0.1		E300.0	05/12/23 02:27 / ljs		IC METROHM_230511A : 62		R184473
Hardness as CaCO3	156	mg/L		1		A2340 B	05/11/23 14:30 / SR		CALC_230517A : 322		R184598
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.1	mg/L		0.5		A5310 C	05/12/23 23:21 / eli-c		SUB-C294513 : 36		C_R294513
Organic Carbon, Total (TOC)	1.1	mg/L		0.5		A5310 C	05/12/23 13:55 / eli-c		SUB-C294513 : 8		C_R294513
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	1.56	mg/L		0.02		E353.2	05/17/23 15:07 / JAR		FIA203-HE_230517A : 59		R184632
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/11/23 17:29 / dck		ICPMS205-H_230511A : 117		R184444
Antimony	ND	mg/L		0.0005		E200.8	05/11/23 17:29 / dck		ICPMS205-H_230511A : 117		R184444
Arsenic	0.002	mg/L		0.001		E200.8	05/11/23 17:29 / dck		ICPMS205-H_230511A : 117		R184444
Barium	0.021	mg/L		0.003		E200.8	05/11/23 17:29 / dck		ICPMS205-H_230511A : 117		R184444
Beryllium	ND	mg/L		0.0008		E200.8	05/11/23 17:29 / dck		ICPMS205-H_230511A : 117		R184444
Boron	0.06	mg/L		0.05		E200.8	05/11/23 17:29 / dck		ICPMS205-H_230511A : 117		R184444
Cadmium	0.00096	mg/L		0.00003		E200.8	05/11/23 17:29 / dck		ICPMS205-H_230511A : 117		R184444
Cesium	ND	mg/L		0.01		E200.8	05/11/23 17:45 / dck		ICPMS206-H_230511C : 32		R184474

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-2  
**Lab ID:** H23050305-003  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 14:25 **DateReceived:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	45	mg/L		1		E200.7	05/11/23 14:30 / slj		ICP2-HE_230511A : 72		R184450
Chromium	ND	mg/L		0.005		E200.8	05/11/23 17:29 / dck		ICPMS205-H_230511A : 117		R184444
Cobalt	ND	mg/L		0.005		E200.8	05/11/23 17:29 / dck		ICPMS205-H_230511A : 117		R184444
Copper	ND	mg/L		0.002		E200.8	05/11/23 17:29 / dck		ICPMS205-H_230511A : 117		R184444
Gallium	ND	mg/L		0.01		E200.8	05/11/23 17:45 / dck		ICPMS206-H_230511C : 32		R184474
Iron	ND	mg/L		0.02		E200.8	05/11/23 17:29 / dck		ICPMS205-H_230511A : 117		R184444
Lead	ND	mg/L		0.0003		E200.8	05/11/23 17:29 / dck		ICPMS205-H_230511A : 117		R184444
Lanthanum	ND	mg/L		0.01		E200.8	05/11/23 17:45 / dck		ICPMS206-H_230511C : 32		R184474
Lithium	ND	mg/L		0.1		E200.7	05/11/23 14:30 / slj		ICP2-HE_230511A : 72		R184450
Magnesium	10	mg/L		1		E200.7	05/11/23 14:30 / slj		ICP2-HE_230511A : 72		R184450
Neodymium	ND	mg/L		0.005		E200.8	05/11/23 17:45 / dck		ICPMS206-H_230511C : 32		R184474
Niobium	ND	mg/L		0.01		E200.8	05/11/23 17:45 / dck		ICPMS206-H_230511C : 32		R184474
Manganese	0.151	mg/L		0.001		E200.8	05/11/23 17:29 / dck		ICPMS205-H_230511A : 117		R184444
Molybdenum	0.014	mg/L		0.001		E200.8	05/11/23 17:29 / dck		ICPMS205-H_230511A : 117		R184444
Nickel	ND	mg/L		0.002		E200.8	05/11/23 17:29 / dck		ICPMS205-H_230511A : 117		R184444
Palladium	ND	mg/L		0.01		E200.8	05/11/23 17:45 / dck		ICPMS206-H_230511C : 32		R184474
Praseodymium	ND	mg/L		0.01		E200.8	05/11/23 17:45 / dck		ICPMS206-H_230511C : 32		R184474
Rubidium	ND	mg/L		0.01		E200.8	05/11/23 17:45 / dck		ICPMS206-H_230511C : 32		R184474
Potassium	4	mg/L		1		E200.7	05/11/23 14:30 / slj		ICP2-HE_230511A : 72		R184450
Selenium	ND	mg/L		0.001		E200.8	05/11/23 17:29 / dck		ICPMS205-H_230511A : 117		R184444
Silver	ND	mg/L		0.0002		E200.8	05/11/23 17:29 / dck		ICPMS205-H_230511A : 117		R184444
Sodium	19	mg/L		1		E200.7	05/11/23 14:30 / slj		ICP2-HE_230511A : 72		R184450
Strontium	0.27	mg/L		0.01		E200.8	05/11/23 17:29 / dck		ICPMS205-H_230511A : 117		R184444
Thallium	ND	mg/L		0.0002		E200.8	05/11/23 17:29 / dck		ICPMS205-H_230511A : 117		R184444
Thorium	ND	mg/L		0.005		E200.8	05/11/23 17:45 / dck		ICPMS206-H_230511C : 99		R184474
Tin	ND	mg/L		0.05		E200.8	05/11/23 17:29 / dck		ICPMS205-H_230511A : 117		R184444
Titanium	ND	mg/L		0.005		E200.8	05/11/23 17:29 / dck		ICPMS205-H_230511A : 117		R184444
Tungsten	ND	mg/L		0.1		E200.8	05/11/23 17:45 / dck		ICPMS206-H_230511C : 32		R184474
Uranium	0.0040	mg/L		0.0002		E200.8	05/11/23 17:29 / dck		ICPMS205-H_230511A : 117		R184444
Vanadium	ND	mg/L		0.01		E200.8	05/11/23 17:29 / dck		ICPMS205-H_230511A : 117		R184444
Zinc	0.084	mg/L		0.008		E200.8	05/11/23 17:29 / dck		ICPMS205-H_230511A : 117		R184444
Zirconium	ND	mg/L		0.005		E200.8	05/11/23 17:45 / dck		ICPMS206-H_230511C : 32		R184474

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-2  
**Lab ID:** H23050305-003  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 14:25      **DateReceived:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	0.46	%				A1030 E	05/17/23 10:37 / SR		CALC_230517A : 320		R184598

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-2  
**Lab ID:** H23050305-004  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 14:45 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.6	s.u.	H	0.1		A4500-H B	05/11/23 09:12 / ams		PHSC_101-H_230511A : 25		R184429
pH Measurement Temp	11.9	°C				A4500-H B	05/11/23 09:12 / ams		PHSC_101-H_230511A : 25		R184429
Conductivity @ 25 C	18	umhos/cm		5		A2510 B	05/11/23 09:12 / ams		PHSC_101-H_230511A : 26		R184429
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	L	20		A2540 C	05/11/23 11:52 / ams		I24 (14410200)_230511A : 11		TDS230511A
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.											
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	05/11/23 16:54 / ams		PHSC_101-H_230511A : 157		R184429
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	05/11/23 16:54 / ams		PHSC_101-H_230511A : 157		R184429
Carbonate as CO3	ND	mg/L		4		A2320 B	05/11/23 16:54 / ams		PHSC_101-H_230511A : 157		R184429
Chloride	1	mg/L		1		E300.0	05/24/23 17:40 / SR		IC METROHM_230524A : 25		R184848
Sulfate	ND	mg/L		1		E300.0	05/24/23 17:40 / SR		IC METROHM_230524A : 25		R184848
Bromide	ND	mg/L		0.5		E300.0	05/24/23 17:40 / SR		IC METROHM_230524A : 25		R184848
Fluoride	ND	mg/L		0.1		E300.0	05/24/23 17:40 / SR		IC METROHM_230524A : 25		R184848
Hardness as CaCO3	ND	mg/L		1		A2340 B	05/11/23 14:34 / SR		CALC_230517A : 333		R184598
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.6	mg/L		0.5		A5310 C	05/12/23 23:41 / eli-c		SUB-C294513 : 37		C_R294513
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	05/12/23 14:11 / eli-c		SUB-C294513 : 9		C_R294513
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	05/17/23 15:08 / JAR		FIA203-HE_230517A : 60		R184632
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/11/23 17:32 / dck		ICPMS205-H_230511A : 118		R184444
Antimony	ND	mg/L		0.0005		E200.8	05/11/23 17:32 / dck		ICPMS205-H_230511A : 118		R184444
Arsenic	ND	mg/L		0.001		E200.8	05/11/23 17:32 / dck		ICPMS205-H_230511A : 118		R184444
Barium	ND	mg/L		0.003		E200.8	05/11/23 17:32 / dck		ICPMS205-H_230511A : 118		R184444
Beryllium	ND	mg/L		0.0008		E200.8	05/11/23 17:32 / dck		ICPMS205-H_230511A : 118		R184444
Boron	ND	mg/L		0.05		E200.8	05/11/23 17:32 / dck		ICPMS205-H_230511A : 118		R184444
Cadmium	ND	mg/L		0.00003		E200.8	05/11/23 17:32 / dck		ICPMS205-H_230511A : 118		R184444
Cesium	ND	mg/L		0.01		E200.8	05/11/23 17:46 / dck		ICPMS206-H_230511C : 33		R184474

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level  
L - Lowest available reporting limit for the analytical method used

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-2  
**Lab ID:** H23050305-004  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 14:45 **DateReceived:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	ND	mg/L		1		E200.7	05/11/23 14:34 / slj		ICP2-HE_230511A : 73		R184450
Chromium	ND	mg/L		0.005		E200.8	05/11/23 17:32 / dck		ICPMS205-H_230511A : 118		R184444
Cobalt	ND	mg/L		0.005		E200.8	05/11/23 17:32 / dck		ICPMS205-H_230511A : 118		R184444
Copper	ND	mg/L		0.002		E200.8	05/11/23 17:32 / dck		ICPMS205-H_230511A : 118		R184444
Gallium	ND	mg/L		0.01		E200.8	05/11/23 17:46 / dck		ICPMS206-H_230511C : 33		R184474
Iron	ND	mg/L		0.02		E200.8	05/11/23 17:32 / dck		ICPMS205-H_230511A : 118		R184444
Lead	ND	mg/L		0.0003		E200.8	05/11/23 17:32 / dck		ICPMS205-H_230511A : 118		R184444
Lanthanum	ND	mg/L		0.01		E200.8	05/11/23 17:46 / dck		ICPMS206-H_230511C : 33		R184474
Lithium	ND	mg/L		0.1		E200.7	05/11/23 14:34 / slj		ICP2-HE_230511A : 73		R184450
Magnesium	ND	mg/L		1		E200.7	05/11/23 14:34 / slj		ICP2-HE_230511A : 73		R184450
Neodymium	ND	mg/L		0.005		E200.8	05/11/23 17:46 / dck		ICPMS206-H_230511C : 33		R184474
Niobium	ND	mg/L		0.01		E200.8	05/11/23 17:46 / dck		ICPMS206-H_230511C : 33		R184474
Manganese	ND	mg/L		0.001		E200.8	05/11/23 17:32 / dck		ICPMS205-H_230511A : 118		R184444
Molybdenum	ND	mg/L		0.001		E200.8	05/11/23 17:32 / dck		ICPMS205-H_230511A : 118		R184444
Nickel	ND	mg/L		0.002		E200.8	05/11/23 17:32 / dck		ICPMS205-H_230511A : 118		R184444
Palladium	ND	mg/L		0.01		E200.8	05/11/23 17:46 / dck		ICPMS206-H_230511C : 33		R184474
Praseodymium	ND	mg/L		0.01		E200.8	05/11/23 17:46 / dck		ICPMS206-H_230511C : 33		R184474
Rubidium	ND	mg/L		0.01		E200.8	05/11/23 17:46 / dck		ICPMS206-H_230511C : 33		R184474
Potassium	ND	mg/L		1		E200.7	05/11/23 14:34 / slj		ICP2-HE_230511A : 73		R184450
Selenium	ND	mg/L		0.001		E200.8	05/11/23 17:32 / dck		ICPMS205-H_230511A : 118		R184444
Silver	ND	mg/L		0.0002		E200.8	05/11/23 17:32 / dck		ICPMS205-H_230511A : 118		R184444
Sodium	ND	mg/L		1		E200.7	05/11/23 14:34 / slj		ICP2-HE_230511A : 73		R184450
Strontium	ND	mg/L		0.01		E200.8	05/11/23 17:32 / dck		ICPMS205-H_230511A : 118		R184444
Thallium	ND	mg/L		0.0002		E200.8	05/11/23 17:32 / dck		ICPMS205-H_230511A : 118		R184444
Thorium	ND	mg/L		0.005		E200.8	05/11/23 17:46 / dck		ICPMS206-H_230511C : 100		R184474
Tin	ND	mg/L		0.05		E200.8	05/11/23 17:32 / dck		ICPMS205-H_230511A : 118		R184444
Titanium	ND	mg/L		0.005		E200.8	05/11/23 17:32 / dck		ICPMS205-H_230511A : 118		R184444
Tungsten	ND	mg/L		0.1		E200.8	05/11/23 17:46 / dck		ICPMS206-H_230511C : 33		R184474
Uranium	ND	mg/L		0.0002		E200.8	05/11/23 17:32 / dck		ICPMS205-H_230511A : 118		R184444
Vanadium	ND	mg/L		0.01		E200.8	05/11/23 17:32 / dck		ICPMS205-H_230511A : 118		R184444
Zinc	ND	mg/L		0.008		E200.8	05/11/23 17:32 / dck		ICPMS205-H_230511A : 118		R184444
Zirconium	ND	mg/L		0.005		E200.8	05/11/23 17:46 / dck		ICPMS206-H_230511C : 33		R184474

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-2  
**Lab ID:** H23050305-004  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 14:45    **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-94.3	%				A1030 E	05/17/23 10:37 / SR		CALC_230517A : 331		R184598
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-11A  
**Lab ID:** H23050305-005  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 14:48 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.1	s.u.	H	0.1		A4500-H B	05/11/23 09:14 / ams		PHSC_101-H_230511A : 27		R184429
pH Measurement Temp	12.0	°C				A4500-H B	05/11/23 09:14 / ams		PHSC_101-H_230511A : 27		R184429
Conductivity @ 25 C	322	umhos/cm		5		A2510 B	05/11/23 09:14 / ams		PHSC_101-H_230511A : 28		R184429
Solids, Total Dissolved TDS @ 180 C	197	mg/L		20		A2540 C	05/11/23 11:52 / ams		I24 (14410200)_230511A : 12		TDS230511A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	96	mg/L		4		A2320 B	05/11/23 16:59 / ams		PHSC_101-H_230511A : 159		R184429
Bicarbonate as HCO3	120	mg/L		4		A2320 B	05/11/23 16:59 / ams		PHSC_101-H_230511A : 159		R184429
Carbonate as CO3	ND	mg/L		4		A2320 B	05/11/23 16:59 / ams		PHSC_101-H_230511A : 159		R184429
Chloride	13	mg/L		1		E300.0	05/12/23 02:55 / ljs		IC METROHM_230511A : 64		R184473
Sulfate	35	mg/L		1		E300.0	05/12/23 02:55 / ljs		IC METROHM_230511A : 64		R184473
Bromide	ND	mg/L		0.5		E300.0	05/12/23 02:55 / ljs		IC METROHM_230511A : 64		R184473
Fluoride	1.2	mg/L		0.1		E300.0	05/12/23 02:55 / ljs		IC METROHM_230511A : 64		R184473
Hardness as CaCO3	98	mg/L		1		A2340 B	05/11/23 14:38 / SR		CALC_230517A : 344		R184598
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	05/12/23 23:56 / eli-c		SUB-C294513 : 38		C_R294513
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	05/12/23 14:30 / eli-c		SUB-C294513 : 10		C_R294513
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.85	mg/L		0.01		E353.2	05/17/23 15:11 / JAR		FIA203-HE_230517A : 63		R184632
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/11/23 17:35 / dck		ICPMS205-H_230511A : 119		R184444
Antimony	ND	mg/L		0.0005		E200.8	05/11/23 17:35 / dck		ICPMS205-H_230511A : 119		R184444
Arsenic	0.002	mg/L		0.001		E200.8	05/11/23 17:35 / dck		ICPMS205-H_230511A : 119		R184444
Barium	0.050	mg/L		0.003		E200.8	05/11/23 17:35 / dck		ICPMS205-H_230511A : 119		R184444
Beryllium	ND	mg/L		0.0008		E200.8	05/11/23 17:35 / dck		ICPMS205-H_230511A : 119		R184444
Boron	ND	mg/L		0.05		E200.8	05/11/23 17:35 / dck		ICPMS205-H_230511A : 119		R184444
Cadmium	0.00025	mg/L		0.00003		E200.8	05/11/23 17:35 / dck		ICPMS205-H_230511A : 119		R184444
Cesium	ND	mg/L		0.01		E200.8	05/11/23 17:51 / dck		ICPMS206-H_230511C : 36		R184474

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-11A  
**Lab ID:** H23050305-005  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 14:48 **DateReceived:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	28	mg/L		1		E200.7	05/11/23 14:38 / slj		ICP2-HE_230511A : 74		R184450
Chromium	ND	mg/L		0.005		E200.8	05/11/23 17:35 / dck		ICPMS205-H_230511A : 119		R184444
Cobalt	ND	mg/L		0.005		E200.8	05/11/23 17:35 / dck		ICPMS205-H_230511A : 119		R184444
Copper	ND	mg/L		0.002		E200.8	05/11/23 17:35 / dck		ICPMS205-H_230511A : 119		R184444
Gallium	ND	mg/L		0.01		E200.8	05/11/23 17:51 / dck		ICPMS206-H_230511C : 36		R184474
Iron	ND	mg/L		0.02		E200.8	05/11/23 17:35 / dck		ICPMS205-H_230511A : 119		R184444
Lead	ND	mg/L		0.0003		E200.8	05/11/23 17:35 / dck		ICPMS205-H_230511A : 119		R184444
Lanthanum	ND	mg/L		0.01		E200.8	05/11/23 17:51 / dck		ICPMS206-H_230511C : 36		R184474
Lithium	ND	mg/L		0.1		E200.7	05/11/23 14:38 / slj		ICP2-HE_230511A : 74		R184450
Magnesium	7	mg/L		1		E200.7	05/11/23 14:38 / slj		ICP2-HE_230511A : 74		R184450
Neodymium	ND	mg/L		0.005		E200.8	05/11/23 17:51 / dck		ICPMS206-H_230511C : 36		R184474
Niobium	ND	mg/L		0.01		E200.8	05/11/23 17:51 / dck		ICPMS206-H_230511C : 36		R184474
Manganese	0.001	mg/L		0.001		E200.8	05/11/23 17:35 / dck		ICPMS205-H_230511A : 119		R184444
Molybdenum	0.024	mg/L		0.001		E200.8	05/11/23 17:35 / dck		ICPMS205-H_230511A : 119		R184444
Nickel	ND	mg/L		0.002		E200.8	05/11/23 17:35 / dck		ICPMS205-H_230511A : 119		R184444
Palladium	ND	mg/L		0.01		E200.8	05/11/23 17:51 / dck		ICPMS206-H_230511C : 36		R184474
Praseodymium	ND	mg/L		0.01		E200.8	05/11/23 17:51 / dck		ICPMS206-H_230511C : 36		R184474
Rubidium	ND	mg/L		0.01		E200.8	05/11/23 17:51 / dck		ICPMS206-H_230511C : 36		R184474
Potassium	3	mg/L		1		E200.7	05/11/23 14:38 / slj		ICP2-HE_230511A : 74		R184450
Selenium	ND	mg/L		0.001		E200.8	05/11/23 17:35 / dck		ICPMS205-H_230511A : 119		R184444
Silver	ND	mg/L		0.0002		E200.8	05/11/23 17:35 / dck		ICPMS205-H_230511A : 119		R184444
Sodium	22	mg/L		1		E200.7	05/11/23 14:38 / slj		ICP2-HE_230511A : 74		R184450
Strontium	0.24	mg/L		0.01		E200.8	05/11/23 17:35 / dck		ICPMS205-H_230511A : 119		R184444
Thallium	ND	mg/L		0.0002		E200.8	05/11/23 17:35 / dck		ICPMS205-H_230511A : 119		R184444
Thorium	ND	mg/L		0.005		E200.8	05/11/23 17:51 / dck		ICPMS206-H_230511C : 103		R184474
Tin	ND	mg/L		0.05		E200.8	05/11/23 17:35 / dck		ICPMS205-H_230511A : 119		R184444
Titanium	ND	mg/L		0.005		E200.8	05/11/23 17:35 / dck		ICPMS205-H_230511A : 119		R184444
Tungsten	ND	mg/L		0.1		E200.8	05/11/23 17:51 / dck		ICPMS206-H_230511C : 36		R184474
Uranium	0.0040	mg/L		0.0002		E200.8	05/11/23 17:35 / dck		ICPMS205-H_230511A : 119		R184444
Vanadium	ND	mg/L		0.01		E200.8	05/11/23 17:35 / dck		ICPMS205-H_230511A : 119		R184444
Zinc	0.050	mg/L		0.008		E200.8	05/11/23 17:35 / dck		ICPMS205-H_230511A : 119		R184444
Zirconium	ND	mg/L		0.005		E200.8	05/11/23 17:51 / dck		ICPMS206-H_230511C : 36		R184474

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-11A  
**Lab ID:** H23050305-005  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 14:48      **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-0.94	%				A1030 E	05/17/23 10:37 / SR		CALC_230517A : 342		R184598

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-2  
**Lab ID:** H23050305-006  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 15:00 **DateReceived:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.6	s.u.	H	0.1		A4500-H B	05/11/23 09:16 / ams		PHSC_101-H_230511A : 29		R184429
pH Measurement Temp	12.6	°C				A4500-H B	05/11/23 09:16 / ams		PHSC_101-H_230511A : 29		R184429
Conductivity @ 25 C	8	umhos/cm		5		A2510 B	05/11/23 09:16 / ams		PHSC_101-H_230511A : 30		R184429
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	L	20		A2540 C	05/11/23 11:52 / ams		I24 (14410200)_230511A : 13		TDS230511A
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.											
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	05/11/23 17:06 / ams		PHSC_101-H_230511A : 161		R184429
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	05/11/23 17:06 / ams		PHSC_101-H_230511A : 161		R184429
Carbonate as CO3	ND	mg/L		4		A2320 B	05/11/23 17:06 / ams		PHSC_101-H_230511A : 161		R184429
Chloride	ND	mg/L		1		E300.0	05/12/23 03:10 / ljs		IC METROHM_230511A : 65		R184473
Sulfate	ND	mg/L		1		E300.0	05/12/23 03:10 / ljs		IC METROHM_230511A : 65		R184473
Bromide	ND	mg/L		0.5		E300.0	05/12/23 03:10 / ljs		IC METROHM_230511A : 65		R184473
Fluoride	ND	mg/L		0.1		E300.0	05/12/23 03:10 / ljs		IC METROHM_230511A : 65		R184473
Hardness as CaCO3	ND	mg/L		1		A2340 B	05/11/23 14:42 / SR		CALC_230517A : 355		R184598
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	05/13/23 00:16 / eli-c		SUB-C294513 : 39		C_R294513
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	05/12/23 14:51 / eli-c		SUB-C294513 : 11		C_R294513
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	05/17/23 15:13 / JAR		FIA203-HE_230517A : 64		R184632
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/11/23 17:37 / dck		ICPMS205-H_230511A : 120		R184444
Antimony	ND	mg/L		0.0005		E200.8	05/11/23 17:37 / dck		ICPMS205-H_230511A : 120		R184444
Arsenic	ND	mg/L		0.001		E200.8	05/11/23 17:37 / dck		ICPMS205-H_230511A : 120		R184444
Barium	ND	mg/L		0.003		E200.8	05/11/23 17:37 / dck		ICPMS205-H_230511A : 120		R184444
Beryllium	ND	mg/L		0.0008		E200.8	05/11/23 17:37 / dck		ICPMS205-H_230511A : 120		R184444
Boron	ND	mg/L		0.05		E200.8	05/11/23 17:37 / dck		ICPMS205-H_230511A : 120		R184444
Cadmium	ND	mg/L		0.00003		E200.8	05/11/23 17:37 / dck		ICPMS205-H_230511A : 120		R184444
Cesium	ND	mg/L		0.01		E200.8	05/11/23 17:52 / dck		ICPMS206-H_230511C : 37		R184474

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level  
L - Lowest available reporting limit for the analytical method used

ND - Not detected at the Reporting Limit (RL)



**LABORATORY ANALYTICAL REPORT**

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-2  
**Lab ID:** H23050305-006  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 15:00 **DateReceived:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	ND	mg/L		1		E200.7	05/11/23 14:42 / slj		ICP2-HE_230511A : 75		R184450
Chromium	ND	mg/L		0.005		E200.8	05/11/23 17:37 / dck		ICPMS205-H_230511A : 120		R184444
Cobalt	ND	mg/L		0.005		E200.8	05/11/23 17:37 / dck		ICPMS205-H_230511A : 120		R184444
Copper	ND	mg/L		0.002		E200.8	05/11/23 17:37 / dck		ICPMS205-H_230511A : 120		R184444
Gallium	ND	mg/L		0.01		E200.8	05/11/23 17:52 / dck		ICPMS206-H_230511C : 37		R184474
Iron	ND	mg/L		0.02		E200.8	05/11/23 17:37 / dck		ICPMS205-H_230511A : 120		R184444
Lead	ND	mg/L		0.0003		E200.8	05/11/23 17:37 / dck		ICPMS205-H_230511A : 120		R184444
Lanthanum	ND	mg/L		0.01		E200.8	05/11/23 17:52 / dck		ICPMS206-H_230511C : 37		R184474
Lithium	ND	mg/L		0.1		E200.7	05/11/23 14:42 / slj		ICP2-HE_230511A : 75		R184450
Magnesium	ND	mg/L		1		E200.7	05/11/23 14:42 / slj		ICP2-HE_230511A : 75		R184450
Neodymium	ND	mg/L		0.005		E200.8	05/11/23 17:52 / dck		ICPMS206-H_230511C : 37		R184474
Niobium	ND	mg/L		0.01		E200.8	05/11/23 17:52 / dck		ICPMS206-H_230511C : 37		R184474
Manganese	ND	mg/L		0.001		E200.8	05/11/23 17:37 / dck		ICPMS205-H_230511A : 120		R184444
Molybdenum	ND	mg/L		0.001		E200.8	05/11/23 17:37 / dck		ICPMS205-H_230511A : 120		R184444
Nickel	ND	mg/L		0.002		E200.8	05/11/23 17:37 / dck		ICPMS205-H_230511A : 120		R184444
Palladium	ND	mg/L		0.01		E200.8	05/11/23 17:52 / dck		ICPMS206-H_230511C : 37		R184474
Praseodymium	ND	mg/L		0.01		E200.8	05/11/23 17:52 / dck		ICPMS206-H_230511C : 37		R184474
Rubidium	ND	mg/L		0.01		E200.8	05/11/23 17:52 / dck		ICPMS206-H_230511C : 37		R184474
Potassium	ND	mg/L		1		E200.7	05/11/23 14:42 / slj		ICP2-HE_230511A : 75		R184450
Selenium	ND	mg/L		0.001		E200.8	05/11/23 17:37 / dck		ICPMS205-H_230511A : 120		R184444
Silver	ND	mg/L		0.0002		E200.8	05/11/23 17:37 / dck		ICPMS205-H_230511A : 120		R184444
Sodium	ND	mg/L		1		E200.7	05/11/23 14:42 / slj		ICP2-HE_230511A : 75		R184450
Strontium	ND	mg/L		0.01		E200.8	05/11/23 17:37 / dck		ICPMS205-H_230511A : 120		R184444
Thallium	ND	mg/L		0.0002		E200.8	05/11/23 17:37 / dck		ICPMS205-H_230511A : 120		R184444
Thorium	ND	mg/L		0.005		E200.8	05/11/23 17:52 / dck		ICPMS206-H_230511C : 104		R184474
Tin	ND	mg/L		0.05		E200.8	05/11/23 17:37 / dck		ICPMS205-H_230511A : 120		R184444
Titanium	ND	mg/L		0.005		E200.8	05/11/23 17:37 / dck		ICPMS205-H_230511A : 120		R184444
Tungsten	ND	mg/L		0.1		E200.8	05/11/23 17:52 / dck		ICPMS206-H_230511C : 37		R184474
Uranium	ND	mg/L		0.0002		E200.8	05/11/23 17:37 / dck		ICPMS205-H_230511A : 120		R184444
Vanadium	ND	mg/L		0.01		E200.8	05/11/23 17:37 / dck		ICPMS205-H_230511A : 120		R184444
Zinc	ND	mg/L		0.008		E200.8	05/11/23 17:37 / dck		ICPMS205-H_230511A : 120		R184444
Zirconium	ND	mg/L		0.005		E200.8	05/11/23 17:52 / dck		ICPMS206-H_230511C : 37		R184474

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-2  
**Lab ID:** H23050305-006  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 15:00    **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	ND	%				A1030 E	05/17/23 10:37 / SR		CALC_230517A : 353		R184598
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13B  
**Lab ID:** H23050305-007  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 15:23 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.4	s.u.	H	0.1		A4500-H B	05/11/23 09:18 / ams		PHSC_101-H_230511A : 31		R184429
pH Measurement Temp	12.1	°C				A4500-H B	05/11/23 09:18 / ams		PHSC_101-H_230511A : 31		R184429
Conductivity @ 25 C	311	umhos/cm		5		A2510 B	05/11/23 09:18 / ams		PHSC_101-H_230511A : 32		R184429
Solids, Total Dissolved TDS @ 180 C	201	mg/L		20		A2540 C	05/11/23 11:52 / ams		I24 (14410200)_230511A : 14		TDS230511A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	87	mg/L		4		A2320 B	05/11/23 17:12 / ams		PHSC_101-H_230511A : 163		R184429
Bicarbonate as HCO3	110	mg/L		4		A2320 B	05/11/23 17:12 / ams		PHSC_101-H_230511A : 163		R184429
Carbonate as CO3	ND	mg/L		4		A2320 B	05/11/23 17:12 / ams		PHSC_101-H_230511A : 163		R184429
Chloride	7	mg/L		1		E300.0	05/12/23 03:24 / ljs		IC METROHM_230511A : 66		R184473
Sulfate	44	mg/L		1		E300.0	05/12/23 03:24 / ljs		IC METROHM_230511A : 66		R184473
Bromide	ND	mg/L		0.5		E300.0	05/12/23 03:24 / ljs		IC METROHM_230511A : 66		R184473
Fluoride	1.5	mg/L		0.1		E300.0	05/12/23 03:24 / ljs		IC METROHM_230511A : 66		R184473
Hardness as CaCO3	86	mg/L		1		A2340 B	05/11/23 14:46 / SR		CALC_230517A : 366		R184598
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	05/13/23 00:31 / eli-c		SUB-C294513 : 40		C_R294513
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	05/12/23 15:11 / eli-c		SUB-C294513 : 12		C_R294513
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.51	mg/L		0.01		E353.2	05/17/23 15:14 / JAR		FIA203-HE_230517A : 65		R184632
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/11/23 17:40 / dck		ICPMS205-H_230511A : 121		R184444
Antimony	ND	mg/L		0.0005		E200.8	05/11/23 17:40 / dck		ICPMS205-H_230511A : 121		R184444
Arsenic	0.004	mg/L		0.001		E200.8	05/11/23 17:40 / dck		ICPMS205-H_230511A : 121		R184444
Barium	0.033	mg/L		0.003		E200.8	05/11/23 17:40 / dck		ICPMS205-H_230511A : 121		R184444
Beryllium	ND	mg/L		0.0008		E200.8	05/11/23 17:40 / dck		ICPMS205-H_230511A : 121		R184444
Boron	ND	mg/L		0.05		E200.8	05/11/23 17:40 / dck		ICPMS205-H_230511A : 121		R184444
Cadmium	0.00027	mg/L		0.00003		E200.8	05/11/23 17:40 / dck		ICPMS205-H_230511A : 121		R184444
Cesium	ND	mg/L		0.01		E200.8	05/11/23 17:54 / dck		ICPMS206-H_230511C : 38		R184474

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13B  
**Lab ID:** H23050305-007  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 15:23 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	25	mg/L		1		E200.7	05/11/23 14:46 / slj		ICP2-HE_230511A : 76		R184450
Chromium	ND	mg/L		0.005		E200.8	05/11/23 17:40 / dck		ICPMS205-H_230511A : 121		R184444
Cobalt	ND	mg/L		0.005		E200.8	05/11/23 17:40 / dck		ICPMS205-H_230511A : 121		R184444
Copper	ND	mg/L		0.002		E200.8	05/11/23 17:40 / dck		ICPMS205-H_230511A : 121		R184444
Gallium	ND	mg/L		0.01		E200.8	05/11/23 17:54 / dck		ICPMS206-H_230511C : 38		R184474
Iron	ND	mg/L		0.02		E200.8	05/11/23 17:40 / dck		ICPMS205-H_230511A : 121		R184444
Lead	ND	mg/L		0.0003		E200.8	05/11/23 17:40 / dck		ICPMS205-H_230511A : 121		R184444
Lanthanum	ND	mg/L		0.01		E200.8	05/11/23 17:54 / dck		ICPMS206-H_230511C : 38		R184474
Lithium	ND	mg/L		0.1		E200.7	05/11/23 14:46 / slj		ICP2-HE_230511A : 76		R184450
Magnesium	6	mg/L		1		E200.7	05/11/23 14:46 / slj		ICP2-HE_230511A : 76		R184450
Neodymium	ND	mg/L		0.005		E200.8	05/11/23 17:54 / dck		ICPMS206-H_230511C : 38		R184474
Niobium	ND	mg/L		0.01		E200.8	05/11/23 17:54 / dck		ICPMS206-H_230511C : 38		R184474
Manganese	ND	mg/L		0.001		E200.8	05/11/23 17:40 / dck		ICPMS205-H_230511A : 121		R184444
Molybdenum	0.037	mg/L		0.001		E200.8	05/11/23 17:40 / dck		ICPMS205-H_230511A : 121		R184444
Nickel	ND	mg/L		0.002		E200.8	05/11/23 17:40 / dck		ICPMS205-H_230511A : 121		R184444
Palladium	ND	mg/L		0.01		E200.8	05/11/23 17:54 / dck		ICPMS206-H_230511C : 38		R184474
Praseodymium	ND	mg/L		0.01		E200.8	05/11/23 17:54 / dck		ICPMS206-H_230511C : 38		R184474
Rubidium	ND	mg/L		0.01		E200.8	05/11/23 17:54 / dck		ICPMS206-H_230511C : 38		R184474
Potassium	3	mg/L		1		E200.7	05/11/23 14:46 / slj		ICP2-HE_230511A : 76		R184450
Selenium	ND	mg/L		0.001		E200.8	05/11/23 17:40 / dck		ICPMS205-H_230511A : 121		R184444
Silver	ND	mg/L		0.0002		E200.8	05/11/23 17:40 / dck		ICPMS205-H_230511A : 121		R184444
Sodium	26	mg/L		1		E200.7	05/11/23 14:46 / slj		ICP2-HE_230511A : 76		R184450
Strontium	0.18	mg/L		0.01		E200.8	05/11/23 17:40 / dck		ICPMS205-H_230511A : 121		R184444
Thallium	ND	mg/L		0.0002		E200.8	05/11/23 17:40 / dck		ICPMS205-H_230511A : 121		R184444
Thorium	ND	mg/L		0.005		E200.8	05/11/23 17:54 / dck		ICPMS206-H_230511C : 105		R184474
Tin	ND	mg/L		0.05		E200.8	05/11/23 17:40 / dck		ICPMS205-H_230511A : 121		R184444
Titanium	ND	mg/L		0.005		E200.8	05/11/23 17:40 / dck		ICPMS205-H_230511A : 121		R184444
Tungsten	ND	mg/L		0.1		E200.8	05/11/23 17:54 / dck		ICPMS206-H_230511C : 38		R184474
Uranium	0.0035	mg/L		0.0002		E200.8	05/11/23 17:40 / dck		ICPMS205-H_230511A : 121		R184444
Vanadium	ND	mg/L		0.01		E200.8	05/11/23 17:40 / dck		ICPMS205-H_230511A : 121		R184444
Zinc	0.024	mg/L		0.008		E200.8	05/11/23 17:40 / dck		ICPMS205-H_230511A : 121		R184444
Zirconium	ND	mg/L		0.005		E200.8	05/11/23 17:54 / dck		ICPMS206-H_230511C : 38		R184474

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13B  
**Lab ID:** H23050305-007  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 15:23      **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-0.10	%				A1030 E	05/17/23 10:38 / SR		CALC_230517A : 364		R184598
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11A2  
**Lab ID:** H23050305-008  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 15:25 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.3	s.u.	H	0.1		A4500-H B	05/11/23 09:20 / ams		PHSC_101-H_230511A : 33		R184429
pH Measurement Temp	11.8	°C				A4500-H B	05/11/23 09:20 / ams		PHSC_101-H_230511A : 33		R184429
Conductivity @ 25 C	341	umhos/cm		5		A2510 B	05/11/23 09:20 / ams		PHSC_101-H_230511A : 34		R184429
Solids, Total Dissolved TDS @ 180 C	214	mg/L		20		A2540 C	05/11/23 11:53 / ams		I24 (14410200)_230511A : 15		TDS230511A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	90	mg/L		4		A2320 B	05/11/23 17:18 / ams		PHSC_101-H_230511A : 165		R184429
Bicarbonate as HCO3	110	mg/L		4		A2320 B	05/11/23 17:18 / ams		PHSC_101-H_230511A : 165		R184429
Carbonate as CO3	ND	mg/L		4		A2320 B	05/11/23 17:18 / ams		PHSC_101-H_230511A : 165		R184429
Chloride	6	mg/L		1		E300.0	05/12/23 03:38 / ljs		IC METROHM_230511A : 67		R184473
Sulfate	61	mg/L		1		E300.0	05/12/23 03:38 / ljs		IC METROHM_230511A : 67		R184473
Bromide	ND	mg/L		0.5		E300.0	05/12/23 03:38 / ljs		IC METROHM_230511A : 67		R184473
Fluoride	0.4	mg/L		0.1		E300.0	05/12/23 03:38 / ljs		IC METROHM_230511A : 67		R184473
Hardness as CaCO3	122	mg/L		1		A2340 B	05/11/23 14:49 / SR		CALC_230517A : 377		R184598
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	05/13/23 00:51 / eli-c		SUB-C294513 : 41		C_R294513
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	05/12/23 15:30 / eli-c		SUB-C294513 : 13		C_R294513
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.37	mg/L		0.01		E353.2	05/17/23 15:15 / JAR		FIA203-HE_230517A : 66		R184632
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/11/23 17:43 / dck		ICPMS205-H_230511A : 122		R184444
Antimony	ND	mg/L		0.0005		E200.8	05/11/23 17:43 / dck		ICPMS205-H_230511A : 122		R184444
Arsenic	0.002	mg/L		0.001		E200.8	05/11/23 17:43 / dck		ICPMS205-H_230511A : 122		R184444
Barium	0.012	mg/L		0.003		E200.8	05/11/23 17:43 / dck		ICPMS205-H_230511A : 122		R184444
Beryllium	ND	mg/L		0.0008		E200.8	05/11/23 17:43 / dck		ICPMS205-H_230511A : 122		R184444
Boron	ND	mg/L		0.05		E200.8	05/11/23 17:43 / dck		ICPMS205-H_230511A : 122		R184444
Cadmium	0.00036	mg/L		0.00003		E200.8	05/11/23 17:43 / dck		ICPMS205-H_230511A : 122		R184444
Cesium	ND	mg/L		0.01		E200.8	05/11/23 17:55 / dck		ICPMS206-H_230511C : 39		R184474

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11A2  
**Lab ID:** H23050305-008  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 15:25 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	36	mg/L		1		E200.7	05/11/23 14:49 / slj		ICP2-HE_230511A : 77		R184450
Chromium	ND	mg/L		0.005		E200.8	05/11/23 17:43 / dck		ICPMS205-H_230511A : 122		R184444
Cobalt	ND	mg/L		0.005		E200.8	05/11/23 17:43 / dck		ICPMS205-H_230511A : 122		R184444
Copper	ND	mg/L		0.002		E200.8	05/11/23 17:43 / dck		ICPMS205-H_230511A : 122		R184444
Gallium	ND	mg/L		0.01		E200.8	05/11/23 17:55 / dck		ICPMS206-H_230511C : 39		R184474
Iron	ND	mg/L		0.02		E200.8	05/11/23 17:43 / dck		ICPMS205-H_230511A : 122		R184444
Lead	ND	mg/L		0.0003		E200.8	05/11/23 17:43 / dck		ICPMS205-H_230511A : 122		R184444
Lanthanum	ND	mg/L		0.01		E200.8	05/11/23 17:55 / dck		ICPMS206-H_230511C : 39		R184474
Lithium	ND	mg/L		0.1		E200.7	05/11/23 14:49 / slj		ICP2-HE_230511A : 77		R184450
Magnesium	8	mg/L		1		E200.7	05/11/23 14:49 / slj		ICP2-HE_230511A : 77		R184450
Neodymium	ND	mg/L		0.005		E200.8	05/11/23 17:55 / dck		ICPMS206-H_230511C : 39		R184474
Niobium	ND	mg/L		0.01		E200.8	05/11/23 17:55 / dck		ICPMS206-H_230511C : 39		R184474
Manganese	ND	mg/L		0.001		E200.8	05/11/23 17:43 / dck		ICPMS205-H_230511A : 122		R184444
Molybdenum	0.024	mg/L		0.001		E200.8	05/11/23 17:43 / dck		ICPMS205-H_230511A : 122		R184444
Nickel	ND	mg/L		0.002		E200.8	05/11/23 17:43 / dck		ICPMS205-H_230511A : 122		R184444
Palladium	ND	mg/L		0.01		E200.8	05/11/23 17:55 / dck		ICPMS206-H_230511C : 39		R184474
Praseodymium	ND	mg/L		0.01		E200.8	05/11/23 17:55 / dck		ICPMS206-H_230511C : 39		R184474
Rubidium	ND	mg/L		0.01		E200.8	05/11/23 17:55 / dck		ICPMS206-H_230511C : 39		R184474
Potassium	3	mg/L		1		E200.7	05/11/23 14:49 / slj		ICP2-HE_230511A : 77		R184450
Selenium	ND	mg/L		0.001		E200.8	05/11/23 17:43 / dck		ICPMS205-H_230511A : 122		R184444
Silver	ND	mg/L		0.0002		E200.8	05/11/23 17:43 / dck		ICPMS205-H_230511A : 122		R184444
Sodium	18	mg/L		1		E200.7	05/11/23 14:49 / slj		ICP2-HE_230511A : 77		R184450
Strontium	0.23	mg/L		0.01		E200.8	05/11/23 17:43 / dck		ICPMS205-H_230511A : 122		R184444
Thallium	ND	mg/L		0.0002		E200.8	05/11/23 17:43 / dck		ICPMS205-H_230511A : 122		R184444
Thorium	ND	mg/L		0.005		E200.8	05/11/23 17:55 / dck		ICPMS206-H_230511C : 106		R184474
Tin	ND	mg/L		0.05		E200.8	05/11/23 17:43 / dck		ICPMS205-H_230511A : 122		R184444
Titanium	ND	mg/L		0.005		E200.8	05/11/23 17:43 / dck		ICPMS205-H_230511A : 122		R184444
Tungsten	ND	mg/L		0.1		E200.8	05/11/23 17:55 / dck		ICPMS206-H_230511C : 39		R184474
Uranium	0.0062	mg/L		0.0002		E200.8	05/11/23 17:43 / dck		ICPMS205-H_230511A : 122		R184444
Vanadium	ND	mg/L		0.01		E200.8	05/11/23 17:43 / dck		ICPMS205-H_230511A : 122		R184444
Zinc	0.017	mg/L		0.008		E200.8	05/11/23 17:43 / dck		ICPMS205-H_230511A : 122		R184444
Zirconium	ND	mg/L		0.005		E200.8	05/11/23 17:55 / dck		ICPMS206-H_230511C : 39		R184474

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11A2  
**Lab ID:** H23050305-008  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 15:25      **DateReceived:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	0.43	%				A1030 E	05/17/23 10:38 / SR		CALC_230517A : 375		R184598

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13B2  
**Lab ID:** H23050305-009  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 15:51 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.5	s.u.	H	0.1		A4500-H B	05/11/23 09:22 / ams		PHSC_101-H_230511A : 35		R184429
pH Measurement Temp	11.9	°C				A4500-H B	05/11/23 09:22 / ams		PHSC_101-H_230511A : 35		R184429
Conductivity @ 25 C	320	umhos/cm		5		A2510 B	05/11/23 09:22 / ams		PHSC_101-H_230511A : 36		R184429
Solids, Total Dissolved TDS @ 180 C	210	mg/L		20		A2540 C	05/11/23 11:53 / ams		I24 (14410200)_230511A : 16		TDS230511A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	88	mg/L		4		A2320 B	05/11/23 17:25 / ams		PHSC_101-H_230511A : 167		R184429
Bicarbonate as HCO3	110	mg/L		4		A2320 B	05/11/23 17:25 / ams		PHSC_101-H_230511A : 167		R184429
Carbonate as CO3	ND	mg/L		4		A2320 B	05/11/23 17:25 / ams		PHSC_101-H_230511A : 167		R184429
Chloride	7	mg/L		1		E300.0	05/12/23 04:36 / ljs		IC METROHM_230511A : 70		R184473
Sulfate	50	mg/L		1		E300.0	05/12/23 04:36 / ljs		IC METROHM_230511A : 70		R184473
Bromide	ND	mg/L		0.5		E300.0	05/12/23 04:36 / ljs		IC METROHM_230511A : 70		R184473
Fluoride	1.6	mg/L		0.1		E300.0	05/12/23 04:36 / ljs		IC METROHM_230511A : 70		R184473
Hardness as CaCO3	88	mg/L		1		A2340 B	05/11/23 14:53 / SR		CALC_230517A : 388		R184598
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	05/13/23 01:11 / eli-c		SUB-C294513 : 42		C_R294513
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	05/12/23 15:50 / eli-c		SUB-C294513 : 14		C_R294513
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.50	mg/L		0.01		E353.2	05/17/23 15:16 / JAR		FIA203-HE_230517A : 67		R184632
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/11/23 17:45 / dck		ICPMS205-H_230511A : 123		R184444
Antimony	ND	mg/L		0.0005		E200.8	05/11/23 17:45 / dck		ICPMS205-H_230511A : 123		R184444
Arsenic	0.005	mg/L		0.001		E200.8	05/11/23 17:45 / dck		ICPMS205-H_230511A : 123		R184444
Barium	0.027	mg/L		0.003		E200.8	05/11/23 17:45 / dck		ICPMS205-H_230511A : 123		R184444
Beryllium	ND	mg/L		0.0008		E200.8	05/11/23 17:45 / dck		ICPMS205-H_230511A : 123		R184444
Boron	ND	mg/L		0.05		E200.8	05/11/23 17:45 / dck		ICPMS205-H_230511A : 123		R184444
Cadmium	0.00045	mg/L		0.00003		E200.8	05/11/23 17:45 / dck		ICPMS205-H_230511A : 123		R184444
Cesium	ND	mg/L		0.01		E200.8	05/11/23 17:57 / dck		ICPMS206-H_230511C : 40		R184474

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13B2  
**Lab ID:** H23050305-009  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 15:51 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	26	mg/L		1		E200.7	05/11/23 14:53 / slj		ICP2-HE_230511A : 78		R184450
Chromium	ND	mg/L		0.005		E200.8	05/11/23 17:45 / dck		ICPMS205-H_230511A : 123		R184444
Cobalt	ND	mg/L		0.005		E200.8	05/11/23 17:45 / dck		ICPMS205-H_230511A : 123		R184444
Copper	0.005	mg/L		0.002		E200.8	05/11/23 17:45 / dck		ICPMS205-H_230511A : 123		R184444
Gallium	ND	mg/L		0.01		E200.8	05/11/23 17:57 / dck		ICPMS206-H_230511C : 40		R184474
Iron	ND	mg/L		0.02		E200.8	05/11/23 17:45 / dck		ICPMS205-H_230511A : 123		R184444
Lead	ND	mg/L		0.0003		E200.8	05/11/23 17:45 / dck		ICPMS205-H_230511A : 123		R184444
Lanthanum	ND	mg/L		0.01		E200.8	05/11/23 17:57 / dck		ICPMS206-H_230511C : 40		R184474
Lithium	ND	mg/L		0.1		E200.7	05/11/23 14:53 / slj		ICP2-HE_230511A : 78		R184450
Magnesium	6	mg/L		1		E200.7	05/11/23 14:53 / slj		ICP2-HE_230511A : 78		R184450
Neodymium	ND	mg/L		0.005		E200.8	05/11/23 17:57 / dck		ICPMS206-H_230511C : 40		R184474
Niobium	ND	mg/L		0.01		E200.8	05/11/23 17:57 / dck		ICPMS206-H_230511C : 40		R184474
Manganese	ND	mg/L		0.001		E200.8	05/11/23 17:45 / dck		ICPMS205-H_230511A : 123		R184444
Molybdenum	0.043	mg/L		0.001		E200.8	05/11/23 17:45 / dck		ICPMS205-H_230511A : 123		R184444
Nickel	ND	mg/L		0.002		E200.8	05/11/23 17:45 / dck		ICPMS205-H_230511A : 123		R184444
Palladium	ND	mg/L		0.01		E200.8	05/11/23 17:57 / dck		ICPMS206-H_230511C : 40		R184474
Praseodymium	ND	mg/L		0.01		E200.8	05/11/23 17:57 / dck		ICPMS206-H_230511C : 40		R184474
Rubidium	ND	mg/L		0.01		E200.8	05/11/23 17:57 / dck		ICPMS206-H_230511C : 40		R184474
Potassium	3	mg/L		1		E200.7	05/11/23 14:53 / slj		ICP2-HE_230511A : 78		R184450
Selenium	ND	mg/L		0.001		E200.8	05/11/23 17:45 / dck		ICPMS205-H_230511A : 123		R184444
Silver	ND	mg/L		0.0002		E200.8	05/11/23 17:45 / dck		ICPMS205-H_230511A : 123		R184444
Sodium	27	mg/L		1		E200.7	05/11/23 14:53 / slj		ICP2-HE_230511A : 78		R184450
Strontium	0.19	mg/L		0.01		E200.8	05/11/23 17:45 / dck		ICPMS205-H_230511A : 123		R184444
Thallium	ND	mg/L		0.0002		E200.8	05/11/23 17:45 / dck		ICPMS205-H_230511A : 123		R184444
Thorium	ND	mg/L		0.005		E200.8	05/11/23 17:57 / dck		ICPMS206-H_230511C : 107		R184474
Tin	ND	mg/L		0.05		E200.8	05/11/23 17:45 / dck		ICPMS205-H_230511A : 123		R184444
Titanium	ND	mg/L		0.005		E200.8	05/11/23 17:45 / dck		ICPMS205-H_230511A : 123		R184444
Tungsten	ND	mg/L		0.1		E200.8	05/11/23 17:57 / dck		ICPMS206-H_230511C : 40		R184474
Uranium	0.0036	mg/L		0.0002		E200.8	05/11/23 17:45 / dck		ICPMS205-H_230511A : 123		R184444
Vanadium	ND	mg/L		0.01		E200.8	05/11/23 17:45 / dck		ICPMS205-H_230511A : 123		R184444
Zinc	0.049	mg/L		0.008		E200.8	05/11/23 17:45 / dck		ICPMS205-H_230511A : 123		R184444
Zirconium	ND	mg/L		0.005		E200.8	05/11/23 17:57 / dck		ICPMS206-H_230511C : 40		R184474

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13B2  
**Lab ID:** H23050305-009  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 15:51    **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-0.94	%				A1030 E	05/17/23 10:38 / SR		CALC_230517A : 386		R184598

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11B  
**Lab ID:** H23050305-010  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 16:12 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.8	s.u.	H	0.1		A4500-H B	05/11/23 09:24 / ams		PHSC_101-H_230511A : 37		R184429
pH Measurement Temp	12.1	°C				A4500-H B	05/11/23 09:24 / ams		PHSC_101-H_230511A : 37		R184429
Conductivity @ 25 C	982	umhos/cm		5		A2510 B	05/11/23 09:24 / ams		PHSC_101-H_230511A : 38		R184429
Solids, Total Dissolved TDS @ 180 C	713	mg/L		20		A2540 C	05/11/23 11:53 / ams		I24 (14410200)_230511A : 17		TDS230511A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	52	mg/L		4		A2320 B	05/11/23 17:31 / ams		PHSC_101-H_230511A : 169		R184429
Bicarbonate as HCO3	63	mg/L		4		A2320 B	05/11/23 17:31 / ams		PHSC_101-H_230511A : 169		R184429
Carbonate as CO3	ND	mg/L		4		A2320 B	05/11/23 17:31 / ams		PHSC_101-H_230511A : 169		R184429
Chloride	12	mg/L		1		E300.0	05/12/23 05:19 / ljs		IC METROHM_230511A : 73		R184473
Sulfate	422	mg/L		1		E300.0	05/12/23 05:19 / ljs		IC METROHM_230511A : 73		R184473
Bromide	ND	mg/L		0.5		E300.0	05/12/23 05:19 / ljs		IC METROHM_230511A : 73		R184473
Fluoride	0.6	mg/L		0.1		E300.0	05/12/23 05:19 / ljs		IC METROHM_230511A : 73		R184473
Hardness as CaCO3	383	mg/L		1		A2340 B	05/11/23 15:04 / SR		CALC_230517A : 399		R184598
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	05/13/23 01:31 / eli-c		SUB-C294513 : 43		C_R294513
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	05/12/23 16:10 / eli-c		SUB-C294513 : 15		C_R294513
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.20	mg/L		0.01		E353.2	05/17/23 15:17 / JAR		FIA203-HE_230517A : 68		R184632
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/11/23 17:48 / dck		ICPMS205-H_230511A : 124		R184444
Antimony	ND	mg/L		0.0005		E200.8	05/11/23 17:48 / dck		ICPMS205-H_230511A : 124		R184444
Arsenic	0.003	mg/L		0.001		E200.8	05/11/23 17:48 / dck		ICPMS205-H_230511A : 124		R184444
Barium	0.012	mg/L		0.003		E200.8	05/11/23 17:48 / dck		ICPMS205-H_230511A : 124		R184444
Beryllium	ND	mg/L		0.0008		E200.8	05/11/23 17:48 / dck		ICPMS205-H_230511A : 124		R184444
Boron	ND	mg/L		0.05		E200.7	05/11/23 15:04 / slj		ICP2-HE_230511A : 81		R184450
Cadmium	0.00245	mg/L		0.00003		E200.8	05/11/23 17:48 / dck		ICPMS205-H_230511A : 124		R184444
Cesium	ND	mg/L		0.01		E200.8	05/11/23 17:59 / dck		ICPMS206-H_230511C : 41		R184474

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11B  
**Lab ID:** H23050305-010  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 16:12 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	112	mg/L		1		E200.7	05/11/23 15:04 / slj		ICP2-HE_230511A : 81		R184450
Chromium	ND	mg/L		0.005		E200.8	05/11/23 17:48 / dck		ICPMS205-H_230511A : 124		R184444
Cobalt	ND	mg/L		0.005		E200.8	05/11/23 17:48 / dck		ICPMS205-H_230511A : 124		R184444
Copper	0.022	mg/L		0.002		E200.8	05/11/23 17:48 / dck		ICPMS205-H_230511A : 124		R184444
Gallium	ND	mg/L		0.01		E200.8	05/11/23 17:59 / dck		ICPMS206-H_230511C : 41		R184474
Iron	ND	mg/L		0.02		E200.8	05/11/23 17:48 / dck		ICPMS205-H_230511A : 124		R184444
Lead	ND	mg/L		0.0003		E200.8	05/11/23 17:48 / dck		ICPMS205-H_230511A : 124		R184444
Lanthanum	ND	mg/L		0.01		E200.8	05/11/23 17:59 / dck		ICPMS206-H_230511C : 41		R184474
Lithium	ND	mg/L		0.1		E200.7	05/11/23 15:04 / slj		ICP2-HE_230511A : 81		R184450
Magnesium	25	mg/L		1		E200.7	05/11/23 15:04 / slj		ICP2-HE_230511A : 81		R184450
Neodymium	ND	mg/L		0.005		E200.8	05/11/23 17:59 / dck		ICPMS206-H_230511C : 41		R184474
Niobium	ND	mg/L		0.01		E200.8	05/11/23 17:59 / dck		ICPMS206-H_230511C : 41		R184474
Manganese	ND	mg/L		0.001		E200.8	05/11/23 17:48 / dck		ICPMS205-H_230511A : 124		R184444
Molybdenum	0.054	mg/L		0.001		E200.8	05/11/23 17:48 / dck		ICPMS205-H_230511A : 124		R184444
Nickel	ND	mg/L		0.002		E200.8	05/11/23 17:48 / dck		ICPMS205-H_230511A : 124		R184444
Palladium	ND	mg/L		0.01		E200.8	05/11/23 17:59 / dck		ICPMS206-H_230511C : 41		R184474
Praseodymium	ND	mg/L		0.01		E200.8	05/11/23 17:59 / dck		ICPMS206-H_230511C : 41		R184474
Rubidium	ND	mg/L		0.01		E200.8	05/11/23 17:59 / dck		ICPMS206-H_230511C : 41		R184474
Potassium	9	mg/L		1		E200.7	05/11/23 15:04 / slj		ICP2-HE_230511A : 81		R184450
Selenium	ND	mg/L		0.001		E200.8	05/11/23 17:48 / dck		ICPMS205-H_230511A : 124		R184444
Silver	ND	mg/L		0.0002		E200.8	05/11/23 17:48 / dck		ICPMS205-H_230511A : 124		R184444
Sodium	46	mg/L		1		E200.7	05/11/23 15:04 / slj		ICP2-HE_230511A : 81		R184450
Strontium	0.77	mg/L		0.01		E200.8	05/11/23 17:48 / dck		ICPMS205-H_230511A : 124		R184444
Thallium	ND	mg/L		0.0002		E200.8	05/11/23 17:48 / dck		ICPMS205-H_230511A : 124		R184444
Thorium	ND	mg/L		0.005		E200.8	05/11/23 17:59 / dck		ICPMS206-H_230511C : 108		R184474
Tin	ND	mg/L		0.05		E200.8	05/11/23 17:48 / dck		ICPMS205-H_230511A : 124		R184444
Titanium	ND	mg/L		0.005		E200.8	05/11/23 17:48 / dck		ICPMS205-H_230511A : 124		R184444
Tungsten	ND	mg/L		0.1		E200.8	05/11/23 17:59 / dck		ICPMS206-H_230511C : 41		R184474
Uranium	0.0015	mg/L		0.0002		E200.8	05/11/23 17:48 / dck		ICPMS205-H_230511A : 124		R184444
Vanadium	ND	mg/L		0.01		E200.8	05/11/23 17:48 / dck		ICPMS205-H_230511A : 124		R184444
Zinc	0.197	mg/L		0.008		E200.8	05/11/23 17:48 / dck		ICPMS205-H_230511A : 124		R184444
Zirconium	ND	mg/L		0.005		E200.8	05/11/23 17:59 / dck		ICPMS206-H_230511C : 41		R184474

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11B  
**Lab ID:** H23050305-010  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 16:12      **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.55	%				A1030 E	05/17/23 10:38 / SR		CALC_230517A : 397		R184598

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13C  
**Lab ID:** H23050305-011  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 16:19 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.9	s.u.	H	0.1		A4500-H B	05/11/23 09:26 / ams		PHSC_101-H_230511A : 39		R184429
pH Measurement Temp	12.5	°C				A4500-H B	05/11/23 09:26 / ams		PHSC_101-H_230511A : 39		R184429
Conductivity @ 25 C	685	umhos/cm		5		A2510 B	05/11/23 09:26 / ams		PHSC_101-H_230511A : 40		R184429
Solids, Total Dissolved TDS @ 180 C	481	mg/L		20		A2540 C	05/11/23 11:53 / ams		I24 (14410200)_230511A : 18		TDS230511A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	58	mg/L		4		A2320 B	05/11/23 17:37 / ams		PHSC_101-H_230511A : 171		R184429
Bicarbonate as HCO3	70	mg/L		4		A2320 B	05/11/23 17:37 / ams		PHSC_101-H_230511A : 171		R184429
Carbonate as CO3	ND	mg/L		4		A2320 B	05/11/23 17:37 / ams		PHSC_101-H_230511A : 171		R184429
Chloride	7	mg/L		1		E300.0	05/12/23 05:33 / ljs		IC METROHM_230511A : 74		R184473
Sulfate	257	mg/L		1		E300.0	05/12/23 05:33 / ljs		IC METROHM_230511A : 74		R184473
Bromide	ND	mg/L		0.5		E300.0	05/12/23 05:33 / ljs		IC METROHM_230511A : 74		R184473
Fluoride	1.3	mg/L		0.1		E300.0	05/12/23 05:33 / ljs		IC METROHM_230511A : 74		R184473
Hardness as CaCO3	218	mg/L		1		A2340 B	05/11/23 15:08 / SR		CALC_230517A : 410		R184598
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	05/13/23 02:21 / eli-c		SUB-C294513 : 45		C_R294513
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	05/12/23 17:04 / eli-c		SUB-C294513 : 17		C_R294513
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.15	mg/L		0.01		E353.2	05/17/23 15:21 / JAR		FIA203-HE_230517A : 71		R184632
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/11/23 18:01 / dck		ICPMS205-H_230511A : 129		R184444
Antimony	ND	mg/L		0.0005		E200.8	05/11/23 18:01 / dck		ICPMS205-H_230511A : 129		R184444
Arsenic	0.006	mg/L		0.001		E200.8	05/11/23 18:01 / dck		ICPMS205-H_230511A : 129		R184444
Barium	0.008	mg/L		0.003		E200.8	05/11/23 18:01 / dck		ICPMS205-H_230511A : 129		R184444
Beryllium	ND	mg/L		0.0008		E200.8	05/11/23 18:01 / dck		ICPMS205-H_230511A : 129		R184444
Boron	ND	mg/L		0.05		E200.7	05/11/23 15:08 / slj		ICP2-HE_230511A : 82		R184450
Cadmium	0.00190	mg/L		0.00003		E200.8	05/11/23 18:01 / dck		ICPMS205-H_230511A : 129		R184444
Cesium	ND	mg/L		0.01		E200.8	05/11/23 18:06 / dck		ICPMS206-H_230511C : 46		R184474

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13C  
**Lab ID:** H23050305-011  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 16:19 **DateReceived:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	64	mg/L		1		E200.7	05/11/23 15:08 / slj		ICP2-HE_230511A : 82		R184450
Chromium	ND	mg/L		0.005		E200.8	05/11/23 18:01 / dck		ICPMS205-H_230511A : 129		R184444
Cobalt	ND	mg/L		0.005		E200.8	05/11/23 18:01 / dck		ICPMS205-H_230511A : 129		R184444
Copper	ND	mg/L		0.002		E200.8	05/11/23 18:01 / dck		ICPMS205-H_230511A : 129		R184444
Gallium	ND	mg/L		0.01		E200.8	05/11/23 18:06 / dck		ICPMS206-H_230511C : 46		R184474
Iron	ND	mg/L		0.02		E200.8	05/11/23 18:01 / dck		ICPMS205-H_230511A : 129		R184444
Lead	ND	mg/L		0.0003		E200.8	05/11/23 18:01 / dck		ICPMS205-H_230511A : 129		R184444
Lanthanum	ND	mg/L		0.01		E200.8	05/11/23 18:06 / dck		ICPMS206-H_230511C : 46		R184474
Lithium	ND	mg/L		0.1		E200.7	05/11/23 15:08 / slj		ICP2-HE_230511A : 82		R184450
Magnesium	14	mg/L		1		E200.7	05/11/23 15:08 / slj		ICP2-HE_230511A : 82		R184450
Neodymium	ND	mg/L		0.005		E200.8	05/11/23 18:06 / dck		ICPMS206-H_230511C : 46		R184474
Niobium	ND	mg/L		0.01		E200.8	05/11/23 18:06 / dck		ICPMS206-H_230511C : 46		R184474
Manganese	ND	mg/L		0.001		E200.8	05/11/23 18:01 / dck		ICPMS205-H_230511A : 129		R184444
Molybdenum	0.170	mg/L		0.001		E200.8	05/11/23 18:01 / dck		ICPMS205-H_230511A : 129		R184444
Nickel	ND	mg/L		0.002		E200.8	05/11/23 18:01 / dck		ICPMS205-H_230511A : 129		R184444
Palladium	ND	mg/L		0.01		E200.8	05/11/23 18:06 / dck		ICPMS206-H_230511C : 46		R184474
Praseodymium	ND	mg/L		0.01		E200.8	05/11/23 18:06 / dck		ICPMS206-H_230511C : 46		R184474
Rubidium	ND	mg/L		0.01		E200.8	05/11/23 18:06 / dck		ICPMS206-H_230511C : 46		R184474
Potassium	7	mg/L		1		E200.7	05/11/23 15:08 / slj		ICP2-HE_230511A : 82		R184450
Selenium	ND	mg/L		0.001		E200.8	05/11/23 18:01 / dck		ICPMS205-H_230511A : 129		R184444
Silver	ND	mg/L		0.0002		E200.8	05/11/23 18:01 / dck		ICPMS205-H_230511A : 129		R184444
Sodium	43	mg/L		1		E200.7	05/11/23 15:08 / slj		ICP2-HE_230511A : 82		R184450
Strontium	0.44	mg/L		0.01		E200.8	05/11/23 18:01 / dck		ICPMS205-H_230511A : 129		R184444
Thallium	ND	mg/L		0.0002		E200.8	05/11/23 18:01 / dck		ICPMS205-H_230511A : 129		R184444
Thorium	ND	mg/L		0.005		E200.8	05/11/23 18:01 / dck		ICPMS205-H_230511A : 129		R184444
Tin	ND	mg/L		0.05		E200.8	05/11/23 18:01 / dck		ICPMS205-H_230511A : 129		R184444
Titanium	ND	mg/L		0.005		E200.8	05/11/23 18:01 / dck		ICPMS205-H_230511A : 129		R184444
Tungsten	ND	mg/L		0.1		E200.8	05/11/23 18:06 / dck		ICPMS206-H_230511C : 46		R184474
Uranium	0.0015	mg/L		0.0002		E200.8	05/11/23 18:01 / dck		ICPMS205-H_230511A : 129		R184444
Vanadium	ND	mg/L		0.01		E200.8	05/11/23 18:01 / dck		ICPMS205-H_230511A : 129		R184444
Zinc	0.157	mg/L		0.008		E200.8	05/11/23 18:01 / dck		ICPMS205-H_230511A : 129		R184444
Zirconium	ND	mg/L		0.005		E200.8	05/11/23 18:06 / dck		ICPMS206-H_230511C : 46		R184474

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13C  
**Lab ID:** H23050305-011  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/08/23 16:19      **DateReceived:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-2.68	%				A1030 E	05/17/23 10:39 / SR		CALC_230517A : 408		R184598

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-09A  
**Lab ID:** H23050305-012  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 11:21 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.9	s.u.	H	0.1		A4500-H B	05/11/23 09:28 / ams		PHSC_101-H_230511A : 41		R184429
pH Measurement Temp	12.9	°C				A4500-H B	05/11/23 09:28 / ams		PHSC_101-H_230511A : 41		R184429
Conductivity @ 25 C	1510	umhos/cm		5		A2510 B	05/11/23 09:28 / ams		PHSC_101-H_230511A : 42		R184429
Solids, Total Dissolved TDS @ 180 C	1070	mg/L		20		A2540 C	05/11/23 11:53 / ams		I24 (14410200)_230511A : 19		TDS230511A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	200	mg/L		4		A2320 B	05/11/23 17:44 / ams		PHSC_101-H_230511A : 173		R184429
Bicarbonate as HCO3	240	mg/L		4		A2320 B	05/11/23 17:44 / ams		PHSC_101-H_230511A : 173		R184429
Carbonate as CO3	ND	mg/L		4		A2320 B	05/11/23 17:44 / ams		PHSC_101-H_230511A : 173		R184429
Chloride	70	mg/L		1		E300.0	05/12/23 05:48 / ljs		IC METROHM_230511A : 75		R184473
Sulfate	490	mg/L		1		E300.0	05/12/23 05:48 / ljs		IC METROHM_230511A : 75		R184473
Bromide	ND	mg/L		0.5		E300.0	05/12/23 05:48 / ljs		IC METROHM_230511A : 75		R184473
Fluoride	1.0	mg/L		0.1		E300.0	05/12/23 05:48 / ljs		IC METROHM_230511A : 75		R184473
Hardness as CaCO3	607	mg/L		1		A2340 B	05/11/23 15:23 / SR		CALC_230517A : 421		R184598
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.4	mg/L		0.5		A5310 C	05/13/23 03:13 / eli-c		SUB-C294513 : 48		C_R294513
Organic Carbon, Total (TOC)	1.4	mg/L		0.5		A5310 C	05/12/23 17:56 / eli-c		SUB-C294513 : 20		C_R294513
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	5.8	mg/L		0.1		E353.2	05/17/23 15:25 / JAR		FIA203-HE_230517A : 74		R184632
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/11/23 18:04 / dck		ICPMS205-H_230511A : 130		R184444
Antimony	ND	mg/L		0.0005		E200.8	05/11/23 18:04 / dck		ICPMS205-H_230511A : 130		R184444
Arsenic	0.003	mg/L		0.001		E200.8	05/11/23 18:04 / dck		ICPMS205-H_230511A : 130		R184444
Barium	0.020	mg/L		0.003		E200.8	05/11/23 18:04 / dck		ICPMS205-H_230511A : 130		R184444
Beryllium	ND	mg/L		0.0008		E200.8	05/11/23 18:04 / dck		ICPMS205-H_230511A : 130		R184444
Boron	0.12	mg/L		0.05		E200.7	05/11/23 15:23 / slj		ICP2-HE_230511A : 86		R184450
Cadmium	0.00527	mg/L		0.00003		E200.8	05/11/23 18:04 / dck		ICPMS205-H_230511A : 130		R184444
Cesium	ND	mg/L		0.01		E200.8	05/11/23 18:08 / dck		ICPMS206-H_230511C : 47		R184474

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-09A  
**Lab ID:** H23050305-012  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 11:21 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	178	mg/L		1		E200.7	05/11/23 15:23 / slj		ICP2-HE_230511A : 86		R184450
Chromium	ND	mg/L		0.005		E200.8	05/11/23 18:04 / dck		ICPMS205-H_230511A : 130		R184444
Cobalt	ND	mg/L		0.005		E200.8	05/11/23 18:04 / dck		ICPMS205-H_230511A : 130		R184444
Copper	0.050	mg/L		0.002		E200.8	05/11/23 18:04 / dck		ICPMS205-H_230511A : 130		R184444
Gallium	ND	mg/L		0.01		E200.8	05/11/23 18:08 / dck		ICPMS206-H_230511C : 47		R184474
Iron	ND	mg/L		0.02		E200.8	05/11/23 18:04 / dck		ICPMS205-H_230511A : 130		R184444
Lead	ND	mg/L		0.0003		E200.8	05/11/23 18:04 / dck		ICPMS205-H_230511A : 130		R184444
Lanthanum	ND	mg/L		0.01		E200.8	05/11/23 18:08 / dck		ICPMS206-H_230511C : 47		R184474
Lithium	0.2	mg/L		0.1		E200.7	05/11/23 15:23 / slj		ICP2-HE_230511A : 86		R184450
Magnesium	40	mg/L		1		E200.7	05/11/23 15:23 / slj		ICP2-HE_230511A : 86		R184450
Neodymium	ND	mg/L		0.005		E200.8	05/11/23 18:08 / dck		ICPMS206-H_230511C : 47		R184474
Niobium	ND	mg/L		0.01		E200.8	05/11/23 18:08 / dck		ICPMS206-H_230511C : 47		R184474
Manganese	ND	mg/L		0.001		E200.8	05/11/23 18:04 / dck		ICPMS205-H_230511A : 130		R184444
Molybdenum	0.008	mg/L		0.001		E200.8	05/11/23 18:04 / dck		ICPMS205-H_230511A : 130		R184444
Nickel	0.003	mg/L		0.002		E200.8	05/11/23 18:04 / dck		ICPMS205-H_230511A : 130		R184444
Palladium	ND	mg/L		0.01		E200.8	05/11/23 18:08 / dck		ICPMS206-H_230511C : 47		R184474
Praseodymium	ND	mg/L		0.01		E200.8	05/11/23 18:08 / dck		ICPMS206-H_230511C : 47		R184474
Rubidium	0.01	mg/L		0.01		E200.8	05/11/23 18:08 / dck		ICPMS206-H_230511C : 47		R184474
Potassium	12	mg/L		1		E200.7	05/11/23 15:23 / slj		ICP2-HE_230511A : 86		R184450
Selenium	ND	mg/L		0.001		E200.8	05/11/23 18:04 / dck		ICPMS205-H_230511A : 130		R184444
Silver	0.0002	mg/L		0.0002		E200.8	05/11/23 18:04 / dck		ICPMS205-H_230511A : 130		R184444
Sodium	76	mg/L		1		E200.7	05/11/23 15:23 / slj		ICP2-HE_230511A : 86		R184450
Strontium	1.94	mg/L		0.01		E200.7	05/11/23 15:23 / slj		ICP2-HE_230511A : 86		R184450
Thallium	ND	mg/L		0.0002		E200.8	05/11/23 18:04 / dck		ICPMS205-H_230511A : 130		R184444
Thorium	ND	mg/L		0.005		E200.8	05/11/23 18:04 / dck		ICPMS205-H_230511A : 130		R184444
Tin	ND	mg/L		0.05		E200.8	05/11/23 18:04 / dck		ICPMS205-H_230511A : 130		R184444
Titanium	ND	mg/L		0.005		E200.8	05/11/23 18:04 / dck		ICPMS205-H_230511A : 130		R184444
Tungsten	ND	mg/L		0.1		E200.8	05/11/23 18:08 / dck		ICPMS206-H_230511C : 47		R184474
Uranium	0.0573	mg/L		0.0002		E200.8	05/11/23 18:04 / dck		ICPMS205-H_230511A : 130		R184444
Vanadium	ND	mg/L		0.01		E200.8	05/11/23 18:04 / dck		ICPMS205-H_230511A : 130		R184444
Zinc	0.698	mg/L		0.008		E200.8	05/11/23 18:04 / dck		ICPMS205-H_230511A : 130		R184444
Zirconium	ND	mg/L		0.005		E200.8	05/11/23 18:08 / dck		ICPMS206-H_230511C : 47		R184474

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-09A  
**Lab ID:** H23050305-012  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 11:21      **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.31	%				A1030 E	05/17/23 10:39 / SR		CALC_230517A : 419		R184598

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-23  
**Lab ID:** H23050305-013  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 11:31 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.1	s.u.	H	0.1		A4500-H B	05/11/23 09:30 / ams		PHSC_101-H_230511A : 43		R184429
pH Measurement Temp	13.3	°C				A4500-H B	05/11/23 09:30 / ams		PHSC_101-H_230511A : 43		R184429
Conductivity @ 25 C	1360	umhos/cm		5		A2510 B	05/11/23 09:30 / ams		PHSC_101-H_230511A : 44		R184429
Solids, Total Dissolved TDS @ 180 C	814	mg/L		20		A2540 C	05/11/23 11:54 / ams		I24 (14410200)_230511A : 20		TDS230511A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	490	mg/L		4		A2320 B	05/11/23 18:15 / ams		PHSC_101-H_230511A : 179		R184429
Bicarbonate as HCO3	600	mg/L		4		A2320 B	05/11/23 18:15 / ams		PHSC_101-H_230511A : 179		R184429
Carbonate as CO3	ND	mg/L		4		A2320 B	05/11/23 18:15 / ams		PHSC_101-H_230511A : 179		R184429
Chloride	80	mg/L		1		E300.0	05/12/23 06:02 / ljs		IC METROHM_230511A : 76		R184473
Sulfate	130	mg/L		1		E300.0	05/12/23 06:02 / ljs		IC METROHM_230511A : 76		R184473
Bromide	ND	mg/L		0.5		E300.0	05/12/23 06:02 / ljs		IC METROHM_230511A : 76		R184473
Fluoride	1.8	mg/L		0.1		E300.0	05/12/23 06:02 / ljs		IC METROHM_230511A : 76		R184473
Hardness as CaCO3	539	mg/L		1		A2340 B	05/11/23 15:27 / SR		CALC_230517A : 432		R184598
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	5.6	mg/L		0.5		A5310 C	05/13/23 03:29 / eli-c		SUB-C294513 : 49		C_R294513
Organic Carbon, Total (TOC)	5.3	mg/L		0.5		A5310 C	05/12/23 18:17 / eli-c		SUB-C294513 : 21		C_R294513
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	05/17/23 15:26 / JAR		FIA203-HE_230517A : 75		R184632
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/11/23 18:07 / dck		ICPMS205-H_230511A : 131		R184444
Antimony	ND	mg/L		0.0005		E200.8	05/11/23 18:07 / dck		ICPMS205-H_230511A : 131		R184444
Arsenic	0.216	mg/L		0.001		E200.8	05/11/23 18:07 / dck		ICPMS205-H_230511A : 131		R184444
Barium	0.061	mg/L		0.003		E200.8	05/11/23 18:07 / dck		ICPMS205-H_230511A : 131		R184444
Beryllium	ND	mg/L		0.0008		E200.8	05/11/23 18:07 / dck		ICPMS205-H_230511A : 131		R184444
Boron	0.22	mg/L		0.05		E200.7	05/11/23 15:27 / slj		ICP2-HE_230511A : 87		R184450
Cadmium	ND	mg/L		0.00003		E200.8	05/11/23 18:07 / dck		ICPMS205-H_230511A : 131		R184444
Cesium	ND	mg/L		0.01		E200.8	05/11/23 18:10 / dck		ICPMS206-H_230511C : 48		R184474

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-23  
**Lab ID:** H23050305-013  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 11:31 **DateReceived:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	150	mg/L		1		E200.7	05/11/23 15:27 / slj		ICP2-HE_230511A : 87		R184450
Chromium	ND	mg/L		0.005		E200.8	05/11/23 18:07 / dck		ICPMS205-H_230511A : 131		R184444
Cobalt	ND	mg/L		0.005		E200.8	05/11/23 18:07 / dck		ICPMS205-H_230511A : 131		R184444
Copper	ND	mg/L		0.002		E200.8	05/11/23 18:07 / dck		ICPMS205-H_230511A : 131		R184444
Gallium	ND	mg/L		0.01		E200.8	05/11/23 18:10 / dck		ICPMS206-H_230511C : 48		R184474
Iron	10.6	mg/L		0.02		E200.7	05/11/23 15:27 / slj		ICP2-HE_230511A : 87		R184450
Lead	ND	mg/L		0.0003		E200.8	05/11/23 18:07 / dck		ICPMS205-H_230511A : 131		R184444
Lanthanum	ND	mg/L		0.01		E200.8	05/11/23 18:10 / dck		ICPMS206-H_230511C : 48		R184474
Lithium	ND	mg/L		0.1		E200.7	05/11/23 15:27 / slj		ICP2-HE_230511A : 87		R184450
Magnesium	40	mg/L		1		E200.7	05/11/23 15:27 / slj		ICP2-HE_230511A : 87		R184450
Neodymium	ND	mg/L		0.005		E200.8	05/11/23 18:10 / dck		ICPMS206-H_230511C : 48		R184474
Niobium	ND	mg/L		0.01		E200.8	05/11/23 18:10 / dck		ICPMS206-H_230511C : 48		R184474
Manganese	3.20	mg/L		0.001		E200.7	05/11/23 15:27 / slj		ICP2-HE_230511A : 87		R184450
Molybdenum	0.012	mg/L		0.001		E200.8	05/11/23 18:07 / dck		ICPMS205-H_230511A : 131		R184444
Nickel	ND	mg/L		0.002		E200.8	05/11/23 18:07 / dck		ICPMS205-H_230511A : 131		R184444
Palladium	ND	mg/L		0.01		E200.8	05/11/23 18:10 / dck		ICPMS206-H_230511C : 48		R184474
Praseodymium	ND	mg/L		0.01		E200.8	05/11/23 18:10 / dck		ICPMS206-H_230511C : 48		R184474
Rubidium	ND	mg/L		0.01		E200.8	05/11/23 18:10 / dck		ICPMS206-H_230511C : 48		R184474
Potassium	11	mg/L		1		E200.7	05/11/23 15:27 / slj		ICP2-HE_230511A : 87		R184450
Selenium	ND	mg/L		0.001		E200.8	05/11/23 18:07 / dck		ICPMS205-H_230511A : 131		R184444
Silver	ND	mg/L		0.0002		E200.8	05/11/23 18:07 / dck		ICPMS205-H_230511A : 131		R184444
Sodium	71	mg/L		1		E200.7	05/11/23 15:27 / slj		ICP2-HE_230511A : 87		R184450
Strontium	1.26	mg/L		0.01		E200.7	05/11/23 15:27 / slj		ICP2-HE_230511A : 87		R184450
Thallium	ND	mg/L		0.0002		E200.8	05/11/23 18:07 / dck		ICPMS205-H_230511A : 131		R184444
Thorium	ND	mg/L		0.005		E200.8	05/11/23 18:07 / dck		ICPMS205-H_230511A : 131		R184444
Tin	ND	mg/L		0.05		E200.8	05/11/23 18:07 / dck		ICPMS205-H_230511A : 131		R184444
Titanium	ND	mg/L		0.005		E200.8	05/11/23 18:07 / dck		ICPMS205-H_230511A : 131		R184444
Tungsten	ND	mg/L		0.1		E200.8	05/11/23 18:10 / dck		ICPMS206-H_230511C : 48		R184474
Uranium	0.0160	mg/L		0.0002		E200.8	05/11/23 18:07 / dck		ICPMS205-H_230511A : 131		R184444
Vanadium	ND	mg/L		0.01		E200.8	05/11/23 18:07 / dck		ICPMS205-H_230511A : 131		R184444
Zinc	0.088	mg/L		0.008		E200.8	05/11/23 18:07 / dck		ICPMS205-H_230511A : 131		R184444
Zirconium	ND	mg/L		0.005		E200.8	05/11/23 18:10 / dck		ICPMS206-H_230511C : 48		R184474

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-23  
**Lab ID:** H23050305-013  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 11:31    **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-2.88	%				A1030 E	05/17/23 10:39 / SR		CALC_230517A : 430		R184598

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11C  
**Lab ID:** H23050305-014  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 11:32 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.1	s.u.	H	0.1		A4500-H B	05/11/23 09:31 / ams		PHSC_101-H_230511A : 45		R184429
pH Measurement Temp	13.5	°C				A4500-H B	05/11/23 09:31 / ams		PHSC_101-H_230511A : 45		R184429
Conductivity @ 25 C	918	umhos/cm		5		A2510 B	05/11/23 09:31 / ams		PHSC_101-H_230511A : 46		R184429
Solids, Total Dissolved TDS @ 180 C	659	mg/L		20		A2540 C	05/11/23 11:54 / ams		I24 (14410200)_230511A : 21		TDS230511A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	68	mg/L		4		A2320 B	05/11/23 18:35 / ams		PHSC_101-H_230511A : 183		R184429
Bicarbonate as HCO3	83	mg/L		4		A2320 B	05/11/23 18:35 / ams		PHSC_101-H_230511A : 183		R184429
Carbonate as CO3	ND	mg/L		4		A2320 B	05/11/23 18:35 / ams		PHSC_101-H_230511A : 183		R184429
Chloride	9	mg/L		1		E300.0	05/12/23 06:17 / ljs		IC METROHM_230511A : 77		R184473
Sulfate	359	mg/L		1		E300.0	05/12/23 06:17 / ljs		IC METROHM_230511A : 77		R184473
Bromide	ND	mg/L		0.5		E300.0	05/12/23 06:17 / ljs		IC METROHM_230511A : 77		R184473
Fluoride	2.2	mg/L		0.1		E300.0	05/12/23 06:17 / ljs		IC METROHM_230511A : 77		R184473
Hardness as CaCO3	246	mg/L		1		A2340 B	05/11/23 15:30 / SR		CALC_230517A : 443		R184598
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	05/13/23 03:45 / eli-c		SUB-C294513 : 50		C_R294513
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	05/12/23 18:33 / eli-c		SUB-C294513 : 22		C_R294513
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.04	mg/L		0.01		E353.2	05/17/23 15:27 / JAR		FIA203-HE_230517A : 76		R184632
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/11/23 18:10 / dck		ICPMS205-H_230511A : 132		R184444
Antimony	ND	mg/L		0.0005		E200.8	05/11/23 18:10 / dck		ICPMS205-H_230511A : 132		R184444
Arsenic	0.003	mg/L		0.001		E200.8	05/11/23 18:10 / dck		ICPMS205-H_230511A : 132		R184444
Barium	0.011	mg/L		0.003		E200.8	05/11/23 18:10 / dck		ICPMS205-H_230511A : 132		R184444
Beryllium	ND	mg/L		0.0008		E200.8	05/11/23 18:10 / dck		ICPMS205-H_230511A : 132		R184444
Boron	0.08	mg/L		0.05		E200.7	05/11/23 15:30 / slj		ICP2-HE_230511A : 88		R184450
Cadmium	0.00042	mg/L		0.00003		E200.8	05/11/23 18:10 / dck		ICPMS205-H_230511A : 132		R184444
Cesium	ND	mg/L		0.01		E200.8	05/11/23 18:11 / dck		ICPMS206-H_230511C : 49		R184474

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11C  
**Lab ID:** H23050305-014  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 11:32 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	71	mg/L		1		E200.7	05/11/23 15:30 / slj		ICP2-HE_230511A : 88		R184450
Chromium	ND	mg/L		0.005		E200.8	05/11/23 18:10 / dck		ICPMS205-H_230511A : 132		R184444
Cobalt	ND	mg/L		0.005		E200.8	05/11/23 18:10 / dck		ICPMS205-H_230511A : 132		R184444
Copper	ND	mg/L		0.002		E200.8	05/11/23 18:10 / dck		ICPMS205-H_230511A : 132		R184444
Gallium	ND	mg/L		0.01		E200.8	05/11/23 18:11 / dck		ICPMS206-H_230511C : 49		R184474
Iron	0.03	mg/L		0.02		E200.8	05/11/23 18:10 / dck		ICPMS205-H_230511A : 132		R184444
Lead	ND	mg/L		0.0003		E200.8	05/11/23 18:10 / dck		ICPMS205-H_230511A : 132		R184444
Lanthanum	ND	mg/L		0.01		E200.8	05/11/23 18:11 / dck		ICPMS206-H_230511C : 49		R184474
Lithium	0.1	mg/L		0.1		E200.7	05/11/23 15:30 / slj		ICP2-HE_230511A : 88		R184450
Magnesium	17	mg/L		1		E200.7	05/11/23 15:30 / slj		ICP2-HE_230511A : 88		R184450
Neodymium	ND	mg/L		0.005		E200.8	05/11/23 18:11 / dck		ICPMS206-H_230511C : 49		R184474
Niobium	ND	mg/L		0.01		E200.8	05/11/23 18:11 / dck		ICPMS206-H_230511C : 49		R184474
Manganese	0.058	mg/L		0.001		E200.8	05/11/23 18:10 / dck		ICPMS205-H_230511A : 132		R184444
Molybdenum	0.157	mg/L		0.001		E200.8	05/11/23 18:10 / dck		ICPMS205-H_230511A : 132		R184444
Nickel	ND	mg/L		0.002		E200.8	05/11/23 18:10 / dck		ICPMS205-H_230511A : 132		R184444
Palladium	ND	mg/L		0.01		E200.8	05/11/23 18:11 / dck		ICPMS206-H_230511C : 49		R184474
Praseodymium	ND	mg/L		0.01		E200.8	05/11/23 18:11 / dck		ICPMS206-H_230511C : 49		R184474
Rubidium	ND	mg/L		0.01		E200.8	05/11/23 18:11 / dck		ICPMS206-H_230511C : 49		R184474
Potassium	10	mg/L		1		E200.7	05/11/23 15:30 / slj		ICP2-HE_230511A : 88		R184450
Selenium	ND	mg/L		0.001		E200.8	05/11/23 18:10 / dck		ICPMS205-H_230511A : 132		R184444
Silver	ND	mg/L		0.0002		E200.8	05/11/23 18:10 / dck		ICPMS205-H_230511A : 132		R184444
Sodium	84	mg/L		1		E200.7	05/11/23 15:30 / slj		ICP2-HE_230511A : 88		R184450
Strontium	0.66	mg/L		0.01		E200.8	05/11/23 18:10 / dck		ICPMS205-H_230511A : 132		R184444
Thallium	ND	mg/L		0.0002		E200.8	05/11/23 18:10 / dck		ICPMS205-H_230511A : 132		R184444
Thorium	ND	mg/L		0.005		E200.8	05/11/23 18:10 / dck		ICPMS205-H_230511A : 132		R184444
Tin	ND	mg/L		0.05		E200.8	05/11/23 18:10 / dck		ICPMS205-H_230511A : 132		R184444
Titanium	ND	mg/L		0.005		E200.8	05/11/23 18:10 / dck		ICPMS205-H_230511A : 132		R184444
Tungsten	ND	mg/L		0.1		E200.8	05/11/23 18:11 / dck		ICPMS206-H_230511C : 49		R184474
Uranium	0.0017	mg/L		0.0002		E200.8	05/11/23 18:10 / dck		ICPMS205-H_230511A : 132		R184444
Vanadium	ND	mg/L		0.01		E200.8	05/11/23 18:10 / dck		ICPMS205-H_230511A : 132		R184444
Zinc	0.014	mg/L		0.008		E200.8	05/11/23 18:10 / dck		ICPMS205-H_230511A : 132		R184444
Zirconium	ND	mg/L		0.005		E200.8	05/11/23 18:11 / dck		ICPMS206-H_230511C : 49		R184474

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11C  
**Lab ID:** H23050305-014  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 11:32      **DateReceived:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-2.02	%				A1030 E	05/17/23 10:39 / SR		CALC_230517A : 441		R184598

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08A2  
**Lab ID:** H23050305-015  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 11:57 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.6	s.u.	H	0.1		A4500-H B	05/11/23 09:33 / ams		PHSC_101-H_230511A : 47		R184429
pH Measurement Temp	14.0	°C				A4500-H B	05/11/23 09:33 / ams		PHSC_101-H_230511A : 47		R184429
Conductivity @ 25 C	800	umhos/cm		5		A2510 B	05/11/23 09:33 / ams		PHSC_101-H_230511A : 48		R184429
Solids, Total Dissolved TDS @ 180 C	547	mg/L		20		A2540 C	05/11/23 11:54 / ams		I24 (14410200)_230511A : 22		TDS230511A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	79	mg/L		4		A2320 B	05/11/23 18:41 / ams		PHSC_101-H_230511A : 185		R184429
Bicarbonate as HCO3	96	mg/L		4		A2320 B	05/11/23 18:41 / ams		PHSC_101-H_230511A : 185		R184429
Carbonate as CO3	ND	mg/L		4		A2320 B	05/11/23 18:41 / ams		PHSC_101-H_230511A : 185		R184429
Chloride	30	mg/L		1		E300.0	05/12/23 06:31 / ljs		IC METROHM_230511A : 78		R184473
Sulfate	254	mg/L		1		E300.0	05/12/23 06:31 / ljs		IC METROHM_230511A : 78		R184473
Bromide	ND	mg/L		0.5		E300.0	05/12/23 06:31 / ljs		IC METROHM_230511A : 78		R184473
Fluoride	0.4	mg/L		0.1		E300.0	05/12/23 06:31 / ljs		IC METROHM_230511A : 78		R184473
Hardness as CaCO3	304	mg/L		1		A2340 B	05/11/23 15:34 / SR		CALC_230517A : 454		R184598
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.2	mg/L		0.5		A5310 C	05/13/23 04:05 / eli-c		SUB-C294513 : 51		C_R294513
Organic Carbon, Total (TOC)	1.2	mg/L		0.5		A5310 C	05/12/23 18:53 / eli-c		SUB-C294513 : 23		C_R294513
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	5.09	mg/L		0.05		E353.2	05/17/23 15:28 / JAR		FIA203-HE_230517A : 77		R184632
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/11/23 18:12 / dck		ICPMS205-H_230511A : 133		R184444
Antimony	ND	mg/L		0.0005		E200.8	05/11/23 18:12 / dck		ICPMS205-H_230511A : 133		R184444
Arsenic	ND	mg/L		0.001		E200.8	05/11/23 18:12 / dck		ICPMS205-H_230511A : 133		R184444
Barium	0.018	mg/L		0.003		E200.8	05/11/23 18:12 / dck		ICPMS205-H_230511A : 133		R184444
Beryllium	ND	mg/L		0.0008		E200.8	05/11/23 18:12 / dck		ICPMS205-H_230511A : 133		R184444
Boron	0.08	mg/L		0.05		E200.7	05/11/23 15:34 / slj		ICP2-HE_230511A : 89		R184450
Cadmium	0.00126	mg/L		0.00003		E200.8	05/11/23 18:12 / dck		ICPMS205-H_230511A : 133		R184444
Cesium	ND	mg/L		0.01		E200.8	05/11/23 18:13 / dck		ICPMS206-H_230511C : 50		R184474

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08A2  
**Lab ID:** H23050305-015  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 11:57 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	85	mg/L		1		E200.7	05/11/23 15:34 / slj		ICP2-HE_230511A : 89		R184450
Chromium	ND	mg/L		0.005		E200.8	05/11/23 18:12 / dck		ICPMS205-H_230511A : 133		R184444
Cobalt	ND	mg/L		0.005		E200.8	05/11/23 18:12 / dck		ICPMS205-H_230511A : 133		R184444
Copper	0.010	mg/L		0.002		E200.8	05/11/23 18:12 / dck		ICPMS205-H_230511A : 133		R184444
Gallium	ND	mg/L		0.01		E200.8	05/11/23 18:13 / dck		ICPMS206-H_230511C : 50		R184474
Iron	ND	mg/L		0.02		E200.8	05/11/23 18:12 / dck		ICPMS205-H_230511A : 133		R184444
Lead	ND	mg/L		0.0003		E200.8	05/11/23 18:12 / dck		ICPMS205-H_230511A : 133		R184444
Lanthanum	ND	mg/L		0.01		E200.8	05/11/23 18:13 / dck		ICPMS206-H_230511C : 50		R184474
Lithium	ND	mg/L		0.1		E200.7	05/11/23 15:34 / slj		ICP2-HE_230511A : 89		R184450
Magnesium	22	mg/L		1		E200.7	05/11/23 15:34 / slj		ICP2-HE_230511A : 89		R184450
Neodymium	ND	mg/L		0.005		E200.8	05/11/23 18:13 / dck		ICPMS206-H_230511C : 50		R184474
Niobium	ND	mg/L		0.01		E200.8	05/11/23 18:13 / dck		ICPMS206-H_230511C : 50		R184474
Manganese	ND	mg/L		0.001		E200.8	05/11/23 18:12 / dck		ICPMS205-H_230511A : 133		R184444
Molybdenum	0.004	mg/L		0.001		E200.8	05/12/23 15:33 / dck		ICPMS205-H_230512A : 27		R184488
Nickel	ND	mg/L		0.002		E200.8	05/11/23 18:12 / dck		ICPMS205-H_230511A : 133		R184444
Palladium	ND	mg/L		0.01		E200.8	05/11/23 18:13 / dck		ICPMS206-H_230511C : 50		R184474
Praseodymium	ND	mg/L		0.01		E200.8	05/11/23 18:13 / dck		ICPMS206-H_230511C : 50		R184474
Rubidium	ND	mg/L		0.01		E200.8	05/11/23 18:13 / dck		ICPMS206-H_230511C : 50		R184474
Potassium	7	mg/L		1		E200.7	05/11/23 15:34 / slj		ICP2-HE_230511A : 89		R184450
Selenium	ND	mg/L		0.001		E200.8	05/11/23 18:12 / dck		ICPMS205-H_230511A : 133		R184444
Silver	ND	mg/L		0.0002		E200.8	05/11/23 18:12 / dck		ICPMS205-H_230511A : 133		R184444
Sodium	34	mg/L		1		E200.7	05/11/23 15:34 / slj		ICP2-HE_230511A : 89		R184450
Strontium	0.65	mg/L		0.01		E200.8	05/11/23 18:12 / dck		ICPMS205-H_230511A : 133		R184444
Thallium	ND	mg/L		0.0002		E200.8	05/11/23 18:12 / dck		ICPMS205-H_230511A : 133		R184444
Thorium	ND	mg/L		0.005		E200.8	05/11/23 18:12 / dck		ICPMS205-H_230511A : 133		R184444
Tin	ND	mg/L		0.05		E200.8	05/11/23 18:12 / dck		ICPMS205-H_230511A : 133		R184444
Titanium	ND	mg/L		0.005		E200.8	05/11/23 18:12 / dck		ICPMS205-H_230511A : 133		R184444
Tungsten	ND	mg/L		0.1		E200.8	05/11/23 18:13 / dck		ICPMS206-H_230511C : 50		R184474
Uranium	0.0015	mg/L		0.0002		E200.8	05/11/23 18:12 / dck		ICPMS205-H_230511A : 133		R184444
Vanadium	ND	mg/L		0.01		E200.8	05/11/23 18:12 / dck		ICPMS205-H_230511A : 133		R184444
Zinc	0.271	mg/L		0.008		E200.8	05/11/23 18:12 / dck		ICPMS205-H_230511A : 133		R184444
Zirconium	ND	mg/L		0.005		E200.8	05/11/23 18:13 / dck		ICPMS206-H_230511C : 50		R184474

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08A2  
**Lab ID:** H23050305-015  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 11:57      **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-0.14	%				A1030 E	05/17/23 10:40 / SR		CALC_230517A : 452		R184598

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10A  
**Lab ID:** H23050305-016  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 14:29 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.6	s.u.	H	0.1		A4500-H B	05/11/23 09:49 / ams		PHSC_101-H_230511A : 54		R184429
pH Measurement Temp	15.8	°C				A4500-H B	05/11/23 09:49 / ams		PHSC_101-H_230511A : 54		R184429
Conductivity @ 25 C	1370	umhos/cm		5		A2510 B	05/11/23 09:49 / ams		PHSC_101-H_230511A : 55		R184429
Solids, Total Dissolved TDS @ 180 C	883	mg/L		20		A2540 C	05/11/23 11:54 / ams		I24 (14410200)_230511A : 23		TDS230511A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	260	mg/L		4		A2320 B	05/11/23 18:48 / ams		PHSC_101-H_230511A : 187		R184429
Bicarbonate as HCO3	310	mg/L		4		A2320 B	05/11/23 18:48 / ams		PHSC_101-H_230511A : 187		R184429
Carbonate as CO3	ND	mg/L		4		A2320 B	05/11/23 18:48 / ams		PHSC_101-H_230511A : 187		R184429
Chloride	77	mg/L		1		E300.0	05/12/23 06:45 / ljs		IC METROHM_230511A : 79		R184473
Sulfate	308	mg/L		1		E300.0	05/12/23 06:45 / ljs		IC METROHM_230511A : 79		R184473
Bromide	ND	mg/L		0.5		E300.0	05/12/23 06:45 / ljs		IC METROHM_230511A : 79		R184473
Fluoride	8.3	mg/L	*	0.1		E300.0	05/12/23 06:45 / ljs		IC METROHM_230511A : 79		R184473
Hardness as CaCO3	394	mg/L		1		A2340 B	05/11/23 15:38 / SR		CALC_230517A : 641		R184598
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	6.1	mg/L		0.5		A5310 C	05/13/23 04:22 / eli-c		SUB-C294513 : 52		C_R294513
Organic Carbon, Total (TOC)	6.2	mg/L		0.5		A5310 C	05/12/23 19:15 / eli-c		SUB-C294513 : 24		C_R294513
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	1.32	mg/L		0.01		E353.2	05/17/23 15:29 / JAR		FIA203-HE_230517A : 78		R184632
<b>METALS, DISSOLVED</b>											
Aluminum	0.063	mg/L		0.009		E200.8	05/11/23 18:15 / dck		ICPMS205-H_230511A : 134		R184444
Antimony	ND	mg/L		0.0005		E200.8	05/11/23 18:15 / dck		ICPMS205-H_230511A : 134		R184444
Arsenic	0.956	mg/L		0.001		E200.8	05/11/23 18:15 / dck		ICPMS205-H_230511A : 134		R184444
Barium	0.019	mg/L		0.003		E200.8	05/11/23 18:15 / dck		ICPMS205-H_230511A : 134		R184444
Beryllium	ND	mg/L		0.0008		E200.8	05/11/23 18:15 / dck		ICPMS205-H_230511A : 134		R184444
Boron	0.43	mg/L		0.05		E200.7	05/11/23 15:38 / slj		ICP2-HE_230511A : 90		R184450
Cadmium	0.00017	mg/L		0.00003		E200.8	05/11/23 18:15 / dck		ICPMS205-H_230511A : 134		R184444
Cesium	ND	mg/L		0.01		E200.8	05/11/23 18:14 / dck		ICPMS206-H_230511C : 51		R184474

**Report Definitions:**  
 RL - Analyte Reporting Limit  
 \* - The result exceeds the Maximum Contaminant Level (MCL)

MCL - Maximum Contaminant Level  
 H - Analysis performed past the method holding time

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10A  
**Lab ID:** H23050305-016  
**Matrix:** Groundwater

**Project:** NRDP16 TO2-Task 001  
**Collection Date:** 05/09/23 14:29 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	105	mg/L		1		E200.7	05/11/23 15:38 / slj		ICP2-HE_230511A : 90		R184450
Chromium	ND	mg/L		0.005		E200.8	05/11/23 18:15 / dck		ICPMS205-H_230511A : 134		R184444
Cobalt	0.010	mg/L		0.005		E200.8	05/11/23 18:15 / dck		ICPMS205-H_230511A : 134		R184444
Copper	ND	mg/L		0.002		E200.8	05/11/23 18:15 / dck		ICPMS205-H_230511A : 134		R184444
Gallium	ND	mg/L		0.01		E200.8	05/11/23 18:14 / dck		ICPMS206-H_230511C : 51		R184474
Iron	56.1	mg/L		0.02		E200.7	05/11/23 15:38 / slj		ICP2-HE_230511A : 90		R184450
Lead	0.0044	mg/L		0.0003		E200.8	05/11/23 18:15 / dck		ICPMS205-H_230511A : 134		R184444
Lanthanum	ND	mg/L		0.01		E200.8	05/11/23 18:14 / dck		ICPMS206-H_230511C : 51		R184474
Lithium	ND	mg/L		0.1		E200.7	05/11/23 15:38 / slj		ICP2-HE_230511A : 90		R184450
Magnesium	32	mg/L		1		E200.7	05/11/23 15:38 / slj		ICP2-HE_230511A : 90		R184450
Neodymium	ND	mg/L		0.005		E200.8	05/11/23 18:14 / dck		ICPMS206-H_230511C : 51		R184474
Niobium	ND	mg/L		0.01		E200.8	05/11/23 18:14 / dck		ICPMS206-H_230511C : 51		R184474
Manganese	11.2	mg/L		0.001		E200.7	05/11/23 15:38 / slj		ICP2-HE_230511A : 90		R184450
Molybdenum	0.014	mg/L		0.001		E200.8	05/11/23 18:15 / dck		ICPMS205-H_230511A : 134		R184444
Nickel	0.004	mg/L		0.002		E200.8	05/11/23 18:15 / dck		ICPMS205-H_230511A : 134		R184444
Palladium	ND	mg/L		0.01		E200.8	05/11/23 18:14 / dck		ICPMS206-H_230511C : 51		R184474
Praseodymium	ND	mg/L		0.01		E200.8	05/11/23 18:14 / dck		ICPMS206-H_230511C : 51		R184474
Rubidium	ND	mg/L		0.01		E200.8	05/11/23 18:14 / dck		ICPMS206-H_230511C : 51		R184474
Potassium	13	mg/L		1		E200.7	05/11/23 15:38 / slj		ICP2-HE_230511A : 90		R184450
Selenium	ND	mg/L		0.001		E200.8	05/11/23 18:15 / dck		ICPMS205-H_230511A : 134		R184444
Silver	ND	mg/L		0.0002		E200.8	05/11/23 18:15 / dck		ICPMS205-H_230511A : 134		R184444
Sodium	51	mg/L		1		E200.7	05/11/23 15:38 / slj		ICP2-HE_230511A : 90		R184450
Strontium	0.43	mg/L		0.01		E200.8	05/11/23 18:15 / dck		ICPMS205-H_230511A : 134		R184444
Thallium	ND	mg/L		0.0002		E200.8	05/11/23 18:15 / dck		ICPMS205-H_230511A : 134		R184444
Thorium	ND	mg/L		0.005		E200.8	05/11/23 18:15 / dck		ICPMS205-H_230511A : 134		R184444
Tin	ND	mg/L		0.05		E200.8	05/11/23 18:15 / dck		ICPMS205-H_230511A : 134		R184444
Titanium	ND	mg/L		0.005		E200.8	05/11/23 18:15 / dck		ICPMS205-H_230511A : 134		R184444
Tungsten	ND	mg/L		0.1		E200.8	05/11/23 18:14 / dck		ICPMS206-H_230511C : 51		R184474
Uranium	0.0099	mg/L		0.0002		E200.8	05/11/23 18:15 / dck		ICPMS205-H_230511A : 134		R184444
Vanadium	ND	mg/L		0.01		E200.8	05/11/23 18:15 / dck		ICPMS205-H_230511A : 134		R184444
Zinc	4.26	mg/L		0.008		E200.7	05/11/23 15:38 / slj		ICP2-HE_230511A : 90		R184450
Zirconium	ND	mg/L		0.005		E200.8	05/11/23 18:14 / dck		ICPMS206-H_230511C : 51		R184474

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10A  
**Lab ID:** H23050305-016  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 14:29    **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-2.74	%				A1030 E	05/17/23 11:35 / SR		CALC_230517A : 639		R184598

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-07  
**Lab ID:** H23050305-017  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 14:37 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.8	s.u.	H	0.1		A4500-H B	05/11/23 09:53 / ams		PHSC_101-H_230511A : 58		R184429
pH Measurement Temp	14.6	°C				A4500-H B	05/11/23 09:53 / ams		PHSC_101-H_230511A : 58		R184429
Conductivity @ 25 C	302	umhos/cm		5		A2510 B	05/11/23 09:53 / ams		PHSC_101-H_230511A : 59		R184429
Solids, Total Dissolved TDS @ 180 C	192	mg/L		20		A2540 C	05/11/23 11:55 / ams		I24 (14410200)_230511A : 26		TDS230511A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	86	mg/L		4		A2320 B	05/11/23 18:56 / ams		PHSC_101-H_230511A : 189		R184429
Bicarbonate as HCO3	100	mg/L		4		A2320 B	05/11/23 18:56 / ams		PHSC_101-H_230511A : 189		R184429
Carbonate as CO3	ND	mg/L		4		A2320 B	05/11/23 18:56 / ams		PHSC_101-H_230511A : 189		R184429
Chloride	12	mg/L		1		E300.0	05/12/23 07:00 / ljs		IC METROHM_230511A : 80		R184473
Sulfate	37	mg/L		1		E300.0	05/12/23 07:00 / ljs		IC METROHM_230511A : 80		R184473
Bromide	ND	mg/L		0.5		E300.0	05/12/23 07:00 / ljs		IC METROHM_230511A : 80		R184473
Fluoride	1.9	mg/L		0.1		E300.0	05/12/23 07:00 / ljs		IC METROHM_230511A : 80		R184473
Hardness as CaCO3	87	mg/L		1		A2340 B	05/11/23 16:19 / SR		CALC_230517A : 465		R184598
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.1	mg/L		0.5		A5310 C	05/13/23 04:39 / eli-c		SUB-C294513 : 53		C_R294513
Organic Carbon, Total (TOC)	1.1	mg/L		0.5		A5310 C	05/12/23 19:31 / eli-c		SUB-C294513 : 25		C_R294513
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.02	mg/L		0.01		E353.2	05/17/23 15:30 / JAR		FIA203-HE_230517A : 79		R184632
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/11/23 18:18 / dck		ICPMS205-H_230511A : 135		R184444
Antimony	ND	mg/L		0.0005		E200.8	05/11/23 18:18 / dck		ICPMS205-H_230511A : 135		R184444
Arsenic	0.007	mg/L		0.001		E200.8	05/11/23 18:18 / dck		ICPMS205-H_230511A : 135		R184444
Barium	0.025	mg/L		0.003		E200.8	05/11/23 18:18 / dck		ICPMS205-H_230511A : 135		R184444
Beryllium	ND	mg/L		0.0008		E200.8	05/11/23 18:18 / dck		ICPMS205-H_230511A : 135		R184444
Boron	0.06	mg/L		0.05		E200.7	05/11/23 16:19 / slj		ICP2-HE_230511A : 101		R184450
Cadmium	0.00005	mg/L		0.00003		E200.8	05/11/23 18:18 / dck		ICPMS205-H_230511A : 135		R184444
Cesium	ND	mg/L		0.01		E200.8	05/11/23 18:16 / dck		ICPMS206-H_230511C : 52		R184474

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-07  
**Lab ID:** H23050305-017  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 14:37 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	24	mg/L		1		E200.7	05/11/23 16:19 / slj		ICP2-HE_230511A : 101		R184450
Chromium	ND	mg/L		0.005		E200.8	05/11/23 18:18 / dck		ICPMS205-H_230511A : 135		R184444
Cobalt	ND	mg/L		0.005		E200.8	05/11/23 18:18 / dck		ICPMS205-H_230511A : 135		R184444
Copper	ND	mg/L		0.002		E200.8	05/11/23 18:18 / dck		ICPMS205-H_230511A : 135		R184444
Gallium	ND	mg/L		0.01		E200.8	05/11/23 18:16 / dck		ICPMS206-H_230511C : 52		R184474
Iron	0.66	mg/L		0.02		E200.8	05/11/23 18:18 / dck		ICPMS205-H_230511A : 135		R184444
Lead	ND	mg/L		0.0003		E200.8	05/11/23 18:18 / dck		ICPMS205-H_230511A : 135		R184444
Lanthanum	ND	mg/L		0.01		E200.8	05/11/23 18:16 / dck		ICPMS206-H_230511C : 52		R184474
Lithium	ND	mg/L		0.1		E200.7	05/11/23 16:19 / slj		ICP2-HE_230511A : 101		R184450
Magnesium	6	mg/L		1		E200.7	05/11/23 16:19 / slj		ICP2-HE_230511A : 101		R184450
Neodymium	ND	mg/L		0.005		E200.8	05/11/23 18:16 / dck		ICPMS206-H_230511C : 52		R184474
Niobium	ND	mg/L		0.01		E200.8	05/11/23 18:16 / dck		ICPMS206-H_230511C : 52		R184474
Manganese	0.300	mg/L		0.001		E200.8	05/11/23 18:18 / dck		ICPMS205-H_230511A : 135		R184444
Molybdenum	0.010	mg/L		0.001		E200.8	05/11/23 18:18 / dck		ICPMS205-H_230511A : 135		R184444
Nickel	ND	mg/L		0.002		E200.8	05/11/23 18:18 / dck		ICPMS205-H_230511A : 135		R184444
Palladium	ND	mg/L		0.01		E200.8	05/11/23 18:16 / dck		ICPMS206-H_230511C : 52		R184474
Praseodymium	ND	mg/L		0.01		E200.8	05/11/23 18:16 / dck		ICPMS206-H_230511C : 52		R184474
Rubidium	ND	mg/L		0.01		E200.8	05/11/23 18:16 / dck		ICPMS206-H_230511C : 52		R184474
Potassium	4	mg/L		1		E200.7	05/11/23 16:19 / slj		ICP2-HE_230511A : 101		R184450
Selenium	ND	mg/L		0.001		E200.8	05/11/23 18:18 / dck		ICPMS205-H_230511A : 135		R184444
Silver	ND	mg/L		0.0002		E200.8	05/11/23 18:18 / dck		ICPMS205-H_230511A : 135		R184444
Sodium	23	mg/L		1		E200.7	05/11/23 16:19 / slj		ICP2-HE_230511A : 101		R184450
Strontium	0.20	mg/L		0.01		E200.8	05/11/23 18:18 / dck		ICPMS205-H_230511A : 135		R184444
Thallium	ND	mg/L		0.0002		E200.8	05/11/23 18:18 / dck		ICPMS205-H_230511A : 135		R184444
Thorium	ND	mg/L		0.005		E200.8	05/11/23 18:18 / dck		ICPMS205-H_230511A : 135		R184444
Tin	ND	mg/L		0.05		E200.8	05/11/23 18:18 / dck		ICPMS205-H_230511A : 135		R184444
Titanium	ND	mg/L		0.005		E200.8	05/11/23 18:18 / dck		ICPMS205-H_230511A : 135		R184444
Tungsten	ND	mg/L		0.1		E200.8	05/11/23 18:16 / dck		ICPMS206-H_230511C : 52		R184474
Uranium	0.0006	mg/L		0.0002		E200.8	05/11/23 18:18 / dck		ICPMS205-H_230511A : 135		R184444
Vanadium	ND	mg/L		0.01		E200.8	05/11/23 18:18 / dck		ICPMS205-H_230511A : 135		R184444
Zinc	0.023	mg/L		0.008		E200.8	05/11/23 18:18 / dck		ICPMS205-H_230511A : 135		R184444
Zirconium	ND	mg/L		0.005		E200.8	05/11/23 18:16 / dck		ICPMS206-H_230511C : 52		R184474

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-07  
**Lab ID:** H23050305-017  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 14:37      **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.37	%				A1030 E	05/17/23 10:40 / SR		CALC_230517A : 463		R184598
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-1  
**Lab ID:** H23050305-018  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 14:39 **DateReceived:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.8	s.u.	H	0.1		A4500-H B	05/11/23 09:55 / ams		PHSC_101-H_230511A : 60		R184429
pH Measurement Temp	14.3	°C				A4500-H B	05/11/23 09:55 / ams		PHSC_101-H_230511A : 60		R184429
Conductivity @ 25 C	301	umhos/cm		5		A2510 B	05/11/23 09:55 / ams		PHSC_101-H_230511A : 61		R184429
Solids, Total Dissolved TDS @ 180 C	188	mg/L		20		A2540 C	05/11/23 11:55 / ams		I24 (14410200)_230511A : 28		TDS230511A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	84	mg/L		4		A2320 B	05/11/23 19:03 / ams		PHSC_101-H_230511A : 191		R184429
Bicarbonate as HCO3	100	mg/L		4		A2320 B	05/11/23 19:03 / ams		PHSC_101-H_230511A : 191		R184429
Carbonate as CO3	ND	mg/L		4		A2320 B	05/11/23 19:03 / ams		PHSC_101-H_230511A : 191		R184429
Chloride	12	mg/L		1		E300.0	05/12/23 07:14 / ljs		IC METROHM_230511A : 81		R184473
Sulfate	37	mg/L		1		E300.0	05/12/23 07:14 / ljs		IC METROHM_230511A : 81		R184473
Bromide	ND	mg/L		0.5		E300.0	05/12/23 07:14 / ljs		IC METROHM_230511A : 81		R184473
Fluoride	1.9	mg/L		0.1		E300.0	05/12/23 07:14 / ljs		IC METROHM_230511A : 81		R184473
Hardness as CaCO3	87	mg/L		1		A2340 B	05/11/23 16:23 / SR		CALC_230517A : 476		R184598
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.1	mg/L		0.5		A5310 C	05/13/23 04:55 / eli-c		SUB-C294513 : 54		C_R294513
Organic Carbon, Total (TOC)	1.0	mg/L		0.5		A5310 C	05/12/23 19:52 / eli-c		SUB-C294513 : 26		C_R294513
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.03	mg/L		0.01		E353.2	05/17/23 15:32 / JAR		FIA203-HE_230517A : 80		R184632
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/11/23 18:20 / dck		ICPMS205-H_230511A : 136		R184444
Antimony	ND	mg/L		0.0005		E200.8	05/11/23 18:20 / dck		ICPMS205-H_230511A : 136		R184444
Arsenic	0.007	mg/L		0.001		E200.8	05/11/23 18:20 / dck		ICPMS205-H_230511A : 136		R184444
Barium	0.026	mg/L		0.003		E200.8	05/11/23 18:20 / dck		ICPMS205-H_230511A : 136		R184444
Beryllium	ND	mg/L		0.0008		E200.8	05/11/23 18:20 / dck		ICPMS205-H_230511A : 136		R184444
Boron	0.06	mg/L		0.05		E200.7	05/11/23 16:23 / slj		ICP2-HE_230511A : 102		R184450
Cadmium	0.00004	mg/L		0.00003		E200.8	05/11/23 18:20 / dck		ICPMS205-H_230511A : 136		R184444
Cesium	ND	mg/L		0.01		E200.8	05/11/23 18:17 / dck		ICPMS206-H_230511C : 53		R184474

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



**LABORATORY ANALYTICAL REPORT**

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-1  
**Lab ID:** H23050305-018  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 14:39 **DateReceived:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	24	mg/L		1		E200.7	05/11/23 16:23 / slj		ICP2-HE_230511A : 102		R184450
Chromium	ND	mg/L		0.005		E200.8	05/11/23 18:20 / dck		ICPMS205-H_230511A : 136		R184444
Cobalt	ND	mg/L		0.005		E200.8	05/11/23 18:20 / dck		ICPMS205-H_230511A : 136		R184444
Copper	0.003	mg/L		0.002		E200.8	05/11/23 18:20 / dck		ICPMS205-H_230511A : 136		R184444
Gallium	ND	mg/L		0.01		E200.8	05/11/23 18:17 / dck		ICPMS206-H_230511C : 53		R184474
Iron	0.67	mg/L		0.02		E200.8	05/11/23 18:20 / dck		ICPMS205-H_230511A : 136		R184444
Lead	ND	mg/L		0.0003		E200.8	05/11/23 18:20 / dck		ICPMS205-H_230511A : 136		R184444
Lanthanum	ND	mg/L		0.01		E200.8	05/11/23 18:17 / dck		ICPMS206-H_230511C : 53		R184474
Lithium	ND	mg/L		0.1		E200.7	05/11/23 16:23 / slj		ICP2-HE_230511A : 102		R184450
Magnesium	6	mg/L		1		E200.7	05/11/23 16:23 / slj		ICP2-HE_230511A : 102		R184450
Neodymium	ND	mg/L		0.005		E200.8	05/11/23 18:17 / dck		ICPMS206-H_230511C : 53		R184474
Niobium	ND	mg/L		0.01		E200.8	05/11/23 18:17 / dck		ICPMS206-H_230511C : 53		R184474
Manganese	0.301	mg/L		0.001		E200.8	05/11/23 18:20 / dck		ICPMS205-H_230511A : 136		R184444
Molybdenum	0.010	mg/L		0.001		E200.8	05/11/23 18:20 / dck		ICPMS205-H_230511A : 136		R184444
Nickel	ND	mg/L		0.002		E200.8	05/11/23 18:20 / dck		ICPMS205-H_230511A : 136		R184444
Palladium	ND	mg/L		0.01		E200.8	05/11/23 18:17 / dck		ICPMS206-H_230511C : 53		R184474
Praseodymium	ND	mg/L		0.01		E200.8	05/11/23 18:17 / dck		ICPMS206-H_230511C : 53		R184474
Rubidium	ND	mg/L		0.01		E200.8	05/11/23 18:17 / dck		ICPMS206-H_230511C : 53		R184474
Potassium	4	mg/L		1		E200.7	05/11/23 16:23 / slj		ICP2-HE_230511A : 102		R184450
Selenium	ND	mg/L		0.001		E200.8	05/11/23 18:20 / dck		ICPMS205-H_230511A : 136		R184444
Silver	ND	mg/L		0.0002		E200.8	05/11/23 18:20 / dck		ICPMS205-H_230511A : 136		R184444
Sodium	23	mg/L		1		E200.7	05/11/23 16:23 / slj		ICP2-HE_230511A : 102		R184450
Strontium	0.20	mg/L		0.01		E200.8	05/11/23 18:20 / dck		ICPMS205-H_230511A : 136		R184444
Thallium	ND	mg/L		0.0002		E200.8	05/11/23 18:20 / dck		ICPMS205-H_230511A : 136		R184444
Thorium	ND	mg/L		0.005		E200.8	05/11/23 18:20 / dck		ICPMS205-H_230511A : 136		R184444
Tin	ND	mg/L		0.05		E200.8	05/11/23 18:20 / dck		ICPMS205-H_230511A : 136		R184444
Titanium	ND	mg/L		0.005		E200.8	05/11/23 18:20 / dck		ICPMS205-H_230511A : 136		R184444
Tungsten	ND	mg/L		0.1		E200.8	05/11/23 18:17 / dck		ICPMS206-H_230511C : 53		R184474
Uranium	0.0006	mg/L		0.0002		E200.8	05/11/23 18:20 / dck		ICPMS205-H_230511A : 136		R184444
Vanadium	ND	mg/L		0.01		E200.8	05/11/23 18:20 / dck		ICPMS205-H_230511A : 136		R184444
Zinc	0.023	mg/L		0.008		E200.8	05/11/23 18:20 / dck		ICPMS205-H_230511A : 136		R184444
Zirconium	ND	mg/L		0.005		E200.8	05/11/23 18:17 / dck		ICPMS206-H_230511C : 53		R184474

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-1  
**Lab ID:** H23050305-018  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 14:39    **DateReceived:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-0.51	%				A1030 E	05/17/23 10:40 / SR		CALC_230517A : 474		R184598
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-1  
**Lab ID:** H23050305-019  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 14:45 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.8	s.u.	H	0.1		A4500-H B	05/11/23 09:57 / ams		PHSC_101-H_230511A : 62		R184429
pH Measurement Temp	14.1	°C				A4500-H B	05/11/23 09:57 / ams		PHSC_101-H_230511A : 62		R184429
Conductivity @ 25 C	ND	umhos/cm		5		A2510 B	05/11/23 09:57 / ams		PHSC_101-H_230511A : 63		R184429
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	L	20		A2540 C	05/11/23 11:55 / ams		I24 (14410200)_230511A : 29		TDS230511A
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.											
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	05/11/23 19:10 / ams		PHSC_101-H_230511A : 193		R184429
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	05/11/23 19:10 / ams		PHSC_101-H_230511A : 193		R184429
Carbonate as CO3	ND	mg/L		4		A2320 B	05/11/23 19:10 / ams		PHSC_101-H_230511A : 193		R184429
Chloride	ND	mg/L		1		E300.0	05/12/23 08:12 / ljs		IC METROHM_230511A : 80		R184473
Sulfate	ND	mg/L		1		E300.0	05/12/23 08:12 / ljs		IC METROHM_230511A : 80		R184473
Bromide	ND	mg/L		0.5		E300.0	05/12/23 08:12 / ljs		IC METROHM_230511A : 80		R184473
Fluoride	ND	mg/L		0.1		E300.0	05/12/23 08:12 / ljs		IC METROHM_230511A : 80		R184473
Hardness as CaCO3	ND	mg/L		1		A2340 B	05/11/23 16:27 / SR		CALC_230517A : 487		R184598
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	05/13/23 05:10 / eli-c		SUB-C294513 : 55		C_R294513
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	05/12/23 20:12 / eli-c		SUB-C294513 : 27		C_R294513
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	05/17/23 15:33 / JAR		FIA203-HE_230517A : 81		R184632
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/11/23 18:23 / dck		ICPMS205-H_230511A : 137		R184444
Antimony	ND	mg/L		0.0005		E200.8	05/11/23 18:23 / dck		ICPMS205-H_230511A : 137		R184444
Arsenic	ND	mg/L		0.001		E200.8	05/11/23 18:23 / dck		ICPMS205-H_230511A : 137		R184444
Barium	ND	mg/L		0.003		E200.8	05/11/23 18:23 / dck		ICPMS205-H_230511A : 137		R184444
Beryllium	ND	mg/L		0.0008		E200.8	05/11/23 18:23 / dck		ICPMS205-H_230511A : 137		R184444
Boron	ND	mg/L		0.05		E200.7	05/11/23 16:27 / slj		ICP2-HE_230511A : 103		R184450
Cadmium	ND	mg/L		0.00003		E200.8	05/11/23 18:23 / dck		ICPMS205-H_230511A : 137		R184444
Cesium	ND	mg/L		0.01		E200.8	05/11/23 18:19 / dck		ICPMS206-H_230511C : 54		R184474

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level  
L - Lowest available reporting limit for the analytical method used

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-1  
**Lab ID:** H23050305-019  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 14:45 **DateReceived:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	ND	mg/L		1		E200.7	05/11/23 16:27 / slj		ICP2-HE_230511A : 103		R184450
Chromium	ND	mg/L		0.005		E200.8	05/11/23 18:23 / dck		ICPMS205-H_230511A : 137		R184444
Cobalt	ND	mg/L		0.005		E200.8	05/11/23 18:23 / dck		ICPMS205-H_230511A : 137		R184444
Copper	ND	mg/L		0.002		E200.8	05/11/23 18:23 / dck		ICPMS205-H_230511A : 137		R184444
Gallium	ND	mg/L		0.01		E200.8	05/11/23 18:19 / dck		ICPMS206-H_230511C : 54		R184474
Iron	ND	mg/L		0.02		E200.8	05/11/23 18:23 / dck		ICPMS205-H_230511A : 137		R184444
Lead	ND	mg/L		0.0003		E200.8	05/11/23 18:23 / dck		ICPMS205-H_230511A : 137		R184444
Lanthanum	ND	mg/L		0.01		E200.8	05/11/23 18:19 / dck		ICPMS206-H_230511C : 54		R184474
Lithium	ND	mg/L		0.1		E200.7	05/11/23 16:27 / slj		ICP2-HE_230511A : 103		R184450
Magnesium	ND	mg/L		1		E200.7	05/11/23 16:27 / slj		ICP2-HE_230511A : 103		R184450
Neodymium	ND	mg/L		0.005		E200.8	05/11/23 18:19 / dck		ICPMS206-H_230511C : 54		R184474
Niobium	ND	mg/L		0.01		E200.8	05/11/23 18:19 / dck		ICPMS206-H_230511C : 54		R184474
Manganese	ND	mg/L		0.001		E200.8	05/11/23 18:23 / dck		ICPMS205-H_230511A : 137		R184444
Molybdenum	ND	mg/L		0.001		E200.8	05/11/23 18:23 / dck		ICPMS205-H_230511A : 137		R184444
Nickel	ND	mg/L		0.002		E200.8	05/11/23 18:23 / dck		ICPMS205-H_230511A : 137		R184444
Palladium	ND	mg/L		0.01		E200.8	05/11/23 18:19 / dck		ICPMS206-H_230511C : 54		R184474
Praseodymium	ND	mg/L		0.01		E200.8	05/11/23 18:19 / dck		ICPMS206-H_230511C : 54		R184474
Rubidium	ND	mg/L		0.01		E200.8	05/11/23 18:19 / dck		ICPMS206-H_230511C : 54		R184474
Potassium	ND	mg/L		1		E200.7	05/11/23 16:27 / slj		ICP2-HE_230511A : 103		R184450
Selenium	ND	mg/L		0.001		E200.8	05/11/23 18:23 / dck		ICPMS205-H_230511A : 137		R184444
Silver	ND	mg/L		0.0002		E200.8	05/11/23 18:23 / dck		ICPMS205-H_230511A : 137		R184444
Sodium	ND	mg/L		1		E200.7	05/11/23 16:27 / slj		ICP2-HE_230511A : 103		R184450
Strontium	ND	mg/L		0.01		E200.8	05/11/23 18:23 / dck		ICPMS205-H_230511A : 137		R184444
Thallium	ND	mg/L		0.0002		E200.8	05/11/23 18:23 / dck		ICPMS205-H_230511A : 137		R184444
Thorium	ND	mg/L		0.005		E200.8	05/11/23 18:23 / dck		ICPMS205-H_230511A : 137		R184444
Tin	ND	mg/L		0.05		E200.8	05/11/23 18:23 / dck		ICPMS205-H_230511A : 137		R184444
Titanium	ND	mg/L		0.005		E200.8	05/11/23 18:23 / dck		ICPMS205-H_230511A : 137		R184444
Tungsten	ND	mg/L		0.1		E200.8	05/11/23 18:19 / dck		ICPMS206-H_230511C : 54		R184474
Uranium	ND	mg/L		0.0002		E200.8	05/11/23 18:23 / dck		ICPMS205-H_230511A : 137		R184444
Vanadium	ND	mg/L		0.01		E200.8	05/11/23 18:23 / dck		ICPMS205-H_230511A : 137		R184444
Zinc	ND	mg/L		0.008		E200.8	05/11/23 18:23 / dck		ICPMS205-H_230511A : 137		R184444
Zirconium	ND	mg/L		0.005		E200.8	05/11/23 18:19 / dck		ICPMS206-H_230511C : 54		R184474

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-1  
**Lab ID:** H23050305-019  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 14:45    **DateReceived:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	ND	%				A1030 E	05/17/23 10:40 / SR		CALC_230517A : 485		R184598
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08B  
**Lab ID:** H23050305-020  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 14:47 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.5	s.u.	H	0.1		A4500-H B	05/11/23 09:59 / ams		PHSC_101-H_230511A : 64		R184429
pH Measurement Temp	13.9	°C				A4500-H B	05/11/23 09:59 / ams		PHSC_101-H_230511A : 64		R184429
Conductivity @ 25 C	1630	umhos/cm		5		A2510 B	05/11/23 09:59 / ams		PHSC_101-H_230511A : 65		R184429
Solids, Total Dissolved TDS @ 180 C	1280	mg/L		20		A2540 C	05/11/23 11:55 / ams		I24 (14410200)_230511A : 30		TDS230511A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	55	mg/L		4		A2320 B	05/11/23 19:16 / ams		PHSC_101-H_230511A : 195		R184429
Bicarbonate as HCO3	67	mg/L		4		A2320 B	05/11/23 19:16 / ams		PHSC_101-H_230511A : 195		R184429
Carbonate as CO3	ND	mg/L		4		A2320 B	05/11/23 19:16 / ams		PHSC_101-H_230511A : 195		R184429
Chloride	31	mg/L		1		E300.0	05/12/23 08:55 / ljs		IC METROHM_230511A : 83		R184473
Sulfate	786	mg/L		1		E300.0	05/12/23 08:55 / ljs		IC METROHM_230511A : 83		R184473
Bromide	ND	mg/L		0.5		E300.0	05/12/23 08:55 / ljs		IC METROHM_230511A : 83		R184473
Fluoride	0.6	mg/L		0.1		E300.0	05/12/23 08:55 / ljs		IC METROHM_230511A : 83		R184473
Hardness as CaCO3	691	mg/L		1		A2340 B	05/11/23 16:31 / SR		CALC_230517A : 498		R184598
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	05/13/23 05:30 / eli-c		SUB-C294513 : 56		C_R294513
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	05/12/23 20:31 / eli-c		SUB-C294513 : 28		C_R294513
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	2.07	mg/L		0.02		E353.2	05/17/23 15:54 / JAR		FIA203-HE_230517A : 99		R184632
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/11/23 18:26 / dck		ICPMS205-H_230511A : 138		R184444
Antimony	ND	mg/L		0.0005		E200.8	05/11/23 18:26 / dck		ICPMS205-H_230511A : 138		R184444
Arsenic	0.005	mg/L		0.001		E200.8	05/11/23 18:26 / dck		ICPMS205-H_230511A : 138		R184444
Barium	0.015	mg/L		0.003		E200.8	05/11/23 18:26 / dck		ICPMS205-H_230511A : 138		R184444
Beryllium	ND	mg/L		0.0008		E200.8	05/11/23 18:26 / dck		ICPMS205-H_230511A : 138		R184444
Boron	0.08	mg/L		0.05		E200.7	05/11/23 16:31 / slj		ICP2-HE_230511A : 104		R184450
Cadmium	0.00991	mg/L		0.00003		E200.8	05/11/23 18:26 / dck		ICPMS205-H_230511A : 138		R184444
Cesium	ND	mg/L		0.01		E200.8	05/11/23 18:20 / dck		ICPMS206-H_230511C : 55		R184474

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08B  
**Lab ID:** H23050305-020  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 14:47 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	200	mg/L		1		E200.7	05/11/23 16:31 / slj		ICP2-HE_230511A : 104		R184450
Chromium	ND	mg/L		0.005		E200.8	05/11/23 18:26 / dck		ICPMS205-H_230511A : 138		R184444
Cobalt	ND	mg/L		0.005		E200.8	05/11/23 18:26 / dck		ICPMS205-H_230511A : 138		R184444
Copper	0.176	mg/L		0.002		E200.8	05/11/23 18:26 / dck		ICPMS205-H_230511A : 138		R184444
Gallium	ND	mg/L		0.01		E200.8	05/11/23 18:20 / dck		ICPMS206-H_230511C : 55		R184474
Iron	ND	mg/L		0.02		E200.8	05/11/23 18:26 / dck		ICPMS205-H_230511A : 138		R184444
Lead	ND	mg/L		0.0003		E200.8	05/11/23 18:26 / dck		ICPMS205-H_230511A : 138		R184444
Lanthanum	ND	mg/L		0.01		E200.8	05/11/23 18:20 / dck		ICPMS206-H_230511C : 55		R184474
Lithium	0.3	mg/L		0.1		E200.7	05/11/23 16:31 / slj		ICP2-HE_230511A : 104		R184450
Magnesium	46	mg/L		1		E200.7	05/11/23 16:31 / slj		ICP2-HE_230511A : 104		R184450
Neodymium	ND	mg/L		0.005		E200.8	05/11/23 18:20 / dck		ICPMS206-H_230511C : 55		R184474
Niobium	ND	mg/L		0.01		E200.8	05/11/23 18:20 / dck		ICPMS206-H_230511C : 55		R184474
Manganese	ND	mg/L		0.001		E200.8	05/11/23 18:26 / dck		ICPMS205-H_230511A : 138		R184444
Molybdenum	0.002	mg/L		0.001		E200.8	05/12/23 15:37 / dck		ICPMS205-H_230512A : 28		R184488
Nickel	0.006	mg/L		0.002		E200.8	05/11/23 18:26 / dck		ICPMS205-H_230511A : 138		R184444
Palladium	ND	mg/L		0.01		E200.8	05/11/23 18:20 / dck		ICPMS206-H_230511C : 55		R184474
Praseodymium	ND	mg/L		0.01		E200.8	05/11/23 18:20 / dck		ICPMS206-H_230511C : 55		R184474
Rubidium	0.02	mg/L		0.01		E200.8	05/11/23 18:20 / dck		ICPMS206-H_230511C : 55		R184474
Potassium	14	mg/L		1		E200.7	05/11/23 16:31 / slj		ICP2-HE_230511A : 104		R184450
Selenium	ND	mg/L		0.001		E200.8	05/11/23 18:26 / dck		ICPMS205-H_230511A : 138		R184444
Silver	ND	mg/L		0.0002		E200.8	05/11/23 18:26 / dck		ICPMS205-H_230511A : 138		R184444
Sodium	87	mg/L		1		E200.7	05/11/23 16:31 / slj		ICP2-HE_230511A : 104		R184450
Strontium	2.24	mg/L		0.01		E200.7	05/11/23 16:31 / slj		ICP2-HE_230511A : 104		R184450
Thallium	ND	mg/L		0.0002		E200.8	05/11/23 18:26 / dck		ICPMS205-H_230511A : 138		R184444
Thorium	ND	mg/L		0.005		E200.8	05/11/23 18:26 / dck		ICPMS205-H_230511A : 138		R184444
Tin	ND	mg/L		0.05		E200.8	05/11/23 18:26 / dck		ICPMS205-H_230511A : 138		R184444
Titanium	ND	mg/L		0.005		E200.8	05/11/23 18:26 / dck		ICPMS205-H_230511A : 138		R184444
Tungsten	ND	mg/L		0.1		E200.8	05/11/23 18:20 / dck		ICPMS206-H_230511C : 55		R184474
Uranium	0.0013	mg/L		0.0002		E200.8	05/11/23 18:26 / dck		ICPMS205-H_230511A : 138		R184444
Vanadium	ND	mg/L		0.01		E200.8	05/11/23 18:26 / dck		ICPMS205-H_230511A : 138		R184444
Zinc	1.40	mg/L		0.008		E200.7	05/11/23 16:31 / slj		ICP2-HE_230511A : 104		R184450
Zirconium	ND	mg/L		0.005		E200.8	05/11/23 18:20 / dck		ICPMS206-H_230511C : 55		R184474

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08B  
**Lab ID:** H23050305-020  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 14:47      **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.17	%				A1030 E	05/17/23 10:41 / SR		CALC_230517A : 496		R184598

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10B  
**Lab ID:** H23050305-021  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 15:25 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.5	s.u.	H	0.1		A4500-H B	05/11/23 10:01 / ams		PHSC_101-H_230511A : 66		R184429
pH Measurement Temp	14.1	°C				A4500-H B	05/11/23 10:01 / ams		PHSC_101-H_230511A : 66		R184429
Conductivity @ 25 C	1310	umhos/cm		5		A2510 B	05/11/23 10:01 / ams		PHSC_101-H_230511A : 67		R184429
Solids, Total Dissolved TDS @ 180 C	990	mg/L		20		A2540 C	05/11/23 11:56 / ams		I24 (14410200)_230511A : 31		TDS230511A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	57	mg/L		4		A2320 B	05/11/23 19:22 / ams		PHSC_101-H_230511A : 197		R184429
Bicarbonate as HCO3	69	mg/L		4		A2320 B	05/11/23 19:22 / ams		PHSC_101-H_230511A : 197		R184429
Carbonate as CO3	ND	mg/L		4		A2320 B	05/11/23 19:22 / ams		PHSC_101-H_230511A : 197		R184429
Chloride	25	mg/L		1		E300.0	05/12/23 09:10 / ljs		IC METROHM_230511A : 84		R184473
Sulfate	598	mg/L		1		E300.0	05/12/23 09:10 / ljs		IC METROHM_230511A : 84		R184473
Bromide	ND	mg/L		0.5		E300.0	05/12/23 09:10 / ljs		IC METROHM_230511A : 84		R184473
Fluoride	0.6	mg/L		0.1		E300.0	05/12/23 09:10 / ljs		IC METROHM_230511A : 84		R184473
Hardness as CaCO3	496	mg/L		1		A2340 B	05/11/23 16:34 / SR		CALC_230517A : 509		R184598
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	05/13/23 04:59 / eli-c		SUB-C294514 : 14		C_R294514
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	05/12/23 22:42 / eli-c		SUB-C294514 : 6		C_R294514
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	1.06	mg/L		0.01		E353.2	05/17/23 15:38 / JAR		FIA203-HE_230517A : 85		R184632
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/11/23 18:39 / dck		ICPMS205-H_230511A : 143		R184444
Antimony	ND	mg/L		0.0005		E200.8	05/11/23 18:39 / dck		ICPMS205-H_230511A : 143		R184444
Arsenic	0.007	mg/L		0.001		E200.8	05/11/23 18:39 / dck		ICPMS205-H_230511A : 143		R184444
Barium	0.013	mg/L		0.003		E200.8	05/11/23 18:39 / dck		ICPMS205-H_230511A : 143		R184444
Beryllium	ND	mg/L		0.0008		E200.8	05/11/23 18:39 / dck		ICPMS205-H_230511A : 143		R184444
Boron	0.09	mg/L		0.05		E200.7	05/11/23 16:34 / slj		ICP2-HE_230511A : 105		R184450
Cadmium	0.00752	mg/L		0.00003		E200.8	05/11/23 18:39 / dck		ICPMS205-H_230511A : 143		R184444
Cesium	ND	mg/L		0.01		E200.8	05/11/23 18:28 / dck		ICPMS206-H_230511C : 60		R184474

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10B  
**Lab ID:** H23050305-021  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 15:25 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	145	mg/L		1		E200.7	05/11/23 16:34 / slj		ICP2-HE_230511A : 105		R184450
Chromium	ND	mg/L		0.005		E200.8	05/11/23 18:39 / dck		ICPMS205-H_230511A : 143		R184444
Cobalt	ND	mg/L		0.005		E200.8	05/11/23 18:39 / dck		ICPMS205-H_230511A : 143		R184444
Copper	0.170	mg/L		0.002		E200.8	05/11/23 18:39 / dck		ICPMS205-H_230511A : 143		R184444
Gallium	ND	mg/L		0.01		E200.8	05/11/23 18:28 / dck		ICPMS206-H_230511C : 60		R184474
Iron	ND	mg/L		0.02		E200.8	05/11/23 18:39 / dck		ICPMS205-H_230511A : 143		R184444
Lead	ND	mg/L		0.0003		E200.8	05/11/23 18:39 / dck		ICPMS205-H_230511A : 143		R184444
Lanthanum	ND	mg/L		0.01		E200.8	05/11/23 18:28 / dck		ICPMS206-H_230511C : 60		R184474
Lithium	0.2	mg/L		0.1		E200.7	05/11/23 16:34 / slj		ICP2-HE_230511A : 105		R184450
Magnesium	32	mg/L		1		E200.7	05/11/23 16:34 / slj		ICP2-HE_230511A : 105		R184450
Neodymium	ND	mg/L		0.005		E200.8	05/11/23 18:28 / dck		ICPMS206-H_230511C : 60		R184474
Niobium	ND	mg/L		0.01		E200.8	05/11/23 18:28 / dck		ICPMS206-H_230511C : 60		R184474
Manganese	ND	mg/L		0.001		E200.8	05/11/23 18:39 / dck		ICPMS205-H_230511A : 143		R184444
Molybdenum	0.002	mg/L		0.001		E200.8	05/12/23 15:40 / dck		ICPMS205-H_230512A : 29		R184488
Nickel	0.005	mg/L		0.002		E200.8	05/11/23 18:39 / dck		ICPMS205-H_230511A : 143		R184444
Palladium	ND	mg/L		0.01		E200.8	05/11/23 18:28 / dck		ICPMS206-H_230511C : 60		R184474
Praseodymium	ND	mg/L		0.01		E200.8	05/11/23 18:28 / dck		ICPMS206-H_230511C : 60		R184474
Rubidium	0.02	mg/L		0.01		E200.8	05/11/23 18:28 / dck		ICPMS206-H_230511C : 60		R184474
Potassium	12	mg/L		1		E200.7	05/11/23 16:34 / slj		ICP2-HE_230511A : 105		R184450
Selenium	ND	mg/L		0.001		E200.8	05/11/23 18:39 / dck		ICPMS205-H_230511A : 143		R184444
Silver	ND	mg/L		0.0002		E200.8	05/11/23 18:39 / dck		ICPMS205-H_230511A : 143		R184444
Sodium	77	mg/L		1		E200.7	05/11/23 16:34 / slj		ICP2-HE_230511A : 105		R184450
Strontium	1.70	mg/L		0.01		E200.7	05/11/23 16:34 / slj		ICP2-HE_230511A : 105		R184450
Thallium	ND	mg/L		0.0002		E200.8	05/11/23 18:39 / dck		ICPMS205-H_230511A : 143		R184444
Thorium	ND	mg/L		0.005		E200.8	05/11/23 18:39 / dck		ICPMS205-H_230511A : 143		R184444
Tin	ND	mg/L		0.05		E200.8	05/11/23 18:39 / dck		ICPMS205-H_230511A : 143		R184444
Titanium	ND	mg/L		0.005		E200.8	05/11/23 18:39 / dck		ICPMS205-H_230511A : 143		R184444
Tungsten	ND	mg/L		0.1		E200.8	05/11/23 18:28 / dck		ICPMS206-H_230511C : 60		R184474
Uranium	0.0014	mg/L		0.0002		E200.8	05/11/23 18:39 / dck		ICPMS205-H_230511A : 143		R184444
Vanadium	ND	mg/L		0.01		E200.8	05/11/23 18:39 / dck		ICPMS205-H_230511A : 143		R184444
Zinc	1.15	mg/L		0.008		E200.7	05/11/23 16:34 / slj		ICP2-HE_230511A : 105		R184450
Zirconium	ND	mg/L		0.005		E200.8	05/11/23 18:28 / dck		ICPMS206-H_230511C : 60		R184474

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10B  
**Lab ID:** H23050305-021  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 15:25    **DateReceived:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-2.68	%				A1030 E	05/17/23 10:41 / SR		CALC_230517A : 507		R184598

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10C  
**Lab ID:** H23050305-022  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 16:17 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.8	s.u.	H	0.1		A4500-H B	05/11/23 10:03 / ams		PHSC_101-H_230511A : 68		R184429
pH Measurement Temp	14.5	°C				A4500-H B	05/11/23 10:03 / ams		PHSC_101-H_230511A : 68		R184429
Conductivity @ 25 C	1080	umhos/cm		5		A2510 B	05/11/23 10:03 / ams		PHSC_101-H_230511A : 69		R184429
Solids, Total Dissolved TDS @ 180 C	797	mg/L		20		A2540 C	05/11/23 11:56 / ams		I24 (14410200)_230511A : 32		TDS230511A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	69	mg/L		4		A2320 B	05/11/23 19:29 / ams		PHSC_101-H_230511A : 199		R184429
Bicarbonate as HCO3	83	mg/L		4		A2320 B	05/11/23 19:29 / ams		PHSC_101-H_230511A : 199		R184429
Carbonate as CO3	ND	mg/L		4		A2320 B	05/11/23 19:29 / ams		PHSC_101-H_230511A : 199		R184429
Chloride	11	mg/L		1		E300.0	05/12/23 09:24 / ljs		IC METROHM_230511A : 85		R184473
Sulfate	475	mg/L		1		E300.0	05/12/23 09:24 / ljs		IC METROHM_230511A : 85		R184473
Bromide	ND	mg/L		0.5		E300.0	05/12/23 09:24 / ljs		IC METROHM_230511A : 85		R184473
Fluoride	0.6	mg/L		0.1		E300.0	05/12/23 09:24 / ljs		IC METROHM_230511A : 85		R184473
Hardness as CaCO3	409	mg/L		1		A2340 B	05/11/23 16:49 / SR		CALC_230517A : 520		R184598
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	05/13/23 05:14 / eli-c		SUB-C294514 : 15		C_R294514
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	05/12/23 23:00 / eli-c		SUB-C294514 : 7		C_R294514
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.18	mg/L		0.01		E353.2	05/17/23 15:39 / JAR		FIA203-HE_230517A : 86		R184632
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/11/23 18:42 / dck		ICPMS205-H_230511A : 144		R184444
Antimony	ND	mg/L		0.0005		E200.8	05/11/23 18:42 / dck		ICPMS205-H_230511A : 144		R184444
Arsenic	0.003	mg/L		0.001		E200.8	05/11/23 18:42 / dck		ICPMS205-H_230511A : 144		R184444
Barium	0.011	mg/L		0.003		E200.8	05/11/23 18:42 / dck		ICPMS205-H_230511A : 144		R184444
Beryllium	ND	mg/L		0.0008		E200.8	05/11/23 18:42 / dck		ICPMS205-H_230511A : 144		R184444
Boron	0.07	mg/L		0.05		E200.7	05/11/23 16:49 / slj		ICP2-HE_230511A : 109		R184450
Cadmium	0.00202	mg/L		0.00003		E200.8	05/11/23 18:42 / dck		ICPMS205-H_230511A : 144		R184444
Cesium	ND	mg/L		0.01		E200.8	05/11/23 18:30 / dck		ICPMS206-H_230511C : 61		R184474

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10C  
**Lab ID:** H23050305-022  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 16:17 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	120	mg/L		1		E200.7	05/11/23 16:49 / slj		ICP2-HE_230511A : 109		R184450
Chromium	ND	mg/L		0.005		E200.8	05/11/23 18:42 / dck		ICPMS205-H_230511A : 144		R184444
Cobalt	ND	mg/L		0.005		E200.8	05/11/23 18:42 / dck		ICPMS205-H_230511A : 144		R184444
Copper	ND	mg/L		0.002		E200.8	05/11/23 18:42 / dck		ICPMS205-H_230511A : 144		R184444
Gallium	ND	mg/L		0.01		E200.8	05/11/23 18:30 / dck		ICPMS206-H_230511C : 61		R184474
Iron	ND	mg/L		0.02		E200.8	05/11/23 18:42 / dck		ICPMS205-H_230511A : 144		R184444
Lead	ND	mg/L		0.0003		E200.8	05/11/23 18:42 / dck		ICPMS205-H_230511A : 144		R184444
Lanthanum	ND	mg/L		0.01		E200.8	05/11/23 18:30 / dck		ICPMS206-H_230511C : 61		R184474
Lithium	0.2	mg/L		0.1		E200.7	05/11/23 16:49 / slj		ICP2-HE_230511A : 109		R184450
Magnesium	26	mg/L		1		E200.7	05/11/23 16:49 / slj		ICP2-HE_230511A : 109		R184450
Neodymium	ND	mg/L		0.005		E200.8	05/11/23 18:30 / dck		ICPMS206-H_230511C : 61		R184474
Niobium	ND	mg/L		0.01		E200.8	05/11/23 18:30 / dck		ICPMS206-H_230511C : 61		R184474
Manganese	ND	mg/L		0.001		E200.8	05/11/23 18:42 / dck		ICPMS205-H_230511A : 144		R184444
Molybdenum	0.011	mg/L		0.001		E200.8	05/11/23 18:42 / dck		ICPMS205-H_230511A : 144		R184444
Nickel	ND	mg/L		0.002		E200.8	05/11/23 18:42 / dck		ICPMS205-H_230511A : 144		R184444
Palladium	ND	mg/L		0.01		E200.8	05/11/23 18:30 / dck		ICPMS206-H_230511C : 61		R184474
Praseodymium	ND	mg/L		0.01		E200.8	05/11/23 18:30 / dck		ICPMS206-H_230511C : 61		R184474
Rubidium	ND	mg/L		0.01		E200.8	05/11/23 18:30 / dck		ICPMS206-H_230511C : 61		R184474
Potassium	10	mg/L		1		E200.7	05/11/23 16:49 / slj		ICP2-HE_230511A : 109		R184450
Selenium	ND	mg/L		0.001		E200.8	05/11/23 18:42 / dck		ICPMS205-H_230511A : 144		R184444
Silver	ND	mg/L		0.0002		E200.8	05/11/23 18:42 / dck		ICPMS205-H_230511A : 144		R184444
Sodium	65	mg/L		1		E200.7	05/11/23 16:49 / slj		ICP2-HE_230511A : 109		R184450
Strontium	1.26	mg/L		0.01		E200.7	05/11/23 16:49 / slj		ICP2-HE_230511A : 109		R184450
Thallium	ND	mg/L		0.0002		E200.8	05/11/23 18:42 / dck		ICPMS205-H_230511A : 144		R184444
Thorium	ND	mg/L		0.005		E200.8	05/11/23 18:42 / dck		ICPMS205-H_230511A : 144		R184444
Tin	ND	mg/L		0.05		E200.8	05/11/23 18:42 / dck		ICPMS205-H_230511A : 144		R184444
Titanium	ND	mg/L		0.005		E200.8	05/11/23 18:42 / dck		ICPMS205-H_230511A : 144		R184444
Tungsten	ND	mg/L		0.1		E200.8	05/11/23 18:30 / dck		ICPMS206-H_230511C : 61		R184474
Uranium	0.0025	mg/L		0.0002		E200.8	05/11/23 18:42 / dck		ICPMS205-H_230511A : 144		R184444
Vanadium	ND	mg/L		0.01		E200.8	05/11/23 18:42 / dck		ICPMS205-H_230511A : 144		R184444
Zinc	0.153	mg/L		0.008		E200.8	05/11/23 18:42 / dck		ICPMS205-H_230511A : 144		R184444
Zirconium	ND	mg/L		0.005		E200.8	05/11/23 18:30 / dck		ICPMS206-H_230511C : 61		R184474

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10C  
**Lab ID:** H23050305-022  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 16:17      **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.50	%				A1030 E	05/17/23 10:41 / SR		CALC_230517A : 518		R184598

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-10A  
**Lab ID:** H23050305-023  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 16:20 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.1	s.u.	H	0.1		A4500-H B	05/11/23 10:05 / ams		PHSC_101-H_230511A : 70		R184429
pH Measurement Temp	14.9	°C				A4500-H B	05/11/23 10:05 / ams		PHSC_101-H_230511A : 70		R184429
Conductivity @ 25 C	343	umhos/cm		5		A2510 B	05/11/23 10:05 / ams		PHSC_101-H_230511A : 71		R184429
Solids, Total Dissolved TDS @ 180 C	221	mg/L		20		A2540 C	05/11/23 11:56 / ams		I24 (14410200)_230511A : 33		TDS230511A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	96	mg/L		4		A2320 B	05/11/23 19:35 / ams		PHSC_101-H_230511A : 201		R184429
Bicarbonate as HCO3	120	mg/L		4		A2320 B	05/11/23 19:35 / ams		PHSC_101-H_230511A : 201		R184429
Carbonate as CO3	ND	mg/L		4		A2320 B	05/11/23 19:35 / ams		PHSC_101-H_230511A : 201		R184429
Chloride	13	mg/L		1		E300.0	05/12/23 09:38 / ljs		IC METROHM_230511A : 86		R184473
Sulfate	45	mg/L		1		E300.0	05/12/23 09:38 / ljs		IC METROHM_230511A : 86		R184473
Bromide	ND	mg/L		0.5		E300.0	05/12/23 09:38 / ljs		IC METROHM_230511A : 86		R184473
Fluoride	0.6	mg/L		0.1		E300.0	05/12/23 09:38 / ljs		IC METROHM_230511A : 86		R184473
Hardness as CaCO3	128	mg/L		1		A2340 B	05/11/23 17:00 / SR		CALC_230517A : 531		R184598
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.8	mg/L		0.5		A5310 C	05/13/23 05:29 / eli-c		SUB-C294514 : 16		C_R294514
Organic Carbon, Total (TOC)	0.7	mg/L		0.5		A5310 C	05/12/23 23:20 / eli-c		SUB-C294514 : 8		C_R294514
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	1.17	mg/L		0.01		E353.2	05/17/23 15:42 / JAR		FIA203-HE_230517A : 89		R184632
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/11/23 18:45 / dck		ICPMS205-H_230511A : 145		R184444
Antimony	ND	mg/L		0.0005		E200.8	05/11/23 18:45 / dck		ICPMS205-H_230511A : 145		R184444
Arsenic	0.002	mg/L		0.001		E200.8	05/11/23 18:45 / dck		ICPMS205-H_230511A : 145		R184444
Barium	0.029	mg/L		0.003		E200.8	05/11/23 18:45 / dck		ICPMS205-H_230511A : 145		R184444
Beryllium	ND	mg/L		0.0008		E200.8	05/11/23 18:45 / dck		ICPMS205-H_230511A : 145		R184444
Boron	ND	mg/L		0.05		E200.7	05/11/23 17:00 / slj		ICP2-HE_230511A : 112		R184450
Cadmium	0.00030	mg/L		0.00003		E200.8	05/11/23 18:45 / dck		ICPMS205-H_230511A : 145		R184444
Cesium	ND	mg/L		0.01		E200.8	05/11/23 18:31 / dck		ICPMS206-H_230511C : 62		R184474

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-10A  
**Lab ID:** H23050305-023  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 16:20 **DateReceived:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	38	mg/L		1		E200.7	05/11/23 17:00 / slj		ICP2-HE_230511A : 112		R184450
Chromium	ND	mg/L		0.005		E200.8	05/11/23 18:45 / dck		ICPMS205-H_230511A : 145		R184444
Cobalt	ND	mg/L		0.005		E200.8	05/11/23 18:45 / dck		ICPMS205-H_230511A : 145		R184444
Copper	ND	mg/L		0.002		E200.8	05/11/23 18:45 / dck		ICPMS205-H_230511A : 145		R184444
Gallium	ND	mg/L		0.01		E200.8	05/11/23 18:31 / dck		ICPMS206-H_230511C : 62		R184474
Iron	ND	mg/L		0.02		E200.8	05/11/23 18:45 / dck		ICPMS205-H_230511A : 145		R184444
Lead	ND	mg/L		0.0003		E200.8	05/11/23 18:45 / dck		ICPMS205-H_230511A : 145		R184444
Lanthanum	ND	mg/L		0.01		E200.8	05/11/23 18:31 / dck		ICPMS206-H_230511C : 62		R184474
Lithium	ND	mg/L		0.1		E200.7	05/11/23 17:00 / slj		ICP2-HE_230511A : 112		R184450
Magnesium	8	mg/L		1		E200.7	05/11/23 17:00 / slj		ICP2-HE_230511A : 112		R184450
Neodymium	ND	mg/L		0.005		E200.8	05/11/23 18:31 / dck		ICPMS206-H_230511C : 62		R184474
Niobium	ND	mg/L		0.01		E200.8	05/11/23 18:31 / dck		ICPMS206-H_230511C : 62		R184474
Manganese	0.114	mg/L		0.001		E200.8	05/11/23 18:45 / dck		ICPMS205-H_230511A : 145		R184444
Molybdenum	0.012	mg/L		0.001		E200.8	05/11/23 18:45 / dck		ICPMS205-H_230511A : 145		R184444
Nickel	ND	mg/L		0.002		E200.8	05/11/23 18:45 / dck		ICPMS205-H_230511A : 145		R184444
Palladium	ND	mg/L		0.01		E200.8	05/11/23 18:31 / dck		ICPMS206-H_230511C : 62		R184474
Praseodymium	ND	mg/L		0.01		E200.8	05/11/23 18:31 / dck		ICPMS206-H_230511C : 62		R184474
Rubidium	ND	mg/L		0.01		E200.8	05/11/23 18:31 / dck		ICPMS206-H_230511C : 62		R184474
Potassium	3	mg/L		1		E200.7	05/11/23 17:00 / slj		ICP2-HE_230511A : 112		R184450
Selenium	ND	mg/L		0.001		E200.8	05/11/23 18:45 / dck		ICPMS205-H_230511A : 145		R184444
Silver	ND	mg/L		0.0002		E200.8	05/11/23 18:45 / dck		ICPMS205-H_230511A : 145		R184444
Sodium	18	mg/L		1		E200.7	05/11/23 17:00 / slj		ICP2-HE_230511A : 112		R184450
Strontium	0.21	mg/L		0.01		E200.8	05/11/23 18:45 / dck		ICPMS205-H_230511A : 145		R184444
Thallium	ND	mg/L		0.0002		E200.8	05/11/23 18:45 / dck		ICPMS205-H_230511A : 145		R184444
Thorium	ND	mg/L		0.005		E200.8	05/11/23 18:45 / dck		ICPMS205-H_230511A : 145		R184444
Tin	ND	mg/L		0.05		E200.8	05/11/23 18:45 / dck		ICPMS205-H_230511A : 145		R184444
Titanium	ND	mg/L		0.005		E200.8	05/11/23 18:45 / dck		ICPMS205-H_230511A : 145		R184444
Tungsten	ND	mg/L		0.1		E200.8	05/11/23 18:31 / dck		ICPMS206-H_230511C : 62		R184474
Uranium	0.0049	mg/L		0.0002		E200.8	05/11/23 18:45 / dck		ICPMS205-H_230511A : 145		R184444
Vanadium	ND	mg/L		0.01		E200.8	05/11/23 18:45 / dck		ICPMS205-H_230511A : 145		R184444
Zinc	0.084	mg/L		0.008		E200.8	05/11/23 18:45 / dck		ICPMS205-H_230511A : 145		R184444
Zirconium	ND	mg/L		0.005		E200.8	05/11/23 18:31 / dck		ICPMS206-H_230511C : 62		R184474

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-10A  
**Lab ID:** H23050305-023  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 16:20      **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	2.16	%				A1030 E	05/17/23 10:41 / SR		CALC_230517A : 529		R184598

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-07B  
**Lab ID:** H23050305-024  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 16:24 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.9	s.u.	H	0.1		A4500-H B	05/11/23 10:07 / ams		PHSC_101-H_230511A : 72		R184429
pH Measurement Temp	15.5	°C				A4500-H B	05/11/23 10:07 / ams		PHSC_101-H_230511A : 72		R184429
Conductivity @ 25 C	657	umhos/cm		5		A2510 B	05/11/23 10:07 / ams		PHSC_101-H_230511A : 73		R184429
Solids, Total Dissolved TDS @ 180 C	449	mg/L		20		A2540 C	05/11/23 11:56 / ams		I24 (14410200)_230511A : 34		TDS230511A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	74	mg/L		4		A2320 B	05/11/23 19:42 / ams		PHSC_101-H_230511A : 203		R184429
Bicarbonate as HCO3	90	mg/L		4		A2320 B	05/11/23 19:42 / ams		PHSC_101-H_230511A : 203		R184429
Carbonate as CO3	ND	mg/L		4		A2320 B	05/11/23 19:42 / ams		PHSC_101-H_230511A : 203		R184429
Chloride	10	mg/L		1		E300.0	05/12/23 09:53 / ljs		IC METROHM_230511A : 87		R184473
Sulfate	223	mg/L		1		E300.0	05/12/23 09:53 / ljs		IC METROHM_230511A : 87		R184473
Bromide	ND	mg/L		0.5		E300.0	05/12/23 09:53 / ljs		IC METROHM_230511A : 87		R184473
Fluoride	1.8	mg/L		0.1		E300.0	05/12/23 09:53 / ljs		IC METROHM_230511A : 87		R184473
Hardness as CaCO3	199	mg/L		1		A2340 B	05/11/23 17:04 / SR		CALC_230517A : 542		R184598
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	05/13/23 05:44 / eli-c		SUB-C294514 : 17		C_R294514
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	05/12/23 23:35 / eli-c		SUB-C294514 : 9		C_R294514
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.58	mg/L		0.01		E353.2	05/17/23 15:44 / JAR		FIA203-HE_230517A : 90		R184632
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/11/23 18:47 / dck		ICPMS205-H_230511A : 146		R184444
Antimony	ND	mg/L		0.0005		E200.8	05/11/23 18:47 / dck		ICPMS205-H_230511A : 146		R184444
Arsenic	0.011	mg/L		0.001		E200.8	05/11/23 18:47 / dck		ICPMS205-H_230511A : 146		R184444
Barium	0.009	mg/L		0.003		E200.8	05/11/23 18:47 / dck		ICPMS205-H_230511A : 146		R184444
Beryllium	ND	mg/L		0.0008		E200.8	05/11/23 18:47 / dck		ICPMS205-H_230511A : 146		R184444
Boron	0.06	mg/L		0.05		E200.7	05/11/23 17:04 / slj		ICP2-HE_230511A : 113		R184450
Cadmium	0.00247	mg/L		0.00003		E200.8	05/11/23 18:47 / dck		ICPMS205-H_230511A : 146		R184444
Cesium	ND	mg/L		0.01		E200.8	05/11/23 18:33 / dck		ICPMS206-H_230511C : 63		R184474

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-07B  
**Lab ID:** H23050305-024  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 16:24 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	58	mg/L		1		E200.7	05/11/23 17:04 / slj		ICP2-HE_230511A : 113		R184450
Chromium	ND	mg/L		0.005		E200.8	05/11/23 18:47 / dck		ICPMS205-H_230511A : 146		R184444
Cobalt	ND	mg/L		0.005		E200.8	05/11/23 18:47 / dck		ICPMS205-H_230511A : 146		R184444
Copper	ND	mg/L		0.002		E200.8	05/11/23 18:47 / dck		ICPMS205-H_230511A : 146		R184444
Gallium	ND	mg/L		0.01		E200.8	05/11/23 18:33 / dck		ICPMS206-H_230511C : 63		R184474
Iron	ND	mg/L		0.02		E200.8	05/11/23 18:47 / dck		ICPMS205-H_230511A : 146		R184444
Lead	ND	mg/L		0.0003		E200.8	05/11/23 18:47 / dck		ICPMS205-H_230511A : 146		R184444
Lanthanum	ND	mg/L		0.01		E200.8	05/11/23 18:33 / dck		ICPMS206-H_230511C : 63		R184474
Lithium	0.1	mg/L		0.1		E200.7	05/11/23 17:04 / slj		ICP2-HE_230511A : 113		R184450
Magnesium	13	mg/L		1		E200.7	05/11/23 17:04 / slj		ICP2-HE_230511A : 113		R184450
Neodymium	ND	mg/L		0.005		E200.8	05/11/23 18:33 / dck		ICPMS206-H_230511C : 63		R184474
Niobium	ND	mg/L		0.01		E200.8	05/11/23 18:33 / dck		ICPMS206-H_230511C : 63		R184474
Manganese	ND	mg/L		0.001		E200.8	05/11/23 18:47 / dck		ICPMS205-H_230511A : 146		R184444
Molybdenum	0.074	mg/L		0.001		E200.8	05/11/23 18:47 / dck		ICPMS205-H_230511A : 146		R184444
Nickel	ND	mg/L		0.002		E200.8	05/11/23 18:47 / dck		ICPMS205-H_230511A : 146		R184444
Palladium	ND	mg/L		0.01		E200.8	05/11/23 18:33 / dck		ICPMS206-H_230511C : 63		R184474
Praseodymium	ND	mg/L		0.01		E200.8	05/11/23 18:33 / dck		ICPMS206-H_230511C : 63		R184474
Rubidium	ND	mg/L		0.01		E200.8	05/11/23 18:33 / dck		ICPMS206-H_230511C : 63		R184474
Potassium	8	mg/L		1		E200.7	05/11/23 17:04 / slj		ICP2-HE_230511A : 113		R184450
Selenium	ND	mg/L		0.001		E200.8	05/11/23 18:47 / dck		ICPMS205-H_230511A : 146		R184444
Silver	ND	mg/L		0.0002		E200.8	05/11/23 18:47 / dck		ICPMS205-H_230511A : 146		R184444
Sodium	49	mg/L		1		E200.7	05/11/23 17:04 / slj		ICP2-HE_230511A : 113		R184450
Strontium	0.59	mg/L		0.01		E200.8	05/11/23 18:47 / dck		ICPMS205-H_230511A : 146		R184444
Thallium	ND	mg/L		0.0002		E200.8	05/11/23 18:47 / dck		ICPMS205-H_230511A : 146		R184444
Thorium	ND	mg/L		0.005		E200.8	05/11/23 18:47 / dck		ICPMS205-H_230511A : 146		R184444
Tin	ND	mg/L		0.05		E200.8	05/11/23 18:47 / dck		ICPMS205-H_230511A : 146		R184444
Titanium	ND	mg/L		0.005		E200.8	05/11/23 18:47 / dck		ICPMS205-H_230511A : 146		R184444
Tungsten	ND	mg/L		0.1		E200.8	05/11/23 18:33 / dck		ICPMS206-H_230511C : 63		R184474
Uranium	0.0019	mg/L		0.0002		E200.8	05/11/23 18:47 / dck		ICPMS205-H_230511A : 146		R184444
Vanadium	ND	mg/L		0.01		E200.8	05/11/23 18:47 / dck		ICPMS205-H_230511A : 146		R184444
Zinc	0.203	mg/L		0.008		E200.8	05/11/23 18:47 / dck		ICPMS205-H_230511A : 146		R184444
Zirconium	ND	mg/L		0.005		E200.8	05/11/23 18:33 / dck		ICPMS206-H_230511C : 63		R184474

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-07B  
**Lab ID:** H23050305-024  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 16:24    **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.56	%				A1030 E	05/17/23 10:42 / SR		CALC_230517A : 540		R184598

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-10B  
**Lab ID:** H23050305-025  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 16:48 **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.0	s.u.	H	0.1		A4500-H B	05/11/23 10:09 / ams		PHSC_101-H_230511A : 74		R184429
pH Measurement Temp	15.7	°C				A4500-H B	05/11/23 10:09 / ams		PHSC_101-H_230511A : 74		R184429
Conductivity @ 25 C	583	umhos/cm		5		A2510 B	05/11/23 10:09 / ams		PHSC_101-H_230511A : 75		R184429
Solids, Total Dissolved TDS @ 180 C	404	mg/L		20		A2540 C	05/11/23 11:56 / ams		I24 (14410200)_230511A : 35		TDS230511A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	78	mg/L		4		A2320 B	05/11/23 19:48 / ams		PHSC_101-H_230511A : 205		R184429
Bicarbonate as HCO3	94	mg/L		4		A2320 B	05/11/23 19:48 / ams		PHSC_101-H_230511A : 205		R184429
Carbonate as CO3	ND	mg/L		4		A2320 B	05/11/23 19:48 / ams		PHSC_101-H_230511A : 205		R184429
Chloride	13	mg/L		1		E300.0	05/12/23 10:07 / ljs		IC METROHM_230511A : 88		R184473
Sulfate	188	mg/L		1		E300.0	05/12/23 10:07 / ljs		IC METROHM_230511A : 88		R184473
Bromide	ND	mg/L		0.5		E300.0	05/12/23 10:07 / ljs		IC METROHM_230511A : 88		R184473
Fluoride	0.5	mg/L		0.1		E300.0	05/12/23 10:07 / ljs		IC METROHM_230511A : 88		R184473
Hardness as CaCO3	209	mg/L		1		A2340 B	05/11/23 17:08 / SR		CALC_230517A : 553		R184598
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	05/13/23 06:34 / eli-c		SUB-C294514 : 19		C_R294514
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	05/12/23 23:54 / eli-c		SUB-C294514 : 10		C_R294514
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.30	mg/L		0.01		E353.2	05/17/23 15:45 / JAR		FIA203-HE_230517A : 91		R184632
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/11/23 18:50 / dck		ICPMS205-H_230511A : 147		R184444
Antimony	ND	mg/L		0.0005		E200.8	05/11/23 18:50 / dck		ICPMS205-H_230511A : 147		R184444
Arsenic	0.002	mg/L		0.001		E200.8	05/11/23 18:50 / dck		ICPMS205-H_230511A : 147		R184444
Barium	0.020	mg/L		0.003		E200.8	05/11/23 18:50 / dck		ICPMS205-H_230511A : 147		R184444
Beryllium	ND	mg/L		0.0008		E200.8	05/11/23 18:50 / dck		ICPMS205-H_230511A : 147		R184444
Boron	ND	mg/L		0.05		E200.7	05/11/23 17:08 / slj		ICP2-HE_230511A : 114		R184450
Cadmium	0.00141	mg/L		0.00003		E200.8	05/11/23 18:50 / dck		ICPMS205-H_230511A : 147		R184444
Cesium	ND	mg/L		0.01		E200.8	05/11/23 18:35 / dck		ICPMS206-H_230511C : 64		R184474

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-10B  
**Lab ID:** H23050305-025  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 16:48 **DateReceived:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	60	mg/L		1		E200.7	05/11/23 17:08 / slj		ICP2-HE_230511A : 114		R184450
Chromium	ND	mg/L		0.005		E200.8	05/11/23 18:50 / dck		ICPMS205-H_230511A : 147		R184444
Cobalt	ND	mg/L		0.005		E200.8	05/11/23 18:50 / dck		ICPMS205-H_230511A : 147		R184444
Copper	ND	mg/L		0.002		E200.8	05/11/23 18:50 / dck		ICPMS205-H_230511A : 147		R184444
Gallium	ND	mg/L		0.01		E200.8	05/11/23 18:35 / dck		ICPMS206-H_230511C : 64		R184474
Iron	ND	mg/L		0.02		E200.8	05/11/23 18:50 / dck		ICPMS205-H_230511A : 147		R184444
Lead	ND	mg/L		0.0003		E200.8	05/11/23 18:50 / dck		ICPMS205-H_230511A : 147		R184444
Lanthanum	ND	mg/L		0.01		E200.8	05/11/23 18:35 / dck		ICPMS206-H_230511C : 64		R184474
Lithium	ND	mg/L		0.1		E200.7	05/11/23 17:08 / slj		ICP2-HE_230511A : 114		R184450
Magnesium	14	mg/L		1		E200.7	05/11/23 17:08 / slj		ICP2-HE_230511A : 114		R184450
Neodymium	ND	mg/L		0.005		E200.8	05/11/23 18:35 / dck		ICPMS206-H_230511C : 64		R184474
Niobium	ND	mg/L		0.01		E200.8	05/11/23 18:35 / dck		ICPMS206-H_230511C : 64		R184474
Manganese	0.002	mg/L		0.001		E200.8	05/11/23 18:50 / dck		ICPMS205-H_230511A : 147		R184444
Molybdenum	0.037	mg/L		0.001		E200.8	05/11/23 18:50 / dck		ICPMS205-H_230511A : 147		R184444
Nickel	ND	mg/L		0.002		E200.8	05/11/23 18:50 / dck		ICPMS205-H_230511A : 147		R184444
Palladium	ND	mg/L		0.01		E200.8	05/11/23 18:35 / dck		ICPMS206-H_230511C : 64		R184474
Praseodymium	ND	mg/L		0.01		E200.8	05/11/23 18:35 / dck		ICPMS206-H_230511C : 64		R184474
Rubidium	ND	mg/L		0.01		E200.8	05/11/23 18:35 / dck		ICPMS206-H_230511C : 64		R184474
Potassium	5	mg/L		1		E200.7	05/11/23 17:08 / slj		ICP2-HE_230511A : 114		R184450
Selenium	ND	mg/L		0.001		E200.8	05/11/23 18:50 / dck		ICPMS205-H_230511A : 147		R184444
Silver	ND	mg/L		0.0002		E200.8	05/11/23 18:50 / dck		ICPMS205-H_230511A : 147		R184444
Sodium	29	mg/L		1		E200.7	05/11/23 17:08 / slj		ICP2-HE_230511A : 114		R184450
Strontium	0.41	mg/L		0.01		E200.8	05/11/23 18:50 / dck		ICPMS205-H_230511A : 147		R184444
Thallium	ND	mg/L		0.0002		E200.8	05/11/23 18:50 / dck		ICPMS205-H_230511A : 147		R184444
Thorium	ND	mg/L		0.005		E200.8	05/11/23 18:50 / dck		ICPMS205-H_230511A : 147		R184444
Tin	ND	mg/L		0.05		E200.8	05/11/23 18:50 / dck		ICPMS205-H_230511A : 147		R184444
Titanium	ND	mg/L		0.005		E200.8	05/11/23 18:50 / dck		ICPMS205-H_230511A : 147		R184444
Tungsten	ND	mg/L		0.1		E200.8	05/11/23 18:35 / dck		ICPMS206-H_230511C : 64		R184474
Uranium	0.0026	mg/L		0.0002		E200.8	05/11/23 18:50 / dck		ICPMS205-H_230511A : 147		R184444
Vanadium	ND	mg/L		0.01		E200.8	05/11/23 18:50 / dck		ICPMS205-H_230511A : 147		R184444
Zinc	0.081	mg/L		0.008		E200.8	05/11/23 18:50 / dck		ICPMS205-H_230511A : 147		R184444
Zirconium	ND	mg/L		0.005		E200.8	05/11/23 18:35 / dck		ICPMS206-H_230511C : 64		R184474

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-10B  
**Lab ID:** H23050305-025  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/09/23 16:48      **Date Received:** 05/10/23  
**Report Date:** 05/26/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-2.51	%				A1030 E	05/17/23 10:42 / SR		CALC_230517A : 551		R184598

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050305

**BatchID:** C\_R294513

**Date:** 26-May-23

Run ID :Run Order: <b>SUB-C294513: 1</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MBLK</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>05/12/23 11:47</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	ND	0.1									

Associated samples: H23050305-001D, H23050305-001E, H23050305-002D, H23050305-002E, H23050305-003D, H23050305-003E, H23050305-004D, H23050305-004E, H23050305-005D, H23050305-005E, H23050305-006D, H23050305-006E, H23050305-007D, H23050305-007E, H23050305-008D, H23050305-008E, H23050305-009D, H23050305-009E, H23050305-010D, H23050305-010E, H23050305-011D, H23050305-011E, H23050305-012D, H23050305-012E, H23050305-013D, H23050305-013E, H23050305-014D, H23050305-014E, H23050305-015D, H23050305-015E, H23050305-016D, H23050305-016E, H23050305-017D, H23050305-017E, H23050305-018D, H23050305-018E, H23050305-019D, H23050305-019E, H23050305-020D, H23050305-020E

Run ID :Run Order: <b>SUB-C294513: 2</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS-11923</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>05/12/23 12:08</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.34	0.50	5	0	<b>107</b>	90	111	0			

Associated samples: H23050305-001D, H23050305-001E, H23050305-002D, H23050305-002E, H23050305-003D, H23050305-003E, H23050305-004D, H23050305-004E, H23050305-005D, H23050305-005E, H23050305-006D, H23050305-006E, H23050305-007D, H23050305-007E, H23050305-008D, H23050305-008E, H23050305-009D, H23050305-009E, H23050305-010D, H23050305-010E, H23050305-011D, H23050305-011E, H23050305-012D, H23050305-012E, H23050305-013D, H23050305-013E, H23050305-014D, H23050305-014E, H23050305-015D, H23050305-015E, H23050305-016D, H23050305-016E, H23050305-017D, H23050305-017E, H23050305-018D, H23050305-018E, H23050305-019D, H23050305-019E, H23050305-020D, H23050305-020E

Run ID :Run Order: <b>SUB-C294513: 3</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV-11940</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>05/12/23 12:25</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.39	0.50	5	0	<b>108</b>	90	110	0			

Associated samples: H23050305-001D, H23050305-001E, H23050305-002D, H23050305-002E, H23050305-003D, H23050305-003E, H23050305-004D, H23050305-004E, H23050305-005D, H23050305-005E, H23050305-006D, H23050305-006E, H23050305-007D, H23050305-007E, H23050305-008D, H23050305-008E, H23050305-009D, H23050305-009E, H23050305-010D, H23050305-010E, H23050305-011D, H23050305-011E, H23050305-012D, H23050305-012E, H23050305-013D, H23050305-013E, H23050305-014D, H23050305-014E, H23050305-015D, H23050305-015E, H23050305-016D, H23050305-016E, H23050305-017D, H23050305-017E, H23050305-018D, H23050305-018E, H23050305-019D, H23050305-019E, H23050305-020D, H23050305-020E

Run ID :Run Order: <b>SUB-C294513: 5</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23050305-001E</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>05/12/23 13:02</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	6.06	0.50	5	0.7101	<b>107</b>	90	111	0			

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050305

BatchID: C\_R294513

Date: 26-May-23

Run ID :Run Order: SUB-C294513: 5	SampType: Sample Matrix Spike	Lab ID: H23050305-001E	Method: A5310 C								
Analysis Date: 05/12/23 13:02	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Associated samples: H23050305-001D, H23050305-001E, H23050305-002D, H23050305-002E, H23050305-003D, H23050305-003E, H23050305-004D, H23050305-004E, H23050305-005D, H23050305-005E, H23050305-006D, H23050305-006E, H23050305-007D, H23050305-007E, H23050305-008D, H23050305-008E, H23050305-009D, H23050305-009E, H23050305-010D, H23050305-010E, H23050305-011D, H23050305-011E, H23050305-012D, H23050305-012E, H23050305-013D, H23050305-013E, H23050305-014D, H23050305-014E, H23050305-015D, H23050305-015E, H23050305-016D, H23050305-016E, H23050305-017D, H23050305-017E, H23050305-018D, H23050305-018E, H23050305-019D, H23050305-019E, H23050305-020D, H23050305-020E											

Run ID :Run Order: SUB-C294513: 6	SampType: Sample Matrix Spike Duplicate	Lab ID: H23050305-001E	Method: A5310 C								
Analysis Date: 05/12/23 13:18	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	6.06	0.50	5	0.7101	107	90	111	6.064	0.0	20	
Associated samples: H23050305-001D, H23050305-001E, H23050305-002D, H23050305-002E, H23050305-003D, H23050305-003E, H23050305-004D, H23050305-004E, H23050305-005D, H23050305-005E, H23050305-006D, H23050305-006E, H23050305-007D, H23050305-007E, H23050305-008D, H23050305-008E, H23050305-009D, H23050305-009E, H23050305-010D, H23050305-010E, H23050305-011D, H23050305-011E, H23050305-012D, H23050305-012E, H23050305-013D, H23050305-013E, H23050305-014D, H23050305-014E, H23050305-015D, H23050305-015E, H23050305-016D, H23050305-016E, H23050305-017D, H23050305-017E, H23050305-018D, H23050305-018E, H23050305-019D, H23050305-019E, H23050305-020D, H23050305-020E											

Run ID :Run Order: SUB-C294513: 16	SampType: Continuing Calibration Verification Standar	Lab ID: CCV-11940	Method: A5310 C								
Analysis Date: 05/12/23 16:30	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.36	0.50	5	0	107	90	110	0			
Associated samples: H23050305-001D, H23050305-001E, H23050305-002D, H23050305-002E, H23050305-003D, H23050305-003E, H23050305-004D, H23050305-004E, H23050305-005D, H23050305-005E, H23050305-006D, H23050305-006E, H23050305-007D, H23050305-007E, H23050305-008D, H23050305-008E, H23050305-009D, H23050305-009E, H23050305-010D, H23050305-010E, H23050305-011D, H23050305-011E, H23050305-012D, H23050305-012E, H23050305-013D, H23050305-013E, H23050305-014D, H23050305-014E, H23050305-015D, H23050305-015E, H23050305-016D, H23050305-016E, H23050305-017D, H23050305-017E, H23050305-018D, H23050305-018E, H23050305-019D, H23050305-019E, H23050305-020D, H23050305-020E											

Run ID :Run Order: SUB-C294513: 18	SampType: Sample Matrix Spike	Lab ID: H23050305-011E	Method: A5310 C								
Analysis Date: 05/12/23 17:24	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.52	0.50	5	0.1837	107	90	111	0			

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050305

**BatchID:** C\_R294513

**Date:** 26-May-23

Run ID :Run Order: <b>SUB-C294513: 18</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23050305-011E</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>05/12/23 17:24</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23050305-001D, H23050305-001E, H23050305-002D, H23050305-002E, H23050305-003D, H23050305-003E, H23050305-004D, H23050305-004E, H23050305-005D, H23050305-005E, H23050305-006D, H23050305-006E, H23050305-007D, H23050305-007E, H23050305-008D, H23050305-008E, H23050305-009D, H23050305-009E, H23050305-010D, H23050305-010E, H23050305-011D, H23050305-011E, H23050305-012D, H23050305-012E, H23050305-013D, H23050305-013E, H23050305-014D, H23050305-014E, H23050305-015D, H23050305-015E, H23050305-016D, H23050305-016E, H23050305-017D, H23050305-017E, H23050305-018D, H23050305-018E, H23050305-019D, H23050305-019E, H23050305-020D, H23050305-020E

Run ID :Run Order: <b>SUB-C294513: 19</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23050305-011E</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>05/12/23 17:40</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.53	0.50	5	0.1837	<b>107</b>	90	111	5.52	<b>0.1</b>	20	

Associated samples: H23050305-001D, H23050305-001E, H23050305-002D, H23050305-002E, H23050305-003D, H23050305-003E, H23050305-004D, H23050305-004E, H23050305-005D, H23050305-005E, H23050305-006D, H23050305-006E, H23050305-007D, H23050305-007E, H23050305-008D, H23050305-008E, H23050305-009D, H23050305-009E, H23050305-010D, H23050305-010E, H23050305-011D, H23050305-011E, H23050305-012D, H23050305-012E, H23050305-013D, H23050305-013E, H23050305-014D, H23050305-014E, H23050305-015D, H23050305-015E, H23050305-016D, H23050305-016E, H23050305-017D, H23050305-017E, H23050305-018D, H23050305-018E, H23050305-019D, H23050305-019E, H23050305-020D, H23050305-020E

Run ID :Run Order: <b>SUB-C294513: 29</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MBLK</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>05/12/23 21:25</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	ND	0.1									

Associated samples: H23050305-001D, H23050305-001E, H23050305-002D, H23050305-002E, H23050305-003D, H23050305-003E, H23050305-004D, H23050305-004E, H23050305-005D, H23050305-005E, H23050305-006D, H23050305-006E, H23050305-007D, H23050305-007E, H23050305-008D, H23050305-008E, H23050305-009D, H23050305-009E, H23050305-010D, H23050305-010E, H23050305-011D, H23050305-011E, H23050305-012D, H23050305-012E, H23050305-013D, H23050305-013E, H23050305-014D, H23050305-014E, H23050305-015D, H23050305-015E, H23050305-016D, H23050305-016E, H23050305-017D, H23050305-017E, H23050305-018D, H23050305-018E, H23050305-019D, H23050305-019E, H23050305-020D, H23050305-020E

Run ID :Run Order: <b>SUB-C294513: 30</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS-11923</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>05/12/23 21:42</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.24	0.50	5	0	<b>105</b>	88	112	0			

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050305

BatchID: C\_R294513

Date: 26-May-23

Run ID :Run Order: SUB-C294513: 30	SampType: Laboratory Control Sample	Lab ID: LCS-11923	Method: A5310 C								
Analysis Date: 05/12/23 21:42	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Associated samples: H23050305-001D, H23050305-001E, H23050305-002D, H23050305-002E, H23050305-003D, H23050305-003E, H23050305-004D, H23050305-004E, H23050305-005D, H23050305-005E, H23050305-006D, H23050305-006E, H23050305-007D, H23050305-007E, H23050305-008D, H23050305-008E, H23050305-009D, H23050305-009E, H23050305-010D, H23050305-010E, H23050305-011D, H23050305-011E, H23050305-012D, H23050305-012E, H23050305-013D, H23050305-013E, H23050305-014D, H23050305-014E, H23050305-015D, H23050305-015E, H23050305-016D, H23050305-016E, H23050305-017D, H23050305-017E, H23050305-018D, H23050305-018E, H23050305-019D, H23050305-019E, H23050305-020D, H23050305-020E											

Run ID :Run Order: SUB-C294513: 31	SampType: Continuing Calibration Verification Standar	Lab ID: CCV-11940	Method: A5310 C								
Analysis Date: 05/12/23 21:57	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.28	0.50	5	0	106	90	110	0			
Associated samples: H23050305-001D, H23050305-001E, H23050305-002D, H23050305-002E, H23050305-003D, H23050305-003E, H23050305-004D, H23050305-004E, H23050305-005D, H23050305-005E, H23050305-006D, H23050305-006E, H23050305-007D, H23050305-007E, H23050305-008D, H23050305-008E, H23050305-009D, H23050305-009E, H23050305-010D, H23050305-010E, H23050305-011D, H23050305-011E, H23050305-012D, H23050305-012E, H23050305-013D, H23050305-013E, H23050305-014D, H23050305-014E, H23050305-015D, H23050305-015E, H23050305-016D, H23050305-016E, H23050305-017D, H23050305-017E, H23050305-018D, H23050305-018E, H23050305-019D, H23050305-019E, H23050305-020D, H23050305-020E											

Run ID :Run Order: SUB-C294513: 33	SampType: Sample Matrix Spike	Lab ID: H23050305-001D	Method: A5310 C								
Analysis Date: 05/12/23 22:33	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.97	0.50	5	0.6913	106	88	112	0			
Associated samples: H23050305-001D, H23050305-001E, H23050305-002D, H23050305-002E, H23050305-003D, H23050305-003E, H23050305-004D, H23050305-004E, H23050305-005D, H23050305-005E, H23050305-006D, H23050305-006E, H23050305-007D, H23050305-007E, H23050305-008D, H23050305-008E, H23050305-009D, H23050305-009E, H23050305-010D, H23050305-010E, H23050305-011D, H23050305-011E, H23050305-012D, H23050305-012E, H23050305-013D, H23050305-013E, H23050305-014D, H23050305-014E, H23050305-015D, H23050305-015E, H23050305-016D, H23050305-016E, H23050305-017D, H23050305-017E, H23050305-018D, H23050305-018E, H23050305-019D, H23050305-019E, H23050305-020D, H23050305-020E											

Run ID :Run Order: SUB-C294513: 34	SampType: Sample Matrix Spike Duplicate	Lab ID: H23050305-001D	Method: A5310 C								
Analysis Date: 05/12/23 22:49	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.99	0.50	5	0.6913	106	88	112	5.97	0.4	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050305

BatchID: C\_R294513

Date: 26-May-23

Run ID :Run Order: SUB-C294513: 34	SampType: Sample Matrix Spike Duplicate	Lab ID: H23050305-001D	Method: A5310 C								
Analysis Date: 05/12/23 22:49	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Associated samples: H23050305-001D, H23050305-001E, H23050305-002D, H23050305-002E, H23050305-003D, H23050305-003E, H23050305-004D, H23050305-004E, H23050305-005D, H23050305-005E, H23050305-006D, H23050305-006E, H23050305-007D, H23050305-007E, H23050305-008D, H23050305-008E, H23050305-009D, H23050305-009E, H23050305-010D, H23050305-010E, H23050305-011D, H23050305-011E, H23050305-012D, H23050305-012E, H23050305-013D, H23050305-013E, H23050305-014D, H23050305-014E, H23050305-015D, H23050305-015E, H23050305-016D, H23050305-016E, H23050305-017D, H23050305-017E, H23050305-018D, H23050305-018E, H23050305-019D, H23050305-019E, H23050305-020D, H23050305-020E											

Run ID :Run Order: SUB-C294513: 44	SampType: Continuing Calibration Verification Standar	Lab ID: CCV-11940	Method: A5310 C								
Analysis Date: 05/13/23 01:51	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.32	0.50	5	0	106	90	110	0			
Associated samples: H23050305-001D, H23050305-001E, H23050305-002D, H23050305-002E, H23050305-003D, H23050305-003E, H23050305-004D, H23050305-004E, H23050305-005D, H23050305-005E, H23050305-006D, H23050305-006E, H23050305-007D, H23050305-007E, H23050305-008D, H23050305-008E, H23050305-009D, H23050305-009E, H23050305-010D, H23050305-010E, H23050305-011D, H23050305-011E, H23050305-012D, H23050305-012E, H23050305-013D, H23050305-013E, H23050305-014D, H23050305-014E, H23050305-015D, H23050305-015E, H23050305-016D, H23050305-016E, H23050305-017D, H23050305-017E, H23050305-018D, H23050305-018E, H23050305-019D, H23050305-019E, H23050305-020D, H23050305-020E											

Run ID :Run Order: SUB-C294513: 46	SampType: Sample Matrix Spike	Lab ID: H23050305-011D	Method: A5310 C								
Analysis Date: 05/13/23 02:41	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.47	0.50	5	0.1957	105	88	112	0			
Associated samples: H23050305-001D, H23050305-001E, H23050305-002D, H23050305-002E, H23050305-003D, H23050305-003E, H23050305-004D, H23050305-004E, H23050305-005D, H23050305-005E, H23050305-006D, H23050305-006E, H23050305-007D, H23050305-007E, H23050305-008D, H23050305-008E, H23050305-009D, H23050305-009E, H23050305-010D, H23050305-010E, H23050305-011D, H23050305-011E, H23050305-012D, H23050305-012E, H23050305-013D, H23050305-013E, H23050305-014D, H23050305-014E, H23050305-015D, H23050305-015E, H23050305-016D, H23050305-016E, H23050305-017D, H23050305-017E, H23050305-018D, H23050305-018E, H23050305-019D, H23050305-019E, H23050305-020D, H23050305-020E											

Run ID :Run Order: SUB-C294513: 47	SampType: Sample Matrix Spike Duplicate	Lab ID: H23050305-011D	Method: A5310 C								
Analysis Date: 05/13/23 02:56	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.51	0.50	5	0.1957	106	88	112	5.465	0.8	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050305

**BatchID:** C\_R294513

**Date:** 26-May-23

Run ID :Run Order: <b>SUB-C294513: 47</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23050305-011D</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>05/13/23 02:56</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23050305-001D, H23050305-001E, H23050305-002D, H23050305-002E, H23050305-003D, H23050305-003E, H23050305-004D, H23050305-004E, H23050305-005D, H23050305-005E, H23050305-006D, H23050305-006E, H23050305-007D, H23050305-007E, H23050305-008D, H23050305-008E, H23050305-009D, H23050305-009E, H23050305-010D, H23050305-010E, H23050305-011D, H23050305-011E, H23050305-012D, H23050305-012E, H23050305-013D, H23050305-013E, H23050305-014D, H23050305-014E, H23050305-015D, H23050305-015E, H23050305-016D, H23050305-016E, H23050305-017D, H23050305-017E, H23050305-018D, H23050305-018E, H23050305-019D, H23050305-019E, H23050305-020D, H23050305-020E



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050305

**BatchID:** C\_R294514

**Date:** 26-May-23

Run ID :Run Order: <b>SUB-C294514: 1</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MBLK</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>05/12/23 13:06</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	ND	0.1									

Associated samples: H23050305-021D, H23050305-021E, H23050305-022D, H23050305-022E, H23050305-023D, H23050305-023E, H23050305-024D, H23050305-024E, H23050305-025D, H23050305-025E

Run ID :Run Order: <b>SUB-C294514: 2</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS-11923</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>05/12/23 13:22</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.06	0.50	5	0	<b>101</b>	90	111	0			

Associated samples: H23050305-021D, H23050305-021E, H23050305-022D, H23050305-022E, H23050305-023D, H23050305-023E, H23050305-024D, H23050305-024E, H23050305-025D, H23050305-025E

Run ID :Run Order: <b>SUB-C294514: 3</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV-11940</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>05/12/23 20:57</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.26	0.50	5	0	<b>105</b>	90	110	0			

Associated samples: H23050305-021D, H23050305-021E, H23050305-022D, H23050305-022E, H23050305-023D, H23050305-023E, H23050305-024D, H23050305-024E, H23050305-025D, H23050305-025E

Run ID :Run Order: <b>SUB-C294514: 4</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>C23050503-002GMS</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>05/12/23 21:52</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	44.9	2.0	20	24.52	<b>102</b>	90	111	0			

Associated samples: H23050305-021D, H23050305-021E, H23050305-022D, H23050305-022E, H23050305-023D, H23050305-023E, H23050305-024D, H23050305-024E, H23050305-025D, H23050305-025E

Run ID :Run Order: <b>SUB-C294514: 5</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>C23050503-002GMSD</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>05/12/23 22:07</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	44.4	2.0	20	24.52	<b>100</b>	90	111	44.9	<b>1.0</b>	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050305

BatchID: C\_R294514

Date: 26-May-23

Run ID :Run Order: <b>SUB-C294514: 5</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>C23050503-002GMSD</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>05/12/23 22:07</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23050305-021D, H23050305-021E, H23050305-022D, H23050305-022E, H23050305-023D, H23050305-023E, H23050305-024D, H23050305-024E, H23050305-025D, H23050305-025E

Run ID :Run Order: <b>SUB-C294514: 11</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MBLK</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>05/13/23 01:28</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Dissolved (DOC) ND 0.1

Associated samples: H23050305-021D, H23050305-021E, H23050305-022D, H23050305-022E, H23050305-023D, H23050305-023E, H23050305-024D, H23050305-024E, H23050305-025D, H23050305-025E

Run ID :Run Order: <b>SUB-C294514: 12</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS-11923</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>05/13/23 01:44</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Dissolved (DOC) 5.21 0.50 5 0 104 88 112 0

Associated samples: H23050305-021D, H23050305-021E, H23050305-022D, H23050305-022E, H23050305-023D, H23050305-023E, H23050305-024D, H23050305-024E, H23050305-025D, H23050305-025E

Run ID :Run Order: <b>SUB-C294514: 13</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV-11940</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>05/13/23 01:59</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Dissolved (DOC) 5.32 0.50 5 0 106 90 110 0

Associated samples: H23050305-021D, H23050305-021E, H23050305-022D, H23050305-022E, H23050305-023D, H23050305-023E, H23050305-024D, H23050305-024E, H23050305-025D, H23050305-025E

Run ID :Run Order: <b>SUB-C294514: 18</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV-11940</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>05/13/23 06:00</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Dissolved (DOC) 5.07 0.50 5 0 101 90 110 0

Associated samples: H23050305-021D, H23050305-021E, H23050305-022D, H23050305-022E, H23050305-023D, H23050305-023E, H23050305-024D, H23050305-024E, H23050305-025D, H23050305-025E

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050305

**BatchID:** C\_R294514

**Date:** 26-May-23

Run ID :Run Order: <b>SUB-C294514: 20</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050305-025D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/13/23 06:53</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.55	0.50	5	0.2743	<b>106</b>	88	112	0			

Associated samples: **H23050305-021D, H23050305-021E, H23050305-022D, H23050305-022E, H23050305-023D, H23050305-023E, H23050305-024D, H23050305-024E, H23050305-025D, H23050305-025E**

Run ID :Run Order: <b>SUB-C294514: 21</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050305-025D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/13/23 07:09</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.37	0.50	5	0.2743	<b>102</b>	88	112	5.555	<b>3.4</b>	20	

Associated samples: **H23050305-021D, H23050305-021E, H23050305-022D, H23050305-022E, H23050305-023D, H23050305-023E, H23050305-024D, H23050305-024E, H23050305-025D, H23050305-025E**



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050305

BatchID: R184429

Date: 26-May-23

Run ID :Run Order: **PHSC\_101-H\_230511A: 131** SampType: **Method Blank** Lab ID: **MBLK** Method: **A2320 B**  
 Analysis Date: **05/11/23 14:40** Units: **mg/L** Prep Info: Prep Date: Prep Method:  
 Analytes **1** Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Analytes	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									

Associated samples: H23050305-001A, H23050305-002A, H23050305-003A, H23050305-004A, H23050305-005A, H23050305-006A, H23050305-007A, H23050305-008A, H23050305-009A, H23050305-010A, H23050305-011A, H23050305-012A, H23050305-013A, H23050305-014A, H23050305-015A, H23050305-016A, H23050305-017A, H23050305-018A, H23050305-019A, H23050305-020A, H23050305-021A, H23050305-022A, H23050305-023A, H23050305-024A, H23050305-025A

Run ID :Run Order: **PHSC\_101-H\_230511A: 132** SampType: **Laboratory Control Sample** Lab ID: **LCS** Method: **A2320 B**  
 Analysis Date: **05/11/23 14:45** Units: **mg/L** Prep Info: Prep Date: Prep Method:  
 Analytes **1** Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Analytes	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	570	4.0	600	0	96	90	110				

Associated samples: H23050305-001A, H23050305-002A, H23050305-003A, H23050305-004A, H23050305-005A, H23050305-006A, H23050305-007A, H23050305-008A, H23050305-009A, H23050305-010A, H23050305-011A, H23050305-012A, H23050305-013A, H23050305-014A, H23050305-015A, H23050305-016A, H23050305-017A, H23050305-018A, H23050305-019A, H23050305-020A, H23050305-021A, H23050305-022A, H23050305-023A, H23050305-024A, H23050305-025A

Run ID :Run Order: **PHSC\_101-H\_230511A: 175** SampType: **Sample Duplicate** Lab ID: **H23050305-012ADUP** Method: **A2320 B**  
 Analysis Date: **05/11/23 17:51** Units: **mg/L** Prep Info: Prep Date: Prep Method:  
 Analytes **3** Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Analytes	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	200	4.0		0				197	1.9	10	
Bicarbonate as HCO3	240	4.0		0				239.7	1.9	10	
Carbonate as CO3	ND	4.0		0				0		10	

Associated samples: H23050305-001A, H23050305-002A, H23050305-003A, H23050305-004A, H23050305-005A, H23050305-006A, H23050305-007A, H23050305-008A, H23050305-009A, H23050305-010A, H23050305-011A, H23050305-012A, H23050305-013A, H23050305-014A, H23050305-015A, H23050305-016A, H23050305-017A, H23050305-018A, H23050305-019A, H23050305-020A, H23050305-021A, H23050305-022A, H23050305-023A, H23050305-024A, H23050305-025A

Run ID :Run Order: **PHSC\_101-H\_230511A: 181** SampType: **Sample Duplicate** Lab ID: **H23050305-013ADUP** Method: **A2320 B**  
 Analysis Date: **05/11/23 18:25** Units: **mg/L** Prep Info: Prep Date: Prep Method:  
 Analytes **3** Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Analytes	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	480	4.0		0				494.6	2.2	10	
Bicarbonate as HCO3	590	4.0		0				602.9	2.2	10	
Carbonate as CO3	ND	4.0		0				0		10	

Associated samples: H23050305-001A, H23050305-002A, H23050305-003A, H23050305-004A, H23050305-005A, H23050305-006A, H23050305-007A, H23050305-008A, H23050305-009A, H23050305-010A, H23050305-011A, H23050305-012A, H23050305-013A, H23050305-014A, H23050305-015A, H23050305-016A, H23050305-017A, H23050305-018A, H23050305-019A, H23050305-020A, H23050305-021A, H23050305-022A, H23050305-023A, H23050305-024A, H23050305-025A

**Qualifiers:** ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limit N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050305

BatchID: R184429

Date: 26-May-23

Run ID :Run Order: PHSC_101-H_230511A: 2	SampType: Initial Calibration Verification Standard	Lab ID: SC 150	Method: A2510 B								
Analysis Date: 05/11/23 08:13	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	154	5.0	150	0	103	90	110				
Associated samples: H23050305-001A, H23050305-002A, H23050305-003A, H23050305-004A, H23050305-005A, H23050305-006A, H23050305-007A, H23050305-008A, H23050305-009A, H23050305-010A, H23050305-011A, H23050305-012A, H23050305-013A, H23050305-014A, H23050305-015A, H23050305-016A, H23050305-017A, H23050305-018A, H23050305-019A, H23050305-020A, H23050305-021A, H23050305-022A, H23050305-023A, H23050305-024A, H23050305-025A											

Run ID :Run Order: PHSC_101-H_230511A: 3	SampType: Initial Calibration Verification Standard	Lab ID: SC 20000	Method: A2510 B								
Analysis Date: 05/11/23 08:15	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	19600	5.0	20000	0	98	90	110				
Associated samples: H23050305-001A, H23050305-002A, H23050305-003A, H23050305-004A, H23050305-005A, H23050305-006A, H23050305-007A, H23050305-008A, H23050305-009A, H23050305-010A, H23050305-011A, H23050305-012A, H23050305-013A, H23050305-014A, H23050305-015A, H23050305-016A, H23050305-017A, H23050305-018A, H23050305-019A, H23050305-020A, H23050305-021A, H23050305-022A, H23050305-023A, H23050305-024A, H23050305-025A											

Run ID :Run Order: PHSC_101-H_230511A: 4	SampType: Initial Calibration Verification Standard	Lab ID: SC 5000	Method: A2510 B								
Analysis Date: 05/11/23 08:17	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	5000	5.0	5000	0	100	90	110				
Associated samples: H23050305-001A, H23050305-002A, H23050305-003A, H23050305-004A, H23050305-005A, H23050305-006A, H23050305-007A, H23050305-008A, H23050305-009A, H23050305-010A, H23050305-011A, H23050305-012A, H23050305-013A, H23050305-014A, H23050305-015A, H23050305-016A, H23050305-017A, H23050305-018A, H23050305-019A, H23050305-020A, H23050305-021A, H23050305-022A, H23050305-023A, H23050305-024A, H23050305-025A											

Run ID :Run Order: PHSC_101-H_230511A: 5	SampType: Laboratory Control Sample	Lab ID: SC 1000	Method: A2510 B								
Analysis Date: 05/11/23 08:19	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1010	5.0	1000	0	101	90	110				
Associated samples: H23050305-001A, H23050305-002A, H23050305-003A, H23050305-004A, H23050305-005A, H23050305-006A, H23050305-007A, H23050305-008A, H23050305-009A, H23050305-010A, H23050305-011A, H23050305-012A, H23050305-013A, H23050305-014A, H23050305-015A, H23050305-016A, H23050305-017A, H23050305-018A, H23050305-019A, H23050305-020A, H23050305-021A, H23050305-022A, H23050305-023A, H23050305-024A, H23050305-025A											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050305

BatchID: R184429

Date: 26-May-23

Run ID :Run Order: PHSC_101-H_230511A: 6	SampType: Method Blank	Lab ID: MBLK	Method: A2510 B								
Analysis Date: 05/11/23 08:53	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	ND	5									

Associated samples: H23050305-001A, H23050305-002A, H23050305-003A, H23050305-004A, H23050305-005A, H23050305-006A, H23050305-007A, H23050305-008A, H23050305-009A, H23050305-010A, H23050305-011A, H23050305-012A, H23050305-013A, H23050305-014A, H23050305-015A, H23050305-016A, H23050305-017A, H23050305-018A, H23050305-019A, H23050305-020A, H23050305-021A, H23050305-022A, H23050305-023A, H23050305-024A, H23050305-025A

Run ID :Run Order: PHSC_101-H_230511A: 50	SampType: Sample Duplicate	Lab ID: H23050305-015ADUP	Method: A2510 B								
Analysis Date: 05/11/23 09:35	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	799	5.0		0				800.5	0.2	10	

Associated samples: H23050305-001A, H23050305-002A, H23050305-003A, H23050305-004A, H23050305-005A, H23050305-006A, H23050305-007A, H23050305-008A, H23050305-009A, H23050305-010A, H23050305-011A, H23050305-012A, H23050305-013A, H23050305-014A, H23050305-015A, H23050305-016A, H23050305-017A, H23050305-018A, H23050305-019A, H23050305-020A, H23050305-021A, H23050305-022A, H23050305-023A, H23050305-024A, H23050305-025A

Run ID :Run Order: PHSC_101-H_230511A: 52	SampType: Continuing Calibration Verification Standar	Lab ID: CCV - SC 1413	Method: A2510 B								
Analysis Date: 05/11/23 09:40	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1420	5.0	1413	0	100	90	110				

Associated samples: H23050305-001A, H23050305-002A, H23050305-003A, H23050305-004A, H23050305-005A, H23050305-006A, H23050305-007A, H23050305-008A, H23050305-009A, H23050305-010A, H23050305-011A, H23050305-012A, H23050305-013A, H23050305-014A, H23050305-015A, H23050305-016A, H23050305-017A, H23050305-018A, H23050305-019A, H23050305-020A, H23050305-021A, H23050305-022A, H23050305-023A, H23050305-024A, H23050305-025A

Run ID :Run Order: PHSC_101-H_230511A: 57	SampType: Sample Duplicate	Lab ID: H23050305-016ADUP	Method: A2510 B								
Analysis Date: 05/11/23 09:51	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1370	5.0		0				1373	0.1	10	

Associated samples: H23050305-001A, H23050305-002A, H23050305-003A, H23050305-004A, H23050305-005A, H23050305-006A, H23050305-007A, H23050305-008A, H23050305-009A, H23050305-010A, H23050305-011A, H23050305-012A, H23050305-013A, H23050305-014A, H23050305-015A, H23050305-016A, H23050305-017A, H23050305-018A, H23050305-019A, H23050305-020A, H23050305-021A, H23050305-022A, H23050305-023A, H23050305-024A, H23050305-025A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050305

BatchID: R184429

Date: 26-May-23

Run ID :Run Order: PHSC_101-H_230511A: 1	SampType: Initial Calibration Verification Standard				Lab ID: pH 7				Method: A4500-H B		
Analysis Date: 05/11/23 08:08	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	21.1			0		0	0				

Associated samples: H23050305-001A, H23050305-002A, H23050305-003A, H23050305-004A, H23050305-005A, H23050305-006A, H23050305-007A, H23050305-008A, H23050305-009A, H23050305-010A, H23050305-011A, H23050305-012A, H23050305-013A, H23050305-014A, H23050305-015A, H23050305-016A, H23050305-017A, H23050305-018A, H23050305-019A, H23050305-020A, H23050305-021A, H23050305-022A, H23050305-023A, H23050305-024A, H23050305-025A

Run ID :Run Order: PHSC_101-H_230511A: 49	SampType: Sample Duplicate				Lab ID: H23050305-015ADUP				Method: A4500-H B		
Analysis Date: 05/11/23 09:35	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	6.6	0.1		0				6.6	0.0	3	H
pH Measurement Temp	14.2			0				14			

Associated samples: H23050305-001A, H23050305-002A, H23050305-003A, H23050305-004A, H23050305-005A, H23050305-006A, H23050305-007A, H23050305-008A, H23050305-009A, H23050305-010A, H23050305-011A, H23050305-012A, H23050305-013A, H23050305-014A, H23050305-015A, H23050305-016A, H23050305-017A, H23050305-018A, H23050305-019A, H23050305-020A, H23050305-021A, H23050305-022A, H23050305-023A, H23050305-024A, H23050305-025A

Run ID :Run Order: PHSC_101-H_230511A: 51	SampType: Continuing Calibration Verification Standar				Lab ID: CCV - pH 7				Method: A4500-H B		
Analysis Date: 05/11/23 09:37	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	19.4			0		0	0				

Associated samples: H23050305-001A, H23050305-002A, H23050305-003A, H23050305-004A, H23050305-005A, H23050305-006A, H23050305-007A, H23050305-008A, H23050305-009A, H23050305-010A, H23050305-011A, H23050305-012A, H23050305-013A, H23050305-014A, H23050305-015A, H23050305-016A, H23050305-017A, H23050305-018A, H23050305-019A, H23050305-020A, H23050305-021A, H23050305-022A, H23050305-023A, H23050305-024A, H23050305-025A

Run ID :Run Order: PHSC_101-H_230511A: 56	SampType: Sample Duplicate				Lab ID: H23050305-016ADUP				Method: A4500-H B		
Analysis Date: 05/11/23 09:51	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	6.6	0.1		0				6.58	0.3	3	H
pH Measurement Temp	15.3			0				15.8			

Associated samples: H23050305-001A, H23050305-002A, H23050305-003A, H23050305-004A, H23050305-005A, H23050305-006A, H23050305-007A, H23050305-008A, H23050305-009A, H23050305-010A, H23050305-011A, H23050305-012A, H23050305-013A, H23050305-014A, H23050305-015A, H23050305-016A, H23050305-017A, H23050305-018A, H23050305-019A, H23050305-020A, H23050305-021A, H23050305-022A, H23050305-023A, H23050305-024A, H23050305-025A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050305

**BatchID:** R184429

**Date:** 26-May-23

Run ID :Run Order: <b>PHSC_101-H_230511A: 129</b>	SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV - pH 7</b>	Method: <b>A4500-H B</b>						
Analysis Date: <b>05/11/23 11:48</b>	Units: <b>s.u.</b>	Prep Info: Prep Date:			Prep Method:						
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	<b>100</b>	98	102				
pH Measurement Temp	20.9			0		0	0				

Associated samples: **H23050305-001A, H23050305-002A, H23050305-003A, H23050305-004A, H23050305-005A, H23050305-006A, H23050305-007A, H23050305-008A, H23050305-009A, H23050305-010A, H23050305-011A, H23050305-012A, H23050305-013A, H23050305-014A, H23050305-015A, H23050305-016A, H23050305-017A, H23050305-018A, H23050305-019A, H23050305-020A, H23050305-021A, H23050305-022A, H23050305-023A, H23050305-024A, H23050305-025A**



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050305

BatchID: R184444

Date: 26-May-23

Run ID :Run Order: ICPMS205-H_230511A: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 05/11/23 10:16	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.272	0.10	0.3	0	91	90	110				
Antimony	0.0572	0.050	0.06	0	95	90	110				
Arsenic	0.0565	0.0050	0.06	0	94	90	110				
Barium	0.0572	0.10	0.06	0	95	90	110				
Beryllium	0.0272	0.0010	0.03	0	91	90	110				
Boron	0.0577	0.10	0.06	0	96	90	110				
Cadmium	0.0286	0.0010	0.03	0	95	90	110				
Chromium	0.0580	0.010	0.06	0	97	90	110				
Cobalt	0.0577	0.010	0.06	0	96	90	110				
Copper	0.0581	0.010	0.06	0	97	90	110				
Iron	0.287	0.020	0.3	0	96	90	110				
Lead	0.0562	0.010	0.06	0	94	90	110				
Manganese	0.283	0.010	0.3	0	94	90	110				
Molybdenum	0.0559	0.0050	0.06	0	93	90	110				
Nickel	0.0576	0.010	0.06	0	96	90	110				
Selenium	0.0557	0.0050	0.06	0	93	90	110				
Silver	0.0287	0.0050	0.03	0	96	90	110				
Strontium	0.0567	0.10	0.06	0	95	90	110				
Thallium	0.0565	0.10	0.06	0	94	90	110				
Thorium	0.0604	0.0010	0.06	0	101	90	110				
Tin	0.0595	0.10	0.06	0	99	90	110				
Titanium	0.0552	0.010	0.06	0	92	90	110				
Uranium	0.0567	0.00030	0.06	0	95	90	110				
Vanadium	0.0568	0.10	0.06	0	95	90	110				
Zinc	0.0580	0.010	0.06	0	97	90	110				

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

Run ID :Run Order: ICPMS205-H_230511A: 46	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 05/11/23 13:19	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.273	0.10	0.3	0	91	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050305

BatchID: R184444

Date: 26-May-23

Run ID :Run Order: ICPMS205-H_230511A: 46	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 05/11/23 13:19	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>25</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0570	0.050	0.06	0	95	90	110				
Arsenic	0.0551	0.0050	0.06	0	92	90	110				
Barium	0.0570	0.10	0.06	0	95	90	110				
Beryllium	0.0268	0.0010	0.03	0	90	90	110				
Boron	0.0576	0.10	0.06	0	96	90	110				
Cadmium	0.0281	0.0010	0.03	0	94	90	110				
Chromium	0.0557	0.010	0.06	0	93	90	110				
Cobalt	0.0560	0.010	0.06	0	93	90	110				
Copper	0.0563	0.010	0.06	0	94	90	110				
Iron	0.281	0.020	0.3	0	94	90	110				
Lead	0.0555	0.010	0.06	0	93	90	110				
Manganese	0.278	0.010	0.3	0	93	90	110				
Molybdenum	0.0548	0.0050	0.06	0	91	90	110				
Nickel	0.0570	0.010	0.06	0	95	90	110				
Selenium	0.0559	0.0050	0.06	0	93	90	110				
Silver	0.0282	0.0050	0.03	0	94	90	110				
Strontium	0.0551	0.10	0.06	0	92	90	110				
Thallium	0.0552	0.10	0.06	0	92	90	110				
Thorium	0.0580	0.0010	0.06	0	97	90	110				
Tin	0.0582	0.10	0.06	0	97	90	110				
Titanium	0.0573	0.010	0.06	0	96	90	110				
Uranium	0.0558	0.00030	0.06	0	93	90	110				
Vanadium	0.0550	0.10	0.06	0	92	90	110				
Zinc	0.0558	0.010	0.06	0	93	90	110				

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

Run ID :Run Order: ICPMS205-H_230511A: 56	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 05/11/23 13:46	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	ND	0.0002									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050305

**BatchID:** R184444

**Date:** 26-May-23

Run ID :Run Order: ICPMS205-H_230511A: 56	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 05/11/23 13:46	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.0002									
Barium	ND	0.0002									
Beryllium	ND	0.0002									
Boron	ND	0.006									
Cadmium	ND	0.00002									
Chromium	ND	0.0001									
Cobalt	ND	0.001									
Copper	ND	0.0001									
Iron	ND	0.004									
Lead	ND	0.0001									
Manganese	ND	0.0003									
Molybdenum	ND	0.0003									
Nickel	ND	0.0002									
Selenium	ND	0.00007									
Silver	ND	0.00008									
Strontium	ND	0.0001									
Thallium	ND	0.00008									
Thorium	ND	0.0002									
Tin	ND	0.0002									
Titanium	ND	0.0005									
Uranium	ND	0.00002									
Zinc	ND	0.001									

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

Run ID :Run Order: ICPMS205-H_230511A: 57	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.8		
Analysis Date: 05/11/23 13:49	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0540	0.10	0.05	0	108	85	115				
Antimony	0.0510	0.050	0.05	0	102	85	115				
Arsenic	0.0503	0.0050	0.05	0	101	85	115				
Barium	0.0523	0.10	0.05	0	105	85	115				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050305

BatchID: R184444

Date: 26-May-23

Run ID :Run Order: ICPMS205-H_230511A: 57	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.8		
Analysis Date: 05/11/23 13:49	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0507	0.0010	0.05	0	101	85	115				
Boron	0.0482	0.10	0.05	0	96	85	115				
Cadmium	0.0518	0.0010	0.05	0	103	85	115				
Chromium	0.0511	0.010	0.05	0	102	85	115				
Cobalt	0.0521	0.010	0.05	0	104	85	115				
Copper	0.0520	0.010	0.05	0	104	85	115				
Iron	0.158	0.020	0.15	0	106	85	115				
Lead	0.0508	0.010	0.05	0	102	85	115				
Manganese	0.0521	0.010	0.05	0	104	85	115				
Molybdenum	0.0501	0.0050	0.05	0	100	85	115				
Nickel	0.0521	0.010	0.05	0	104	85	115				
Selenium	0.0524	0.0050	0.05	0	105	85	115				
Silver	0.0206	0.0050	0.02	0	103	85	115				
Strontium	0.0528	0.10	0.05	0	106	85	115				
Thallium	0.0516	0.10	0.05	0	103	85	115				
Thorium	0.0458	0.0010	0.05	0	92	85	115				
Tin	0.0484	0.10	0.05	0	97	85	115				
Titanium	0.0528	0.010	0.05	0	106	85	115				
Uranium	0.0500	0.00030	0.05	0	100	85	115				
Vanadium	0.0505	0.10	0.05	0	101	85	115				
Zinc	0.0542	0.010	0.05	0	108	85	115				

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

Run ID :Run Order: ICPMS205-H_230511A: 113	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/11/23 17:18	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0454	0.10	0.05	0	91	90	110				
Antimony	0.0503	0.050	0.05	0	101	90	110				
Arsenic	0.0492	0.0050	0.05	0	98	90	110				
Barium	0.0492	0.10	0.05	0	98	90	110				
Beryllium	0.0498	0.0010	0.05	0	100	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050305

**BatchID:** R184444

**Date:** 26-May-23

Run ID :Run Order: ICPMS205-H_230511A: 113	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/11/23 17:18	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <span style="color: red;">24</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.0483	0.10	0.05	0	97	90	110				
Cadmium	0.0501	0.0010	0.05	0	100	90	110				
Chromium	0.0504	0.010	0.05	0	101	90	110				
Cobalt	0.0503	0.010	0.05	0	101	90	110				
Copper	0.0499	0.010	0.05	0	100	90	110				
Iron	1.30	0.020	1.3	0	100	90	110				
Lead	0.0486	0.010	0.05	0	97	90	110				
Manganese	0.0496	0.010	0.05	0	99	90	110				
Molybdenum	0.0492	0.0050	0.05	0	98	90	110				
Nickel	0.0500	0.010	0.05	0	100	90	110				
Selenium	0.0494	0.0050	0.05	0	99	90	110				
Silver	0.0199	0.0050	0.02	0	99	90	110				
Strontium	0.0490	0.10	0.05	0	98	90	110				
Thallium	0.0489	0.10	0.05	0	98	90	110				
Tin	0.0490	0.10	0.05	0	98	90	110				
Titanium	0.0534	0.010	0.05	0	107	90	110				
Uranium	0.0483	0.00030	0.05	0	97	90	110				
Vanadium	0.0498	0.10	0.05	0	99	90	110				
Zinc	0.0496	0.010	0.05	0	99	90	110				

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

Run ID :Run Order: ICPMS205-H_230511A: 125	SampType: Sample Matrix Spike				Lab ID: H23050305-008BMS				Method: E200.8		
Analysis Date: 05/11/23 17:51	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <span style="color: red;">25</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0526	0.030	0.05	0	105	70	130				
Antimony	0.0516	0.0010	0.05	0	103	70	130				
Arsenic	0.0526	0.0010	0.05	0.001942	101	70	130				
Barium	0.0640	0.050	0.05	0.01247	103	70	130				
Beryllium	0.0512	0.0010	0.05	0	102	70	130				
Boron	0.0710	0.050	0.05	0.02177	99	70	130				
Cadmium	0.0520	0.0010	0.05	0.0003634	103	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050305

**BatchID:** R184444

**Date:** 26-May-23

Run ID :Run Order: ICPMS205-H_230511A: 125	SampType: Sample Matrix Spike				Lab ID: H23050305-008BMS				Method: E200.8		
Analysis Date: 05/11/23 17:51	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>25</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.0512	0.0050	0.05	0.0006603	101	70	130				
Cobalt	0.0510	0.0050	0.05	0	102	70	130				
Copper	0.0521	0.0050	0.05	0.000167	104	70	130				
Iron	0.152	0.020	0.15	0	101	70	130				
Lead	0.0500	0.0010	0.05	0	100	70	130				
Manganese	0.0514	0.0010	0.05	0	103	70	130				
Molybdenum	0.0737	0.0010	0.05	0.02415	99	70	130				
Nickel	0.0511	0.0050	0.05	0	102	70	130				
Selenium	0.0544	0.0010	0.05	0.0001811	108	70	130				
Silver	0.0202	0.0010	0.02	0	101	70	130				
Strontium	0.278	0.010	0.05	0.2258		70	130				A
Thallium	0.0498	0.00050	0.05	0	100	70	130				
Thorium	0.0419	0.0050	0.05	0	84	70	130				
Tin	0.0460	0.050	0.05	0	92	70	130				
Titanium	0.0518	0.0050	0.05	0	104	70	130				
Uranium	0.0553	0.00030	0.05	0.006178	98	70	130				
Vanadium	0.0526	0.010	0.05	0.0025	100	70	130				
Zinc	0.0708	0.010	0.05	0.01667	108	70	130				

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

Run ID :Run Order: ICPMS205-H_230511A: 126	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050305-008BMSD				Method: E200.8		
Analysis Date: 05/11/23 17:53	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>25</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0561	0.030	0.05	0	112	70	130	0.05256	6.5	20	
Antimony	0.0511	0.0010	0.05	0	102	70	130	0.05158	1.0	20	
Arsenic	0.0532	0.0010	0.05	0.001942	102	70	130	0.05261	1.1	20	
Barium	0.0638	0.050	0.05	0.01247	103	70	130	0.06399	0.4	20	
Beryllium	0.0512	0.0010	0.05	0	102	70	130	0.0512	0.1	20	
Boron	0.0721	0.050	0.05	0.02177	101	70	130	0.07104	1.5	20	
Cadmium	0.0521	0.0010	0.05	0.0003634	103	70	130	0.05204	0.1	20	
Chromium	0.0523	0.0050	0.05	0.0006603	103	70	130	0.05118	2.1	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount

### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050305

BatchID: R184444

Date: 26-May-23

Run ID :Run Order: ICPMS205-H_230511A: 126	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050305-008BMSD				Method: E200.8		
Analysis Date: 05/11/23 17:53	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	0.0516	0.0050	0.05	0	103	70	130	0.05103	1.0	20	
Copper	0.0525	0.0050	0.05	0.000167	105	70	130	0.05207	0.8	20	
Iron	0.154	0.020	0.15	0	103	70	130	0.152	1.5	20	
Lead	0.0506	0.0010	0.05	0	101	70	130	0.04995	1.3	20	
Manganese	0.0521	0.0010	0.05	0	104	70	130	0.0514	1.3	20	
Molybdenum	0.0729	0.0010	0.05	0.02415	97	70	130	0.07368	1.1	20	
Nickel	0.0516	0.0050	0.05	0	103	70	130	0.05113	1.0	20	
Selenium	0.0548	0.0010	0.05	0.0001811	109	70	130	0.05435	0.8	20	
Silver	0.0205	0.0010	0.02	0	103	70	130	0.02025	1.4	20	
Strontium	0.279	0.010	0.05	0.2258		70	130	0.2775	0.4	20	A
Thallium	0.0504	0.00050	0.05	0	101	70	130	0.04976	1.3	20	
Thorium	0.0450	0.0050	0.05	0	90	70	130	0.04192	7.0	20	
Tin	0.0465	0.050	0.05	0	93	70	130	0.04602		20	
Titanium	0.0545	0.0050	0.05	0	109	70	130	0.05183	5.0	20	
Uranium	0.0563	0.00030	0.05	0.006178	100	70	130	0.05531	1.8	20	
Vanadium	0.0534	0.010	0.05	0.0025	102	70	130	0.0526	1.5	20	
Zinc	0.0704	0.010	0.05	0.01667	107	70	130	0.0708	0.6	20	

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

Run ID :Run Order: ICPMS205-H_230511A: 127	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/11/23 17:56	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0461	0.10	0.05	0	92	90	110				
Antimony	0.0500	0.050	0.05	0	100	90	110				
Arsenic	0.0490	0.0050	0.05	0	98	90	110				
Barium	0.0502	0.10	0.05	0	100	90	110				
Beryllium	0.0478	0.0010	0.05	0	96	90	110				
Boron	0.0502	0.10	0.05	0	100	90	110				
Cadmium	0.0500	0.0010	0.05	0	100	90	110				
Chromium	0.0492	0.010	0.05	0	98	90	110				
Cobalt	0.0498	0.010	0.05	0	100	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050305

**BatchID:** R184444

**Date:** 26-May-23

Run ID :Run Order: ICPMS205-H_230511A: 127	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 05/11/23 17:56	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0502	0.010	0.05	0	100	90	110				
Iron	1.29	0.020	1.3	0	99	90	110				
Lead	0.0487	0.010	0.05	0	97	90	110				
Manganese	0.0495	0.010	0.05	0	99	90	110				
Molybdenum	0.0504	0.0050	0.05	0	101	90	110				
Nickel	0.0491	0.010	0.05	0	98	90	110				
Selenium	0.0507	0.0050	0.05	0	101	90	110				
Silver	0.0203	0.0050	0.02	0	102	90	110				
Strontium	0.0493	0.10	0.05	0	99	90	110				
Thallium	0.0488	0.10	0.05	0	98	90	110				
Thorium	0.0485	0.0010	0.05	0	97	90	110				
Tin	0.0507	0.10	0.05	0	101	90	110				
Titanium	0.0494	0.010	0.05	0	99	90	110				
Uranium	0.0485	0.00030	0.05	0	97	90	110				
Vanadium	0.0497	0.10	0.05	0	99	90	110				
Zinc	0.0488	0.010	0.05	0	97	90	110				

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

Run ID :Run Order: ICPMS205-H_230511A: 139	SampType: Sample Matrix Spike				Lab ID: H23050305-018BMS			Method: E200.8			
Analysis Date: 05/11/23 18:28	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0542	0.030	0.05	0	108	70	130				
Antimony	0.0523	0.0010	0.05	0	105	70	130				
Arsenic	0.0579	0.0010	0.05	0.007129	101	70	130				
Barium	0.0767	0.050	0.05	0.0257	102	70	130				
Beryllium	0.0512	0.0010	0.05	0	102	70	130				
Boron	0.112	0.050	0.05	0.06736	90	70	130				
Cadmium	0.0530	0.0010	0.05	0.00004336	106	70	130				
Chromium	0.0511	0.0050	0.05	0.0003192	102	70	130				
Cobalt	0.0517	0.0050	0.05	0	103	70	130				
Copper	0.0532	0.0050	0.05	0.003152	100	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050305

BatchID: R184444

Date: 26-May-23

Run ID :Run Order: ICPMS205-H_230511A: 139	SampType: Sample Matrix Spike				Lab ID: H23050305-018BMS				Method: E200.8		
Analysis Date: 05/11/23 18:28	Units: mg/L				Prep Info:		Prep Date:		Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.801	0.020	0.15	0.6693		70	130				A
Lead	0.0503	0.0010	0.05	0	101	70	130				
Manganese	0.342	0.0010	0.05	0.301		70	130				A
Molybdenum	0.0600	0.0010	0.05	0.01002	100	70	130				
Nickel	0.0512	0.0050	0.05	0	102	70	130				
Selenium	0.0547	0.0010	0.05	0.0002011	109	70	130				
Silver	0.0154	0.0010	0.02	0	77	70	130				
Strontium	0.248	0.010	0.05	0.2023		70	130				A
Thallium	0.0511	0.00050	0.05	0	102	70	130				
Thorium	0.0452	0.0050	0.05	0	90	70	130				
Tin	0.0475	0.050	0.05	0	95	70	130				
Titanium	0.0492	0.0050	0.05	0	98	70	130				
Uranium	0.0501	0.00030	0.05	0.0005639	99	70	130				
Vanadium	0.0517	0.010	0.05	0.001482	100	70	130				
Zinc	0.0755	0.010	0.05	0.02313	105	70	130				

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

Run ID :Run Order: ICPMS205-H_230511A: 140	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050305-018BMSD				Method: E200.8		
Analysis Date: 05/11/23 18:31	Units: mg/L				Prep Info:		Prep Date:		Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0536	0.030	0.05	0	107	70	130	0.05423	1.1	20	
Antimony	0.0518	0.0010	0.05	0	104	70	130	0.05229	0.8	20	
Arsenic	0.0585	0.0010	0.05	0.007129	103	70	130	0.05786	1.0	20	
Barium	0.0765	0.050	0.05	0.0257	102	70	130	0.07668	0.2	20	
Beryllium	0.0523	0.0010	0.05	0	105	70	130	0.05125	2.1	20	
Boron	0.115	0.050	0.05	0.06736	95	70	130	0.1122	2.6	20	
Cadmium	0.0526	0.0010	0.05	0.00004336	105	70	130	0.05304	0.8	20	
Chromium	0.0516	0.0050	0.05	0.0003192	103	70	130	0.05111	0.9	20	
Cobalt	0.0520	0.0050	0.05	0	104	70	130	0.05169	0.7	20	
Copper	0.0537	0.0050	0.05	0.003152	101	70	130	0.0532	1.0	20	
Iron	0.810	0.020	0.15	0.6693		70	130	0.8012	1.1	20	A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050305

BatchID: R184444

Date: 26-May-23

Run ID :Run Order: ICPMS205-H_230511A: 140		SampType: Sample Matrix Spike Duplicate			Lab ID: H23050305-018BMSD				Method: E200.8		
Analysis Date: 05/11/23 18:31		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.0506	0.0010	0.05	0	101	70	130	0.05033	0.5	20	
Manganese	0.348	0.0010	0.05	0.301		70	130	0.3418	1.7	20	A
Molybdenum	0.0607	0.0010	0.05	0.01002	101	70	130	0.06002	1.1	20	
Nickel	0.0525	0.0050	0.05	0	105	70	130	0.05125	2.5	20	
Selenium	0.0546	0.0010	0.05	0.0002011	109	70	130	0.05473	0.2	20	
Silver	0.0157	0.0010	0.02	0	78	70	130	0.01536	2.0	20	
Strontium	0.250	0.010	0.05	0.2023		70	130	0.2478	0.8	20	A
Thallium	0.0517	0.00050	0.05	0	103	70	130	0.05106	1.3	20	
Thorium	0.0486	0.0050	0.05	0	97	70	130	0.04522	7.2	20	
Tin	0.0485	0.050	0.05	0	97	70	130	0.04746		20	
Titanium	0.0515	0.0050	0.05	0	103	70	130	0.04916	4.7	20	
Uranium	0.0507	0.00030	0.05	0.0005639	100	70	130	0.05014	1.2	20	
Vanadium	0.0526	0.010	0.05	0.001482	102	70	130	0.05169	1.7	20	
Zinc	0.0757	0.010	0.05	0.02313	105	70	130	0.07552	0.2	20	

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

Run ID :Run Order: ICPMS205-H_230511A: 141		SampType: Continuing Calibration Verification Standar			Lab ID: CCV				Method: E200.8		
Analysis Date: 05/11/23 18:34		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0476	0.10	0.05	0	95	90	110				
Antimony	0.0496	0.050	0.05	0	99	90	110				
Arsenic	0.0490	0.0050	0.05	0	98	90	110				
Barium	0.0499	0.10	0.05	0	100	90	110				
Beryllium	0.0488	0.0010	0.05	0	98	90	110				
Cadmium	0.0501	0.0010	0.05	0	100	90	110				
Chromium	0.0503	0.010	0.05	0	101	90	110				
Cobalt	0.0498	0.010	0.05	0	100	90	110				
Copper	0.0503	0.010	0.05	0	101	90	110				
Iron	1.28	0.020	1.3	0	99	90	110				
Lead	0.0487	0.010	0.05	0	97	90	110				
Manganese	0.0491	0.010	0.05	0	98	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050305

BatchID: R184444

Date: 26-May-23

Run ID :Run Order: ICPMS205-H_230511A: 141	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 05/11/23 18:34	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.0505	0.0050	0.05	0	101	90	110				
Nickel	0.0496	0.010	0.05	0	99	90	110				
Selenium	0.0506	0.0050	0.05	0	101	90	110				
Silver	0.0206	0.0050	0.02	0	103	90	110				
Strontium	0.0494	0.10	0.05	0	99	90	110				
Thallium	0.0488	0.10	0.05	0	98	90	110				
Thorium	0.0487	0.0010	0.05	0	97	90	110				
Tin	0.0506	0.10	0.05	0	101	90	110				
Titanium	0.0484	0.010	0.05	0	97	90	110				
Uranium	0.0483	0.00030	0.05	0	97	90	110				
Vanadium	0.0495	0.10	0.05	0	99	90	110				
Zinc	0.0504	0.010	0.05	0	101	90	110				

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050305

**BatchID:** R184450

**Date:** 26-May-23

Run ID :Run Order: ICP2-HE_230511A: 21	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.7			
Analysis Date: 05/11/23 11:16	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <span style="color: red;">10</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.803	0.10	0.8	0	100	95	105				
Calcium	40.8	1.0	40	0	102	95	105				
Iron	4.03	0.020	4	0	101	95	105				
Lithium	0.775	0.10	0.8	0	97	95	105				
Magnesium	37.9	1.0	40	0	95	95	105				
Manganese	3.84	0.010	4	0	96	95	105				
Potassium	38.6	1.0	40	0	96	95	105				
Sodium	38.5	1.0	40	0	96	95	105				
Strontium	0.800	0.10	0.8	0	100	95	105				
Zinc	0.804	0.010	0.8	0	101	95	105				

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

Run ID :Run Order: ICP2-HE_230511A: 23	SampType: Continuing Calibration Verification Standar				Lab ID: CCV-1			Method: E200.7			
Analysis Date: 05/11/23 11:26	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <span style="color: red;">10</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.46	0.10	2.5	0	99	95	105				
Calcium	26.2	1.0	25	0	105	95	105				
Iron	2.57	0.020	2.5	0	103	95	105				
Lithium	1.22	0.10	1.25	0	97	95	105				
Magnesium	24.1	1.0	25	0	96	95	105				
Manganese	2.43	0.010	2.5	0	97	95	105				
Potassium	24.9	1.0	25	0	99	95	105				
Sodium	24.7	1.0	25	0	99	95	105				
Strontium	2.49	0.10	2.5	0	100	95	105				
Zinc	2.51	0.010	2.5	0	101	95	105				

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050305

**BatchID:** R184450

**Date:** 26-May-23

Run ID :Run Order: ICP2-HE_230511A: 29		SampType: Method Blank			Lab ID: MB				Method: E200.7		
Analysis Date: 05/11/23 11:49		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.004									
Calcium	ND	0.2									
Iron	ND	0.008									
Lithium	ND	0.002									
Magnesium	ND	0.05									
Manganese	ND	0.001									
Potassium	ND	0.06									
Sodium	0.05	0.03									
Strontium	ND	0.0003									
Zinc	ND	0.003									

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

Run ID :Run Order: ICP2-HE_230511A: 30		SampType: Laboratory Fortified Blank			Lab ID: LFB				Method: E200.7		
Analysis Date: 05/11/23 11:53		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.883	0.10	1	0	88	85	115				
Calcium	53.0	1.0	50	0	106	85	115				
Iron	5.19	0.020	5	0	104	85	115				
Lithium	0.961	0.10	1	0	96	85	115				
Magnesium	48.3	1.0	50	0	97	85	115				
Manganese	4.93	0.010	5	0	99	85	115				
Potassium	48.1	1.0	50	0	96	85	115				
Sodium	48.2	1.0	50	0	96	85	115				
Strontium	1.01	0.10	1	0	101	85	115				
Zinc	0.911	0.010	1	0	91	85	115				

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050305

**BatchID:** R184450

**Date:** 26-May-23

Run ID :Run Order: ICP2-HE_230511A: 55	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.7			
Analysis Date: 05/11/23 13:28	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.31	0.10	2.5	0	92	90	110				
Calcium	26.2	1.0	25	0	105	90	110				
Iron	2.60	0.020	2.5	0	104	90	110				
Lithium	1.26	0.10	1.25	0	101	90	110				
Magnesium	24.4	1.0	25	0	97	90	110				
Manganese	2.48	0.010	2.5	0	99	90	110				
Potassium	25.5	1.0	25	0	102	90	110				
Sodium	25.4	1.0	25	0	102	90	110				
Strontium	2.51	0.10	2.5	0	100	90	110				
Zinc	2.40	0.010	2.5	0	96	90	110				

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

Run ID :Run Order: ICP2-HE_230511A: 67	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.7			
Analysis Date: 05/11/23 14:12	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.43	0.10	2.5	0	97	90	110				
Calcium	25.8	1.0	25	0	103	90	110				
Iron	2.56	0.020	2.5	0	102	90	110				
Lithium	1.21	0.10	1.25	0	96	90	110				
Magnesium	24.2	1.0	25	0	97	90	110				
Manganese	2.45	0.010	2.5	0	98	90	110				
Potassium	24.5	1.0	25	0	98	90	110				
Sodium	24.4	1.0	25	0	97	90	110				
Strontium	2.49	0.10	2.5	0	99	90	110				
Zinc	2.47	0.010	2.5	0	99	90	110				

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050305

**BatchID:** R184450

**Date:** 26-May-23

Run ID :Run Order: ICP2-HE_230511A: 69	SampType: Sample Matrix Spike				Lab ID: H23050305-001BMS2				Method: E200.7		
Analysis Date: 05/11/23 14:20	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.01	0.050	1	0.07497	93	70	130				
Calcium	91.8	1.0	50	42.11	99	70	130				
Iron	5.07	0.020	5	0	101	70	130				
Lithium	1.03	0.10	1	0.03054	100	70	130				
Magnesium	56.3	1.0	50	8.934	95	70	130				
Manganese	4.88	0.0014	5	0.02976	97	70	130				
Potassium	54.3	1.0	50	4.144	100	70	130				
Sodium	80.3	1.0	50	30.77	99	70	130				
Strontium	1.28	0.010	1	0.3014	98	70	130				
Zinc	1.96	0.010	1	1.073	89	70	130				

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

Run ID :Run Order: ICP2-HE_230511A: 70	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050305-001BMSD2				Method: E200.7		
Analysis Date: 05/11/23 14:23	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.05	0.050	1	0.07497	98	70	130	1.008	4.2	20	
Calcium	92.9	1.0	50	42.11	102	70	130	91.79	1.2	20	
Iron	5.15	0.020	5	0	103	70	130	5.067	1.6	20	
Lithium	1.02	0.10	1	0.03054	99	70	130	1.026	0.7	20	
Magnesium	57.1	1.0	50	8.934	96	70	130	56.3	1.4	20	
Manganese	4.96	0.0014	5	0.02976	99	70	130	4.882	1.6	20	
Potassium	54.3	1.0	50	4.144	100	70	130	54.32	0	20	
Sodium	79.8	1.0	50	30.77	98	70	130	80.32	0.6	20	
Strontium	1.30	0.010	1	0.3014	100	70	130	1.283	1.2	20	
Zinc	2.04	0.010	1	1.073	96	70	130	1.961	3.8	20	

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050305

**BatchID:** R184450

**Date:** 26-May-23

Run ID :Run Order: ICP2-HE_230511A: 79	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.7			
Analysis Date: 05/11/23 14:57	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.44	0.10	2.5	0	98	90	110				
Calcium	25.5	1.0	25	0	102	90	110				
Iron	2.54	0.020	2.5	0	101	90	110				
Lithium	1.23	0.10	1.25	0	99	90	110				
Magnesium	24.3	1.0	25	0	97	90	110				
Manganese	2.45	0.010	2.5	0	98	90	110				
Potassium	25.1	1.0	25	0	100	90	110				
Sodium	24.9	1.0	25	0	100	90	110				
Strontium	2.48	0.10	2.5	0	99	90	110				
Zinc	2.51	0.010	2.5	0	100	90	110				

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

Run ID :Run Order: ICP2-HE_230511A: 84	SampType: Sample Matrix Spike				Lab ID: H23050305-011BMS2			Method: E200.7			
Analysis Date: 05/11/23 15:16	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.944	0.050	1	0.03355	91	70	130				
Calcium	113	1.0	50	63.63	99	70	130				
Iron	5.05	0.020	5	0	101	70	130				
Lithium	1.05	0.10	1	0.05196	100	70	130				
Magnesium	61.6	1.0	50	14.39	94	70	130				
Manganese	4.83	0.0014	5	0	97	70	130				
Potassium	58.1	1.0	50	7.466	101	70	130				
Sodium	92.6	1.0	50	43	99	70	130				
Strontium	1.41	0.010	1	0.4307	98	70	130				
Zinc	1.11	0.010	1	0.1528	95	70	130				

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050305

BatchID: R184450

Date: 26-May-23

Run ID :Run Order: ICP2-HE_230511A: 85	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050305-011BMSD2				Method: E200.7		
Analysis Date: 05/11/23 15:19	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.04	0.050	1	0.03355	101	70	130	0.9442	10	20	
Calcium	119	1.0	50	63.63	111	70	130	113.3	5.0	20	
Iron	5.28	0.020	5	0	106	70	130	5.048	4.4	20	
Lithium	1.10	0.10	1	0.05196	104	70	130	1.054	3.9	20	
Magnesium	64.6	1.0	50	14.39	100	70	130	61.6	4.7	20	
Manganese	5.06	0.0014	5	0	101	70	130	4.831	4.6	20	
Potassium	61.3	1.0	50	7.466	108	70	130	58.1	5.4	20	
Sodium	97.8	1.0	50	43	110	70	130	92.62	5.5	20	
Strontium	1.46	0.010	1	0.4307	103	70	130	1.408	3.5	20	
Zinc	1.21	0.010	1	0.1528	106	70	130	1.105	9.4	20	

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

Run ID :Run Order: ICP2-HE_230511A: 98	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 05/11/23 16:08	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.67	0.10	2.5	0	107	90	110				
Calcium	26.3	1.0	25	0	105	90	110				
Iron	2.58	0.020	2.5	0	103	90	110				
Lithium	1.30	0.10	1.25	0	104	90	110				
Magnesium	26.1	1.0	25	0	104	90	110				
Manganese	2.56	0.010	2.5	0	102	90	110				
Potassium	26.0	1.0	25	0	104	90	110				
Sodium	25.9	1.0	25	0	104	90	110				
Strontium	2.52	0.10	2.5	0	101	90	110				
Zinc	2.66	0.010	2.5	0	106	90	110				

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050305

BatchID: R184450

Date: 26-May-23

Run ID :Run Order: ICP2-HE_230511A: 107	SampType: Sample Matrix Spike				Lab ID: H23050305-021BMS2				Method: E200.7		
Analysis Date: 05/11/23 16:42	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.02	0.050	1	0.08564	93	70	130				
Calcium	199	1.0	50	145.5	107	70	130				
Iron	5.03	0.020	5	0	101	70	130				
Lithium	1.28	0.10	1	0.2305	105	70	130				
Magnesium	82.8	1.0	50	32.36	101	70	130				
Manganese	5.01	0.0014	5	0	100	70	130				
Potassium	64.7	1.0	50	12	105	70	130				
Sodium	132	1.0	50	76.94	109	70	130				
Strontium	2.69	0.010	1	1.702	98	70	130				
Zinc	2.17	0.010	1	1.153	102	70	130				

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

Run ID :Run Order: ICP2-HE_230511A: 108	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050305-021BMSD2				Method: E200.7		
Analysis Date: 05/11/23 16:45	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.882	0.050	1	0.08564	80	70	130	1.019	14	20	
Calcium	196	1.0	50	145.5	101	70	130	198.9	1.4	20	
Iron	4.84	0.020	5	0	97	70	130	5.026	3.7	20	
Lithium	1.21	0.10	1	0.2305	98	70	130	1.282	5.8	20	
Magnesium	80.5	1.0	50	32.36	96	70	130	82.79	2.9	20	
Manganese	4.80	0.0014	5	0	96	70	130	5.006	4.1	20	
Potassium	61.2	1.0	50	12	98	70	130	64.7	5.5	20	
Sodium	127	1.0	50	76.94	99	70	130	131.7	3.9	20	
Strontium	2.64	0.010	1	1.702	94	70	130	2.686	1.6	20	
Zinc	1.96	0.010	1	1.153	81	70	130	2.171	10	20	

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050305

**BatchID:** R184450

**Date:** 26-May-23

Run ID :Run Order: ICP2-HE_230511A: 110	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.7			
Analysis Date: 05/11/23 16:53	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.44	0.10	2.5	0	98	90	110				
Calcium	25.5	1.0	25	0	102	90	110				
Iron	2.52	0.020	2.5	0	101	90	110				
Lithium	1.28	0.10	1.25	0	102	90	110				
Magnesium	25.1	1.0	25	0	100	90	110				
Manganese	2.47	0.010	2.5	0	99	90	110				
Potassium	25.0	1.0	25	0	100	90	110				
Sodium	25.2	1.0	25	0	101	90	110				
Strontium	2.49	0.10	2.5	0	100	90	110				
Zinc	2.45	0.010	2.5	0	98	90	110				

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050305

**BatchID:** R184473

**Date:** 26-May-23

Run ID :Run Order: <b>IC METROHM_230511A: 6</b>		SampType: <b>Method Blank</b>			Lab ID: <b>ICB</b>			Method: <b>E300.0</b>				
Analysis Date: <b>05/11/23 12:03</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>4</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		ND	0.02									
Sulfate		ND	0.03									
Bromide		ND	0.001									
Fluoride		ND	0.01									

Associated samples: H23050305-001A, H23050305-002A, H23050305-003A, H23050305-005A, H23050305-006A, H23050305-007A, H23050305-008A, H23050305-009A, H23050305-010A, H23050305-011A, H23050305-012A, H23050305-013A, H23050305-014A, H23050305-015A, H23050305-016A, H23050305-017A, H23050305-018A, H23050305-019A, H23050305-020A, H23050305-021A, H23050305-022A, H23050305-023A, H23050305-024A, H23050305-025A

Run ID :Run Order: <b>IC METROHM_230511A: 7</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E300.0</b>				
Analysis Date: <b>05/11/23 12:18</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>4</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		99.9	1.0	100	0	100	90	110				
Sulfate		396	1.0	400	0	99	90	110				
Bromide		4.86	0.50	5	0	97	90	110				
Fluoride		5.09	0.10	5	0	102	90	110				

Associated samples: H23050305-001A, H23050305-002A, H23050305-003A, H23050305-005A, H23050305-006A, H23050305-007A, H23050305-008A, H23050305-009A, H23050305-010A, H23050305-011A, H23050305-012A, H23050305-013A, H23050305-014A, H23050305-015A, H23050305-016A, H23050305-017A, H23050305-018A, H23050305-019A, H23050305-020A, H23050305-021A, H23050305-022A, H23050305-023A, H23050305-024A, H23050305-025A

Run ID :Run Order: <b>IC METROHM_230511A: 12</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E300.0</b>				
Analysis Date: <b>05/11/23 13:44</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>4</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		25.2	1.0	25	0	101	90	110				
Sulfate		102	1.0	100	0	102	90	110				
Bromide		1.16	0.50	1.25	0	93	90	110				
Fluoride		1.34	0.10	1.25	0	108	90	110				

Associated samples: H23050305-001A, H23050305-002A, H23050305-003A, H23050305-005A, H23050305-006A, H23050305-007A, H23050305-008A, H23050305-009A, H23050305-010A, H23050305-011A, H23050305-012A, H23050305-013A, H23050305-014A, H23050305-015A, H23050305-016A, H23050305-017A, H23050305-018A, H23050305-019A, H23050305-020A, H23050305-021A, H23050305-022A, H23050305-023A, H23050305-024A, H23050305-025A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050305

BatchID: R184473

Date: 26-May-23

Run ID :Run Order: IC METROHM_230511A: 54	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E300.0		
Analysis Date: 05/12/23 00:17	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	49.9	1.0	50	0	100	90	110				
Sulfate	199	1.0	200	0	99	90	110				
Bromide	2.42	0.50	2.5	0	97	90	110				
Fluoride	2.62	0.10	2.5	0	105	90	110				

Associated samples: H23050305-001A, H23050305-002A, H23050305-003A, H23050305-005A, H23050305-006A, H23050305-007A, H23050305-008A, H23050305-009A, H23050305-010A, H23050305-011A, H23050305-012A, H23050305-013A, H23050305-014A, H23050305-015A, H23050305-016A, H23050305-017A, H23050305-018A, H23050305-019A, H23050305-020A, H23050305-021A, H23050305-022A, H23050305-023A, H23050305-024A, H23050305-025A

Run ID :Run Order: IC METROHM_230511A: 59	SampType: Sample Matrix Spike				Lab ID: H23050305-001AMS				Method: E300.0		
Analysis Date: 05/12/23 01:44	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	46.1	1.0	25	20.61	102	90	110				
Sulfate	172	1.0	100	71.92	100	90	110				
Bromide	1.26	0.50	1.25	0.074	94	90	110				
Fluoride	2.79	0.10	1.25	1.415	110	90	110				

Associated samples: H23050305-001A, H23050305-002A, H23050305-003A, H23050305-005A, H23050305-006A, H23050305-007A, H23050305-008A, H23050305-009A, H23050305-010A, H23050305-011A, H23050305-012A, H23050305-013A, H23050305-014A, H23050305-015A, H23050305-016A, H23050305-017A, H23050305-018A, H23050305-019A, H23050305-020A, H23050305-021A, H23050305-022A, H23050305-023A, H23050305-024A, H23050305-025A

Run ID :Run Order: IC METROHM_230511A: 60	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050305-001AMSD				Method: E300.0		
Analysis Date: 05/12/23 01:58	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	45.8	1.0	25	20.61	101	90	110	46.14	0.8	20	
Sulfate	171	1.0	100	71.92	99	90	110	171.5	0.2	20	
Bromide	1.24	0.50	1.25	0.074	93	90	110	1.255	1.3	20	
Fluoride	2.77	0.10	1.25	1.415	108	90	110	2.786	0.7	20	

Associated samples: H23050305-001A, H23050305-002A, H23050305-003A, H23050305-005A, H23050305-006A, H23050305-007A, H23050305-008A, H23050305-009A, H23050305-010A, H23050305-011A, H23050305-012A, H23050305-013A, H23050305-014A, H23050305-015A, H23050305-016A, H23050305-017A, H23050305-018A, H23050305-019A, H23050305-020A, H23050305-021A, H23050305-022A, H23050305-023A, H23050305-024A, H23050305-025A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050305

BatchID: R184473

Date: 26-May-23

Run ID :Run Order: <b>IC METROHM_230511A: 68</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>				Method: <b>E300.0</b>		
Analysis Date: <b>05/12/23 03:53</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	50.0	1.0	50	0	<b>100</b>	90	110				
Sulfate	198	1.0	200	0	<b>99</b>	90	110				
Bromide	2.42	0.50	2.5	0	<b>97</b>	90	110				
Fluoride	2.50	0.10	2.5	0	<b>100</b>	90	110				

Associated samples: H23050305-001A, H23050305-002A, H23050305-003A, H23050305-005A, H23050305-006A, H23050305-007A, H23050305-008A, H23050305-009A, H23050305-010A, H23050305-011A, H23050305-012A, H23050305-013A, H23050305-014A, H23050305-015A, H23050305-016A, H23050305-017A, H23050305-018A, H23050305-019A, H23050305-020A, H23050305-021A, H23050305-022A, H23050305-023A, H23050305-024A, H23050305-025A

Run ID :Run Order: <b>IC METROHM_230511A: 71</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050305-009AMS</b>				Method: <b>E300.0</b>		
Analysis Date: <b>05/12/23 04:50</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	32.5	1.0	25	6.954	<b>102</b>	90	110				
Sulfate	149	1.0	100	49.62	<b>100</b>	90	110				
Bromide	1.21	0.50	1.25	0.034	<b>94</b>	90	110				
Fluoride	2.95	0.10	1.25	1.598	<b>108</b>	90	110				

Associated samples: H23050305-001A, H23050305-002A, H23050305-003A, H23050305-005A, H23050305-006A, H23050305-007A, H23050305-008A, H23050305-009A, H23050305-010A, H23050305-011A, H23050305-012A, H23050305-013A, H23050305-014A, H23050305-015A, H23050305-016A, H23050305-017A, H23050305-018A, H23050305-019A, H23050305-020A, H23050305-021A, H23050305-022A, H23050305-023A, H23050305-024A, H23050305-025A

Run ID :Run Order: <b>IC METROHM_230511A: 72</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050305-009AMSD</b>				Method: <b>E300.0</b>		
Analysis Date: <b>05/12/23 05:05</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	31.9	1.0	25	6.954	<b>100</b>	90	110	32.49	<b>1.9</b>	20	
Sulfate	148	1.0	100	49.62	<b>99</b>	90	110	149.2	<b>0.7</b>	20	
Bromide	1.18	0.50	1.25	0.034	<b>91</b>	90	110	1.206	<b>2.4</b>	20	
Fluoride	2.92	0.10	1.25	1.598	<b>106</b>	90	110	2.952	<b>1.1</b>	20	

Associated samples: H23050305-001A, H23050305-002A, H23050305-003A, H23050305-005A, H23050305-006A, H23050305-007A, H23050305-008A, H23050305-009A, H23050305-010A, H23050305-011A, H23050305-012A, H23050305-013A, H23050305-014A, H23050305-015A, H23050305-016A, H23050305-017A, H23050305-018A, H23050305-019A, H23050305-020A, H23050305-021A, H23050305-022A, H23050305-023A, H23050305-024A, H23050305-025A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050305

**BatchID:** R184473

**Date:** 26-May-23

Run ID :Run Order: <b>IC METROHM_230511A: 82</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/12/23 07:29</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	51.3	1.0	50	0	<b>103</b>	90	110				
Sulfate	204	1.0	200	0	<b>102</b>	90	110				
Bromide	2.49	0.50	2.5	0	<b>100</b>	90	110				
Fluoride	2.57	0.10	2.5	0	<b>103</b>	90	110				

Associated samples: **H23050305-001A, H23050305-002A, H23050305-003A, H23050305-005A, H23050305-006A, H23050305-007A, H23050305-008A, H23050305-009A, H23050305-010A, H23050305-011A, H23050305-012A, H23050305-013A, H23050305-014A, H23050305-015A, H23050305-016A, H23050305-017A, H23050305-018A, H23050305-019A, H23050305-020A, H23050305-021A, H23050305-022A, H23050305-023A, H23050305-024A, H23050305-025A**

Run ID :Run Order: <b>IC METROHM_230511A: 81</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23050305-019AMS</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/12/23 08:26</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	25.9	1.0	25	0	<b>104</b>	90	110				
Sulfate	104	1.0	100	0	<b>104</b>	90	110				
Bromide	1.20	0.50	1.25	0	<b>96</b>	90	110				
Fluoride	1.33	0.10	1.25	0	<b>106</b>	90	110				

Associated samples: **H23050305-001A, H23050305-002A, H23050305-003A, H23050305-005A, H23050305-006A, H23050305-007A, H23050305-008A, H23050305-009A, H23050305-010A, H23050305-011A, H23050305-012A, H23050305-013A, H23050305-014A, H23050305-015A, H23050305-016A, H23050305-017A, H23050305-018A, H23050305-019A, H23050305-020A, H23050305-021A, H23050305-022A, H23050305-023A, H23050305-024A, H23050305-025A**

Run ID :Run Order: <b>IC METROHM_230511A: 82</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23050305-019AMSD</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/12/23 08:41</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	25.9	1.0	25	0	<b>104</b>	90	110	25.88	<b>0.2</b>	20	
Sulfate	105	1.0	100	0	<b>105</b>	90	110	104.1	<b>0.9</b>	20	
Bromide	1.20	0.50	1.25	0	<b>96</b>	90	110	1.195	<b>0.3</b>	20	
Fluoride	1.29	0.10	1.25	0	<b>103</b>	90	110	1.33	<b>2.9</b>	20	

Associated samples: **H23050305-001A, H23050305-002A, H23050305-003A, H23050305-005A, H23050305-006A, H23050305-007A, H23050305-008A, H23050305-009A, H23050305-010A, H23050305-011A, H23050305-012A, H23050305-013A, H23050305-014A, H23050305-015A, H23050305-016A, H23050305-017A, H23050305-018A, H23050305-019A, H23050305-020A, H23050305-021A, H23050305-022A, H23050305-023A, H23050305-024A, H23050305-025A**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050305

**BatchID:** R184474

**Date:** 26-May-23

Run ID :Run Order: ICPMS206-H_230511C: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.8			
Analysis Date: 05/11/23 16:30	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0619	0.010	0.06	0	103	90	110				
Gallium	0.0600	0.010	0.06	0	100	90	110				
Lanthanum	0.0580	0.010	0.06	0	97	90	110				
Neodymium	0.0584	0.0050	0.06	0	97	90	110				
Niobium	0.0604	0.0010	0.06	0	101	90	110				
Palladium	0.0581	0.010	0.06	0	97	90	110				
Praseodymium	0.0605	0.0010	0.06	0	101	90	110				
Rubidium	0.0595	0.010	0.06	0	99	90	110				
Tungsten	0.0552	0.10	0.06	0	92	90	110				
Zirconium	0.0610	0.0050	0.06	0	102	90	110				

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

Run ID :Run Order: ICPMS206-H_230511C: 20	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 05/11/23 17:20	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0504	0.010	0.05	0	101	90	110				
Gallium	0.0489	0.010	0.05	0	98	90	110				
Lanthanum	0.0494	0.010	0.05	0	99	90	110				
Neodymium	0.0477	0.0050	0.05	0	95	90	110				
Niobium	0.0526	0.0010	0.05	0	105	90	110				
Palladium	0.0483	0.010	0.05	0	97	90	110				
Praseodymium	0.0502	0.0010	0.05	0	100	90	110				
Rubidium	0.0504	0.010	0.05	0	101	90	110				
Tungsten	0.0483	0.10	0.05	0	97	90	110				
Zirconium	0.0477	0.0050	0.05	0	95	90	110				

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050305

**BatchID:** R184474

**Date:** 26-May-23

Run ID :Run Order: <b>ICPMS206-H_230511C: 22</b>		SampType: <b>Method Blank</b>			Lab ID: <b>LRB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/11/23 17:24</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>9</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	ND	0.0003									
Lanthanum	ND	0.00004									
Neodymium	ND	0.00004									
Niobium	ND	0.00004									
Palladium	ND	0.00004									
Praseodymium	ND	0.00005									
Rubidium	ND	0.00003									
Tungsten	ND	0.00003									
Zirconium	ND	0.00006									

Associated samples: **H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B**

Run ID :Run Order: <b>ICPMS206-H_230511C: 24</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/11/23 17:32</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0520	0.010	0.05	0	<b>104</b>	85	115				
Gallium	0.0507	0.010	0.05	0	<b>101</b>	85	115				
Lanthanum	0.0500	0.010	0.05	0	<b>100</b>	85	115				
Neodymium	0.0492	0.0050	0.05	0	<b>98</b>	85	115				
Niobium	0.0535	0.0010	0.05	0	<b>107</b>	85	115				
Palladium	0.0496	0.010	0.05	0	<b>99</b>	85	115				
Praseodymium	0.0523	0.0010	0.05	0	<b>105</b>	85	115				
Rubidium	0.0532	0.010	0.05	0	<b>106</b>	85	115				
Tungsten	0.0482	0.10	0.05	0	<b>96</b>	85	115				
Zirconium	0.0544	0.0050	0.05	0	<b>109</b>	85	115				

Associated samples: **H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050305

**BatchID:** R184474

**Date:** 26-May-23

Run ID :Run Order: ICPMS206-H_230511C: 34	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/11/23 17:48	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0489	0.010	0.05	0	98	90	110				
Gallium	0.0497	0.010	0.05	0	99	90	110				
Lanthanum	0.0498	0.010	0.05	0	100	90	110				
Neodymium	0.0481	0.0050	0.05	0	96	90	110				
Niobium	0.0507	0.0010	0.05	0	101	90	110				
Palladium	0.0481	0.010	0.05	0	96	90	110				
Praseodymium	0.0505	0.0010	0.05	0	101	90	110				
Rubidium	0.0513	0.010	0.05	0	103	90	110				
Tungsten	0.0464	0.10	0.05	0	93	90	110				
Zirconium	0.0495	0.0050	0.05	0	99	90	110				

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

Run ID :Run Order: ICPMS206-H_230511C: 42	SampType: Sample Matrix Spike				Lab ID: H23050305-001BMS				Method: E200.8		
Analysis Date: 05/11/23 18:00	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0494	0.010	0.05	0	99	70	130				
Gallium	0.0519	0.010	0.05	0	104	70	130				
Lanthanum	0.0509	0.010	0.05	0.00007313	102	70	130				
Neodymium	0.0492	0.0050	0.05	0.00006684	98	70	130				
Niobium	0.0490	0.0010	0.05	0	98	70	130				
Palladium	0.0483	0.010	0.05	0.00009303	96	70	130				
Praseodymium	0.0527	0.0010	0.05	0	105	70	130				
Rubidium	0.0562	0.010	0.05	0.001353	110	70	130				
Tungsten	0.0464	0.10	0.05	0.005689	81	70	130				
Zirconium	0.0551	0.0050	0.05	0	110	70	130				

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050305

BatchID: R184474

Date: 26-May-23

Run ID :Run Order: ICPMS206-H_230511C: 43	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050305-001BMSD				Method: E200.8		
Analysis Date: 05/11/23 18:02	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0504	0.010	0.05	0	101	70	130	0.04942	2.0	20	
Gallium	0.0525	0.010	0.05	0	105	70	130	0.05186	1.3	20	
Lanthanum	0.0518	0.010	0.05	0.00007313	103	70	130	0.05089	1.7	20	
Neodymium	0.0495	0.0050	0.05	0.00006684	99	70	130	0.04918	0.6	20	
Niobium	0.0484	0.0010	0.05	0	97	70	130	0.049			
Palladium	0.0486	0.010	0.05	0.00009303	97	70	130	0.04831	0.7	20	
Praseodymium	0.0530	0.0010	0.05	0	106	70	130	0.05273			
Rubidium	0.0561	0.010	0.05	0.001353	110	70	130	0.05622	0.2	20	
Tungsten	0.0466	0.10	0.05	0.005689	82	70	130	0.04641		20	
Zirconium	0.0557	0.0050	0.05	0	111	70	130	0.05509	1.0	20	

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

Run ID :Run Order: ICPMS206-H_230511C: 44	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/11/23 18:03	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0490	0.010	0.05	0	98	90	110				
Gallium	0.0504	0.010	0.05	0	101	90	110				
Lanthanum	0.0498	0.010	0.05	0	100	90	110				
Neodymium	0.0475	0.0050	0.05	0	95	90	110				
Niobium	0.0522	0.0010	0.05	0	104	90	110				
Palladium	0.0477	0.010	0.05	0	95	90	110				
Praseodymium	0.0515	0.0010	0.05	0	103	90	110				
Rubidium	0.0518	0.010	0.05	0	104	90	110				
Tungsten	0.0474	0.10	0.05	0	95	90	110				
Zirconium	0.0508	0.0050	0.05	0	102	90	110				

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050305

**BatchID:** R184474

**Date:** 26-May-23

Run ID :Run Order: <b>ICPMS206-H_230511C: 56</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23050305-011BMS</b>				Method: <b>E200.8</b>		
Analysis Date: <b>05/11/23 18:22</b>		Units: <b>mg/L</b>			Prep Info:		Prep Date:		Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0524	0.010	0.05	0	105	70	130				
Gallium	0.0527	0.010	0.05	0	105	70	130				
Lanthanum	0.0502	0.010	0.05	0	100	70	130				
Neodymium	0.0503	0.0050	0.05	0	101	70	130				
Niobium	0.0494	0.0010	0.05	0	99	70	130				
Palladium	0.0491	0.010	0.05	0.0001212	98	70	130				
Praseodymium	0.0527	0.0010	0.05	0	105	70	130				
Rubidium	0.0588	0.010	0.05	0.00467	108	70	130				
Tungsten	0.0409	0.10	0.05	0.0004514	81	70	130				
Zirconium	0.0581	0.0050	0.05	0	116	70	130				

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

Run ID :Run Order: <b>ICPMS206-H_230511C: 57</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23050305-011BMSD</b>				Method: <b>E200.8</b>		
Analysis Date: <b>05/11/23 18:24</b>		Units: <b>mg/L</b>			Prep Info:		Prep Date:		Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0514	0.010	0.05	0	103	70	130	0.05242	1.9	20	
Gallium	0.0507	0.010	0.05	0	101	70	130	0.05274	3.9	20	
Lanthanum	0.0523	0.010	0.05	0	105	70	130	0.05019	4.2	20	
Neodymium	0.0506	0.0050	0.05	0	101	70	130	0.05026	0.6	20	
Niobium	0.0487	0.0010	0.05	0	97	70	130	0.04941			
Palladium	0.0491	0.010	0.05	0.0001212	98	70	130	0.04907	0.1	20	
Praseodymium	0.0536	0.0010	0.05	0	107	70	130	0.05273			
Rubidium	0.0580	0.010	0.05	0.00467	107	70	130	0.05881	1.4	20	
Tungsten	0.0420	0.10	0.05	0.0004514	83	70	130	0.0409		20	
Zirconium	0.0570	0.0050	0.05	0	114	70	130	0.05811	2.0	20	

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050305

**BatchID:** R184474

**Date:** 26-May-23

Run ID :Run Order: ICPMS206-H_230511C: 58	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/11/23 18:25	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0486	0.010	0.05	0	97	90	110				
Gallium	0.0520	0.010	0.05	0	104	90	110				
Lanthanum	0.0493	0.010	0.05	0	99	90	110				
Neodymium	0.0473	0.0050	0.05	0	95	90	110				
Niobium	0.0512	0.0010	0.05	0	102	90	110				
Palladium	0.0478	0.010	0.05	0	96	90	110				
Praseodymium	0.0509	0.0010	0.05	0	102	90	110				
Rubidium	0.0521	0.010	0.05	0	104	90	110				
Tungsten	0.0463	0.10	0.05	0	93	90	110				
Zirconium	0.0494	0.0050	0.05	0	99	90	110				

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

Run ID :Run Order: ICPMS206-H_230511C: 65	SampType: Sample Matrix Spike				Lab ID: H23050305-021BMS				Method: E200.8		
Analysis Date: 05/11/23 18:36	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0508	0.010	0.05	0	102	70	130				
Gallium	0.0529	0.010	0.05	0	106	70	130				
Lanthanum	0.0513	0.010	0.05	0	103	70	130				
Neodymium	0.0505	0.0050	0.05	0	101	70	130				
Niobium	0.0486	0.0010	0.05	0	97	70	130				
Palladium	0.0486	0.010	0.05	0.0004906	96	70	130				
Praseodymium	0.0523	0.0010	0.05	0	105	70	130				
Rubidium	0.0686	0.010	0.05	0.01628	105	70	130				
Tungsten	0.0414	0.10	0.05	0.0000381	83	70	130				
Zirconium	0.0558	0.0050	0.05	0	112	70	130				

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050305

BatchID: R184474

Date: 26-May-23

Run ID :Run Order: ICPMS206-H_230511C: 66	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050305-021BMSD				Method: E200.8		
Analysis Date: 05/11/23 18:38	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0510	0.010	0.05	0	102	70	130	0.05077	0.5	20	
Gallium	0.0512	0.010	0.05	0	102	70	130	0.05294	3.4	20	
Lanthanum	0.0514	0.010	0.05	0	103	70	130	0.05128	0.3	20	
Neodymium	0.0500	0.0050	0.05	0	100	70	130	0.05048	1.0	20	
Niobium	0.0478	0.0010	0.05	0	96	70	130	0.04859			
Palladium	0.0484	0.010	0.05	0.0004906	96	70	130	0.04859	0.4	20	
Praseodymium	0.0521	0.0010	0.05	0	104	70	130	0.05232			
Rubidium	0.0676	0.010	0.05	0.01628	103	70	130	0.06861	1.5	20	
Tungsten	0.0416	0.10	0.05	0.0000381	83	70	130	0.04144		20	
Zirconium	0.0559	0.0050	0.05	0	112	70	130	0.05585	0.2	20	

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

Run ID :Run Order: ICPMS206-H_230511C: 82	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 05/11/23 16:30	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0609	0.0010	0.06	0	102	90	110				

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

Run ID :Run Order: ICPMS206-H_230511C: 90	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/11/23 17:20	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0514	0.0010	0.05	0	103	90	110				

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050305

BatchID: R184474

Date: 26-May-23

Run ID :Run Order: ICPMS206-H_230511C: 94	SampType: Laboratory Fortified Blank	Lab ID: LFB	Method: E200.8								
Analysis Date: 05/11/23 17:32	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0530	0.0010	0.05	0	106	85	115				
Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B											

Run ID :Run Order: ICPMS206-H_230511C: 101	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.8								
Analysis Date: 05/11/23 17:48	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0488	0.0010	0.05	0	98	90	110				
Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B											

Run ID :Run Order: ICPMS206-H_230511C: 109	SampType: Sample Matrix Spike	Lab ID: H23050305-001BMS	Method: E200.8								
Analysis Date: 05/11/23 18:00	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0527	0.0050	0.05	0	105	70	130				
Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B											

Run ID :Run Order: ICPMS206-H_230511C: 110	SampType: Sample Matrix Spike Duplicate	Lab ID: H23050305-001BMSD	Method: E200.8								
Analysis Date: 05/11/23 18:02	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0515	0.0050	0.05	0	103	70	130	0.0527	2.3	20	
Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B											

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice  
Work Order: H23050305

Prepared by Helena, MT Branch  
BatchID: R184474

Date: 26-May-23

Run ID :Run Order: ICPMS206-H_230511C: 111	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.8								
Analysis Date: 05/11/23 18:03	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0497	0.0010	0.05	0	99	90	110				
Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B											

Run ID :Run Order: ICPMS206-H_230511C: 123	SampType: Sample Matrix Spike	Lab ID: H23050305-011BMS	Method: E200.8								
Analysis Date: 05/11/23 18:22	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0504	0.0050	0.05	0	101	70	130				
Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B											

Run ID :Run Order: ICPMS206-H_230511C: 124	SampType: Sample Matrix Spike Duplicate	Lab ID: H23050305-011BMSD	Method: E200.8								
Analysis Date: 05/11/23 18:24	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0525	0.0050	0.05	0	105	70	130	0.05045	3.9	20	
Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B											

Run ID :Run Order: ICPMS206-H_230511C: 125	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.8								
Analysis Date: 05/11/23 18:25	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0484	0.0010	0.05	0	97	90	110				
Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B											

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050305

BatchID: R184474

Date: 26-May-23

Run ID :Run Order: ICPMS206-H_230511C: 132	SampType: Sample Matrix Spike	Lab ID: H23050305-021BMS	Method: E200.8								
Analysis Date: 05/11/23 18:36	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0517	0.0050	0.05	0	103	70	130				

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B

Run ID :Run Order: ICPMS206-H_230511C: 133	SampType: Sample Matrix Spike Duplicate	Lab ID: H23050305-021BMSD	Method: E200.8								
Analysis Date: 05/11/23 18:38	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0510	0.0050	0.05	0	102	70	130	0.05167	1.4	20	

Associated samples: H23050305-001B, H23050305-002B, H23050305-003B, H23050305-004B, H23050305-005B, H23050305-006B, H23050305-007B, H23050305-008B, H23050305-009B, H23050305-010B, H23050305-011B, H23050305-012B, H23050305-013B, H23050305-014B, H23050305-015B, H23050305-016B, H23050305-017B, H23050305-018B, H23050305-019B, H23050305-020B, H23050305-021B, H23050305-022B, H23050305-023B, H23050305-024B, H23050305-025B



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050305

**BatchID:** R184488

**Date:** 26-May-23

Run ID :Run Order: <b>ICPMS205-H_230512A: 12</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/12/23 14:47</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.0556	0.0050	0.06	0	<b>93</b>	90	110				

Associated samples: **H23050305-015B, H23050305-020B, H23050305-021B**

Run ID :Run Order: <b>ICPMS205-H_230512A: 20</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/12/23 15:11</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.0500	0.0050	0.05	0	<b>100</b>	90	110				

Associated samples: **H23050305-015B, H23050305-020B, H23050305-021B**

Run ID :Run Order: <b>ICPMS205-H_230512A: 22</b>		SampType: <b>Method Blank</b>			Lab ID: <b>LRB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/12/23 15:17</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	ND	0.0003									

Associated samples: **H23050305-015B, H23050305-020B, H23050305-021B**

Run ID :Run Order: <b>ICPMS205-H_230512A: 23</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/12/23 15:21</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.0474	0.0050	0.05	0	<b>95</b>	85	115				

Associated samples: **H23050305-015B, H23050305-020B, H23050305-021B**

Run ID :Run Order: <b>ICPMS205-H_230512A: 33</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23050343-001BMS</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/12/23 15:52</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.0486	0.0010	0.05	0.0009294	<b>95</b>	70	130				

Associated samples: **H23050305-015B, H23050305-020B, H23050305-021B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050305

**BatchID:** R184488

**Date:** 26-May-23

Run ID :Run Order: <b>ICPMS205-H_230512A: 34</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050343-001BMSD</b>				Method: <b>E200.8</b>		
Analysis Date: <b>05/12/23 15:55</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.0487	0.0010	0.05	0.0009294	<b>95</b>	70	130	0.04859	<b>0.2</b>	20	

Associated samples: **H23050305-015B, H23050305-020B, H23050305-021B**

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050305

BatchID: R184632

Date: 26-May-23

Run ID :Run Order: FIA203-HE_230517A: 10	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E353.2			
Analysis Date: 05/17/23 14:07	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.971	0.010	1	0	97	90	110				
Associated samples: H23050305-001C, H23050305-002C, H23050305-003C, H23050305-004C, H23050305-005C, H23050305-006C, H23050305-007C, H23050305-008C, H23050305-009C, H23050305-010C, H23050305-011C, H23050305-012C, H23050305-013C, H23050305-014C, H23050305-015C, H23050305-016C, H23050305-017C, H23050305-018C, H23050305-019C, H23050305-020C, H23050305-021C, H23050305-022C, H23050305-023C, H23050305-024C, H23050305-025C											

Run ID :Run Order: FIA203-HE_230517A: 11	SampType: Method Blank				Lab ID: MBLK			Method: E353.2			
Analysis Date: 05/17/23 14:09	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.008									
Associated samples: H23050305-001C, H23050305-002C, H23050305-003C, H23050305-004C, H23050305-005C, H23050305-006C, H23050305-007C, H23050305-008C, H23050305-009C, H23050305-010C, H23050305-011C, H23050305-012C, H23050305-013C, H23050305-014C, H23050305-015C, H23050305-016C, H23050305-017C, H23050305-018C, H23050305-019C, H23050305-020C, H23050305-021C, H23050305-022C, H23050305-023C, H23050305-024C, H23050305-025C											

Run ID :Run Order: FIA203-HE_230517A: 12	SampType: Laboratory Fortified Blank				Lab ID: LFB			Method: E353.2			
Analysis Date: 05/17/23 14:10	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.924	0.011	1	0	92	90	110				
Associated samples: H23050305-001C, H23050305-002C, H23050305-003C, H23050305-004C, H23050305-005C, H23050305-006C, H23050305-007C, H23050305-008C, H23050305-009C, H23050305-010C, H23050305-011C, H23050305-012C, H23050305-013C, H23050305-014C, H23050305-015C, H23050305-016C, H23050305-017C, H23050305-018C, H23050305-019C, H23050305-020C, H23050305-021C, H23050305-022C, H23050305-023C, H23050305-024C, H23050305-025C											

Run ID :Run Order: FIA203-HE_230517A: 55	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E353.2			
Analysis Date: 05/17/23 15:02	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.467	0.010	0.5	0	93	90	110				
Associated samples: H23050305-001C, H23050305-002C, H23050305-003C, H23050305-004C, H23050305-005C, H23050305-006C, H23050305-007C, H23050305-008C, H23050305-009C, H23050305-010C, H23050305-011C, H23050305-012C, H23050305-013C, H23050305-014C, H23050305-015C, H23050305-016C, H23050305-017C, H23050305-018C, H23050305-019C, H23050305-020C, H23050305-021C, H23050305-022C, H23050305-023C, H23050305-024C, H23050305-025C											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050305

BatchID: R184632

Date: 26-May-23

Run ID :Run Order: FIA203-HE_230517A: 61	SampType: Sample Matrix Spike	Lab ID: H23050305-004CMS	Method: E353.2								
Analysis Date: 05/17/23 15:09	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.927	0.011	1	0	93	90	110				

Associated samples: H23050305-001C, H23050305-002C, H23050305-003C, H23050305-004C, H23050305-005C, H23050305-006C, H23050305-007C, H23050305-008C, H23050305-009C, H23050305-010C, H23050305-011C, H23050305-012C, H23050305-013C, H23050305-014C, H23050305-015C, H23050305-016C, H23050305-017C, H23050305-018C, H23050305-019C, H23050305-020C, H23050305-021C, H23050305-022C, H23050305-023C, H23050305-024C, H23050305-025C

Run ID :Run Order: FIA203-HE_230517A: 62	SampType: Sample Matrix Spike Duplicate	Lab ID: H23050305-004CMSD	Method: E353.2								
Analysis Date: 05/17/23 15:10	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.933	0.011	1	0	93	90	110	0.9272	0.7	10	

Associated samples: H23050305-001C, H23050305-002C, H23050305-003C, H23050305-004C, H23050305-005C, H23050305-006C, H23050305-007C, H23050305-008C, H23050305-009C, H23050305-010C, H23050305-011C, H23050305-012C, H23050305-013C, H23050305-014C, H23050305-015C, H23050305-016C, H23050305-017C, H23050305-018C, H23050305-019C, H23050305-020C, H23050305-021C, H23050305-022C, H23050305-023C, H23050305-024C, H23050305-025C

Run ID :Run Order: FIA203-HE_230517A: 69	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E353.2								
Analysis Date: 05/17/23 15:19	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.475	0.010	0.5	0	95	90	110				

Associated samples: H23050305-001C, H23050305-002C, H23050305-003C, H23050305-004C, H23050305-005C, H23050305-006C, H23050305-007C, H23050305-008C, H23050305-009C, H23050305-010C, H23050305-011C, H23050305-012C, H23050305-013C, H23050305-014C, H23050305-015C, H23050305-016C, H23050305-017C, H23050305-018C, H23050305-019C, H23050305-020C, H23050305-021C, H23050305-022C, H23050305-023C, H23050305-024C, H23050305-025C

Run ID :Run Order: FIA203-HE_230517A: 72	SampType: Sample Matrix Spike	Lab ID: H23050305-011CMS	Method: E353.2								
Analysis Date: 05/17/23 15:22	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.09	0.011	1	0.1547	93	90	110				

Associated samples: H23050305-001C, H23050305-002C, H23050305-003C, H23050305-004C, H23050305-005C, H23050305-006C, H23050305-007C, H23050305-008C, H23050305-009C, H23050305-010C, H23050305-011C, H23050305-012C, H23050305-013C, H23050305-014C, H23050305-015C, H23050305-016C, H23050305-017C, H23050305-018C, H23050305-019C, H23050305-020C, H23050305-021C, H23050305-022C, H23050305-023C, H23050305-024C, H23050305-025C

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050305

BatchID: R184632

Date: 26-May-23

Run ID :Run Order: FIA203-HE_230517A: 73	SampType: Sample Matrix Spike Duplicate	Lab ID: H23050305-011CMSD	Method: E353.2								
Analysis Date: 05/17/23 15:23	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.10	0.011	1	0.1547	94	90	110	1.089	0.7	10	

Associated samples: H23050305-001C, H23050305-002C, H23050305-003C, H23050305-004C, H23050305-005C, H23050305-006C, H23050305-007C, H23050305-008C, H23050305-009C, H23050305-010C, H23050305-011C, H23050305-012C, H23050305-013C, H23050305-014C, H23050305-015C, H23050305-016C, H23050305-017C, H23050305-018C, H23050305-019C, H23050305-020C, H23050305-021C, H23050305-022C, H23050305-023C, H23050305-024C, H23050305-025C

Run ID :Run Order: FIA203-HE_230517A: 83	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E353.2								
Analysis Date: 05/17/23 15:35	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.480	0.010	0.5	0	96	90	110				

Associated samples: H23050305-001C, H23050305-002C, H23050305-003C, H23050305-004C, H23050305-005C, H23050305-006C, H23050305-007C, H23050305-008C, H23050305-009C, H23050305-010C, H23050305-011C, H23050305-012C, H23050305-013C, H23050305-014C, H23050305-015C, H23050305-016C, H23050305-017C, H23050305-018C, H23050305-019C, H23050305-020C, H23050305-021C, H23050305-022C, H23050305-023C, H23050305-024C, H23050305-025C

Run ID :Run Order: FIA203-HE_230517A: 87	SampType: Sample Matrix Spike	Lab ID: H23050305-022CMS	Method: E353.2								
Analysis Date: 05/17/23 15:40	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.13	0.011	1	0.1788	95	90	110				

Associated samples: H23050305-001C, H23050305-002C, H23050305-003C, H23050305-004C, H23050305-005C, H23050305-006C, H23050305-007C, H23050305-008C, H23050305-009C, H23050305-010C, H23050305-011C, H23050305-012C, H23050305-013C, H23050305-014C, H23050305-015C, H23050305-016C, H23050305-017C, H23050305-018C, H23050305-019C, H23050305-020C, H23050305-021C, H23050305-022C, H23050305-023C, H23050305-024C, H23050305-025C

Run ID :Run Order: FIA203-HE_230517A: 88	SampType: Sample Matrix Spike Duplicate	Lab ID: H23050305-022CMSD	Method: E353.2								
Analysis Date: 05/17/23 15:41	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.12	0.011	1	0.1788	94	90	110	1.129	0.6	10	

Associated samples: H23050305-001C, H23050305-002C, H23050305-003C, H23050305-004C, H23050305-005C, H23050305-006C, H23050305-007C, H23050305-008C, H23050305-009C, H23050305-010C, H23050305-011C, H23050305-012C, H23050305-013C, H23050305-014C, H23050305-015C, H23050305-016C, H23050305-017C, H23050305-018C, H23050305-019C, H23050305-020C, H23050305-021C, H23050305-022C, H23050305-023C, H23050305-024C, H23050305-025C

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050305

**BatchID:** R184632

**Date:** 26-May-23

Run ID :Run Order: <b>FIA203-HE_230517A: 97</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E353.2</b>								
Analysis Date: <b>05/17/23 15:52</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.482	0.010	0.5	0	<b>96</b>	90	110				

Associated samples: **H23050305-001C, H23050305-002C, H23050305-003C, H23050305-004C, H23050305-005C, H23050305-006C, H23050305-007C, H23050305-008C, H23050305-009C, H23050305-010C, H23050305-011C, H23050305-012C, H23050305-013C, H23050305-014C, H23050305-015C, H23050305-016C, H23050305-017C, H23050305-018C, H23050305-019C, H23050305-020C, H23050305-021C, H23050305-022C, H23050305-023C, H23050305-024C, H23050305-025C**



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050305

**BatchID:** R184848

**Date:** 26-May-23

Run ID :Run Order: <b>IC METROHM_230524A: 2</b>		SampType: <b>Method Blank</b>			Lab ID: <b>ICB</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/24/23 11:41</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.02									
Sulfate	ND	0.03									
Bromide	ND	0.001									
Fluoride	ND	0.01									

Associated samples: **H23050305-004A**

Run ID :Run Order: <b>IC METROHM_230524A: 3</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/24/23 11:55</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	101	1.0	100	0	<b>101</b>	90	110				
Sulfate	390	1.0	400	0	<b>98</b>	90	110				
Bromide	4.80	0.50	5	0	<b>96</b>	90	110				
Fluoride	5.35	0.10	5	0	<b>107</b>	90	110				

Associated samples: **H23050305-004A**

Run ID :Run Order: <b>IC METROHM_230524A: 4</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/24/23 12:10</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	24.3	1.0	25	0	<b>97</b>	90	110				
Sulfate	101	1.0	100	0	<b>101</b>	90	110				
Bromide	1.25	0.50	1.25	0	<b>100</b>	90	110				
Fluoride	1.24	0.10	1.25	0	<b>100</b>	90	110				

Associated samples: **H23050305-004A**

Run ID :Run Order: <b>IC METROHM_230524A: 23</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/24/23 16:57</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	50.5	1.0	50	0	<b>101</b>	90	110				
Sulfate	202	1.0	200	0	<b>101</b>	90	110				
Bromide	2.38	0.50	2.5	0	<b>95</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050305

**BatchID:** R184848

**Date:** 26-May-23

Run ID :Run Order: <b>IC METROHM_230524A: 23</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E300.0</b>				
Analysis Date: <b>05/24/23 16:57</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>4</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride		2.65	0.10	2.5	0	106	90	110				

Associated samples: **H23050305-004A**

Run ID :Run Order: <b>IC METROHM_230524A: 26</b>		SampType: <b>Sample Duplicate</b>			Lab ID: <b>H23050305-004ADUP</b>			Method: <b>E300.0</b>				
Analysis Date: <b>05/24/23 17:55</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>4</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		1.25	1.0		0				1.276	1.7	20	
Sulfate		0.120	1.0		0				0.102		20	J
Bromide		ND	0.50		0				0		20	
Fluoride		ND	0.10		0				0		20	

Associated samples: **H23050305-004A**

Run ID :Run Order: <b>IC METROHM_230524A: 35</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23050437-008AMS</b>			Method: <b>E300.0</b>				
Analysis Date: <b>05/24/23 20:05</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>4</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		211	1.0	125	87.28	99	90	110				
Sulfate		1430	1.0	500	942.9	98	90	110				
Bromide		5.70	0.50	6.25	0.21	88	90	110				S
Fluoride		6.76	0.10	6.25	0.42	101	90	110				

Associated samples: **H23050305-004A**

Run ID :Run Order: <b>IC METROHM_230524A: 36</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23050437-008AMSD</b>			Method: <b>E300.0</b>				
Analysis Date: <b>05/24/23 20:19</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>4</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		211	1.0	125	87.28	99	90	110	211.5	0.3	20	
Sulfate		1430	1.0	500	942.9	98	90	110	1433	0.1	20	
Bromide		5.70	0.50	6.25	0.21	88	90	110	5.703	0.0	20	S
Fluoride		6.74	0.10	6.25	0.42	101	90	110	6.757	0.3	20	

Associated samples: **H23050305-004A**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050305

BatchID: TDS230511A

Date: 26-May-23

Run ID :Run Order: ACCU-124 (14410200)_230511A: 1	SampType: Method Blank	Lab ID: MB-1_230511	Method: A2540 C								
Analysis Date: 05/11/23 11:50	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	ND	7									

Associated samples: H23050305-001A, H23050305-002A, H23050305-003A, H23050305-004A, H23050305-005A, H23050305-006A, H23050305-007A, H23050305-008A, H23050305-009A, H23050305-010A, H23050305-011A, H23050305-012A, H23050305-013A, H23050305-014A, H23050305-015A, H23050305-016A, H23050305-017A, H23050305-018A, H23050305-019A, H23050305-020A, H23050305-021A, H23050305-022A, H23050305-023A, H23050305-024A, H23050305-025A

Run ID :Run Order: ACCU-124 (14410200)_230511A: 2	SampType: Laboratory Control Sample	Lab ID: LCS-2_230511	Method: A2540 C								
Analysis Date: 05/11/23 11:51	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	1980	50	2000	0	99	90	110				

Associated samples: H23050305-001A, H23050305-002A, H23050305-003A, H23050305-004A, H23050305-005A, H23050305-006A, H23050305-007A, H23050305-008A, H23050305-009A, H23050305-010A, H23050305-011A, H23050305-012A, H23050305-013A, H23050305-014A, H23050305-015A, H23050305-016A, H23050305-017A, H23050305-018A, H23050305-019A, H23050305-020A, H23050305-021A, H23050305-022A, H23050305-023A, H23050305-024A, H23050305-025A

Run ID :Run Order: ACCU-124 (14410200)_230511A: 2	SampType: Sample Duplicate	Lab ID: H23050305-017A DUP	Method: A2540 C								
Analysis Date: 05/11/23 11:55	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	190	25		0				192	1.0	10	

Associated samples: H23050305-001A, H23050305-002A, H23050305-003A, H23050305-004A, H23050305-005A, H23050305-006A, H23050305-007A, H23050305-008A, H23050305-009A, H23050305-010A, H23050305-011A, H23050305-012A, H23050305-013A, H23050305-014A, H23050305-015A, H23050305-016A, H23050305-017A, H23050305-018A, H23050305-019A, H23050305-020A, H23050305-021A, H23050305-022A, H23050305-023A, H23050305-024A, H23050305-025A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



# Work Order Receipt Checklist

MT Dept of Justice

H23050305

Login completed by: Rebecca A. Tooke

Date Received: 5/10/2023

Reviewed by: tjones

Received by: wjj

Reviewed Date: 5/12/2023

Carrier name: Hand Deliver

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	1.1°C On Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

## Contact and Corrective Action Comments:

The Temperature Blank temperature for shipping container 1 was -0.9°C, shipping container 2 was 0.3°C, shipping container 3 was 1.1°C, shipping container 4 was 0.7°C and shipping container 5 was 0.7°C, shipping container 6 was 0.6°C and shipping container 7 was 1.0°C. 5/10/23 rt



# Chain of Custody & Analytical Request Record

www.energylab.com

### Account Information (Billing information)

Company/Name	MT DOJ / Natural Resource Damage Program		
Contact	Jim Ford		
Phone	(406) 439-2108		
Mailing Address	1720 9th Avenue		
City, State, Zip	Helena, Montana 59620-1425		
Email	jford@mt.gov		
Receive Invoice	<input type="checkbox"/> Hard Copy	<input checked="" type="checkbox"/> Email	Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email
Purchase Order	Quote	Bottle Order	

### Report Information (if different than Account Information)

Company/Name	Water & Environmental Technologies		
Contact	Janelle Garza		
Phone	(406) 565-4291		
Mailing Address	480 East Park Street		
City, State, Zip	Butte, Montana 59701		
Email	jgarza@waterenvtech.com		
Receive Report	<input type="checkbox"/> Hard Copy	<input checked="" type="checkbox"/> Email	
Special Report/Formats	<input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC <input checked="" type="checkbox"/> EDD/EDT (contact laboratory) <input type="checkbox"/> Other		

### Comments

Please do not use any "EB" or "FB" samples for MS/MSD.

C1-0.9                      C4 0.6  
 C2-0.3                      C7-1.0  
 C3 1.1  
 C4 0.7  
 C5 0.7

### Project Information

Project Name, PWSID Permit, etc.	NRDPM16 TO2 - Task 001		
Sampler Name	Janelle Garza	Sampler Phone	(406) 599-6770
Sample Origin State	Montana	EPA/State Compliance	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
URANIUM MINING CLIENTS MUST indicate sample type			
<input type="checkbox"/> Unprocessed Ore			
<input type="checkbox"/> Processed Ore (Ground or Refined) **CALL BEFORE SENDING			
<input type="checkbox"/> 1(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)			

### Matrix Codes

- A - Air
- W - Water
- S - Soils/Solids
- V - Vegetation
- B - Bioassay
- O - Oil
- DW - Drinking Water

### Analysis Requested

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
pH & pH Meas. Temp	Conductivity	TDS	CaCO <sub>3</sub> , HCO <sub>3</sub> , CO <sub>3</sub>	Cl(-), SO <sub>4</sub> (2-), Br(-), F(-)	Hardness	DOC & TOC	Nitrate+Nitrite	Dissolved Metals	See Attached									
A4500-H B	A25510 B	A2540 C	A2320 B	E300.0	A2340 B	A5310 C	E353.2	E200.7B										

All turnaround times are standard unless marked as RUSH

Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page

Sample Identification (Name, Location, Interval, etc.)	Collection		Number of Containers	Matrix (See Codes Above)	Analysis Requested														RUSH TAT	ELI LAB ID Laboratory Use Only	
	Date	Time			pH & pH Meas. Temp	Conductivity	TDS	CaCO <sub>3</sub> , HCO <sub>3</sub> , CO <sub>3</sub>	Cl(-), SO <sub>4</sub> (2-), Br(-), F(-)	Hardness	DOC & TOC	Nitrate+Nitrite	Dissolved Metals	See Attached							
1 GS-29SR	05/08/2023	2:11 pm	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
2 BPS11-11A1	05/08/2023	2:20 pm	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
3 DUP-2	05/08/2023	2:25 pm	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
4 EB-2	05/08/2023	2:45 pm	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
5 PMP-11A	05/08/2023	2:48 pm	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
6 FB-2	05/08/2023	3:00 pm	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
7 AMW-13B	05/08/2023	3:23 pm	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
8 BPS11-11A2	05/08/2023	3:25 pm	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
9 AMW-13B2	05/08/2023	3:51 pm	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Janelle Garza	5-10-23/0800	[Signature]	Christina Regensperger	5-10-23/1800	[Signature]
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
	Christina Regensperger	5-10-23/0925	[Signature]	Wardson	5-10-23/925	[Signature]

### LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number (cash/check only)
Handdel	y	Y D C B	Y N	ser °C	D N	D N	CC Cash Check	\$	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.



# Chain of Custody & Analytical Request Record

www.energylab.com

### Account Information (Billing information)

Company/Name	MT DOJ / Natural Resource Damage Program		
Contact	Jim Ford		
Phone	(406) 439-2108		
Mailing Address	1720 9th Avenue		
City, State, Zip	Helena, Montana 59620-1425		
Email	jford@mt.gov		
Receive Invoice	<input type="checkbox"/> Hard Copy	<input checked="" type="checkbox"/> Email	Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email
Purchase Order	Quote	Bottle Order	

### Report Information (if different than Account Information)

Company/Name	Water & Environmental Technologies		
Contact	Janelle Garza		
Phone	(406) 565-4291		
Mailing Address	480 East Park Street		
City State Zip	Butte, Montana 59701		
Email	jgarza@waterenvtech.com		
Receive Report	<input type="checkbox"/> Hard Copy	<input checked="" type="checkbox"/> Email	
Special Report/Formats	<input type="checkbox"/> LEVEL IV <input type="checkbox"/> INELAC <input checked="" type="checkbox"/> EDD/EDT (contact laboratory) <input type="checkbox"/> Other		

### Comments

Please do not use any "EB" or "FB" samples for MS/MSD.

C1 - 0.9                      C6 - 0.6  
 C2 6.3                        C7 - 1.0  
 C3 1.1  
 C4 0.7  
 C5 0.7

### Project Information

Project Name	PWSID, Permit, etc. NRDPM16 TO2 - Task 001		
Sampler Name	Janelle Garza	Sampler Phone	(406) 599-6770
Sample Origin State	Montana	EPA/State Compliance	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
URANIUM MINING CLIENTS MUST indicate sample type			
<input type="checkbox"/> Unprocessed Ore			
<input type="checkbox"/> Processed Ore (Ground or Refined) **CALL BEFORE SENDING			
<input type="checkbox"/> 11(e)2 Byproduct Material (Can ONLY be Submitted to ELJ Casper Location)			

### Matrix Codes

- A - Air
- W - Water
- S - Soils/Solids
- V - Vegetation
- B - Bioassay
- O - Oil
- DW - Drinking Water

### Analysis Requested

	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	pH & pH Meas Temp	Conductivity	TDS	CaCO3, HCO3, CO3	Cl(-), SO4(2-), Br(-), F(-)	Hardness	DOC & TOC	Nitrate+Nitrite	Dissolved Metals	See Attached					
	A4500-H B	A25510 B	A2540 C	A2320 B	E300.0	A2340 B	A5310 C	E353.2	E200.78						
1	✓	✓	✓	✓	✓	✓	✓	✓	✓						
2	✓	✓	✓	✓	✓	✓	✓	✓	✓						
3	✓	✓	✓	✓	✓	✓	✓	✓	✓						
4	✓	✓	✓	✓	✓	✓	✓	✓	✓						
5	✓	✓	✓	✓	✓	✓	✓	✓	✓						
6	✓	✓	✓	✓	✓	✓	✓	✓	✓						
7	✓	✓	✓	✓	✓	✓	✓	✓	✓						
8	✓	✓	✓	✓	✓	✓	✓	✓	✓						
9	✓	✓	✓	✓	✓	✓	✓	✓	✓						

All turnaround times are standard unless marked as RUSH

Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page

Sample Identification (Name, Location, Interval, etc.)	Collection		Number of Containers	Matrix (See Codes Above)	Analysis Requested										See Attached	RUSH TAT	ELI LAB ID Laboratory Use Only
	Date	Time			pH & pH Meas Temp	Conductivity	TDS	CaCO3, HCO3, CO3	Cl(-), SO4(2-), Br(-), F(-)	Hardness	DOC & TOC	Nitrate+Nitrite	Dissolved Metals				
1 BPS11-11B	05/08/2023	4.12 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		H23050305
2 AMW-13C	05/08/2023	4.19 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
3 PMP-09A	05/09/2023	11:21 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
4 BPS07-23	05/09/2023	11:31 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
5 BPS11-11C	05/09/2023	11:32 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
6 PMP-08A2	05/09/2023	11:57 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
7 BPS11-10A	05/09/2023	2.29 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
8 BPS07-07	05/09/2023	2:37 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
9 DUP-1	05/09/2023	2.39 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Janelle Garza	5-10-23/0800	[Signature]	Christina Ogensperger	5-10-23/0800	[Signature]
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
	Christina Ogensperger	5-10-23/0925	[Signature]	Wade [Signature]	5-10-23/925	[Signature]

**LABORATORY USE ONLY**

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number (cash/check only)
haddaf	4	Y <input checked="" type="checkbox"/> C <input checked="" type="checkbox"/> B	Y <input checked="" type="checkbox"/> N	500 °C	<input checked="" type="checkbox"/> N	<input checked="" type="checkbox"/> N	CC Cash Check	\$	

Comments

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.





# Chain of Custody & Analytical Request Record

www.energylab.com

### Account Information (Billing Information)

Company/Name	MT DOJ / Natural Resource Damage Program	
Contact	Jim Ford	
Phone	(406) 439-2108	
Mailing Address	1720 9th Avenue	
City State Zip	Helena, Montana 59620-1425	
Email	jford@mt.gov	
Receive Invoice	<input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email
Purchase Order	Quote	Bottle Order

### Report Information (if different than Account Information)

Company/Name	Water & Environmental Technologies	
Contact	Janelle Garza	
Phone	(406) 565-4291	
Mailing Address	480 East Park Street	
City State Zip	Butte, Montana 59701	
Email	jgarza@waterenvtech.com	
Receive Report	<input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	
Special Report/Formats	<input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC <input checked="" type="checkbox"/> EDD/EDT (contact laboratory) <input type="checkbox"/> Other	

### Comments

Please do not use any "EB" or "FB" samples for MS/MSD.

C1 -0.9      C6 0.6  
 C2 0.3      C7 1.0  
 C3 1.1  
 C4 0.7  
 C5 0.7

### Project Information

Project Name	PWSID Permit, etc. NRDP16 TO2 - Task 001	
Sampler Name	Janelle Garza	Sampler Phone (406) 599-6770
Sample Origin State	Montana	EPA/State Compliance <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>URANIUM MINING CLIENTS MUST indicate sample type</b> <input type="checkbox"/> Unprocessed Ore <input type="checkbox"/> Processed Ore (Ground or Refined) **CALL BEFORE SENDING <input type="checkbox"/> 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)		

### Matrix Codes

- A - Air
- W - Water
- S - Soils/ Solids
- V - Vegetation
- B - Bioassay
- O - Oil
- DW - Drinking Water

### Analysis Requested

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
pH & pH Meas Temp A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353 2	Dissolved Metals E200 7/B	See Attached							

All turnaround times are standard unless marked as RUSH  
 Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page

Sample Identification (Name, Location, Interval, etc.)	Collection		Number of Containers	Matrix (See Codes Above)	pH & pH Meas Temp A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353 2	Dissolved Metals E200 7/B	See Attached	RUSH TAT	ELI LAB ID Laboratory Use Only
	Date	Time														
1 FB-1	05/09/2023	2:45 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓			H73050305
2 PMP-08B	05/09/2023	2:47 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓			
3 BPS11-10B	05/09/2023	3:25 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓			
4 BPS11-10C	05/09/2023	4:17 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓			
5 PMP-10A	05/09/2023	4:20 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓			
6 BPS07-07B	05/09/2023	4:24 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓			
7 PMP-10B	05/09/2023	4:48 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓			
8																
9																

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print) Janelle Garza	Date/Time 5-10-23/0800	Signature <i>Janelle Garza</i>	Received by (print) Christina Eggensperger	Date/Time 5-10-23/0800	Signature <i>Christina Eggensperger</i>			
	Relinquished by (print) Christina Eggensperger	Date/Time 5-10-23/0925	Signature <i>Christina Eggensperger</i>	Received by Laboratory (print) Wanda J...	Date/Time 5-10-23/0925	Signature <i>Wanda J...</i>			
<b>LABORATORY USE ONLY</b>									
Shipped By Haddel	Cooler ID(s) 4	Custody Seals Y (N) C B	Intact Y N	Receipt Temp 5.0 °C	Temp Blank (N)	On Ice (N)	Payment Type CC Cash Check	Amount \$	Receipt Number (cash/check only)

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.



# ANALYTICAL SUMMARY REPORT

May 31, 2023

MT Dept of Justice  
Natural Resource Damage Program  
Helena, MT 59620-1425

Work Order: H23050392      Quote ID: H2187

Project Name: NRDPM16 TO2-Task 001

Energy Laboratories Inc Helena MT received the following 16 samples for MT Dept of Justice on 5/11/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H23050392-001	BPS11-14A	05/10/23 11:16	05/11/23	Groundwater	Rare Earth Metals, Dissolved Metals by ICP/ICPMS, Dissolved Alkalinity to pH 4.5 Anion - Cation Balance Carbon, Dissolved Organic Conductivity Carbon, Total Organic Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Solids, Total Dissolved
H23050392-002	AMC-24C	05/10/23 11:35	05/11/23	Aqueous	Same As Above
H23050392-003	BPS11-14B	05/10/23 11:52	05/11/23	Aqueous	Same As Above
H23050392-004	BPS11-17C	05/10/23 12:59	05/11/23	Aqueous	Same As Above
H23050392-005	MSD-03	05/10/23 13:08	05/11/23	Aqueous	Same As Above
H23050392-006	MF-07B	05/10/23 13:43	05/11/23	Aqueous	Same As Above
H23050392-007	MF-11	05/10/23 14:08	05/11/23	Aqueous	Same As Above
H23050392-008	MF-07	05/10/23 14:11	05/11/23	Aqueous	Same As Above
H23050392-009	MSD-04	05/10/23 14:33	05/11/23	Aqueous	Same As Above
H23050392-010	DUP-3	05/10/23 14:34	05/11/23	Aqueous	Same As Above
H23050392-011	EB-3	05/10/23 14:50	05/11/23	Aqueous	Same As Above
H23050392-012	FB-3	05/10/23 14:55	05/11/23	Aqueous	Same As Above
H23050392-013	PMP-06B	05/10/23 15:44	05/11/23	Aqueous	Same As Above
H23050392-014	PMP-07A	05/10/23 16:02	05/11/23	Aqueous	Same As Above
H23050392-015	PMP-06A	05/10/23 16:08	05/11/23	Aqueous	Same As Above
H23050392-016	MSD-02B	05/10/23 16:39	05/11/23	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.



## ANALYTICAL SUMMARY REPORT

Report Approved By:

  
Login

Digitally signed by  
Jessica C. Smith  
Date: 2023.05.31 15:31:54 -06:00



**CLIENT:** MT Dept of Justice  
**Project:** NRDPM16 TO2-Task 001  
**Work Order:** H23050392

**Report Date:** 05/31/23

## **CASE NARRATIVE**

---

Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002.



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-14A  
**Lab ID:** H23050392-001  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 11:16 **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.9	s.u.	H	0.1		A4500-H B	05/12/23 10:42 / ams		PHSC_101-H_230512A : 39		R184467
pH Measurement Temp	12.7	°C				A4500-H B	05/12/23 10:42 / ams		PHSC_101-H_230512A : 39		R184467
Conductivity @ 25 C	615	umhos/cm		5		A2510 B	05/12/23 10:42 / ams		PHSC_101-H_230512A : 40		R184467
Solids, Total Dissolved TDS @ 180 C	399	mg/L		20		A2540 C	05/12/23 11:08 / ams		I24 (14410200)_230512B : 25		TDS230512A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	100	mg/L		4		A2320 B	05/16/23 09:54 / ams		PHSC_101-H_230516A : 34		R184539
Bicarbonate as HCO3	120	mg/L		4		A2320 B	05/16/23 09:54 / ams		PHSC_101-H_230516A : 34		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 09:54 / ams		PHSC_101-H_230516A : 34		R184539
Chloride	27	mg/L		1		E300.0	05/16/23 21:28 / ljs		IC METROHM_230516A : 47		R184586
Sulfate	143	mg/L		1		E300.0	05/16/23 21:28 / ljs		IC METROHM_230516A : 47		R184586
Bromide	ND	mg/L		0.5		E300.0	05/16/23 21:28 / ljs		IC METROHM_230516A : 47		R184586
Fluoride	0.4	mg/L		0.1		E300.0	05/16/23 21:28 / ljs		IC METROHM_230516A : 47		R184586
Hardness as CaCO3	227	mg/L		1		A2340 B	05/12/23 11:52 / abc		CALC_230522A : 3		R184728
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.1	mg/L		0.5		A5310 C	05/17/23 22:59 / eli-c		SUB-C294717 : 28		C_R294717
Organic Carbon, Total (TOC)	1.1	mg/L		0.5		A5310 C	05/17/23 15:17 / eli-c		SUB-C294717 : 4		C_R294717
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	3.09	mg/L		0.02		E353.2	05/18/23 13:55 / JAR		FIA203-HE_230518A : 43		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/16/23 21:02 / dck		ICPMS205-H_230516C : 105		R184592
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 21:02 / dck		ICPMS205-H_230516C : 105		R184592
Arsenic	0.001	mg/L		0.001		E200.8	05/16/23 21:02 / dck		ICPMS205-H_230516C : 105		R184592
Barium	0.030	mg/L		0.003		E200.8	05/16/23 21:02 / dck		ICPMS205-H_230516C : 105		R184592
Beryllium	ND	mg/L		0.0008		E200.8	05/16/23 21:02 / dck		ICPMS205-H_230516C : 105		R184592
Boron	0.11	mg/L		0.05		E200.7	05/12/23 11:52 / slj		ICP2-HE_230512A : 46		R184487
Cadmium	0.00025	mg/L		0.00003		E200.8	05/16/23 21:02 / dck		ICPMS205-H_230516C : 105		R184592
Cesium	ND	mg/L		0.01		E200.8	05/12/23 16:45 / dck		ICPMS205-H_230512C : 23		R184492

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-14A  
**Lab ID:** H23050392-001  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 11:16 **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	62	mg/L		1		E200.7	05/12/23 11:52 / slj		ICP2-HE_230512A : 46		R184487
Chromium	ND	mg/L		0.005		E200.8	05/16/23 21:02 / dck		ICPMS205-H_230516C : 105		R184592
Cobalt	ND	mg/L		0.005		E200.8	05/16/23 21:02 / dck		ICPMS205-H_230516C : 105		R184592
Copper	0.002	mg/L		0.002		E200.8	05/16/23 21:02 / dck		ICPMS205-H_230516C : 105		R184592
Gallium	ND	mg/L		0.01		E200.8	05/12/23 16:45 / dck		ICPMS205-H_230512C : 23		R184492
Iron	ND	mg/L		0.02		E200.8	05/16/23 21:02 / dck		ICPMS205-H_230516C : 105		R184592
Lead	ND	mg/L		0.0003		E200.8	05/16/23 21:02 / dck		ICPMS205-H_230516C : 105		R184592
Lanthanum	ND	mg/L		0.01		E200.8	05/12/23 16:45 / dck		ICPMS205-H_230512C : 23		R184492
Lithium	ND	mg/L		0.1		E200.7	05/12/23 11:52 / slj		ICP2-HE_230512A : 46		R184487
Magnesium	17	mg/L		1		E200.7	05/12/23 11:52 / slj		ICP2-HE_230512A : 46		R184487
Neodymium	ND	mg/L		0.005		E200.8	05/12/23 16:45 / dck		ICPMS205-H_230512C : 23		R184492
Niobium	ND	mg/L		0.01		E200.8	05/12/23 16:45 / dck		ICPMS205-H_230512C : 23		R184492
Manganese	0.010	mg/L		0.001		E200.8	05/16/23 21:02 / dck		ICPMS205-H_230516C : 105		R184592
Molybdenum	0.004	mg/L		0.001		E200.8	05/16/23 21:02 / dck		ICPMS205-H_230516C : 105		R184592
Nickel	ND	mg/L		0.002		E200.8	05/16/23 21:02 / dck		ICPMS205-H_230516C : 105		R184592
Palladium	ND	mg/L		0.01		E200.8	05/12/23 16:45 / dck		ICPMS205-H_230512C : 23		R184492
Praseodymium	ND	mg/L		0.01		E200.8	05/12/23 16:45 / dck		ICPMS205-H_230512C : 23		R184492
Rubidium	ND	mg/L		0.01		E200.8	05/12/23 16:45 / dck		ICPMS205-H_230512C : 23		R184492
Potassium	5	mg/L		1		E200.7	05/12/23 11:52 / slj		ICP2-HE_230512A : 46		R184487
Selenium	ND	mg/L		0.001		E200.8	05/16/23 21:02 / dck		ICPMS205-H_230516C : 105		R184592
Silver	ND	mg/L		0.0002		E200.8	05/16/23 21:02 / dck		ICPMS205-H_230516C : 105		R184592
Sodium	24	mg/L		1		E200.7	05/12/23 11:52 / slj		ICP2-HE_230512A : 46		R184487
Strontium	0.39	mg/L		0.01		E200.8	05/16/23 21:02 / dck		ICPMS205-H_230516C : 105		R184592
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 21:02 / dck		ICPMS205-H_230516C : 105		R184592
Thorium	ND	mg/L		0.005		E200.8	05/12/23 16:45 / dck		ICPMS205-H_230512C : 69		R184492
Tin	ND	mg/L		0.05		E200.8	05/16/23 21:02 / dck		ICPMS205-H_230516C : 105		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 21:02 / dck		ICPMS205-H_230516C : 105		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/12/23 16:45 / dck		ICPMS205-H_230512C : 23		R184492
Uranium	0.0081	mg/L		0.0002		E200.8	05/16/23 21:02 / dck		ICPMS205-H_230516C : 105		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 21:02 / dck		ICPMS205-H_230516C : 105		R184592
Zinc	0.020	mg/L		0.008		E200.8	05/16/23 21:02 / dck		ICPMS205-H_230516C : 105		R184592
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 13:21 / dck		ICPMS205-H_230517D : 59		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-14A  
**Lab ID:** H23050392-001  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 11:16    **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-2.03	%				A1030 E	05/22/23 12:38 / abc		CALC_230522A : 1		R184728

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-24C  
**Lab ID:** H23050392-002  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 11:35 **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.7	s.u.	H	0.1		A4500-H B	05/12/23 10:44 / ams		PHSC_101-H_230512A : 41		R184467
pH Measurement Temp	12.6	°C				A4500-H B	05/12/23 10:44 / ams		PHSC_101-H_230512A : 41		R184467
Conductivity @ 25 C	1190	umhos/cm		5		A2510 B	05/12/23 10:44 / ams		PHSC_101-H_230512A : 42		R184467
Solids, Total Dissolved TDS @ 180 C	860	mg/L		20		A2540 C	05/12/23 11:09 / ams		I24 (14410200)_230512B : 26		TDS230512A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	68	mg/L		4		A2320 B	05/16/23 10:01 / ams		PHSC_101-H_230516A : 36		R184539
Bicarbonate as HCO3	82	mg/L		4		A2320 B	05/16/23 10:01 / ams		PHSC_101-H_230516A : 36		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 10:01 / ams		PHSC_101-H_230516A : 36		R184539
Chloride	28	mg/L		1		E300.0	05/16/23 21:43 / ljs		IC METROHM_230516A : 48		R184586
Sulfate	497	mg/L		1		E300.0	05/16/23 21:43 / ljs		IC METROHM_230516A : 48		R184586
Bromide	ND	mg/L		0.5		E300.0	05/16/23 21:43 / ljs		IC METROHM_230516A : 48		R184586
Fluoride	0.5	mg/L		0.1		E300.0	05/16/23 21:43 / ljs		IC METROHM_230516A : 48		R184586
Hardness as CaCO3	400	mg/L		1		A2340 B	05/16/23 21:05 / SR		CALC_230523B : 36		R184776
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	05/17/23 23:45 / eli-c		SUB-C294717 : 31		C_R294717
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	05/17/23 16:04 / eli-c		SUB-C294717 : 7		C_R294717
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.11	mg/L		0.01		E353.2	05/18/23 13:56 / JAR		FIA203-HE_230518A : 44		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/16/23 21:05 / dck		ICPMS205-H_230516C : 106		R184592
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 21:05 / dck		ICPMS205-H_230516C : 106		R184592
Arsenic	0.007	mg/L		0.001		E200.8	05/16/23 21:05 / dck		ICPMS205-H_230516C : 106		R184592
Barium	0.015	mg/L		0.003		E200.8	05/16/23 21:05 / dck		ICPMS205-H_230516C : 106		R184592
Beryllium	ND	mg/L		0.0008		E200.8	05/16/23 21:05 / dck		ICPMS205-H_230516C : 106		R184592
Boron	0.10	mg/L		0.05		E200.7	05/12/23 12:07 / slj		ICP2-HE_230512A : 50		R184487
Cadmium	0.00404	mg/L		0.00003		E200.8	05/16/23 21:05 / dck		ICPMS205-H_230516C : 106		R184592
Cesium	ND	mg/L		0.01		E200.8	05/12/23 16:47 / dck		ICPMS205-H_230512C : 24		R184492

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-24C  
**Lab ID:** H23050392-002  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 11:35 **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	118	mg/L		1		E200.7	05/12/23 12:07 / slj		ICP2-HE_230512A : 50		R184487
Chromium	ND	mg/L		0.005		E200.8	05/16/23 21:05 / dck		ICPMS205-H_230516C : 106		R184592
Cobalt	ND	mg/L		0.005		E200.8	05/16/23 21:05 / dck		ICPMS205-H_230516C : 106		R184592
Copper	0.055	mg/L		0.002		E200.8	05/16/23 21:05 / dck		ICPMS205-H_230516C : 106		R184592
Gallium	ND	mg/L		0.01		E200.8	05/12/23 16:47 / dck		ICPMS205-H_230512C : 24		R184492
Iron	ND	mg/L		0.02		E200.8	05/16/23 21:05 / dck		ICPMS205-H_230516C : 106		R184592
Lead	ND	mg/L		0.0003		E200.8	05/16/23 21:05 / dck		ICPMS205-H_230516C : 106		R184592
Lanthanum	ND	mg/L		0.01		E200.8	05/12/23 16:47 / dck		ICPMS205-H_230512C : 24		R184492
Lithium	0.2	mg/L		0.1		E200.7	05/12/23 12:07 / slj		ICP2-HE_230512A : 50		R184487
Magnesium	26	mg/L		1		E200.8	05/16/23 21:05 / dck		ICPMS205-H_230516C : 106		R184592
Neodymium	ND	mg/L		0.005		E200.8	05/12/23 16:47 / dck		ICPMS205-H_230512C : 24		R184492
Niobium	ND	mg/L		0.01		E200.8	05/12/23 16:47 / dck		ICPMS205-H_230512C : 24		R184492
Manganese	0.002	mg/L		0.001		E200.8	05/16/23 21:05 / dck		ICPMS205-H_230516C : 106		R184592
Molybdenum	0.003	mg/L		0.001		E200.8	05/16/23 21:05 / dck		ICPMS205-H_230516C : 106		R184592
Nickel	ND	mg/L		0.002		E200.8	05/16/23 21:05 / dck		ICPMS205-H_230516C : 106		R184592
Palladium	ND	mg/L		0.01		E200.8	05/12/23 16:47 / dck		ICPMS205-H_230512C : 24		R184492
Praseodymium	ND	mg/L		0.01		E200.8	05/12/23 16:47 / dck		ICPMS205-H_230512C : 24		R184492
Rubidium	0.01	mg/L		0.01		E200.8	05/12/23 16:47 / dck		ICPMS205-H_230512C : 24		R184492
Potassium	11	mg/L		1		E200.7	05/12/23 12:07 / slj		ICP2-HE_230512A : 50		R184487
Selenium	ND	mg/L		0.001		E200.8	05/16/23 21:05 / dck		ICPMS205-H_230516C : 106		R184592
Silver	ND	mg/L		0.0002		E200.8	05/16/23 21:05 / dck		ICPMS205-H_230516C : 106		R184592
Sodium	74	mg/L		1		E200.7	05/12/23 12:07 / slj		ICP2-HE_230512A : 50		R184487
Strontium	1.50	mg/L		0.01		E200.7	05/12/23 12:07 / slj		ICP2-HE_230512A : 50		R184487
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 21:05 / dck		ICPMS205-H_230516C : 106		R184592
Thorium	ND	mg/L		0.005		E200.8	05/12/23 16:47 / dck		ICPMS205-H_230512C : 70		R184492
Tin	ND	mg/L		0.05		E200.8	05/16/23 21:05 / dck		ICPMS205-H_230516C : 106		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 21:05 / dck		ICPMS205-H_230516C : 106		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/12/23 16:47 / dck		ICPMS205-H_230512C : 24		R184492
Uranium	0.0026	mg/L		0.0002		E200.8	05/16/23 21:05 / dck		ICPMS205-H_230516C : 106		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 21:05 / dck		ICPMS205-H_230516C : 106		R184592
Zinc	0.431	mg/L		0.008		E200.8	05/16/23 21:05 / dck		ICPMS205-H_230516C : 106		R184592
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 13:23 / dck		ICPMS205-H_230517D : 60		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-24C  
**Lab ID:** H23050392-002  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 11:35    **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.26	%				A1030 E	05/23/23 12:08 / SR		CALC_230523B : 34		R184776

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-14B  
**Lab ID:** H23050392-003  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 11:52 **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.3	s.u.	H	0.1		A4500-H B	05/12/23 10:46 / ams		PHSC_101-H_230512A : 43		R184467
pH Measurement Temp	12.8	°C				A4500-H B	05/12/23 10:46 / ams		PHSC_101-H_230512A : 43		R184467
Conductivity @ 25 C	2150	umhos/cm		5		A2510 B	05/12/23 10:46 / ams		PHSC_101-H_230512A : 44		R184467
Solids, Total Dissolved TDS @ 180 C	1750	mg/L		50		A2540 C	05/12/23 11:09 / ams		124 (14410200)_230512B : 27		TDS230512A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	57	mg/L		4		A2320 B	05/16/23 10:07 / ams		PHSC_101-H_230516A : 38		R184539
Bicarbonate as HCO3	69	mg/L		4		A2320 B	05/16/23 10:07 / ams		PHSC_101-H_230516A : 38		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 10:07 / ams		PHSC_101-H_230516A : 38		R184539
Chloride	31	mg/L		1		E300.0	05/16/23 22:40 / ljs		IC METROHM_230516A : 51		R184586
Sulfate	1150	mg/L		1		E300.0	05/16/23 22:40 / ljs		IC METROHM_230516A : 51		R184586
Bromide	ND	mg/L		0.5		E300.0	05/16/23 22:40 / ljs		IC METROHM_230516A : 51		R184586
Fluoride	0.4	mg/L		0.1		E300.0	05/16/23 22:40 / ljs		IC METROHM_230516A : 51		R184586
Hardness as CaCO3	939	mg/L		1		A2340 B	05/16/23 21:08 / SR		CALC_230523B : 47		R184776
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.6	mg/L		0.5		A5310 C	05/18/23 00:05 / eli-c		SUB-C294717 : 32		C_R294717
Organic Carbon, Total (TOC)	0.6	mg/L		0.5		A5310 C	05/17/23 16:20 / eli-c		SUB-C294717 : 8		C_R294717
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.25	mg/L		0.01		E353.2	05/18/23 13:57 / JAR		FIA203-HE_230518A : 45		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/16/23 21:08 / dck		ICPMS205-H_230516C : 107		R184592
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 21:08 / dck		ICPMS205-H_230516C : 107		R184592
Arsenic	0.002	mg/L		0.001		E200.8	05/16/23 21:08 / dck		ICPMS205-H_230516C : 107		R184592
Barium	0.025	mg/L		0.003		E200.8	05/16/23 21:08 / dck		ICPMS205-H_230516C : 107		R184592
Beryllium	ND	mg/L		0.0008		E200.8	05/16/23 21:08 / dck		ICPMS205-H_230516C : 107		R184592
Boron	0.11	mg/L		0.05		E200.7	05/12/23 12:11 / slj		ICP2-HE_230512A : 51		R184487
Cadmium	0.0114	mg/L		0.00003		E200.8	05/16/23 21:08 / dck		ICPMS205-H_230516C : 107		R184592
Cesium	ND	mg/L		0.01		E200.8	05/12/23 16:48 / dck		ICPMS205-H_230512C : 25		R184492

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-14B  
**Lab ID:** H23050392-003  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 11:52 **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	270	mg/L		1		E200.7	05/12/23 12:11 / slj		ICP2-HE_230512A : 51		R184487
Chromium	ND	mg/L		0.005		E200.8	05/16/23 21:08 / dck		ICPMS205-H_230516C : 107		R184592
Cobalt	ND	mg/L		0.005		E200.8	05/16/23 21:08 / dck		ICPMS205-H_230516C : 107		R184592
Copper	0.227	mg/L		0.002		E200.8	05/16/23 21:08 / dck		ICPMS205-H_230516C : 107		R184592
Gallium	ND	mg/L		0.01		E200.8	05/12/23 16:48 / dck		ICPMS205-H_230512C : 25		R184492
Iron	ND	mg/L		0.02		E200.8	05/16/23 21:08 / dck		ICPMS205-H_230516C : 107		R184592
Lead	ND	mg/L		0.0003		E200.8	05/16/23 21:08 / dck		ICPMS205-H_230516C : 107		R184592
Lanthanum	ND	mg/L		0.01		E200.8	05/12/23 16:48 / dck		ICPMS205-H_230512C : 25		R184492
Lithium	0.3	mg/L		0.1		E200.7	05/12/23 12:11 / slj		ICP2-HE_230512A : 51		R184487
Magnesium	64	mg/L		1		E200.8	05/16/23 21:08 / dck		ICPMS205-H_230516C : 107		R184592
Neodymium	ND	mg/L		0.005		E200.8	05/12/23 16:48 / dck		ICPMS205-H_230512C : 25		R184492
Niobium	ND	mg/L		0.01		E200.8	05/12/23 16:48 / dck		ICPMS205-H_230512C : 25		R184492
Manganese	0.013	mg/L		0.001		E200.8	05/16/23 21:08 / dck		ICPMS205-H_230516C : 107		R184592
Molybdenum	0.001	mg/L		0.001		E200.8	05/16/23 21:08 / dck		ICPMS205-H_230516C : 107		R184592
Nickel	0.012	mg/L		0.002		E200.8	05/16/23 21:08 / dck		ICPMS205-H_230516C : 107		R184592
Palladium	ND	mg/L		0.01		E200.8	05/12/23 16:48 / dck		ICPMS205-H_230512C : 25		R184492
Praseodymium	ND	mg/L		0.01		E200.8	05/12/23 16:48 / dck		ICPMS205-H_230512C : 25		R184492
Rubidium	0.02	mg/L		0.01		E200.8	05/12/23 16:48 / dck		ICPMS205-H_230512C : 25		R184492
Potassium	14	mg/L		1		E200.7	05/12/23 12:11 / slj		ICP2-HE_230512A : 51		R184487
Selenium	ND	mg/L		0.001		E200.8	05/16/23 21:08 / dck		ICPMS205-H_230516C : 107		R184592
Silver	ND	mg/L		0.0002		E200.8	05/16/23 21:08 / dck		ICPMS205-H_230516C : 107		R184592
Sodium	105	mg/L		1		E200.7	05/12/23 12:11 / slj		ICP2-HE_230512A : 51		R184487
Strontium	3.41	mg/L		0.01		E200.7	05/12/23 12:11 / slj		ICP2-HE_230512A : 51		R184487
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 21:08 / dck		ICPMS205-H_230516C : 107		R184592
Thorium	ND	mg/L		0.005		E200.8	05/12/23 16:48 / dck		ICPMS205-H_230512C : 71		R184492
Tin	ND	mg/L		0.05		E200.8	05/16/23 21:08 / dck		ICPMS205-H_230516C : 107		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 21:08 / dck		ICPMS205-H_230516C : 107		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/12/23 16:48 / dck		ICPMS205-H_230512C : 25		R184492
Uranium	0.0018	mg/L		0.0002		E200.8	05/16/23 21:08 / dck		ICPMS205-H_230516C : 107		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 21:08 / dck		ICPMS205-H_230516C : 107		R184592
Zinc	2.22	mg/L		0.008		E200.7	05/12/23 12:11 / slj		ICP2-HE_230512A : 51		R184487
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 13:24 / dck		ICPMS205-H_230517D : 61		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-14B  
**Lab ID:** H23050392-003  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 11:52    **DateReceived:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.50	%				A1030 E	05/23/23 12:09 / SR		CALC_230523B : 45		R184776

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-17C  
**Lab ID:** H23050392-004  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 12:59 **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.5	s.u.	H	0.1		A4500-H B	05/12/23 10:47 / ams		PHSC_101-H_230512A : 45		R184467
pH Measurement Temp	13.2	°C				A4500-H B	05/12/23 10:47 / ams		PHSC_101-H_230512A : 45		R184467
Conductivity @ 25 C	2180	umhos/cm		5		A2510 B	05/12/23 10:47 / ams		PHSC_101-H_230512A : 46		R184467
Solids, Total Dissolved TDS @ 180 C	1790	mg/L		50		A2540 C	05/12/23 11:09 / ams		124 (14410200)_230512B : 28		TDS230512A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	150	mg/L		4		A2320 B	05/16/23 10:14 / ams		PHSC_101-H_230516A : 40		R184539
Bicarbonate as HCO3	180	mg/L		4		A2320 B	05/16/23 10:14 / ams		PHSC_101-H_230516A : 40		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 10:14 / ams		PHSC_101-H_230516A : 40		R184539
Chloride	48	mg/L		1		E300.0	05/16/23 23:23 / ljs		IC METROHM_230516A : 54		R184586
Sulfate	1080	mg/L		1		E300.0	05/16/23 23:23 / ljs		IC METROHM_230516A : 54		R184586
Bromide	ND	mg/L		0.5		E300.0	05/16/23 23:23 / ljs		IC METROHM_230516A : 54		R184586
Fluoride	0.6	mg/L		0.1		E300.0	05/16/23 23:23 / ljs		IC METROHM_230516A : 54		R184586
Hardness as CaCO3	1100	mg/L		1		A2340 B	05/16/23 21:11 / SR		CALC_230523B : 58		R184776
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.3	mg/L		0.5		A5310 C	05/18/23 00:20 / eli-c		SUB-C294717 : 33		C_R294717
Organic Carbon, Total (TOC)	1.3	mg/L		0.5		A5310 C	05/17/23 16:35 / eli-c		SUB-C294717 : 9		C_R294717
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	8.4	mg/L		0.1		E353.2	05/18/23 13:58 / JAR		FIA203-HE_230518A : 46		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/16/23 21:11 / dck		ICPMS205-H_230516C : 108		R184592
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 21:11 / dck		ICPMS205-H_230516C : 108		R184592
Arsenic	0.005	mg/L		0.001		E200.8	05/16/23 21:11 / dck		ICPMS205-H_230516C : 108		R184592
Barium	0.015	mg/L		0.003		E200.8	05/16/23 21:11 / dck		ICPMS205-H_230516C : 108		R184592
Beryllium	ND	mg/L		0.0008		E200.8	05/16/23 21:11 / dck		ICPMS205-H_230516C : 108		R184592
Boron	0.16	mg/L		0.05		E200.7	05/12/23 12:14 / slj		ICP2-HE_230512A : 52		R184487
Cadmium	0.00995	mg/L		0.00003		E200.8	05/16/23 21:11 / dck		ICPMS205-H_230516C : 108		R184592
Cesium	ND	mg/L		0.01		E200.8	05/12/23 16:50 / dck		ICPMS205-H_230512C : 26		R184492

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-17C  
**Lab ID:** H23050392-004  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 12:59 **DateReceived:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	304	mg/L		1		E200.7	05/12/23 12:14 / slj		ICP2-HE_230512A : 52		R184487
Chromium	ND	mg/L		0.005		E200.8	05/16/23 21:11 / dck		ICPMS205-H_230516C : 108		R184592
Cobalt	ND	mg/L		0.005		E200.8	05/16/23 21:11 / dck		ICPMS205-H_230516C : 108		R184592
Copper	0.645	mg/L		0.002		E200.8	05/16/23 21:11 / dck		ICPMS205-H_230516C : 108		R184592
Gallium	ND	mg/L		0.01		E200.8	05/12/23 16:50 / dck		ICPMS205-H_230512C : 26		R184492
Iron	ND	mg/L		0.02		E200.8	05/16/23 21:11 / dck		ICPMS205-H_230516C : 108		R184592
Lead	ND	mg/L		0.0003		E200.8	05/16/23 21:11 / dck		ICPMS205-H_230516C : 108		R184592
Lanthanum	ND	mg/L		0.01		E200.8	05/12/23 16:50 / dck		ICPMS205-H_230512C : 26		R184492
Lithium	0.3	mg/L		0.1		E200.7	05/12/23 12:14 / slj		ICP2-HE_230512A : 52		R184487
Magnesium	83	mg/L		1		E200.8	05/16/23 21:11 / dck		ICPMS205-H_230516C : 108		R184592
Neodymium	ND	mg/L		0.005		E200.8	05/12/23 16:50 / dck		ICPMS205-H_230512C : 26		R184492
Niobium	ND	mg/L		0.01		E200.8	05/12/23 16:50 / dck		ICPMS205-H_230512C : 26		R184492
Manganese	0.007	mg/L		0.001		E200.8	05/16/23 21:11 / dck		ICPMS205-H_230516C : 108		R184592
Molybdenum	0.001	mg/L		0.001		E200.8	05/16/23 21:11 / dck		ICPMS205-H_230516C : 108		R184592
Nickel	0.008	mg/L		0.002		E200.8	05/16/23 21:11 / dck		ICPMS205-H_230516C : 108		R184592
Palladium	ND	mg/L		0.01		E200.8	05/12/23 16:50 / dck		ICPMS205-H_230512C : 26		R184492
Praseodymium	ND	mg/L		0.01		E200.8	05/12/23 16:50 / dck		ICPMS205-H_230512C : 26		R184492
Rubidium	0.03	mg/L		0.01		E200.8	05/12/23 16:50 / dck		ICPMS205-H_230512C : 26		R184492
Potassium	14	mg/L		1		E200.8	05/16/23 21:11 / dck		ICPMS205-H_230516C : 108		R184592
Selenium	ND	mg/L		0.001		E200.8	05/16/23 21:11 / dck		ICPMS205-H_230516C : 108		R184592
Silver	0.0002	mg/L		0.0002		E200.8	05/16/23 21:11 / dck		ICPMS205-H_230516C : 108		R184592
Sodium	61	mg/L		1		E200.8	05/16/23 21:11 / dck		ICPMS205-H_230516C : 108		R184592
Strontium	3.34	mg/L		0.01		E200.7	05/12/23 12:14 / slj		ICP2-HE_230512A : 52		R184487
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 21:11 / dck		ICPMS205-H_230516C : 108		R184592
Thorium	ND	mg/L		0.005		E200.8	05/12/23 16:50 / dck		ICPMS205-H_230512C : 72		R184492
Tin	ND	mg/L		0.05		E200.8	05/16/23 21:11 / dck		ICPMS205-H_230516C : 108		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 21:11 / dck		ICPMS205-H_230516C : 108		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/12/23 16:50 / dck		ICPMS205-H_230512C : 26		R184492
Uranium	0.0225	mg/L		0.0002		E200.8	05/16/23 21:11 / dck		ICPMS205-H_230516C : 108		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 21:11 / dck		ICPMS205-H_230516C : 108		R184592
Zinc	1.54	mg/L		0.008		E200.7	05/12/23 12:14 / slj		ICP2-HE_230512A : 52		R184487
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 13:26 / dck		ICPMS205-H_230517D : 62		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-17C  
**Lab ID:** H23050392-004  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 12:59      **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.84	%				A1030 E	05/23/23 12:10 / SR		CALC_230523B : 56		R184776

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-03  
**Lab ID:** H23050392-005  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 13:08 **DateReceived:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.0	s.u.	H	0.1		A4500-H B	05/12/23 10:49 / ams		PHSC_101-H_230512A : 47		R184467
pH Measurement Temp	13.5	°C				A4500-H B	05/12/23 10:49 / ams		PHSC_101-H_230512A : 47		R184467
Conductivity @ 25 C	2840	umhos/cm		5		A2510 B	05/12/23 10:49 / ams		PHSC_101-H_230512A : 48		R184467
Solids, Total Dissolved TDS @ 180 C	2540	mg/L		50		A2540 C	05/12/23 11:09 / ams		124 (14410200)_230512B : 29		TDS230512A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	55	mg/L		4		A2320 B	05/16/23 10:21 / ams		PHSC_101-H_230516A : 42		R184539
Bicarbonate as HCO3	66	mg/L		4		A2320 B	05/16/23 10:21 / ams		PHSC_101-H_230516A : 42		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 10:21 / ams		PHSC_101-H_230516A : 42		R184539
Chloride	110	mg/L		1		E300.0	05/24/23 18:23 / SR		IC METROHM_230524A : 28		R184848
Sulfate	1470	mg/L		1		E300.0	05/24/23 18:23 / SR		IC METROHM_230524A : 28		R184848
Bromide	ND	mg/L		0.5		E300.0	05/24/23 18:23 / SR		IC METROHM_230524A : 28		R184848
Fluoride	0.3	mg/L		0.1		E300.0	05/24/23 18:23 / SR		IC METROHM_230524A : 28		R184848
Hardness as CaCO3	1360	mg/L		1		A2340 B	05/12/23 12:18 / SR		CALC_230526A : 421		R184891
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.4	mg/L		0.5		A5310 C	05/18/23 00:37 / eli-c		SUB-C294717 : 34		C_R294717
Organic Carbon, Total (TOC)	1.4	mg/L		0.5		A5310 C	05/17/23 16:51 / eli-c		SUB-C294717 : 10		C_R294717
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	4.80	mg/L		0.02		E353.2	05/24/23 13:32 / JAR		SEAL AA500_230524A : 22		R184859
<b>METALS, DISSOLVED</b>											
Aluminum	0.033	mg/L		0.009		E200.8	05/17/23 21:35 / dck		ICPMS205-H_230517A : 141		R184602
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 22:25 / dck		ICPMS205-H_230516C : 133		R184592
Arsenic	0.002	mg/L		0.001		E200.8	05/16/23 22:25 / dck		ICPMS205-H_230516C : 133		R184592
Barium	0.019	mg/L		0.003		E200.8	05/16/23 22:25 / dck		ICPMS205-H_230516C : 133		R184592
Beryllium	ND	mg/L		0.0008		E200.8	05/16/23 22:25 / dck		ICPMS205-H_230516C : 133		R184592
Boron	0.17	mg/L		0.05		E200.7	05/12/23 12:18 / slj		ICP2-HE_230512A : 53		R184487
Cadmium	0.0812	mg/L		0.00003		E200.8	05/16/23 22:25 / dck		ICPMS205-H_230516C : 133		R184592
Cesium	ND	mg/L		0.01		E200.8	05/12/23 16:52 / dck		ICPMS205-H_230512C : 27		R184492

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-03  
**Lab ID:** H23050392-005  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 13:08 **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	371	mg/L		1		E200.7	05/12/23 12:18 / slj		ICP2-HE_230512A : 53		R184487
Chromium	ND	mg/L		0.005		E200.8	05/16/23 22:25 / dck		ICPMS205-H_230516C : 133		R184592
Cobalt	0.036	mg/L		0.005		E200.8	05/16/23 22:25 / dck		ICPMS205-H_230516C : 133		R184592
Copper	2.11	mg/L		0.01		E200.7	05/12/23 12:18 / slj		ICP2-HE_230512A : 53		R184487
Gallium	ND	mg/L		0.01		E200.8	05/12/23 16:52 / dck		ICPMS205-H_230512C : 27		R184492
Iron	ND	mg/L		0.02		E200.8	05/16/23 22:25 / dck		ICPMS205-H_230516C : 133		R184592
Lead	0.0051	mg/L		0.0003		E200.8	05/16/23 22:25 / dck		ICPMS205-H_230516C : 133		R184592
Lanthanum	ND	mg/L		0.01		E200.8	05/12/23 16:52 / dck		ICPMS205-H_230512C : 27		R184492
Lithium	0.4	mg/L		0.1		E200.7	05/12/23 12:18 / slj		ICP2-HE_230512A : 53		R184487
Magnesium	105	mg/L		1		E200.7	05/12/23 12:18 / slj		ICP2-HE_230512A : 53		R184487
Neodymium	ND	mg/L		0.005		E200.8	05/12/23 16:52 / dck		ICPMS205-H_230512C : 27		R184492
Niobium	ND	mg/L		0.01		E200.8	05/12/23 16:52 / dck		ICPMS205-H_230512C : 27		R184492
Manganese	47.2	mg/L		0.001		E200.7	05/12/23 12:18 / slj		ICP2-HE_230512A : 53		R184487
Molybdenum	ND	mg/L		0.001		E200.8	05/16/23 22:25 / dck		ICPMS205-H_230516C : 133		R184592
Nickel	0.121	mg/L		0.002		E200.8	05/16/23 22:25 / dck		ICPMS205-H_230516C : 133		R184592
Palladium	ND	mg/L		0.01		E200.8	05/12/23 16:52 / dck		ICPMS205-H_230512C : 27		R184492
Praseodymium	ND	mg/L		0.01		E200.8	05/12/23 16:52 / dck		ICPMS205-H_230512C : 27		R184492
Rubidium	0.01	mg/L		0.01		E200.8	05/12/23 16:52 / dck		ICPMS205-H_230512C : 27		R184492
Potassium	15	mg/L		1		E200.7	05/12/23 12:18 / slj		ICP2-HE_230512A : 53		R184487
Selenium	ND	mg/L		0.001		E200.8	05/16/23 22:25 / dck		ICPMS205-H_230516C : 133		R184592
Silver	0.0021	mg/L		0.0002		E200.8	05/16/23 22:25 / dck		ICPMS205-H_230516C : 133		R184592
Sodium	67	mg/L		1		E200.7	05/12/23 12:18 / slj		ICP2-HE_230512A : 53		R184487
Strontium	3.45	mg/L		0.01		E200.7	05/12/23 12:18 / slj		ICP2-HE_230512A : 53		R184487
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 22:25 / dck		ICPMS205-H_230516C : 133		R184592
Thorium	ND	mg/L		0.005		E200.8	05/12/23 16:52 / dck		ICPMS205-H_230512C : 73		R184492
Tin	ND	mg/L		0.05		E200.8	05/16/23 22:25 / dck		ICPMS205-H_230516C : 133		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 22:25 / dck		ICPMS205-H_230516C : 133		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/12/23 16:52 / dck		ICPMS205-H_230512C : 27		R184492
Uranium	0.0008	mg/L		0.0002		E200.8	05/16/23 22:25 / dck		ICPMS205-H_230516C : 133		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 22:25 / dck		ICPMS205-H_230516C : 133		R184592
Zinc	22.4	mg/L		0.008		E200.7	05/12/23 12:18 / slj		ICP2-HE_230512A : 53		R184487
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 13:28 / dck		ICPMS205-H_230517D : 63		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-03  
**Lab ID:** H23050392-005  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 13:08    **DateReceived:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.39	%				A1030 E	05/26/23 11:03 / SR		CALC_230526A : 419		R184891

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-07B  
**Lab ID:** H23050392-006  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 13:43 **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.4	s.u.	H	0.1		A4500-H B	05/12/23 11:03 / ams		PHSC_101-H_230512A : 54		R184467
pH Measurement Temp	15.2	°C				A4500-H B	05/12/23 11:03 / ams		PHSC_101-H_230512A : 54		R184467
Conductivity @ 25 C	1270	umhos/cm		5		A2510 B	05/12/23 11:03 / ams		PHSC_101-H_230512A : 55		R184467
Solids, Total Dissolved TDS @ 180 C	862	mg/L		20		A2540 C	05/12/23 11:09 / ams		124 (14410200)_230512B : 30		TDS230512A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	150	mg/L		4		A2320 B	05/16/23 10:28 / ams		PHSC_101-H_230516A : 44		R184539
Bicarbonate as HCO3	190	mg/L		4		A2320 B	05/16/23 10:28 / ams		PHSC_101-H_230516A : 44		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 10:28 / ams		PHSC_101-H_230516A : 44		R184539
Chloride	85	mg/L		1		E300.0	05/16/23 23:52 / ljs		IC METROHM_230516A : 56		R184586
Sulfate	358	mg/L		1		E300.0	05/16/23 23:52 / ljs		IC METROHM_230516A : 56		R184586
Bromide	ND	mg/L		0.5		E300.0	05/16/23 23:52 / ljs		IC METROHM_230516A : 56		R184586
Fluoride	0.8	mg/L		0.1		E300.0	05/16/23 23:52 / ljs		IC METROHM_230516A : 56		R184586
Hardness as CaCO3	446	mg/L		1		A2340 B	05/17/23 21:38 / SR		CALC_230523B : 69		R184776
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.1	mg/L		0.5		A5310 C	05/18/23 00:53 / eli-c		SUB-C294717 : 35		C_R294717
Organic Carbon, Total (TOC)	2.0	mg/L		0.5		A5310 C	05/17/23 17:08 / eli-c		SUB-C294717 : 11		C_R294717
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	7.0	mg/L		0.1		E353.2	05/18/23 14:03 / JAR		FIA203-HE_230518A : 50		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	0.011	mg/L		0.009		E200.8	05/17/23 21:38 / dck		ICPMS205-H_230517A : 142		R184602
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 22:28 / dck		ICPMS205-H_230516C : 134		R184592
Arsenic	0.003	mg/L		0.001		E200.8	05/16/23 22:28 / dck		ICPMS205-H_230516C : 134		R184592
Barium	0.020	mg/L		0.003		E200.8	05/16/23 22:28 / dck		ICPMS205-H_230516C : 134		R184592
Beryllium	ND	mg/L		0.0008		E200.8	05/16/23 22:28 / dck		ICPMS205-H_230516C : 134		R184592
Boron	0.29	mg/L		0.05		E200.7	05/12/23 12:22 / slj		ICP2-HE_230512A : 54		R184487
Cadmium	0.0344	mg/L		0.00003		E200.8	05/16/23 22:28 / dck		ICPMS205-H_230516C : 134		R184592
Cesium	ND	mg/L		0.01		E200.8	05/12/23 16:54 / dck		ICPMS205-H_230512C : 28		R184492

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-07B  
**Lab ID:** H23050392-006  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 13:43 **DateReceived:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	117	mg/L		1		E200.7	05/12/23 12:22 / slj		ICP2-HE_230512A : 54		R184487
Chromium	ND	mg/L		0.005		E200.8	05/16/23 22:28 / dck		ICPMS205-H_230516C : 134		R184592
Cobalt	0.009	mg/L		0.005		E200.8	05/16/23 22:28 / dck		ICPMS205-H_230516C : 134		R184592
Copper	0.397	mg/L		0.002		E200.8	05/16/23 22:28 / dck		ICPMS205-H_230516C : 134		R184592
Gallium	ND	mg/L		0.01		E200.8	05/12/23 16:54 / dck		ICPMS205-H_230512C : 28		R184492
Iron	ND	mg/L		0.02		E200.8	05/16/23 22:28 / dck		ICPMS205-H_230516C : 134		R184592
Lead	0.0007	mg/L		0.0003		E200.8	05/16/23 22:28 / dck		ICPMS205-H_230516C : 134		R184592
Lanthanum	ND	mg/L		0.01		E200.8	05/12/23 16:54 / dck		ICPMS205-H_230512C : 28		R184492
Lithium	0.2	mg/L		0.1		E200.7	05/12/23 12:22 / slj		ICP2-HE_230512A : 54		R184487
Magnesium	38	mg/L		1		E200.8	05/17/23 21:38 / dck		ICPMS205-H_230517A : 142		R184602
Neodymium	ND	mg/L		0.005		E200.8	05/12/23 16:54 / dck		ICPMS205-H_230512C : 28		R184492
Niobium	ND	mg/L		0.01		E200.8	05/12/23 16:54 / dck		ICPMS205-H_230512C : 28		R184492
Manganese	17.5	mg/L		0.001		E200.7	05/12/23 12:22 / slj		ICP2-HE_230512A : 54		R184487
Molybdenum	0.002	mg/L		0.001		E200.8	05/16/23 22:28 / dck		ICPMS205-H_230516C : 134		R184592
Nickel	0.035	mg/L		0.002		E200.8	05/16/23 22:28 / dck		ICPMS205-H_230516C : 134		R184592
Palladium	ND	mg/L		0.01		E200.8	05/12/23 16:54 / dck		ICPMS205-H_230512C : 28		R184492
Praseodymium	ND	mg/L		0.01		E200.8	05/12/23 16:54 / dck		ICPMS205-H_230512C : 28		R184492
Rubidium	0.01	mg/L		0.01		E200.8	05/12/23 16:54 / dck		ICPMS205-H_230512C : 28		R184492
Potassium	10	mg/L		1		E200.7	05/12/23 12:22 / slj		ICP2-HE_230512A : 54		R184487
Selenium	ND	mg/L		0.001		E200.8	05/16/23 22:28 / dck		ICPMS205-H_230516C : 134		R184592
Silver	0.0003	mg/L		0.0002		E200.8	05/16/23 22:28 / dck		ICPMS205-H_230516C : 134		R184592
Sodium	60	mg/L		1		E200.7	05/12/23 12:22 / slj		ICP2-HE_230512A : 54		R184487
Strontium	1.15	mg/L		0.01		E200.7	05/12/23 12:22 / slj		ICP2-HE_230512A : 54		R184487
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 22:28 / dck		ICPMS205-H_230516C : 134		R184592
Thorium	ND	mg/L		0.005		E200.8	05/12/23 16:54 / dck		ICPMS205-H_230512C : 74		R184492
Tin	ND	mg/L		0.05		E200.8	05/16/23 22:28 / dck		ICPMS205-H_230516C : 134		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 22:28 / dck		ICPMS205-H_230516C : 134		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/12/23 16:54 / dck		ICPMS205-H_230512C : 28		R184492
Uranium	0.0031	mg/L		0.0002		E200.8	05/16/23 22:28 / dck		ICPMS205-H_230516C : 134		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 22:28 / dck		ICPMS205-H_230516C : 134		R184592
Zinc	6.22	mg/L		0.008		E200.7	05/12/23 12:22 / slj		ICP2-HE_230512A : 54		R184487
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 13:29 / dck		ICPMS205-H_230517D : 64		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-07B  
**Lab ID:** H23050392-006  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 13:43    **DateReceived:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-3.98	%				A1030 E	05/23/23 12:13 / SR		CALC_230523B : 67		R184776

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-11  
**Lab ID:** H23050392-007  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 14:08 **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.1	s.u.	H	0.1		A4500-H B	05/12/23 11:07 / ams		PHSC_101-H_230512A : 58		R184467
pH Measurement Temp	14.0	°C				A4500-H B	05/12/23 11:07 / ams		PHSC_101-H_230512A : 58		R184467
Conductivity @ 25 C	1190	umhos/cm		5		A2510 B	05/12/23 11:07 / ams		PHSC_101-H_230512A : 59		R184467
Solids, Total Dissolved TDS @ 180 C	719	mg/L		20		A2540 C	05/12/23 11:09 / ams		124 (14410200)_230512B : 31		TDS230512A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	170	mg/L		4		A2320 B	05/16/23 10:35 / ams		PHSC_101-H_230516A : 46		R184539
Bicarbonate as HCO3	200	mg/L		4		A2320 B	05/16/23 10:35 / ams		PHSC_101-H_230516A : 46		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 10:35 / ams		PHSC_101-H_230516A : 46		R184539
Chloride	144	mg/L		1		E300.0	05/17/23 00:06 / ljs		IC METROHM_230516A : 57		R184586
Sulfate	209	mg/L		1		E300.0	05/17/23 00:06 / ljs		IC METROHM_230516A : 57		R184586
Bromide	ND	mg/L		0.5		E300.0	05/17/23 00:06 / ljs		IC METROHM_230516A : 57		R184586
Fluoride	0.7	mg/L		0.1		E300.0	05/17/23 00:06 / ljs		IC METROHM_230516A : 57		R184586
Hardness as CaCO3	374	mg/L		1		A2340 B	05/12/23 12:25 / abc		CALC_230522A : 14		R184728
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	4.0	mg/L		0.5		A5310 C	05/18/23 01:09 / eli-c		SUB-C294717 : 36		C_R294717
Organic Carbon, Total (TOC)	3.9	mg/L		0.5		A5310 C	05/17/23 17:24 / eli-c		SUB-C294717 : 12		C_R294717
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	3.22	mg/L		0.02		E353.2	05/18/23 14:04 / JAR		FIA203-HE_230518A : 51		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/16/23 21:14 / dck		ICPMS205-H_230516C : 109		R184592
Antimony	0.0006	mg/L		0.0005		E200.8	05/16/23 21:14 / dck		ICPMS205-H_230516C : 109		R184592
Arsenic	0.005	mg/L		0.001		E200.8	05/16/23 21:14 / dck		ICPMS205-H_230516C : 109		R184592
Barium	0.041	mg/L		0.003		E200.8	05/16/23 21:14 / dck		ICPMS205-H_230516C : 109		R184592
Beryllium	ND	mg/L		0.0008		E200.8	05/16/23 21:14 / dck		ICPMS205-H_230516C : 109		R184592
Boron	1.31	mg/L		0.05		E200.7	05/12/23 12:25 / slj		ICP2-HE_230512A : 55		R184487
Cadmium	0.00604	mg/L		0.00003		E200.8	05/16/23 21:14 / dck		ICPMS205-H_230516C : 109		R184592
Cesium	ND	mg/L		0.01		E200.8	05/12/23 16:55 / dck		ICPMS205-H_230512C : 29		R184492

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-11  
**Lab ID:** H23050392-007  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 14:08 **DateReceived:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	86	mg/L		1		E200.7	05/12/23 12:25 / slj		ICP2-HE_230512A : 55		R184487
Chromium	ND	mg/L		0.005		E200.8	05/16/23 21:14 / dck		ICPMS205-H_230516C : 109		R184592
Cobalt	ND	mg/L		0.005		E200.8	05/16/23 21:14 / dck		ICPMS205-H_230516C : 109		R184592
Copper	0.011	mg/L		0.002		E200.8	05/16/23 21:14 / dck		ICPMS205-H_230516C : 109		R184592
Gallium	ND	mg/L		0.01		E200.8	05/12/23 16:55 / dck		ICPMS205-H_230512C : 29		R184492
Iron	ND	mg/L		0.02		E200.8	05/16/23 21:14 / dck		ICPMS205-H_230516C : 109		R184592
Lead	ND	mg/L		0.0003		E200.8	05/16/23 21:14 / dck		ICPMS205-H_230516C : 109		R184592
Lanthanum	ND	mg/L		0.01		E200.8	05/12/23 16:55 / dck		ICPMS205-H_230512C : 29		R184492
Lithium	ND	mg/L		0.1		E200.7	05/12/23 12:25 / slj		ICP2-HE_230512A : 55		R184487
Magnesium	39	mg/L		1		E200.7	05/12/23 12:25 / slj		ICP2-HE_230512A : 55		R184487
Neodymium	ND	mg/L		0.005		E200.8	05/12/23 16:55 / dck		ICPMS205-H_230512C : 29		R184492
Niobium	ND	mg/L		0.01		E200.8	05/12/23 16:55 / dck		ICPMS205-H_230512C : 29		R184492
Manganese	0.557	mg/L		0.001		E200.8	05/16/23 21:14 / dck		ICPMS205-H_230516C : 109		R184592
Molybdenum	0.024	mg/L		0.001		E200.8	05/16/23 21:14 / dck		ICPMS205-H_230516C : 109		R184592
Nickel	0.003	mg/L		0.002		E200.8	05/16/23 21:14 / dck		ICPMS205-H_230516C : 109		R184592
Palladium	ND	mg/L		0.01		E200.8	05/12/23 16:55 / dck		ICPMS205-H_230512C : 29		R184492
Praseodymium	ND	mg/L		0.01		E200.8	05/12/23 16:55 / dck		ICPMS205-H_230512C : 29		R184492
Rubidium	ND	mg/L		0.01		E200.8	05/12/23 16:55 / dck		ICPMS205-H_230512C : 29		R184492
Potassium	7	mg/L		1		E200.7	05/12/23 12:25 / slj		ICP2-HE_230512A : 55		R184487
Selenium	0.001	mg/L		0.001		E200.8	05/16/23 21:14 / dck		ICPMS205-H_230516C : 109		R184592
Silver	ND	mg/L		0.0002		E200.8	05/16/23 21:14 / dck		ICPMS205-H_230516C : 109		R184592
Sodium	78	mg/L		1		E200.7	05/12/23 12:25 / slj		ICP2-HE_230512A : 55		R184487
Strontium	0.74	mg/L		0.01		E200.7	05/12/23 12:25 / slj		ICP2-HE_230512A : 55		R184487
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 21:14 / dck		ICPMS205-H_230516C : 109		R184592
Thorium	ND	mg/L		0.005		E200.8	05/12/23 16:55 / dck		ICPMS205-H_230512C : 75		R184492
Tin	ND	mg/L		0.05		E200.8	05/16/23 21:14 / dck		ICPMS205-H_230516C : 109		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 21:14 / dck		ICPMS205-H_230516C : 109		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/12/23 16:55 / dck		ICPMS205-H_230512C : 29		R184492
Uranium	0.0247	mg/L		0.0002		E200.8	05/16/23 21:14 / dck		ICPMS205-H_230516C : 109		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 21:14 / dck		ICPMS205-H_230516C : 109		R184592
Zinc	2.30	mg/L		0.008		E200.7	05/12/23 12:25 / slj		ICP2-HE_230512A : 55		R184487
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 13:31 / dck		ICPMS205-H_230517D : 65		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-11  
**Lab ID:** H23050392-007  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 14:08      **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-3.95	%				A1030 E	05/22/23 12:39 / abc		CALC_230522A : 12		R184728

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-07  
**Lab ID:** H23050392-008  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 14:11 **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.5	s.u.	H	0.1		A4500-H B	05/12/23 11:09 / ams		PHSC_101-H_230512A : 60		R184467
pH Measurement Temp	14.0	°C				A4500-H B	05/12/23 11:09 / ams		PHSC_101-H_230512A : 60		R184467
Conductivity @ 25 C	1830	umhos/cm		5		A2510 B	05/12/23 11:09 / ams		PHSC_101-H_230512A : 61		R184467
Solids, Total Dissolved TDS @ 180 C	1240	mg/L		20		A2540 C	05/12/23 11:09 / ams		124 (14410200)_230512B : 32		TDS230512A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	210	mg/L		4		A2320 B	05/16/23 10:43 / ams		PHSC_101-H_230516A : 48		R184539
Bicarbonate as HCO3	250	mg/L		4		A2320 B	05/16/23 10:43 / ams		PHSC_101-H_230516A : 48		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 10:43 / ams		PHSC_101-H_230516A : 48		R184539
Chloride	245	mg/L		1		E300.0	05/17/23 00:21 / ljs		IC METROHM_230516A : 58		R184586
Sulfate	382	mg/L		1		E300.0	05/17/23 00:21 / ljs		IC METROHM_230516A : 58		R184586
Bromide	0.8	mg/L		0.5		E300.0	05/17/23 00:21 / ljs		IC METROHM_230516A : 58		R184586
Fluoride	0.8	mg/L		0.1		E300.0	05/17/23 00:21 / ljs		IC METROHM_230516A : 58		R184586
Hardness as CaCO3	633	mg/L		1		A2340 B	05/12/23 12:37 / abc		CALC_230522A : 498		R184728
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.8	mg/L		0.5		A5310 C	05/18/23 01:26 / eli-c		SUB-C294717 : 37		C_R294717
Organic Carbon, Total (TOC)	2.8	mg/L		0.5		A5310 C	05/17/23 17:41 / eli-c		SUB-C294717 : 13		C_R294717
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	3.65	mg/L		0.05		E353.2	05/18/23 14:05 / JAR		FIA203-HE_230518A : 52		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	0.012	mg/L		0.009		E200.8	05/17/23 21:44 / dck		ICPMS205-H_230517A : 144		R184602
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 22:31 / dck		ICPMS205-H_230516C : 135		R184592
Arsenic	0.003	mg/L		0.001		E200.8	05/16/23 22:31 / dck		ICPMS205-H_230516C : 135		R184592
Barium	0.031	mg/L		0.003		E200.8	05/16/23 22:31 / dck		ICPMS205-H_230516C : 135		R184592
Beryllium	ND	mg/L		0.0008		E200.8	05/16/23 22:31 / dck		ICPMS205-H_230516C : 135		R184592
Boron	0.51	mg/L		0.05		E200.7	05/12/23 12:37 / slj		ICP2-HE_230512A : 58		R184487
Cadmium	0.0230	mg/L		0.00003		E200.8	05/16/23 22:31 / dck		ICPMS205-H_230516C : 135		R184592
Cesium	ND	mg/L		0.01		E200.8	05/12/23 16:57 / dck		ICPMS205-H_230512C : 30		R184492

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-07  
**Lab ID:** H23050392-008  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 14:11 **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	176	mg/L		1		E200.7	05/12/23 12:37 / slj		ICP2-HE_230512A : 58		R184487
Chromium	ND	mg/L		0.005		E200.8	05/16/23 22:31 / dck		ICPMS205-H_230516C : 135		R184592
Cobalt	0.009	mg/L		0.005		E200.8	05/16/23 22:31 / dck		ICPMS205-H_230516C : 135		R184592
Copper	0.062	mg/L		0.002		E200.8	05/16/23 22:31 / dck		ICPMS205-H_230516C : 135		R184592
Gallium	ND	mg/L		0.01		E200.8	05/12/23 16:57 / dck		ICPMS205-H_230512C : 30		R184492
Iron	ND	mg/L		0.02		E200.8	05/16/23 22:31 / dck		ICPMS205-H_230516C : 135		R184592
Lead	ND	mg/L		0.0003		E200.8	05/16/23 22:31 / dck		ICPMS205-H_230516C : 135		R184592
Lanthanum	ND	mg/L		0.01		E200.8	05/12/23 16:57 / dck		ICPMS205-H_230512C : 30		R184492
Lithium	0.1	mg/L		0.1		E200.7	05/12/23 12:37 / slj		ICP2-HE_230512A : 58		R184487
Magnesium	47	mg/L		1		E200.7	05/12/23 12:37 / slj		ICP2-HE_230512A : 58		R184487
Neodymium	ND	mg/L		0.005		E200.8	05/12/23 16:57 / dck		ICPMS205-H_230512C : 30		R184492
Niobium	ND	mg/L		0.01		E200.8	05/12/23 16:57 / dck		ICPMS205-H_230512C : 30		R184492
Manganese	29.9	mg/L		0.001		E200.7	05/12/23 12:37 / slj		ICP2-HE_230512A : 58		R184487
Molybdenum	0.017	mg/L		0.001		E200.8	05/16/23 22:31 / dck		ICPMS205-H_230516C : 135		R184592
Nickel	0.049	mg/L		0.002		E200.8	05/16/23 22:31 / dck		ICPMS205-H_230516C : 135		R184592
Palladium	ND	mg/L		0.01		E200.8	05/12/23 16:57 / dck		ICPMS205-H_230512C : 30		R184492
Praseodymium	ND	mg/L		0.01		E200.8	05/12/23 16:57 / dck		ICPMS205-H_230512C : 30		R184492
Rubidium	ND	mg/L		0.01		E200.8	05/12/23 16:57 / dck		ICPMS205-H_230512C : 30		R184492
Potassium	9	mg/L		1		E200.7	05/12/23 12:37 / slj		ICP2-HE_230512A : 58		R184487
Selenium	ND	mg/L		0.001		E200.8	05/16/23 22:31 / dck		ICPMS205-H_230516C : 135		R184592
Silver	ND	mg/L		0.0002		E200.8	05/16/23 22:31 / dck		ICPMS205-H_230516C : 135		R184592
Sodium	81	mg/L		1		E200.7	05/12/23 12:37 / slj		ICP2-HE_230512A : 58		R184487
Strontium	1.38	mg/L		0.01		E200.7	05/12/23 12:37 / slj		ICP2-HE_230512A : 58		R184487
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 22:31 / dck		ICPMS205-H_230516C : 135		R184592
Thorium	ND	mg/L		0.005		E200.8	05/12/23 16:57 / dck		ICPMS205-H_230512C : 76		R184492
Tin	ND	mg/L		0.05		E200.8	05/16/23 22:31 / dck		ICPMS205-H_230516C : 135		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 22:31 / dck		ICPMS205-H_230516C : 135		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/12/23 16:57 / dck		ICPMS205-H_230512C : 30		R184492
Uranium	0.0326	mg/L		0.0002		E200.8	05/16/23 22:31 / dck		ICPMS205-H_230516C : 135		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 22:31 / dck		ICPMS205-H_230516C : 135		R184592
Zinc	7.69	mg/L		0.008		E200.7	05/12/23 12:37 / slj		ICP2-HE_230512A : 58		R184487
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 15:17 / dck		ICPMS205-H_230517D : 111		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-07  
**Lab ID:** H23050392-008  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 14:11    **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.89	%				A1030 E	05/22/23 13:01 / abc		CALC_230522A : 496		R184728

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-04  
**Lab ID:** H23050392-009  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 14:33 **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.5	s.u.	H	0.1		A4500-H B	05/12/23 11:11 / ams		PHSC_101-H_230512A : 62		R184467
pH Measurement Temp	13.8	°C				A4500-H B	05/12/23 11:11 / ams		PHSC_101-H_230512A : 62		R184467
Conductivity @ 25 C	1020	umhos/cm		5		A2510 B	05/12/23 11:11 / ams		PHSC_101-H_230512A : 63		R184467
Solids, Total Dissolved TDS @ 180 C	723	mg/L		20		A2540 C	05/12/23 11:10 / ams		124 (14410200)_230512B : 33		TDS230512A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	57	mg/L		4		A2320 B	05/16/23 11:13 / ams		PHSC_101-H_230516A : 54		R184539
Bicarbonate as HCO3	69	mg/L		4		A2320 B	05/16/23 11:13 / ams		PHSC_101-H_230516A : 54		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 11:13 / ams		PHSC_101-H_230516A : 54		R184539
Chloride	42	mg/L		1		E300.0	05/17/23 00:35 / ljs		IC METROHM_230516A : 59		R184586
Sulfate	392	mg/L		1		E300.0	05/17/23 00:35 / ljs		IC METROHM_230516A : 59		R184586
Bromide	ND	mg/L		0.5		E300.0	05/17/23 00:35 / ljs		IC METROHM_230516A : 59		R184586
Fluoride	0.3	mg/L		0.1		E300.0	05/17/23 00:35 / ljs		IC METROHM_230516A : 59		R184586
Hardness as CaCO3	395	mg/L		1		A2340 B	05/12/23 12:40 / abc		CALC_230522A : 509		R184728
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.0	mg/L		0.5		A5310 C	05/18/23 01:43 / eli-c		SUB-C294717 : 38		C_R294717
Organic Carbon, Total (TOC)	1.0	mg/L		0.5		A5310 C	05/17/23 17:58 / eli-c		SUB-C294717 : 14		C_R294717
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	3.17	mg/L		0.05		E353.2	05/18/23 14:07 / JAR		FIA203-HE_230518A : 53		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/17/23 20:10 / dck		ICPMS205-H_230517A : 112		R184602
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 22:04 / dck		ICPMS205-H_230516C : 126		R184592
Arsenic	0.001	mg/L		0.001		E200.8	05/16/23 22:04 / dck		ICPMS205-H_230516C : 126		R184592
Barium	0.016	mg/L		0.003		E200.8	05/16/23 22:04 / dck		ICPMS205-H_230516C : 126		R184592
Beryllium	ND	mg/L		0.0008		E200.8	05/16/23 22:04 / dck		ICPMS205-H_230516C : 126		R184592
Boron	0.09	mg/L		0.05		E200.7	05/12/23 12:40 / slj		ICP2-HE_230512A : 59		R184487
Cadmium	0.00375	mg/L		0.00003		E200.8	05/16/23 22:04 / dck		ICPMS205-H_230516C : 126		R184592
Cesium	ND	mg/L		0.01		E200.8	05/12/23 17:06 / dck		ICPMS205-H_230512C : 35		R184492

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



**LABORATORY ANALYTICAL REPORT**

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-04  
**Lab ID:** H23050392-009  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 14:33 **DateReceived:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	106	mg/L		1		E200.7	05/12/23 12:40 / slj		ICP2-HE_230512A : 59		R184487
Chromium	ND	mg/L		0.005		E200.8	05/16/23 22:04 / dck		ICPMS205-H_230516C : 126		R184592
Cobalt	ND	mg/L		0.005		E200.8	05/16/23 22:04 / dck		ICPMS205-H_230516C : 126		R184592
Copper	0.003	mg/L		0.002		E200.8	05/16/23 22:04 / dck		ICPMS205-H_230516C : 126		R184592
Gallium	ND	mg/L		0.01		E200.8	05/12/23 17:06 / dck		ICPMS205-H_230512C : 35		R184492
Iron	ND	mg/L		0.02		E200.8	05/16/23 22:04 / dck		ICPMS205-H_230516C : 126		R184592
Lead	ND	mg/L		0.0003		E200.8	05/16/23 22:04 / dck		ICPMS205-H_230516C : 126		R184592
Lanthanum	ND	mg/L		0.01		E200.8	05/12/23 17:06 / dck		ICPMS205-H_230512C : 35		R184492
Lithium	0.1	mg/L		0.1		E200.7	05/12/23 12:40 / slj		ICP2-HE_230512A : 59		R184487
Magnesium	32	mg/L		1		E200.7	05/12/23 12:40 / slj		ICP2-HE_230512A : 59		R184487
Neodymium	ND	mg/L		0.005		E200.8	05/12/23 17:06 / dck		ICPMS205-H_230512C : 35		R184492
Niobium	ND	mg/L		0.01		E200.8	05/12/23 17:06 / dck		ICPMS205-H_230512C : 35		R184492
Manganese	4.78	mg/L		0.001		E200.7	05/12/23 12:40 / slj		ICP2-HE_230512A : 59		R184487
Molybdenum	0.003	mg/L		0.001		E200.8	05/16/23 22:04 / dck		ICPMS205-H_230516C : 126		R184592
Nickel	0.006	mg/L		0.002		E200.8	05/16/23 22:04 / dck		ICPMS205-H_230516C : 126		R184592
Palladium	ND	mg/L		0.01		E200.8	05/12/23 17:06 / dck		ICPMS205-H_230512C : 35		R184492
Praseodymium	ND	mg/L		0.01		E200.8	05/12/23 17:06 / dck		ICPMS205-H_230512C : 35		R184492
Rubidium	ND	mg/L		0.01		E200.8	05/12/23 17:06 / dck		ICPMS205-H_230512C : 35		R184492
Potassium	7	mg/L		1		E200.7	05/12/23 12:40 / slj		ICP2-HE_230512A : 59		R184487
Selenium	ND	mg/L		0.001		E200.8	05/16/23 22:04 / dck		ICPMS205-H_230516C : 126		R184592
Silver	ND	mg/L		0.0002		E200.8	05/16/23 22:04 / dck		ICPMS205-H_230516C : 126		R184592
Sodium	35	mg/L		1		E200.7	05/12/23 12:40 / slj		ICP2-HE_230512A : 59		R184487
Strontium	0.55	mg/L		0.01		E200.8	05/16/23 22:04 / dck		ICPMS205-H_230516C : 126		R184592
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 22:04 / dck		ICPMS205-H_230516C : 126		R184592
Thorium	ND	mg/L		0.005		E200.8	05/12/23 17:06 / dck		ICPMS205-H_230512C : 81		R184492
Tin	ND	mg/L		0.05		E200.8	05/16/23 22:04 / dck		ICPMS205-H_230516C : 126		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 22:04 / dck		ICPMS205-H_230516C : 126		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/12/23 17:06 / dck		ICPMS205-H_230512C : 35		R184492
Uranium	0.0011	mg/L		0.0002		E200.8	05/16/23 22:04 / dck		ICPMS205-H_230516C : 126		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 22:04 / dck		ICPMS205-H_230516C : 126		R184592
Zinc	0.201	mg/L		0.008		E200.8	05/16/23 22:04 / dck		ICPMS205-H_230516C : 126		R184592
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 15:19 / dck		ICPMS205-H_230517D : 112		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-04  
**Lab ID:** H23050392-009  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 14:33    **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.63	%				A1030 E	05/22/23 13:01 / abc		CALC_230522A : 507		R184728

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-3  
**Lab ID:** H23050392-010  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 14:34 **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.5	s.u.	H	0.1		A4500-H B	05/12/23 11:13 / ams		PHSC_101-H_230512A : 64		R184467
pH Measurement Temp	13.7	°C				A4500-H B	05/12/23 11:13 / ams		PHSC_101-H_230512A : 64		R184467
Conductivity @ 25 C	1020	umhos/cm		5		A2510 B	05/12/23 11:13 / ams		PHSC_101-H_230512A : 65		R184467
Solids, Total Dissolved TDS @ 180 C	719	mg/L		20		A2540 C	05/12/23 11:10 / ams		124 (14410200)_230512B : 34		TDS230512A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	57	mg/L		4		A2320 B	05/16/23 11:27 / ams		PHSC_101-H_230516A : 58		R184539
Bicarbonate as HCO3	68	mg/L		4		A2320 B	05/16/23 11:27 / ams		PHSC_101-H_230516A : 58		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 11:27 / ams		PHSC_101-H_230516A : 58		R184539
Chloride	42	mg/L		1		E300.0	05/17/23 00:49 / ljs		IC METROHM_230516A : 60		R184586
Sulfate	391	mg/L		1		E300.0	05/17/23 00:49 / ljs		IC METROHM_230516A : 60		R184586
Bromide	ND	mg/L		0.5		E300.0	05/17/23 00:49 / ljs		IC METROHM_230516A : 60		R184586
Fluoride	0.3	mg/L		0.1		E300.0	05/17/23 00:49 / ljs		IC METROHM_230516A : 60		R184586
Hardness as CaCO3	395	mg/L		1		A2340 B	05/12/23 12:44 / abc		CALC_230522A : 520		R184728
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.0	mg/L		0.5		A5310 C	05/18/23 01:59 / eli-c		SUB-C294717 : 39		C_R294717
Organic Carbon, Total (TOC)	1.0	mg/L		0.5		A5310 C	05/17/23 18:13 / eli-c		SUB-C294717 : 15		C_R294717
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	3.18	mg/L		0.05		E353.2	05/18/23 14:08 / JAR		FIA203-HE_230518A : 54		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/16/23 21:17 / dck		ICPMS205-H_230516C : 110		R184592
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 21:17 / dck		ICPMS205-H_230516C : 110		R184592
Arsenic	0.001	mg/L		0.001		E200.8	05/16/23 21:17 / dck		ICPMS205-H_230516C : 110		R184592
Barium	0.016	mg/L		0.003		E200.8	05/16/23 21:17 / dck		ICPMS205-H_230516C : 110		R184592
Beryllium	ND	mg/L		0.0008		E200.8	05/16/23 21:17 / dck		ICPMS205-H_230516C : 110		R184592
Boron	0.09	mg/L		0.05		E200.7	05/12/23 12:44 / slj		ICP2-HE_230512A : 60		R184487
Cadmium	0.00386	mg/L		0.00003		E200.8	05/16/23 21:17 / dck		ICPMS205-H_230516C : 110		R184592
Cesium	ND	mg/L		0.01		E200.8	05/12/23 17:08 / dck		ICPMS205-H_230512C : 36		R184492

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-3  
**Lab ID:** H23050392-010  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 14:34 **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	106	mg/L		1		E200.7	05/12/23 12:44 / slj		ICP2-HE_230512A : 60		R184487
Chromium	ND	mg/L		0.005		E200.8	05/16/23 21:17 / dck		ICPMS205-H_230516C : 110		R184592
Cobalt	ND	mg/L		0.005		E200.8	05/16/23 21:17 / dck		ICPMS205-H_230516C : 110		R184592
Copper	0.003	mg/L		0.002		E200.8	05/16/23 21:17 / dck		ICPMS205-H_230516C : 110		R184592
Gallium	ND	mg/L		0.01		E200.8	05/12/23 17:08 / dck		ICPMS205-H_230512C : 36		R184492
Iron	ND	mg/L		0.02		E200.8	05/16/23 21:17 / dck		ICPMS205-H_230516C : 110		R184592
Lead	ND	mg/L		0.0003		E200.8	05/16/23 21:17 / dck		ICPMS205-H_230516C : 110		R184592
Lanthanum	ND	mg/L		0.01		E200.8	05/12/23 17:08 / dck		ICPMS205-H_230512C : 36		R184492
Lithium	0.1	mg/L		0.1		E200.7	05/12/23 12:44 / slj		ICP2-HE_230512A : 60		R184487
Magnesium	32	mg/L		1		E200.7	05/12/23 12:44 / slj		ICP2-HE_230512A : 60		R184487
Neodymium	ND	mg/L		0.005		E200.8	05/12/23 17:08 / dck		ICPMS205-H_230512C : 36		R184492
Niobium	ND	mg/L		0.01		E200.8	05/12/23 17:08 / dck		ICPMS205-H_230512C : 36		R184492
Manganese	4.81	mg/L		0.001		E200.7	05/12/23 12:44 / slj		ICP2-HE_230512A : 60		R184487
Molybdenum	0.003	mg/L		0.001		E200.8	05/16/23 21:17 / dck		ICPMS205-H_230516C : 110		R184592
Nickel	0.006	mg/L		0.002		E200.8	05/16/23 21:17 / dck		ICPMS205-H_230516C : 110		R184592
Palladium	ND	mg/L		0.01		E200.8	05/12/23 17:08 / dck		ICPMS205-H_230512C : 36		R184492
Praseodymium	ND	mg/L		0.01		E200.8	05/12/23 17:08 / dck		ICPMS205-H_230512C : 36		R184492
Rubidium	ND	mg/L		0.01		E200.8	05/12/23 17:08 / dck		ICPMS205-H_230512C : 36		R184492
Potassium	7	mg/L		1		E200.7	05/12/23 12:44 / slj		ICP2-HE_230512A : 60		R184487
Selenium	ND	mg/L		0.001		E200.8	05/16/23 21:17 / dck		ICPMS205-H_230516C : 110		R184592
Silver	ND	mg/L		0.0002		E200.8	05/16/23 21:17 / dck		ICPMS205-H_230516C : 110		R184592
Sodium	35	mg/L		1		E200.7	05/12/23 12:44 / slj		ICP2-HE_230512A : 60		R184487
Strontium	0.55	mg/L		0.01		E200.8	05/16/23 21:17 / dck		ICPMS205-H_230516C : 110		R184592
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 21:17 / dck		ICPMS205-H_230516C : 110		R184592
Thorium	ND	mg/L		0.005		E200.8	05/12/23 17:08 / dck		ICPMS205-H_230512C : 82		R184492
Tin	ND	mg/L		0.05		E200.8	05/16/23 21:17 / dck		ICPMS205-H_230516C : 110		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 21:17 / dck		ICPMS205-H_230516C : 110		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/12/23 17:08 / dck		ICPMS205-H_230512C : 36		R184492
Uranium	0.0011	mg/L		0.0002		E200.8	05/16/23 21:17 / dck		ICPMS205-H_230516C : 110		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 21:17 / dck		ICPMS205-H_230516C : 110		R184592
Zinc	0.200	mg/L		0.008		E200.8	05/16/23 21:17 / dck		ICPMS205-H_230516C : 110		R184592
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 15:24 / dck		ICPMS205-H_230517D : 115		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-3  
**Lab ID:** H23050392-010  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 14:34    **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.42	%				A1030 E	05/22/23 13:02 / abc		CALC_230522A : 518		R184728

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-3  
**Lab ID:** H23050392-011  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 14:50 **DateReceived:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.8	s.u.	H	0.1		A4500-H B	05/12/23 11:15 / ams		PHSC_101-H_230512A : 66		R184467
pH Measurement Temp	13.7	°C				A4500-H B	05/12/23 11:15 / ams		PHSC_101-H_230512A : 66		R184467
Conductivity @ 25 C	6	umhos/cm		5		A2510 B	05/12/23 11:15 / ams		PHSC_101-H_230512A : 67		R184467
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	L	20		A2540 C	05/12/23 11:10 / ams		124 (14410200)_230512B : 35		TDS230512A
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.											
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	05/16/23 11:33 / ams		PHSC_101-H_230516A : 60		R184539
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	05/16/23 11:33 / ams		PHSC_101-H_230516A : 60		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 11:33 / ams		PHSC_101-H_230516A : 60		R184539
Chloride	ND	mg/L		1		E300.0	05/17/23 01:04 / ljs		IC METROHM_230516A : 61		R184586
Sulfate	ND	mg/L		1		E300.0	05/17/23 01:04 / ljs		IC METROHM_230516A : 61		R184586
Bromide	ND	mg/L		0.5		E300.0	05/17/23 01:04 / ljs		IC METROHM_230516A : 61		R184586
Fluoride	ND	mg/L		0.1		E300.0	05/17/23 01:04 / ljs		IC METROHM_230516A : 61		R184586
Hardness as CaCO3	ND	mg/L		1		A2340 B	05/12/23 12:59 / abc		CALC_230522A : 25		R184728
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	05/18/23 02:47 / eli-c		SUB-C294717 : 41		C_R294717
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	05/17/23 19:03 / eli-c		SUB-C294717 : 17		C_R294717
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	05/18/23 14:09 / JAR		FIA203-HE_230518A : 55		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/16/23 21:26 / dck		ICPMS205-H_230516C : 113		R184592
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 21:26 / dck		ICPMS205-H_230516C : 113		R184592
Arsenic	ND	mg/L		0.001		E200.8	05/16/23 21:26 / dck		ICPMS205-H_230516C : 113		R184592
Barium	ND	mg/L		0.003		E200.8	05/16/23 21:26 / dck		ICPMS205-H_230516C : 113		R184592
Beryllium	ND	mg/L		0.0008		E200.8	05/16/23 21:26 / dck		ICPMS205-H_230516C : 113		R184592
Boron	ND	mg/L		0.05		E200.7	05/12/23 12:59 / slj		ICP2-HE_230512A : 64		R184487
Cadmium	ND	mg/L		0.00003		E200.8	05/16/23 21:26 / dck		ICPMS205-H_230516C : 113		R184592
Cesium	ND	mg/L		0.01		E200.8	05/12/23 17:10 / dck		ICPMS205-H_230512C : 37		R184492

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level  
L - Lowest available reporting limit for the analytical method used

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-3  
**Lab ID:** H23050392-011  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 14:50 **DateReceived:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	ND	mg/L		1		E200.7	05/12/23 12:59 / slj		ICP2-HE_230512A : 64		R184487
Chromium	ND	mg/L		0.005		E200.8	05/16/23 21:26 / dck		ICPMS205-H_230516C : 113		R184592
Cobalt	ND	mg/L		0.005		E200.8	05/16/23 21:26 / dck		ICPMS205-H_230516C : 113		R184592
Copper	ND	mg/L		0.002		E200.8	05/16/23 21:26 / dck		ICPMS205-H_230516C : 113		R184592
Gallium	ND	mg/L		0.01		E200.8	05/12/23 17:10 / dck		ICPMS205-H_230512C : 37		R184492
Iron	ND	mg/L		0.02		E200.8	05/16/23 21:26 / dck		ICPMS205-H_230516C : 113		R184592
Lead	ND	mg/L		0.0003		E200.8	05/16/23 21:26 / dck		ICPMS205-H_230516C : 113		R184592
Lanthanum	ND	mg/L		0.01		E200.8	05/12/23 17:10 / dck		ICPMS205-H_230512C : 37		R184492
Lithium	ND	mg/L		0.1		E200.7	05/12/23 12:59 / slj		ICP2-HE_230512A : 64		R184487
Magnesium	ND	mg/L		1		E200.7	05/12/23 12:59 / slj		ICP2-HE_230512A : 64		R184487
Neodymium	ND	mg/L		0.005		E200.8	05/12/23 17:10 / dck		ICPMS205-H_230512C : 37		R184492
Niobium	ND	mg/L		0.01		E200.8	05/12/23 17:10 / dck		ICPMS205-H_230512C : 37		R184492
Manganese	ND	mg/L		0.001		E200.8	05/16/23 21:26 / dck		ICPMS205-H_230516C : 113		R184592
Molybdenum	ND	mg/L		0.001		E200.8	05/16/23 21:26 / dck		ICPMS205-H_230516C : 113		R184592
Nickel	ND	mg/L		0.002		E200.8	05/16/23 21:26 / dck		ICPMS205-H_230516C : 113		R184592
Palladium	ND	mg/L		0.01		E200.8	05/12/23 17:10 / dck		ICPMS205-H_230512C : 37		R184492
Praseodymium	ND	mg/L		0.01		E200.8	05/12/23 17:10 / dck		ICPMS205-H_230512C : 37		R184492
Rubidium	ND	mg/L		0.01		E200.8	05/12/23 17:10 / dck		ICPMS205-H_230512C : 37		R184492
Potassium	ND	mg/L		1		E200.7	05/12/23 12:59 / slj		ICP2-HE_230512A : 64		R184487
Selenium	ND	mg/L		0.001		E200.8	05/16/23 21:26 / dck		ICPMS205-H_230516C : 113		R184592
Silver	ND	mg/L		0.0002		E200.8	05/16/23 21:26 / dck		ICPMS205-H_230516C : 113		R184592
Sodium	ND	mg/L		1		E200.7	05/12/23 12:59 / slj		ICP2-HE_230512A : 64		R184487
Strontium	ND	mg/L		0.01		E200.8	05/16/23 21:26 / dck		ICPMS205-H_230516C : 113		R184592
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 21:26 / dck		ICPMS205-H_230516C : 113		R184592
Thorium	ND	mg/L		0.005		E200.8	05/12/23 17:10 / dck		ICPMS205-H_230512C : 83		R184492
Tin	ND	mg/L		0.05		E200.8	05/16/23 21:26 / dck		ICPMS205-H_230516C : 113		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 21:26 / dck		ICPMS205-H_230516C : 113		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/12/23 17:10 / dck		ICPMS205-H_230512C : 37		R184492
Uranium	ND	mg/L		0.0002		E200.8	05/16/23 21:26 / dck		ICPMS205-H_230516C : 113		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 21:26 / dck		ICPMS205-H_230516C : 113		R184592
Zinc	ND	mg/L		0.008		E200.8	05/16/23 21:26 / dck		ICPMS205-H_230516C : 113		R184592
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 15:25 / dck		ICPMS205-H_230517D : 116		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-3  
**Lab ID:** H23050392-011  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 14:50    **DateReceived:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-24.9	%				A1030 E	05/22/23 12:40 / abc		CALC_230522A : 23		R184728
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-3  
**Lab ID:** H23050392-012  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 14:55 **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.7	s.u.	H	0.1		A4500-H B	05/12/23 11:17 / ams		PHSC_101-H_230512A : 68		R184467
pH Measurement Temp	13.8	°C				A4500-H B	05/12/23 11:17 / ams		PHSC_101-H_230512A : 68		R184467
Conductivity @ 25 C	ND	umhos/cm		5		A2510 B	05/12/23 11:17 / ams		PHSC_101-H_230512A : 69		R184467
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	L	20		A2540 C	05/12/23 11:10 / ams		124 (14410200)_230512B : 36		TDS230512A
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.											
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	05/16/23 11:39 / ams		PHSC_101-H_230516A : 62		R184539
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	05/16/23 11:39 / ams		PHSC_101-H_230516A : 62		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 11:39 / ams		PHSC_101-H_230516A : 62		R184539
Chloride	ND	mg/L		1		E300.0	05/17/23 01:18 / ljs		IC METROHM_230516A : 62		R184586
Sulfate	ND	mg/L		1		E300.0	05/17/23 01:18 / ljs		IC METROHM_230516A : 62		R184586
Bromide	ND	mg/L		0.5		E300.0	05/17/23 01:18 / ljs		IC METROHM_230516A : 62		R184586
Fluoride	ND	mg/L		0.1		E300.0	05/17/23 01:18 / ljs		IC METROHM_230516A : 62		R184586
Hardness as CaCO3	ND	mg/L		1		A2340 B	05/12/23 13:02 / abc		CALC_230522A : 36		R184728
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	05/18/23 03:07 / eli-c		SUB-C294717 : 42		C_R294717
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	05/17/23 19:22 / eli-c		SUB-C294717 : 18		C_R294717
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	05/18/23 14:13 / JAR		FIA203-HE_230518A : 58		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/16/23 21:29 / dck		ICPMS205-H_230516C : 114		R184592
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 21:29 / dck		ICPMS205-H_230516C : 114		R184592
Arsenic	ND	mg/L		0.001		E200.8	05/16/23 21:29 / dck		ICPMS205-H_230516C : 114		R184592
Barium	ND	mg/L		0.003		E200.8	05/16/23 21:29 / dck		ICPMS205-H_230516C : 114		R184592
Beryllium	ND	mg/L		0.0008		E200.8	05/16/23 21:29 / dck		ICPMS205-H_230516C : 114		R184592
Boron	ND	mg/L		0.05		E200.7	05/12/23 13:02 / slj		ICP2-HE_230512A : 65		R184487
Cadmium	ND	mg/L		0.00003		E200.8	05/16/23 21:29 / dck		ICPMS205-H_230516C : 114		R184592
Cesium	ND	mg/L		0.01		E200.8	05/12/23 17:12 / dck		ICPMS205-H_230512C : 38		R184492

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level  
L - Lowest available reporting limit for the analytical method used

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-3  
**Lab ID:** H23050392-012  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 14:55 **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	ND	mg/L		1		E200.7	05/12/23 13:02 / slj		ICP2-HE_230512A : 65		R184487
Chromium	ND	mg/L		0.005		E200.8	05/16/23 21:29 / dck		ICPMS205-H_230516C : 114		R184592
Cobalt	ND	mg/L		0.005		E200.8	05/16/23 21:29 / dck		ICPMS205-H_230516C : 114		R184592
Copper	ND	mg/L		0.002		E200.8	05/16/23 21:29 / dck		ICPMS205-H_230516C : 114		R184592
Gallium	ND	mg/L		0.01		E200.8	05/12/23 17:12 / dck		ICPMS205-H_230512C : 38		R184492
Iron	ND	mg/L		0.02		E200.8	05/16/23 21:29 / dck		ICPMS205-H_230516C : 114		R184592
Lead	ND	mg/L		0.0003		E200.8	05/16/23 21:29 / dck		ICPMS205-H_230516C : 114		R184592
Lanthanum	ND	mg/L		0.01		E200.8	05/12/23 17:12 / dck		ICPMS205-H_230512C : 38		R184492
Lithium	ND	mg/L		0.1		E200.7	05/12/23 13:02 / slj		ICP2-HE_230512A : 65		R184487
Magnesium	ND	mg/L		1		E200.7	05/12/23 13:02 / slj		ICP2-HE_230512A : 65		R184487
Neodymium	ND	mg/L		0.005		E200.8	05/12/23 17:12 / dck		ICPMS205-H_230512C : 38		R184492
Niobium	ND	mg/L		0.01		E200.8	05/12/23 17:12 / dck		ICPMS205-H_230512C : 38		R184492
Manganese	ND	mg/L		0.001		E200.8	05/16/23 21:29 / dck		ICPMS205-H_230516C : 114		R184592
Molybdenum	ND	mg/L		0.001		E200.8	05/16/23 21:29 / dck		ICPMS205-H_230516C : 114		R184592
Nickel	ND	mg/L		0.002		E200.8	05/16/23 21:29 / dck		ICPMS205-H_230516C : 114		R184592
Palladium	ND	mg/L		0.01		E200.8	05/12/23 17:12 / dck		ICPMS205-H_230512C : 38		R184492
Praseodymium	ND	mg/L		0.01		E200.8	05/12/23 17:12 / dck		ICPMS205-H_230512C : 38		R184492
Rubidium	ND	mg/L		0.01		E200.8	05/12/23 17:12 / dck		ICPMS205-H_230512C : 38		R184492
Potassium	ND	mg/L		1		E200.7	05/12/23 13:02 / slj		ICP2-HE_230512A : 65		R184487
Selenium	ND	mg/L		0.001		E200.8	05/16/23 21:29 / dck		ICPMS205-H_230516C : 114		R184592
Silver	ND	mg/L		0.0002		E200.8	05/16/23 21:29 / dck		ICPMS205-H_230516C : 114		R184592
Sodium	ND	mg/L		1		E200.7	05/12/23 13:02 / slj		ICP2-HE_230512A : 65		R184487
Strontium	ND	mg/L		0.01		E200.8	05/16/23 21:29 / dck		ICPMS205-H_230516C : 114		R184592
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 21:29 / dck		ICPMS205-H_230516C : 114		R184592
Thorium	ND	mg/L		0.005		E200.8	05/12/23 17:12 / dck		ICPMS205-H_230512C : 84		R184492
Tin	ND	mg/L		0.05		E200.8	05/16/23 21:29 / dck		ICPMS205-H_230516C : 114		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 21:29 / dck		ICPMS205-H_230516C : 114		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/12/23 17:12 / dck		ICPMS205-H_230512C : 38		R184492
Uranium	ND	mg/L		0.0002		E200.8	05/16/23 21:29 / dck		ICPMS205-H_230516C : 114		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 21:29 / dck		ICPMS205-H_230516C : 114		R184592
Zinc	ND	mg/L		0.008		E200.8	05/16/23 21:29 / dck		ICPMS205-H_230516C : 114		R184592
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 15:27 / dck		ICPMS205-H_230517D : 117		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-3  
**Lab ID:** H23050392-012  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 14:55    **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	ND	%				A1030 E	05/22/23 12:40 / abc		CALC_230522A : 34		R184728
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-06B  
**Lab ID:** H23050392-013  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 15:44 **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.0	s.u.	H	0.1		A4500-H B	05/12/23 11:19 / ams		PHSC_101-H_230512A : 70		R184467
pH Measurement Temp	14.3	°C				A4500-H B	05/12/23 11:19 / ams		PHSC_101-H_230512A : 70		R184467
Conductivity @ 25 C	1460	umhos/cm		5		A2510 B	05/12/23 11:19 / ams		PHSC_101-H_230512A : 71		R184467
Solids, Total Dissolved TDS @ 180 C	1090	mg/L		20		A2540 C	05/12/23 11:10 / ams		124 (14410200)_230512B : 37		TDS230512A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	84	mg/L		4		A2320 B	05/16/23 11:45 / ams		PHSC_101-H_230516A : 64		R184539
Bicarbonate as HCO3	100	mg/L		4		A2320 B	05/16/23 11:45 / ams		PHSC_101-H_230516A : 64		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 11:45 / ams		PHSC_101-H_230516A : 64		R184539
Chloride	66	mg/L		1		E300.0	05/17/23 02:16 / ljs		IC METROHM_230516A : 65		R184586
Sulfate	562	mg/L		1		E300.0	05/17/23 02:16 / ljs		IC METROHM_230516A : 65		R184586
Bromide	ND	mg/L		0.5		E300.0	05/17/23 02:16 / ljs		IC METROHM_230516A : 65		R184586
Fluoride	0.4	mg/L		0.1		E300.0	05/17/23 02:16 / ljs		IC METROHM_230516A : 65		R184586
Hardness as CaCO3	602	mg/L		1		A2340 B	05/12/23 13:06 / abc		CALC_230522A : 47		R184728
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.6	mg/L		0.5		A5310 C	05/18/23 03:22 / eli-c		SUB-C294717 : 43		C_R294717
Organic Carbon, Total (TOC)	1.7	mg/L		0.5		A5310 C	05/17/23 19:38 / eli-c		SUB-C294717 : 19		C_R294717
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	8.2	mg/L		0.1		E353.2	05/18/23 14:14 / JAR		FIA203-HE_230518A : 59		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	0.015	mg/L		0.009		E200.8	05/17/23 21:46 / dck		ICPMS205-H_230517A : 145		R184602
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 22:37 / dck		ICPMS205-H_230516C : 137		R184592
Arsenic	0.003	mg/L		0.001		E200.8	05/16/23 22:37 / dck		ICPMS205-H_230516C : 137		R184592
Barium	0.028	mg/L		0.003		E200.8	05/16/23 22:37 / dck		ICPMS205-H_230516C : 137		R184592
Beryllium	ND	mg/L		0.0008		E200.8	05/16/23 22:37 / dck		ICPMS205-H_230516C : 137		R184592
Boron	0.27	mg/L		0.05		E200.7	05/12/23 13:06 / slj		ICP2-HE_230512A : 66		R184487
Cadmium	0.0350	mg/L		0.00003		E200.8	05/16/23 22:37 / dck		ICPMS205-H_230516C : 137		R184592
Cesium	ND	mg/L		0.01		E200.8	05/12/23 17:13 / dck		ICPMS205-H_230512C : 39		R184492

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-06B  
**Lab ID:** H23050392-013  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 15:44 **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	164	mg/L		1		E200.7	05/12/23 13:06 / slj		ICP2-HE_230512A : 66		R184487
Chromium	ND	mg/L		0.005		E200.8	05/16/23 22:37 / dck		ICPMS205-H_230516C : 137		R184592
Cobalt	0.028	mg/L		0.005		E200.8	05/16/23 22:37 / dck		ICPMS205-H_230516C : 137		R184592
Copper	0.663	mg/L		0.002		E200.8	05/16/23 22:37 / dck		ICPMS205-H_230516C : 137		R184592
Gallium	ND	mg/L		0.01		E200.8	05/12/23 17:13 / dck		ICPMS205-H_230512C : 39		R184492
Iron	ND	mg/L		0.02		E200.8	05/16/23 22:37 / dck		ICPMS205-H_230516C : 137		R184592
Lead	0.0006	mg/L		0.0003		E200.8	05/16/23 22:37 / dck		ICPMS205-H_230516C : 137		R184592
Lanthanum	ND	mg/L		0.01		E200.8	05/12/23 17:13 / dck		ICPMS205-H_230512C : 39		R184492
Lithium	0.3	mg/L		0.1		E200.7	05/12/23 13:06 / slj		ICP2-HE_230512A : 66		R184487
Magnesium	47	mg/L		1		E200.7	05/12/23 13:06 / slj		ICP2-HE_230512A : 66		R184487
Neodymium	ND	mg/L		0.005		E200.8	05/12/23 17:13 / dck		ICPMS205-H_230512C : 39		R184492
Niobium	ND	mg/L		0.01		E200.8	05/12/23 17:13 / dck		ICPMS205-H_230512C : 39		R184492
Manganese	16.6	mg/L		0.001		E200.7	05/12/23 13:06 / slj		ICP2-HE_230512A : 66		R184487
Molybdenum	ND	mg/L		0.001		E200.8	05/16/23 22:37 / dck		ICPMS205-H_230516C : 137		R184592
Nickel	0.049	mg/L		0.002		E200.8	05/16/23 22:37 / dck		ICPMS205-H_230516C : 137		R184592
Palladium	ND	mg/L		0.01		E200.8	05/12/23 17:13 / dck		ICPMS205-H_230512C : 39		R184492
Praseodymium	ND	mg/L		0.01		E200.8	05/12/23 17:13 / dck		ICPMS205-H_230512C : 39		R184492
Rubidium	0.01	mg/L		0.01		E200.8	05/12/23 17:13 / dck		ICPMS205-H_230512C : 39		R184492
Potassium	12	mg/L		1		E200.7	05/12/23 13:06 / slj		ICP2-HE_230512A : 66		R184487
Selenium	ND	mg/L		0.001		E200.8	05/16/23 22:37 / dck		ICPMS205-H_230516C : 137		R184592
Silver	0.0004	mg/L		0.0002		E200.8	05/16/23 22:37 / dck		ICPMS205-H_230516C : 137		R184592
Sodium	54	mg/L		1		E200.7	05/12/23 13:06 / slj		ICP2-HE_230512A : 66		R184487
Strontium	1.68	mg/L		0.01		E200.7	05/12/23 13:06 / slj		ICP2-HE_230512A : 66		R184487
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 22:37 / dck		ICPMS205-H_230516C : 137		R184592
Thorium	ND	mg/L		0.005		E200.8	05/12/23 17:13 / dck		ICPMS205-H_230512C : 85		R184492
Tin	ND	mg/L		0.05		E200.8	05/16/23 22:37 / dck		ICPMS205-H_230516C : 137		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 22:37 / dck		ICPMS205-H_230516C : 137		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/12/23 17:13 / dck		ICPMS205-H_230512C : 39		R184492
Uranium	0.0009	mg/L		0.0002		E200.8	05/16/23 22:37 / dck		ICPMS205-H_230516C : 137		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 22:37 / dck		ICPMS205-H_230516C : 137		R184592
Zinc	10.4	mg/L		0.008		E200.7	05/12/23 13:06 / slj		ICP2-HE_230512A : 66		R184487
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 15:28 / dck		ICPMS205-H_230517D : 118		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-06B  
**Lab ID:** H23050392-013  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 15:44    **DateReceived:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-3.74	%				A1030 E	05/22/23 12:40 / abc		CALC_230522A : 45		R184728

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-07A  
**Lab ID:** H23050392-014  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 16:02 **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.0	s.u.	H	0.1		A4500-H B	05/12/23 11:21 / ams		PHSC_101-H_230512A : 72		R184467
pH Measurement Temp	14.5	°C				A4500-H B	05/12/23 11:21 / ams		PHSC_101-H_230512A : 72		R184467
Conductivity @ 25 C	741	umhos/cm		5		A2510 B	05/12/23 11:21 / ams		PHSC_101-H_230512A : 73		R184467
Solids, Total Dissolved TDS @ 180 C	490	mg/L		20		A2540 C	05/12/23 11:10 / ams		124 (14410200)_230512B : 38		TDS230512A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	180	mg/L		4		A2320 B	05/16/23 11:52 / ams		PHSC_101-H_230516A : 66		R184539
Bicarbonate as HCO3	220	mg/L		4		A2320 B	05/16/23 11:52 / ams		PHSC_101-H_230516A : 66		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 11:52 / ams		PHSC_101-H_230516A : 66		R184539
Chloride	20	mg/L		1		E300.0	05/17/23 02:59 / ljs		IC METROHM_230516A : 68		R184586
Sulfate	162	mg/L		1		E300.0	05/17/23 02:59 / ljs		IC METROHM_230516A : 68		R184586
Bromide	ND	mg/L		0.5		E300.0	05/17/23 02:59 / ljs		IC METROHM_230516A : 68		R184586
Fluoride	0.5	mg/L		0.1		E300.0	05/17/23 02:59 / ljs		IC METROHM_230516A : 68		R184586
Hardness as CaCO3	292	mg/L		1		A2340 B	05/12/23 13:10 / abc		CALC_230522A : 58		R184728
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	3.0	mg/L		0.5		A5310 C	05/18/23 04:09 / eli-c		SUB-C294717 : 46		C_R294717
Organic Carbon, Total (TOC)	2.8	mg/L		0.5		A5310 C	05/17/23 20:33 / eli-c		SUB-C294717 : 22		C_R294717
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	1.19	mg/L		0.01		E353.2	05/18/23 14:15 / JAR		FIA203-HE_230518A : 60		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/16/23 21:32 / dck		ICPMS205-H_230516C : 115		R184592
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 21:32 / dck		ICPMS205-H_230516C : 115		R184592
Arsenic	0.003	mg/L		0.001		E200.8	05/16/23 21:32 / dck		ICPMS205-H_230516C : 115		R184592
Barium	0.038	mg/L		0.003		E200.8	05/16/23 21:32 / dck		ICPMS205-H_230516C : 115		R184592
Beryllium	ND	mg/L		0.0008		E200.8	05/16/23 21:32 / dck		ICPMS205-H_230516C : 115		R184592
Boron	0.51	mg/L		0.05		E200.7	05/12/23 13:10 / slj		ICP2-HE_230512A : 67		R184487
Cadmium	0.00100	mg/L		0.00003		E200.8	05/16/23 21:32 / dck		ICPMS205-H_230516C : 115		R184592
Cesium	ND	mg/L		0.01		E200.8	05/12/23 17:15 / dck		ICPMS205-H_230512C : 40		R184492

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-07A  
**Lab ID:** H23050392-014  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 16:02 **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	78	mg/L		1		E200.7	05/12/23 13:10 / slj		ICP2-HE_230512A : 67		R184487
Chromium	ND	mg/L		0.005		E200.8	05/16/23 21:32 / dck		ICPMS205-H_230516C : 115		R184592
Cobalt	ND	mg/L		0.005		E200.8	05/16/23 21:32 / dck		ICPMS205-H_230516C : 115		R184592
Copper	0.007	mg/L		0.002		E200.8	05/16/23 21:32 / dck		ICPMS205-H_230516C : 115		R184592
Gallium	ND	mg/L		0.01		E200.8	05/12/23 17:15 / dck		ICPMS205-H_230512C : 40		R184492
Iron	ND	mg/L		0.02		E200.8	05/16/23 21:32 / dck		ICPMS205-H_230516C : 115		R184592
Lead	ND	mg/L		0.0003		E200.8	05/16/23 21:32 / dck		ICPMS205-H_230516C : 115		R184592
Lanthanum	ND	mg/L		0.01		E200.8	05/12/23 17:15 / dck		ICPMS205-H_230512C : 40		R184492
Lithium	ND	mg/L		0.1		E200.7	05/12/23 13:10 / slj		ICP2-HE_230512A : 67		R184487
Magnesium	24	mg/L		1		E200.7	05/12/23 13:10 / slj		ICP2-HE_230512A : 67		R184487
Neodymium	ND	mg/L		0.005		E200.8	05/12/23 17:15 / dck		ICPMS205-H_230512C : 40		R184492
Niobium	ND	mg/L		0.01		E200.8	05/12/23 17:15 / dck		ICPMS205-H_230512C : 40		R184492
Manganese	2.14	mg/L		0.001		E200.7	05/12/23 13:10 / slj		ICP2-HE_230512A : 67		R184487
Molybdenum	0.021	mg/L		0.001		E200.8	05/16/23 21:32 / dck		ICPMS205-H_230516C : 115		R184592
Nickel	0.005	mg/L		0.002		E200.8	05/16/23 21:32 / dck		ICPMS205-H_230516C : 115		R184592
Palladium	ND	mg/L		0.01		E200.8	05/12/23 17:15 / dck		ICPMS205-H_230512C : 40		R184492
Praseodymium	ND	mg/L		0.01		E200.8	05/12/23 17:15 / dck		ICPMS205-H_230512C : 40		R184492
Rubidium	ND	mg/L		0.01		E200.8	05/12/23 17:15 / dck		ICPMS205-H_230512C : 40		R184492
Potassium	6	mg/L		1		E200.7	05/12/23 13:10 / slj		ICP2-HE_230512A : 67		R184487
Selenium	ND	mg/L		0.001		E200.8	05/16/23 21:32 / dck		ICPMS205-H_230516C : 115		R184592
Silver	ND	mg/L		0.0002		E200.8	05/16/23 21:32 / dck		ICPMS205-H_230516C : 115		R184592
Sodium	29	mg/L		1		E200.7	05/12/23 13:10 / slj		ICP2-HE_230512A : 67		R184487
Strontium	0.58	mg/L		0.01		E200.8	05/16/23 21:32 / dck		ICPMS205-H_230516C : 115		R184592
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 21:32 / dck		ICPMS205-H_230516C : 115		R184592
Thorium	ND	mg/L		0.005		E200.8	05/12/23 17:15 / dck		ICPMS205-H_230512C : 86		R184492
Tin	ND	mg/L		0.05		E200.8	05/16/23 21:32 / dck		ICPMS205-H_230516C : 115		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 21:32 / dck		ICPMS205-H_230516C : 115		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/12/23 17:15 / dck		ICPMS205-H_230512C : 40		R184492
Uranium	0.0254	mg/L		0.0002		E200.8	05/16/23 21:32 / dck		ICPMS205-H_230516C : 115		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 21:32 / dck		ICPMS205-H_230516C : 115		R184592
Zinc	0.288	mg/L		0.008		E200.8	05/16/23 21:32 / dck		ICPMS205-H_230516C : 115		R184592
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 15:30 / dck		ICPMS205-H_230517D : 119		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-07A  
**Lab ID:** H23050392-014  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 16:02      **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-2.98	%				A1030 E	05/22/23 12:41 / abc		CALC_230522A : 56		R184728

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-06A  
**Lab ID:** H23050392-015  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 16:08 **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.4	s.u.	H	0.1		A4500-H B	05/12/23 11:23 / ams		PHSC_101-H_230512A : 74		R184467
pH Measurement Temp	14.7	°C				A4500-H B	05/12/23 11:23 / ams		PHSC_101-H_230512A : 74		R184467
Conductivity @ 25 C	1640	umhos/cm		5		A2510 B	05/12/23 11:23 / ams		PHSC_101-H_230512A : 75		R184467
Solids, Total Dissolved TDS @ 180 C	1150	mg/L		20		A2540 C	05/12/23 11:11 / ams		124 (14410200)_230512B : 39		TDS230512A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	200	mg/L		4		A2320 B	05/16/23 11:59 / ams		PHSC_101-H_230516A : 68		R184539
Bicarbonate as HCO3	240	mg/L		4		A2320 B	05/16/23 11:59 / ams		PHSC_101-H_230516A : 68		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 11:59 / ams		PHSC_101-H_230516A : 68		R184539
Chloride	196	mg/L		1		E300.0	05/17/23 03:13 / ljs		IC METROHM_230516A : 69		R184586
Sulfate	369	mg/L		1		E300.0	05/17/23 03:13 / ljs		IC METROHM_230516A : 69		R184586
Bromide	0.7	mg/L		0.5		E300.0	05/17/23 03:13 / ljs		IC METROHM_230516A : 69		R184586
Fluoride	0.6	mg/L		0.1		E300.0	05/17/23 03:13 / ljs		IC METROHM_230516A : 69		R184586
Hardness as CaCO3	613	mg/L		1		A2340 B	05/12/23 13:51 / abc		CALC_230522A : 69		R184728
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.7	mg/L		0.5		A5310 C	05/18/23 04:26 / eli-c		SUB-C294717 : 47		C_R294717
Organic Carbon, Total (TOC)	2.7	mg/L		0.5		A5310 C	05/17/23 20:49 / eli-c		SUB-C294717 : 23		C_R294717
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.64	mg/L		0.01		E353.2	05/18/23 14:16 / JAR		FIA203-HE_230518A : 61		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/17/23 21:52 / dck		ICPMS205-H_230517A : 147		R184602
Antimony	0.0030	mg/L		0.0005		E200.8	05/16/23 22:46 / dck		ICPMS205-H_230516C : 140		R184592
Arsenic	0.006	mg/L		0.001		E200.8	05/16/23 22:46 / dck		ICPMS205-H_230516C : 140		R184592
Barium	0.028	mg/L		0.003		E200.8	05/16/23 22:46 / dck		ICPMS205-H_230516C : 140		R184592
Beryllium	ND	mg/L		0.0008		E200.8	05/16/23 22:46 / dck		ICPMS205-H_230516C : 140		R184592
Boron	0.40	mg/L		0.05		E200.7	05/12/23 13:51 / slj		ICP2-HE_230512A : 78		R184487
Cadmium	0.0480	mg/L		0.00003		E200.8	05/16/23 22:46 / dck		ICPMS205-H_230516C : 140		R184592
Cesium	ND	mg/L		0.01		E200.8	05/12/23 17:17 / dck		ICPMS205-H_230512C : 41		R184492

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-06A  
**Lab ID:** H23050392-015  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 16:08 **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	171	mg/L		1		E200.7	05/12/23 13:51 / slj		ICP2-HE_230512A : 78		R184487
Chromium	ND	mg/L		0.005		E200.8	05/16/23 22:46 / dck		ICPMS205-H_230516C : 140		R184592
Cobalt	0.016	mg/L		0.005		E200.8	05/16/23 22:46 / dck		ICPMS205-H_230516C : 140		R184592
Copper	0.211	mg/L		0.002		E200.8	05/16/23 22:46 / dck		ICPMS205-H_230516C : 140		R184592
Gallium	ND	mg/L		0.01		E200.8	05/12/23 17:17 / dck		ICPMS205-H_230512C : 41		R184492
Iron	0.06	mg/L		0.02		E200.8	05/16/23 22:46 / dck		ICPMS205-H_230516C : 140		R184592
Lead	0.0631	mg/L		0.0003		E200.8	05/16/23 22:46 / dck		ICPMS205-H_230516C : 140		R184592
Lanthanum	ND	mg/L		0.01		E200.8	05/12/23 17:17 / dck		ICPMS205-H_230512C : 41		R184492
Lithium	0.2	mg/L		0.1		E200.7	05/12/23 13:51 / slj		ICP2-HE_230512A : 78		R184487
Magnesium	45	mg/L		1		E200.7	05/12/23 13:51 / slj		ICP2-HE_230512A : 78		R184487
Neodymium	ND	mg/L		0.005		E200.8	05/12/23 17:17 / dck		ICPMS205-H_230512C : 41		R184492
Niobium	ND	mg/L		0.01		E200.8	05/12/23 17:17 / dck		ICPMS205-H_230512C : 41		R184492
Manganese	21.0	mg/L		0.001		E200.7	05/12/23 13:51 / slj		ICP2-HE_230512A : 78		R184487
Molybdenum	0.014	mg/L		0.001		E200.8	05/16/23 22:46 / dck		ICPMS205-H_230516C : 140		R184592
Nickel	0.025	mg/L		0.002		E200.8	05/16/23 22:46 / dck		ICPMS205-H_230516C : 140		R184592
Palladium	ND	mg/L		0.01		E200.8	05/12/23 17:17 / dck		ICPMS205-H_230512C : 41		R184492
Praseodymium	ND	mg/L		0.01		E200.8	05/12/23 17:17 / dck		ICPMS205-H_230512C : 41		R184492
Rubidium	ND	mg/L		0.01		E200.8	05/12/23 17:17 / dck		ICPMS205-H_230512C : 41		R184492
Potassium	10	mg/L		1		E200.7	05/12/23 13:51 / slj		ICP2-HE_230512A : 78		R184487
Selenium	ND	mg/L		0.001		E200.8	05/16/23 22:46 / dck		ICPMS205-H_230516C : 140		R184592
Silver	ND	mg/L		0.0002		E200.8	05/16/23 22:46 / dck		ICPMS205-H_230516C : 140		R184592
Sodium	80	mg/L		1		E200.7	05/12/23 13:51 / slj		ICP2-HE_230512A : 78		R184487
Strontium	1.30	mg/L		0.01		E200.7	05/12/23 13:51 / slj		ICP2-HE_230512A : 78		R184487
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 22:46 / dck		ICPMS205-H_230516C : 140		R184592
Thorium	ND	mg/L		0.005		E200.8	05/12/23 17:17 / dck		ICPMS205-H_230512C : 87		R184492
Tin	ND	mg/L		0.05		E200.8	05/16/23 22:46 / dck		ICPMS205-H_230516C : 140		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 22:46 / dck		ICPMS205-H_230516C : 140		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/12/23 17:17 / dck		ICPMS205-H_230512C : 41		R184492
Uranium	0.0239	mg/L		0.0002		E200.8	05/16/23 22:46 / dck		ICPMS205-H_230516C : 140		R184592
Vanadium	0.01	mg/L		0.01		E200.8	05/16/23 22:46 / dck		ICPMS205-H_230516C : 140		R184592
Zinc	4.68	mg/L		0.008		E200.7	05/12/23 13:51 / slj		ICP2-HE_230512A : 78		R184487
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 15:32 / dck		ICPMS205-H_230517D : 120		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-06A  
**Lab ID:** H23050392-015  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 16:08    **DateReceived:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-3.96	%				A1030 E	05/22/23 12:41 / abc		CALC_230522A : 67		R184728

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-02B  
**Lab ID:** H23050392-016  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 16:39 **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.3	s.u.	H	0.1		A4500-H B	05/12/23 11:25 / ams		PHSC_101-H_230512A : 76		R184467
pH Measurement Temp	16.5	°C				A4500-H B	05/12/23 11:25 / ams		PHSC_101-H_230512A : 76		R184467
Conductivity @ 25 C	4650	umhos/cm		5		A2510 B	05/12/23 11:25 / ams		PHSC_101-H_230512A : 77		R184467
Solids, Total Dissolved TDS @ 180 C	5090	mg/L		100		A2540 C	05/12/23 11:11 / ams		124 (14410200)_230512B : 42		TDS230512A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	05/16/23 12:07 / ams		PHSC_101-H_230516A : 70		R184539
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	05/16/23 12:07 / ams		PHSC_101-H_230516A : 70		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 12:07 / ams		PHSC_101-H_230516A : 70		R184539
Chloride	168	mg/L		1		E300.0	05/17/23 03:27 / ljs		IC METROHM_230516A : 70		R184586
Sulfate	3210	mg/L		1		E300.0	05/17/23 03:27 / ljs		IC METROHM_230516A : 70		R184586
Bromide	ND	mg/L		0.5		E300.0	05/17/23 03:27 / ljs		IC METROHM_230516A : 70		R184586
Fluoride	1.4	mg/L		0.1		E300.0	05/17/23 03:27 / ljs		IC METROHM_230516A : 70		R184586
Hardness as CaCO3	1850	mg/L		1		A2340 B	05/15/23 15:44 / SR		CALC_230523B : 80		R184776
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.8	mg/L		0.5		A5310 C	05/18/23 04:44 / eli-c		SUB-C294717 : 48		C_R294717
Organic Carbon, Total (TOC)	1.8	mg/L		0.5		A5310 C	05/17/23 21:08 / eli-c		SUB-C294717 : 24		C_R294717
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	05/18/23 14:20 / JAR		FIA203-HE_230518A : 64		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	3.6	mg/L		0.1		E200.7	05/15/23 15:44 / slj		ICP2-HE_230515B : 41		R184548
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 23:42 / dck		ICPMS205-H_230516C : 159		R184592
Arsenic	0.002	mg/L		0.001		E200.8	05/16/23 23:42 / dck		ICPMS205-H_230516C : 159		R184592
Barium	0.015	mg/L		0.003		E200.8	05/16/23 23:42 / dck		ICPMS205-H_230516C : 159		R184592
Beryllium	0.0091	mg/L		0.0008		E200.8	05/16/23 23:42 / dck		ICPMS205-H_230516C : 159		R184592
Boron	0.14	mg/L		0.05		E200.7	05/12/23 13:55 / slj		ICP2-HE_230512A : 79		R184487
Cadmium	0.921	mg/L		0.00003		E200.8	05/16/23 23:42 / dck		ICPMS205-H_230516C : 159		R184592
Cesium	ND	mg/L		0.01		E200.8	05/12/23 17:19 / dck		ICPMS205-H_230512C : 42		R184492

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-02B  
**Lab ID:** H23050392-016  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 16:39 **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	462	mg/L		1		E200.7	05/15/23 15:44 / slj		ICP2-HE_230515B : 41		R184548
Chromium	ND	mg/L		0.005		E200.8	05/16/23 23:42 / dck		ICPMS205-H_230516C : 159		R184592
Cobalt	1.34	mg/L		0.005		E200.8	05/16/23 23:42 / dck		ICPMS205-H_230516C : 159		R184592
Copper	30.0	mg/L		0.01		E200.7	05/12/23 13:55 / slj		ICP2-HE_230512A : 79		R184487
Gallium	ND	mg/L		0.01		E200.8	05/12/23 17:19 / dck		ICPMS205-H_230512C : 42		R184492
Iron	347	mg/L		0.04		E200.7	05/15/23 15:44 / slj		ICP2-HE_230515B : 41		R184548
Lead	0.0114	mg/L		0.0003		E200.8	05/16/23 23:42 / dck		ICPMS205-H_230516C : 159		R184592
Lanthanum	0.13	mg/L		0.01		E200.8	05/12/23 17:19 / dck		ICPMS205-H_230512C : 42		R184492
Lithium	0.7	mg/L		0.1		E200.7	05/12/23 13:55 / slj		ICP2-HE_230512A : 79		R184487
Magnesium	170	mg/L		1		E200.7	05/15/23 15:44 / slj		ICP2-HE_230515B : 41		R184548
Neodymium	0.066	mg/L		0.005		E200.8	05/12/23 17:19 / dck		ICPMS205-H_230512C : 42		R184492
Niobium	ND	mg/L		0.01		E200.8	05/12/23 17:19 / dck		ICPMS205-H_230512C : 42		R184492
Manganese	217	mg/L		0.007		E200.7	05/15/23 15:44 / slj		ICP2-HE_230515B : 41		R184548
Molybdenum	ND	mg/L		0.001		E200.8	05/16/23 23:42 / dck		ICPMS205-H_230516C : 159		R184592
Nickel	0.471	mg/L		0.002		E200.8	05/16/23 23:42 / dck		ICPMS205-H_230516C : 159		R184592
Palladium	ND	mg/L		0.01		E200.8	05/12/23 17:19 / dck		ICPMS205-H_230512C : 42		R184492
Praseodymium	0.02	mg/L		0.01		E200.8	05/12/23 17:19 / dck		ICPMS205-H_230512C : 42		R184492
Rubidium	0.02	mg/L		0.01		E200.8	05/12/23 17:19 / dck		ICPMS205-H_230512C : 42		R184492
Potassium	18	mg/L		1		E200.7	05/12/23 13:55 / slj		ICP2-HE_230512A : 79		R184487
Selenium	ND	mg/L		0.001		E200.8	05/16/23 23:42 / dck		ICPMS205-H_230516C : 159		R184592
Silver	0.0061	mg/L		0.0002		E200.8	05/16/23 23:42 / dck		ICPMS205-H_230516C : 159		R184592
Sodium	100	mg/L		1		E200.7	05/12/23 13:55 / slj		ICP2-HE_230512A : 79		R184487
Strontium	3.09	mg/L		0.01		E200.7	05/12/23 13:55 / slj		ICP2-HE_230512A : 79		R184487
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 23:42 / dck		ICPMS205-H_230516C : 159		R184592
Thorium	ND	mg/L		0.005		E200.8	05/12/23 17:19 / dck		ICPMS205-H_230512C : 88		R184492
Tin	ND	mg/L		0.05		E200.8	05/16/23 23:42 / dck		ICPMS205-H_230516C : 159		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 23:42 / dck		ICPMS205-H_230516C : 159		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/12/23 17:19 / dck		ICPMS205-H_230512C : 42		R184492
Uranium	0.0188	mg/L		0.0002		E200.8	05/16/23 23:42 / dck		ICPMS205-H_230516C : 159		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 23:42 / dck		ICPMS205-H_230516C : 159		R184592
Zinc	200	mg/L		0.01		E200.7	05/15/23 15:44 / slj		ICP2-HE_230515B : 41		R184548
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 15:11 / dck		ICPMS205-H_230517D : 107		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-02B  
**Lab ID:** H23050392-016  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/10/23 16:39    **Date Received:** 05/11/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.44	%				A1030 E	05/23/23 12:14 / SR		CALC_230523B : 78		R184776

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050392

BatchID: C\_R294717

Date: 31-May-23

Run ID :Run Order: <b>SUB-C294717: 1</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/17/23 14:23</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	ND	0.1									
Associated samples: <b>H23050392-001D, H23050392-001E, H23050392-002D, H23050392-002E, H23050392-003D, H23050392-003E, H23050392-004D, H23050392-004E, H23050392-005D, H23050392-005E, H23050392-006D, H23050392-006E, H23050392-007D, H23050392-007E, H23050392-008D, H23050392-008E, H23050392-009D, H23050392-009E, H23050392-010D, H23050392-010E, H23050392-011D, H23050392-011E, H23050392-012D, H23050392-012E, H23050392-013D, H23050392-013E, H23050392-014D, H23050392-014E, H23050392-015D, H23050392-015E, H23050392-016D, H23050392-016E</b>											

Run ID :Run Order: <b>SUB-C294717: 2</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS-11923</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/17/23 14:42</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	4.94	0.50	5	0	<b>99</b>	90	111	0			
Associated samples: <b>H23050392-001D, H23050392-001E, H23050392-002D, H23050392-002E, H23050392-003D, H23050392-003E, H23050392-004D, H23050392-004E, H23050392-005D, H23050392-005E, H23050392-006D, H23050392-006E, H23050392-007D, H23050392-007E, H23050392-008D, H23050392-008E, H23050392-009D, H23050392-009E, H23050392-010D, H23050392-010E, H23050392-011D, H23050392-011E, H23050392-012D, H23050392-012E, H23050392-013D, H23050392-013E, H23050392-014D, H23050392-014E, H23050392-015D, H23050392-015E, H23050392-016D, H23050392-016E</b>											

Run ID :Run Order: <b>SUB-C294717: 3</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV-11940</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/17/23 14:58</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.27	0.50	5	0	<b>105</b>	90	110	0			
Associated samples: <b>H23050392-001D, H23050392-001E, H23050392-002D, H23050392-002E, H23050392-003D, H23050392-003E, H23050392-004D, H23050392-004E, H23050392-005D, H23050392-005E, H23050392-006D, H23050392-006E, H23050392-007D, H23050392-007E, H23050392-008D, H23050392-008E, H23050392-009D, H23050392-009E, H23050392-010D, H23050392-010E, H23050392-011D, H23050392-011E, H23050392-012D, H23050392-012E, H23050392-013D, H23050392-013E, H23050392-014D, H23050392-014E, H23050392-015D, H23050392-015E, H23050392-016D, H23050392-016E</b>											

Run ID :Run Order: <b>SUB-C294717: 5</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050392-001EMS</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/17/23 15:33</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	6.24	0.50	5	1.132	<b>102</b>	90	111	0			
Associated samples: <b>H23050392-001D, H23050392-001E, H23050392-002D, H23050392-002E, H23050392-003D, H23050392-003E, H23050392-004D, H23050392-004E, H23050392-005D, H23050392-005E, H23050392-006D, H23050392-006E, H23050392-007D, H23050392-007E, H23050392-008D, H23050392-008E, H23050392-009D, H23050392-009E, H23050392-010D, H23050392-010E, H23050392-011D, H23050392-011E, H23050392-012D, H23050392-012E, H23050392-013D, H23050392-013E, H23050392-014D, H23050392-014E, H23050392-015D, H23050392-015E, H23050392-016D, H23050392-016E</b>											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** C\_R294717

**Date:** 31-May-23

Run ID :Run Order: <b>SUB-C294717: 6</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050392-001EMSD</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/17/23 15:49</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	6.26	0.50	5	1.132	<b>103</b>	90	111	6.239	<b>0.4</b>	20	

Associated samples: H23050392-001D, H23050392-001E, H23050392-002D, H23050392-002E, H23050392-003D, H23050392-003E, H23050392-004D, H23050392-004E, H23050392-005D, H23050392-005E, H23050392-006D, H23050392-006E, H23050392-007D, H23050392-007E, H23050392-008D, H23050392-008E, H23050392-009D, H23050392-009E, H23050392-010D, H23050392-010E, H23050392-011D, H23050392-011E, H23050392-012D, H23050392-012E, H23050392-013D, H23050392-013E, H23050392-014D, H23050392-014E, H23050392-015D, H23050392-015E, H23050392-016D, H23050392-016E

Run ID :Run Order: <b>SUB-C294717: 16</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV-11940</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/17/23 18:29</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.21	0.50	5	0	<b>104</b>	90	110	0			

Associated samples: H23050392-001D, H23050392-001E, H23050392-002D, H23050392-002E, H23050392-003D, H23050392-003E, H23050392-004D, H23050392-004E, H23050392-005D, H23050392-005E, H23050392-006D, H23050392-006E, H23050392-007D, H23050392-007E, H23050392-008D, H23050392-008E, H23050392-009D, H23050392-009E, H23050392-010D, H23050392-010E, H23050392-011D, H23050392-011E, H23050392-012D, H23050392-012E, H23050392-013D, H23050392-013E, H23050392-014D, H23050392-014E, H23050392-015D, H23050392-015E, H23050392-016D, H23050392-016E

Run ID :Run Order: <b>SUB-C294717: 20</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050392-013EMS</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/17/23 19:57</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	6.79	0.50	5	1.682	<b>102</b>	90	111	0			

Associated samples: H23050392-001D, H23050392-001E, H23050392-002D, H23050392-002E, H23050392-003D, H23050392-003E, H23050392-004D, H23050392-004E, H23050392-005D, H23050392-005E, H23050392-006D, H23050392-006E, H23050392-007D, H23050392-007E, H23050392-008D, H23050392-008E, H23050392-009D, H23050392-009E, H23050392-010D, H23050392-010E, H23050392-011D, H23050392-011E, H23050392-012D, H23050392-012E, H23050392-013D, H23050392-013E, H23050392-014D, H23050392-014E, H23050392-015D, H23050392-015E, H23050392-016D, H23050392-016E

Run ID :Run Order: <b>SUB-C294717: 21</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050392-013EMSD</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/17/23 20:17</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	6.73	0.50	5	1.682	<b>101</b>	90	111	6.788	<b>0.9</b>	20	

Associated samples: H23050392-001D, H23050392-001E, H23050392-002D, H23050392-002E, H23050392-003D, H23050392-003E, H23050392-004D, H23050392-004E, H23050392-005D, H23050392-005E, H23050392-006D, H23050392-006E, H23050392-007D, H23050392-007E, H23050392-008D, H23050392-008E, H23050392-009D, H23050392-009E, H23050392-010D, H23050392-010E, H23050392-011D, H23050392-011E, H23050392-012D, H23050392-012E, H23050392-013D, H23050392-013E, H23050392-014D, H23050392-014E, H23050392-015D, H23050392-015E, H23050392-016D, H23050392-016E

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** C\_R294717

**Date:** 31-May-23

Run ID :Run Order: <b>SUB-C294717: 25</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/17/23 22:12</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	ND	0.1									

Associated samples: H23050392-001D, H23050392-001E, H23050392-002D, H23050392-002E, H23050392-003D, H23050392-003E, H23050392-004D, H23050392-004E, H23050392-005D, H23050392-005E, H23050392-006D, H23050392-006E, H23050392-007D, H23050392-007E, H23050392-008D, H23050392-008E, H23050392-009D, H23050392-009E, H23050392-010D, H23050392-010E, H23050392-011D, H23050392-011E, H23050392-012D, H23050392-012E, H23050392-013D, H23050392-013E, H23050392-014D, H23050392-014E, H23050392-015D, H23050392-015E, H23050392-016D, H23050392-016E

Run ID :Run Order: <b>SUB-C294717: 26</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS-11923</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/17/23 22:28</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.04	0.50	5	0	<b>101</b>	88	112	0			

Associated samples: H23050392-001D, H23050392-001E, H23050392-002D, H23050392-002E, H23050392-003D, H23050392-003E, H23050392-004D, H23050392-004E, H23050392-005D, H23050392-005E, H23050392-006D, H23050392-006E, H23050392-007D, H23050392-007E, H23050392-008D, H23050392-008E, H23050392-009D, H23050392-009E, H23050392-010D, H23050392-010E, H23050392-011D, H23050392-011E, H23050392-012D, H23050392-012E, H23050392-013D, H23050392-013E, H23050392-014D, H23050392-014E, H23050392-015D, H23050392-015E, H23050392-016D, H23050392-016E

Run ID :Run Order: <b>SUB-C294717: 27</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV-11940</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/17/23 22:43</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.16	0.50	5	0	<b>103</b>	90	110	0			

Associated samples: H23050392-001D, H23050392-001E, H23050392-002D, H23050392-002E, H23050392-003D, H23050392-003E, H23050392-004D, H23050392-004E, H23050392-005D, H23050392-005E, H23050392-006D, H23050392-006E, H23050392-007D, H23050392-007E, H23050392-008D, H23050392-008E, H23050392-009D, H23050392-009E, H23050392-010D, H23050392-010E, H23050392-011D, H23050392-011E, H23050392-012D, H23050392-012E, H23050392-013D, H23050392-013E, H23050392-014D, H23050392-014E, H23050392-015D, H23050392-015E, H23050392-016D, H23050392-016E

Run ID :Run Order: <b>SUB-C294717: 29</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050392-001DMS</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/17/23 23:14</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	6.14	0.50	5	1.143	<b>100</b>	88	112	0			

Associated samples: H23050392-001D, H23050392-001E, H23050392-002D, H23050392-002E, H23050392-003D, H23050392-003E, H23050392-004D, H23050392-004E, H23050392-005D, H23050392-005E, H23050392-006D, H23050392-006E, H23050392-007D, H23050392-007E, H23050392-008D, H23050392-008E, H23050392-009D, H23050392-009E, H23050392-010D, H23050392-010E, H23050392-011D, H23050392-011E, H23050392-012D, H23050392-012E, H23050392-013D, H23050392-013E, H23050392-014D, H23050392-014E, H23050392-015D, H23050392-015E, H23050392-016D, H23050392-016E

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050392

BatchID: C\_R294717

Date: 31-May-23

Run ID :Run Order: <b>SUB-C294717: 30</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050392-001DMSD</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/17/23 23:30</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	6.29	0.50	5	1.143	<b>103</b>	88	112	6.136	<b>2.5</b>	20	
Associated samples: <b>H23050392-001D, H23050392-001E, H23050392-002D, H23050392-002E, H23050392-003D, H23050392-003E, H23050392-004D, H23050392-004E, H23050392-005D, H23050392-005E, H23050392-006D, H23050392-006E, H23050392-007D, H23050392-007E, H23050392-008D, H23050392-008E, H23050392-009D, H23050392-009E, H23050392-010D, H23050392-010E, H23050392-011D, H23050392-011E, H23050392-012D, H23050392-012E, H23050392-013D, H23050392-013E, H23050392-014D, H23050392-014E, H23050392-015D, H23050392-015E, H23050392-016D, H23050392-016E</b>											

Run ID :Run Order: <b>SUB-C294717: 40</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV-11940</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/18/23 02:14</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.20	0.50	5	0	<b>104</b>	90	110	0			
Associated samples: <b>H23050392-001D, H23050392-001E, H23050392-002D, H23050392-002E, H23050392-003D, H23050392-003E, H23050392-004D, H23050392-004E, H23050392-005D, H23050392-005E, H23050392-006D, H23050392-006E, H23050392-007D, H23050392-007E, H23050392-008D, H23050392-008E, H23050392-009D, H23050392-009E, H23050392-010D, H23050392-010E, H23050392-011D, H23050392-011E, H23050392-012D, H23050392-012E, H23050392-013D, H23050392-013E, H23050392-014D, H23050392-014E, H23050392-015D, H23050392-015E, H23050392-016D, H23050392-016E</b>											

Run ID :Run Order: <b>SUB-C294717: 44</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>C23050621-013DMS</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/18/23 03:38</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	6.67	0.50	5	1.573	<b>102</b>	88	112	0			
Associated samples: <b>H23050392-001D, H23050392-001E, H23050392-002D, H23050392-002E, H23050392-003D, H23050392-003E, H23050392-004D, H23050392-004E, H23050392-005D, H23050392-005E, H23050392-006D, H23050392-006E, H23050392-007D, H23050392-007E, H23050392-008D, H23050392-008E, H23050392-009D, H23050392-009E, H23050392-010D, H23050392-010E, H23050392-011D, H23050392-011E, H23050392-012D, H23050392-012E, H23050392-013D, H23050392-013E, H23050392-014D, H23050392-014E, H23050392-015D, H23050392-015E, H23050392-016D, H23050392-016E</b>											

Run ID :Run Order: <b>SUB-C294717: 45</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>C23050621-013DMSD</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/18/23 03:53</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	6.70	0.50	5	1.573	<b>103</b>	88	112	6.671	<b>0.5</b>	20	
Associated samples: <b>H23050392-001D, H23050392-001E, H23050392-002D, H23050392-002E, H23050392-003D, H23050392-003E, H23050392-004D, H23050392-004E, H23050392-005D, H23050392-005E, H23050392-006D, H23050392-006E, H23050392-007D, H23050392-007E, H23050392-008D, H23050392-008E, H23050392-009D, H23050392-009E, H23050392-010D, H23050392-010E, H23050392-011D, H23050392-011E, H23050392-012D, H23050392-012E, H23050392-013D, H23050392-013E, H23050392-014D, H23050392-014E, H23050392-015D, H23050392-015E, H23050392-016D, H23050392-016E</b>											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050392

BatchID: R184467

Date: 31-May-23

Run ID :Run Order: PHSC_101-H_230512A: 2	SampType: Initial Calibration Verification Standard	Lab ID: SC 150	Method: A2510 B								
Analysis Date: 05/12/23 08:41	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	154	5.0	150	0	103	90	110				
Associated samples: H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-005A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A											

Run ID :Run Order: PHSC_101-H_230512A: 3	SampType: Initial Calibration Verification Standard	Lab ID: SC 20000	Method: A2510 B								
Analysis Date: 05/12/23 08:43	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	19700	5.0	20000	0	98	90	110				
Associated samples: H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-005A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A											

Run ID :Run Order: PHSC_101-H_230512A: 4	SampType: Initial Calibration Verification Standard	Lab ID: SC 5000	Method: A2510 B								
Analysis Date: 05/12/23 08:45	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	5000	5.0	5000	0	100	90	110				
Associated samples: H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-005A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A											

Run ID :Run Order: PHSC_101-H_230512A: 5	SampType: Laboratory Control Sample	Lab ID: SC 1000	Method: A2510 B								
Analysis Date: 05/12/23 08:47	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1010	5.0	1000	0	101	90	110				
Associated samples: H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-005A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A											

Run ID :Run Order: PHSC_101-H_230512A: 6	SampType: Method Blank	Lab ID: MBLK	Method: A2510 B								
Analysis Date: 05/12/23 10:09	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	ND	5									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050392

BatchID: R184467

Date: 31-May-23

Run ID :Run Order: PHSC_101-H_230512A: 6	SampType: Method Blank	Lab ID: MBLK	Method: A2510 B								
Analysis Date: 05/12/23 10:09	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-005A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A

Run ID :Run Order: PHSC_101-H_230512A: 50	SampType: Sample Duplicate	Lab ID: H23050392-005ADUP	Method: A2510 B								
Analysis Date: 05/12/23 10:51	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Conductivity @ 25 C	2830	5.0		0				2839	0.3	10	
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Associated samples: H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-005A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A

Run ID :Run Order: PHSC_101-H_230512A: 52	SampType: Continuing Calibration Verification Standar	Lab ID: CCV - SC 1413	Method: A2510 B								
Analysis Date: 05/12/23 10:56	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Conductivity @ 25 C	1420	5.0	1413	0	101	90	110				
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Associated samples: H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-005A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A

Run ID :Run Order: PHSC_101-H_230512A: 57	SampType: Sample Duplicate	Lab ID: H23050392-006ADUP	Method: A2510 B								
Analysis Date: 05/12/23 11:05	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Conductivity @ 25 C	1270	5.0		0				1266	0	10	
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Associated samples: H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-005A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050392

BatchID: R184467

Date: 31-May-23

Run ID :Run Order: PHSC_101-H_230512A: 1	SampType: Initial Calibration Verification Standard				Lab ID: pH 7			Method: A4500-H B			
Analysis Date: 05/12/23 08:36	Units: s.u.				Prep Info: Prep Date:			Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	20.8			0		0	0				

Associated samples: H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-005A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A

Run ID :Run Order: PHSC_101-H_230512A: 49	SampType: Sample Duplicate				Lab ID: H23050392-005ADUP			Method: A4500-H B			
Analysis Date: 05/12/23 10:51	Units: s.u.				Prep Info: Prep Date:			Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	6.0	0.1		0				5.97	0.0	3	H
pH Measurement Temp	13.7			0				13.5			

Associated samples: H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-005A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A

Run ID :Run Order: PHSC_101-H_230512A: 51	SampType: Continuing Calibration Verification Standar				Lab ID: CCV - pH 7			Method: A4500-H B			
Analysis Date: 05/12/23 10:53	Units: s.u.				Prep Info: Prep Date:			Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	19.4			0		0	0				

Associated samples: H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-005A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A

Run ID :Run Order: PHSC_101-H_230512A: 56	SampType: Sample Duplicate				Lab ID: H23050392-006ADUP			Method: A4500-H B			
Analysis Date: 05/12/23 11:05	Units: s.u.				Prep Info: Prep Date:			Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	6.4	0.1		0				6.41	0.5	3	H
pH Measurement Temp	14.5			0				15.2			

Associated samples: H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-005A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** R184487

**Date:** 31-May-23

Run ID :Run Order: ICP2-HE_230512A: 7	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.7			
Analysis Date: 05/12/23 09:22	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.770	0.10	0.8	0	96	95	105				
Calcium	38.7	1.0	40	0	97	95	105				
Copper	0.807	0.012	0.8	0	101	95	105				
Lithium	0.785	0.10	0.8	0	98	95	105				
Magnesium	39.7	1.0	40	0	99	95	105				
Manganese	3.87	0.010	4	0	97	95	105				
Potassium	38.9	1.0	40	0	97	95	105				
Sodium	38.8	1.0	40	0	97	95	105				
Strontium	0.771	0.10	0.8	0	96	95	105				
Zinc	0.764	0.010	0.8	0	95	95	105				

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Run ID :Run Order: ICP2-HE_230512A: 8	SampType: Continuing Calibration Verification Standar				Lab ID: CCV-1			Method: E200.7			
Analysis Date: 05/12/23 09:26	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.55	0.10	2.5	0	102	95	105				
Calcium	25.0	1.0	25	0	100	95	105				
Copper	2.54	0.012	2.5	0	102	95	105				
Lithium	1.23	0.10	1.25	0	99	95	105				
Magnesium	25.1	1.0	25	0	101	95	105				
Manganese	2.45	0.010	2.5	0	98	95	105				
Potassium	24.9	1.0	25	0	99	95	105				
Sodium	24.7	1.0	25	0	99	95	105				
Strontium	2.44	0.10	2.5	0	98	95	105				
Zinc	2.54	0.010	2.5	0	102	95	105				

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** R184487

**Date:** 31-May-23

Run ID :Run Order: ICP2-HE_230512A: 14	SampType: Method Blank				Lab ID: MB				Method: E200.7		
Analysis Date: 05/12/23 09:52	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.004									
Calcium	ND	0.2									
Copper	ND	0.01									
Lithium	ND	0.002									
Magnesium	ND	0.05									
Manganese	ND	0.001									
Potassium	ND	0.06									
Sodium	ND	0.03									
Strontium	ND	0.0003									
Zinc	ND	0.003									

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Run ID :Run Order: ICP2-HE_230512A: 15	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.7		
Analysis Date: 05/12/23 09:56	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.871	0.10	1	0	87	85	115				
Calcium	49.9	1.0	50	0	100	85	115				
Copper	1.03	0.012	1	0	103	85	115				
Lithium	0.999	0.10	1	0	100	85	115				
Magnesium	49.4	1.0	50	0	99	85	115				
Manganese	4.83	0.010	5	0	97	85	115				
Potassium	49.0	1.0	50	0	98	85	115				
Sodium	49.3	1.0	50	0	99	85	115				
Strontium	0.993	0.10	1	0	99	85	115				
Zinc	0.870	0.010	1	0	87	85	115				

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050392

BatchID: R184487

Date: 31-May-23

Run ID :Run Order: ICP2-HE_230512A: 44	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 05/12/23 11:45	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.34	0.10	2.5	0	94	90	110				
Calcium	24.9	1.0	25	0	100	90	110				
Copper	2.52	0.012	2.5	0	101	90	110				
Lithium	1.24	0.10	1.25	0	99	90	110				
Magnesium	24.0	1.0	25	0	96	90	110				
Manganese	2.34	0.010	2.5	0	94	90	110				
Potassium	24.5	1.0	25	0	98	90	110				
Sodium	24.7	1.0	25	0	99	90	110				
Strontium	2.46	0.10	2.5	0	99	90	110				
Zinc	2.31	0.010	2.5	0	92	90	110				

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Run ID :Run Order: ICP2-HE_230512A: 48	SampType: Sample Matrix Spike				Lab ID: H23050392-001BMS2				Method: E200.7		
Analysis Date: 05/12/23 12:00	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.18	0.050	1	0.1083	107	70	130				
Calcium	114	1.0	50	62.32	103	70	130				
Copper	1.06	0.012	1	0	106	70	130				
Lithium	1.05	0.10	1	0.05336	99	70	130				
Magnesium	66.0	1.0	50	17.4	97	70	130				
Manganese	4.82	0.0014	5	0.00956	96	70	130				
Potassium	54.4	1.0	50	5.195	98	70	130				
Sodium	73.5	1.0	50	24.03	99	70	130				
Strontium	1.39	0.010	1	0.3793	101	70	130				
Zinc	1.03	0.010	1	0.02071	101	70	130				

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** R184487

**Date:** 31-May-23

Run ID :Run Order: ICP2-HE_230512A: 49	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050392-001BMSD2				Method: E200.7		
Analysis Date: 05/12/23 12:03	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.02	0.050	1	0.1083	91	70	130	1.176	15	20	
Calcium	109	1.0	50	62.32	94	70	130	113.6	3.9	20	
Copper	1.05	0.012	1	0	105	70	130	1.058	0.4	20	
Lithium	1.08	0.10	1	0.05336	103	70	130	1.047	3.1	20	
Magnesium	64.0	1.0	50	17.4	93	70	130	65.99	3.0	20	
Manganese	4.66	0.0014	5	0.00956	93	70	130	4.816	3.3	20	
Potassium	54.2	1.0	50	5.195	98	70	130	54.36	0.3	20	
Sodium	73.7	1.0	50	24.03	99	70	130	73.47	0.3	20	
Strontium	1.40	0.010	1	0.3793	102	70	130	1.39	0.5	20	
Zinc	0.893	0.010	1	0.02071	87	70	130	1.035	15	20	

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Run ID :Run Order: ICP2-HE_230512A: 56	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 05/12/23 12:29	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.42	0.10	2.5	0	97	90	110				
Calcium	24.7	1.0	25	0	99	90	110				
Copper	2.51	0.012	2.5	0	100	90	110				
Lithium	1.21	0.10	1.25	0	96	90	110				
Magnesium	23.6	1.0	25	0	94	90	110				
Manganese	2.30	0.010	2.5	0	92	90	110				
Potassium	23.6	1.0	25	0	94	90	110				
Sodium	23.9	1.0	25	0	96	90	110				
Strontium	2.46	0.10	2.5	0	98	90	110				
Zinc	2.33	0.010	2.5	0	93	90	110				

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050392

BatchID: R184487

Date: 31-May-23

Run ID :Run Order: ICP2-HE_230512A: 62	SampType: Sample Matrix Spike				Lab ID: H23050392-010BMS2				Method: E200.7		
Analysis Date: 05/12/23 12:52	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.944	0.050	1	0.08568	86	70	130				
Calcium	147	1.0	50	105.6	84	70	130				
Copper	1.02	0.012	1	0	102	70	130				
Lithium	1.13	0.10	1	0.1067	102	70	130				
Magnesium	76.0	1.0	50	31.9	88	70	130				
Manganese	9.06	0.0014	5	4.809	85	70	130				
Potassium	55.2	1.0	50	6.981	96	70	130				
Sodium	84.6	1.0	50	35.42	98	70	130				
Strontium	1.50	0.010	1	0.5482	95	70	130				
Zinc	1.02	0.010	1	0.1837	83	70	130				

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Run ID :Run Order: ICP2-HE_230512A: 63	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050392-010BMSD2				Method: E200.7		
Analysis Date: 05/12/23 12:55	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.994	0.050	1	0.08568	91	70	130	0.9442	5.2	20	
Calcium	151	1.0	50	105.6	91	70	130	147.5	2.6	20	
Copper	1.04	0.012	1	0	104	70	130	1.02	1.6	20	
Lithium	1.12	0.10	1	0.1067	101	70	130	1.126	0.7	20	
Magnesium	78.4	1.0	50	31.9	93	70	130	76.05	3.1	20	
Manganese	9.36	0.0014	5	4.809	91	70	130	9.063	3.2	20	
Potassium	55.0	1.0	50	6.981	96	70	130	55.21	0.4	20	
Sodium	83.9	1.0	50	35.42	97	70	130	84.57	0.8	20	
Strontium	1.53	0.010	1	0.5482	98	70	130	1.501	2.1	20	
Zinc	1.07	0.010	1	0.1837	89	70	130	1.016	5.1	20	

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050392

BatchID: R184487

Date: 31-May-23

Run ID :Run Order: ICP2-HE_230512A: 75	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 05/12/23 13:40	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.41	0.10	2.5	0	96	90	110				
Calcium	25.0	1.0	25	0	100	90	110				
Copper	2.54	0.012	2.5	0	101	90	110				
Lithium	1.27	0.10	1.25	0	102	90	110				
Magnesium	25.3	1.0	25	0	101	90	110				
Manganese	2.46	0.010	2.5	0	98	90	110				
Potassium	24.7	1.0	25	0	99	90	110				
Sodium	25.0	1.0	25	0	100	90	110				
Strontium	2.46	0.10	2.5	0	98	90	110				
Zinc	2.44	0.010	2.5	0	98	90	110				

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Run ID :Run Order: ICP2-HE_230512A: 81	SampType: Sample Matrix Spike				Lab ID: H23050392-016BMS2				Method: E200.7		
Analysis Date: 05/12/23 14:03	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.03	0.050	1	0.1359	89	70	130				
Calcium	474	1.0	50	444		70	130				A
Copper	31.1	0.012	1	29.96		70	130				A
Lithium	1.73	0.10	1	0.7188	101	70	130				
Magnesium	200	1.0	50	154.2	91	70	130				
Manganese	184	0.0014	5	182.8		70	130				A
Potassium	65.7	1.0	50	18.01	95	70	130				
Sodium	148	1.0	50	99.67	96	70	130				
Strontium	4.09	0.010	1	3.093	100	70	130				
Zinc	180	0.010	1	188.8		70	130				A

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050392

BatchID: R184487

Date: 31-May-23

Run ID :Run Order: ICP2-HE_230512A: 82	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050392-016BMSD2				Method: E200.7		
Analysis Date: 05/12/23 14:07	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.995	0.050	1	0.1359	86	70	130	1.031	3.5	20	
Calcium	487	1.0	50	444		70	130	474.3	2.7	20	A
Copper	30.8	0.012	1	29.96		70	130	31.07	0.9	20	A
Lithium	1.77	0.10	1	0.7188	105	70	130	1.726	2.3	20	
Magnesium	201	1.0	50	154.2	94	70	130	199.8	0.7	20	
Manganese	190	0.0014	5	182.8		70	130	183.5	3.2	20	A
Potassium	68.8	1.0	50	18.01	102	70	130	65.74	4.5	20	
Sodium	153	1.0	50	99.67	107	70	130	147.5	3.7	20	
Strontium	4.04	0.010	1	3.093	95	70	130	4.088	1.1	20	
Zinc	181	0.010	1	188.8		70	130	179.8	0.7	20	A

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Qualifiers: ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** R184492

**Date:** 31-May-23

Run ID :Run Order: ICPMS205-H_230512C: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 05/12/23 16:25	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0635	0.010	0.06	0	106	90	110				
Gallium	0.0594	0.010	0.06	0	99	90	110				
Lanthanum	0.0592	0.010	0.06	0	99	90	110				
Neodymium	0.0593	0.0050	0.06	0	99	90	110				
Niobium	0.0613	0.0010	0.06	0	102	90	110				
Palladium	0.0598	0.010	0.06	0	100	90	110				
Praseodymium	0.0598	0.0010	0.06	0	100	90	110				
Rubidium	0.0608	0.010	0.06	0	101	90	110				
Tungsten	0.0557	0.10	0.06	0	93	90	110				

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Run ID :Run Order: ICPMS205-H_230512C: 18	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/12/23 16:36	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0495	0.010	0.05	0	99	90	110				
Gallium	0.0497	0.010	0.05	0	99	90	110				
Lanthanum	0.0500	0.010	0.05	0	100	90	110				
Neodymium	0.0493	0.0050	0.05	0	99	90	110				
Niobium	0.0500	0.0010	0.05	0	100	90	110				
Palladium	0.0496	0.010	0.05	0	99	90	110				
Praseodymium	0.0497	0.0010	0.05	0	99	90	110				
Rubidium	0.0497	0.010	0.05	0	99	90	110				
Tungsten	0.0483	0.10	0.05	0	97	90	110				

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Run ID :Run Order: ICPMS205-H_230512C: 20	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 05/12/23 16:40	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	ND	0.0002									
Gallium	ND	0.00009									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** R184492

**Date:** 31-May-23

Run ID :Run Order: <b>ICPMS205-H_230512C: 20</b>	SampType: <b>Method Blank</b>				Lab ID: <b>LRB</b>				Method: <b>E200.8</b>		
Analysis Date: <b>05/12/23 16:40</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>9</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lanthanum	ND	0.0001									
Neodymium	ND	0.00009									
Niobium	ND	0.0003									
Palladium	ND	0.0002									
Praseodymium	ND	0.0001									
Rubidium	ND	0.00007									
Tungsten	0.0002	0.0001									

Associated samples: **H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B**

Run ID :Run Order: <b>ICPMS205-H_230512C: 21</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>				Method: <b>E200.8</b>		
Analysis Date: <b>05/12/23 16:41</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>9</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0494	0.010	0.05	0	<b>99</b>	85	115				
Gallium	0.0506	0.010	0.05	0	<b>101</b>	85	115				
Lanthanum	0.0495	0.010	0.05	0	<b>99</b>	85	115				
Neodymium	0.0498	0.0050	0.05	0	<b>99</b>	85	115				
Niobium	0.0538	0.0010	0.05	0	<b>108</b>	85	115				
Palladium	0.0492	0.010	0.05	0	<b>98</b>	85	115				
Praseodymium	0.0500	0.0010	0.05	0	<b>100</b>	85	115				
Rubidium	0.0496	0.010	0.05	0	<b>99</b>	85	115				
Tungsten	0.0434	0.10	0.05	0	<b>87</b>	85	115				

Associated samples: **H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B**

Run ID :Run Order: <b>ICPMS205-H_230512C: 31</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050392-003BMS</b>				Method: <b>E200.8</b>		
Analysis Date: <b>05/12/23 16:59</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>9</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0495	0.010	0.05	0	<b>99</b>	70	130				
Gallium	0.0483	0.010	0.05	0	<b>97</b>	70	130				
Lanthanum	0.0501	0.010	0.05	0.0001832	<b>100</b>	70	130				
Neodymium	0.0503	0.0050	0.05	0	<b>101</b>	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** R184492

**Date:** 31-May-23

Run ID :Run Order: ICPMS205-H_230512C: 31		SampType: Sample Matrix Spike			Lab ID: H23050392-003BMS				Method: E200.8		
Analysis Date: 05/12/23 16:59		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Niobium	0.0474	0.0010	0.05	0	95	70	130				
Palladium	0.0463	0.010	0.05	0	93	70	130				
Praseodymium	0.0502	0.0010	0.05	0	100	70	130				
Rubidium	0.0680	0.010	0.05	0.01768	101	70	130				
Tungsten	0.0425	0.10	0.05	0.000135	85	70	130				

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Run ID :Run Order: ICPMS205-H_230512C: 32		SampType: Sample Matrix Spike Duplicate			Lab ID: H23050392-003BMSD				Method: E200.8		
Analysis Date: 05/12/23 17:01		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0497	0.010	0.05	0	99	70	130	0.04951	0.4	20	
Gallium	0.0489	0.010	0.05	0	98	70	130	0.04829	1.3	20	
Lanthanum	0.0500	0.010	0.05	0.0001832	100	70	130	0.05014	0.4	20	
Neodymium	0.0504	0.0050	0.05	0	101	70	130	0.05029	0.2	20	
Niobium	0.0486	0.0010	0.05	0	97	70	130	0.0474			
Palladium	0.0465	0.010	0.05	0	93	70	130	0.04629	0.5	20	
Praseodymium	0.0504	0.0010	0.05	0	101	70	130	0.05024			
Rubidium	0.0685	0.010	0.05	0.01768	102	70	130	0.068	0.8	20	
Tungsten	0.0429	0.10	0.05	0.000135	86	70	130	0.04248		20	

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Run ID :Run Order: ICPMS205-H_230512C: 33		SampType: Continuing Calibration Verification Standar			Lab ID: CCV				Method: E200.8		
Analysis Date: 05/12/23 17:03		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0496	0.010	0.05	0	99	90	110				
Gallium	0.0495	0.010	0.05	0	99	90	110				
Lanthanum	0.0501	0.010	0.05	0	100	90	110				
Neodymium	0.0498	0.0050	0.05	0	100	90	110				
Niobium	0.0508	0.0010	0.05	0	102	90	110				
Palladium	0.0500	0.010	0.05	0	100	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050392

BatchID: R184492

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230512C: 33	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/12/23 17:03	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>9</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Praseodymium	0.0496	0.0010	0.05	0	99	90	110				
Rubidium	0.0490	0.010	0.05	0	98	90	110				
Tungsten	0.0492	0.10	0.05	0	98	90	110				

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Run ID :Run Order: ICPMS205-H_230512C: 43	SampType: Sample Matrix Spike				Lab ID: H23050392-013BMS				Method: E200.8		
Analysis Date: 05/12/23 17:20	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>9</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0490	0.010	0.05	0	98	70	130				
Gallium	0.0493	0.010	0.05	0	99	70	130				
Lanthanum	0.0498	0.010	0.05	0	100	70	130				
Neodymium	0.0504	0.0050	0.05	0	101	70	130				
Niobium	0.0490	0.0010	0.05	0	98	70	130				
Palladium	0.0461	0.010	0.05	0	92	70	130				
Praseodymium	0.0503	0.0010	0.05	0	101	70	130				
Rubidium	0.0628	0.010	0.05	0.01287	100	70	130				
Tungsten	0.0429	0.10	0.05	0.0001078	86	70	130				

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Run ID :Run Order: ICPMS205-H_230512C: 44	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050392-013BMSD				Method: E200.8		
Analysis Date: 05/12/23 17:22	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>9</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0494	0.010	0.05	0	99	70	130	0.04898	0.8	20	
Gallium	0.0490	0.010	0.05	0	98	70	130	0.04932	0.8	20	
Lanthanum	0.0503	0.010	0.05	0	101	70	130	0.04985	0.8	20	
Neodymium	0.0507	0.0050	0.05	0	101	70	130	0.05044	0.5	20	
Niobium	0.0487	0.0010	0.05	0	97	70	130	0.049			
Palladium	0.0464	0.010	0.05	0	93	70	130	0.0461	0.6	20	
Praseodymium	0.0505	0.0010	0.05	0	101	70	130	0.05026			
Rubidium	0.0623	0.010	0.05	0.01287	99	70	130	0.06282	0.8	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** R184492

**Date:** 31-May-23

Run ID :Run Order: <b>ICPMS205-H_230512C: 44</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23050392-013BMSD</b>			Method: <b>E200.8</b>				
Analysis Date: <b>05/12/23 17:22</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>9</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tungsten		0.0430	0.10	0.05	0.0001078	<b>86</b>	70	130	0.04288		20	

Associated samples: **H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B**

Run ID :Run Order: <b>ICPMS205-H_230512C: 58</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E200.8</b>				
Analysis Date: <b>05/12/23 16:25</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium		0.0562	0.0010	0.06	0	<b>94</b>	90	110				

Associated samples: **H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B**

Run ID :Run Order: <b>ICPMS205-H_230512C: 64</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E200.8</b>				
Analysis Date: <b>05/12/23 16:36</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium		0.0485	0.0010	0.05	0	<b>97</b>	90	110				

Associated samples: **H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B**

Run ID :Run Order: <b>ICPMS205-H_230512C: 67</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E200.8</b>				
Analysis Date: <b>05/12/23 16:41</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium		0.0442	0.0010	0.05	0	<b>88</b>	85	115				

Associated samples: **H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B**

Run ID :Run Order: <b>ICPMS205-H_230512C: 77</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23050392-003BMS</b>			Method: <b>E200.8</b>				
Analysis Date: <b>05/12/23 16:59</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium		0.0426	0.0050	0.05	0.0002994	<b>85</b>	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050392

BatchID: R184492

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230512C: 77	SampType: Sample Matrix Spike	Lab ID: H23050392-003BMS	Method: E200.8								
Analysis Date: 05/12/23 16:59	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Run ID :Run Order: ICPMS205-H_230512C: 78	SampType: Sample Matrix Spike Duplicate	Lab ID: H23050392-003BMSD	Method: E200.8								
Analysis Date: 05/12/23 17:01	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Thorium	0.0447	0.0050	0.05	0.0002994	89	70	130	0.0426	4.8	20
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Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Run ID :Run Order: ICPMS205-H_230512C: 79	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.8								
Analysis Date: 05/12/23 17:03	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Thorium	0.0501	0.0010	0.05	0	100	90	110			
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Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Run ID :Run Order: ICPMS205-H_230512C: 89	SampType: Sample Matrix Spike	Lab ID: H23050392-013BMS	Method: E200.8								
Analysis Date: 05/12/23 17:20	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Thorium	0.0446	0.0050	0.05	0	89	70	130			
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Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Run ID :Run Order: ICPMS205-H_230512C: 90	SampType: Sample Matrix Spike Duplicate	Lab ID: H23050392-013BMSD	Method: E200.8								
Analysis Date: 05/12/23 17:22	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Thorium	0.0447	0.0050	0.05	0	89	70	130	0.04457	0.3	20
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Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050392

BatchID: R184539

Date: 31-May-23

Run ID :Run Order: PHSC_101-H_230516A: 6	SampType: Method Blank	Lab ID: MBLK	Method: A2320 B								
Analysis Date: 05/16/23 08:13	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									
Associated samples: H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-005A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A											

Run ID :Run Order: PHSC_101-H_230516A: 7	SampType: Laboratory Control Sample	Lab ID: LCS	Method: A2320 B								
Analysis Date: 05/16/23 08:18	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	560	4.0	600	0	93	90	110				
Associated samples: H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-005A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A											

Run ID :Run Order: PHSC_101-H_230516A: 50	SampType: Sample Duplicate	Lab ID: H23050392-008ADUP	Method: A2320 B								
Analysis Date: 05/16/23 10:51	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	210	4.0		0				206.2	1.9	10	
Bicarbonate as HCO3	260	4.0		0				251	1.9	10	
Carbonate as CO3	ND	4.0		0				0		10	
Associated samples: H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-005A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A											

Run ID :Run Order: PHSC_101-H_230516A: 56	SampType: Sample Duplicate	Lab ID: H23050392-009ADUP	Method: A2320 B								
Analysis Date: 05/16/23 11:20	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	58	4.0		0				56.9	1.6	10	
Bicarbonate as HCO3	70	4.0		0				68.81	1.6	10	
Carbonate as CO3	ND	4.0		0				0		10	
Associated samples: H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-005A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050392

BatchID: R184539

Date: 31-May-23

Run ID :Run Order: PHSC_101-H_230516A: 142	SampType: Sample Duplicate				Lab ID: H23050437-016ADUP				Method: A2320 B		
Analysis Date: 05/16/23 16:16	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	18	4.0		0				17.93	1.1	10	
Bicarbonate as HCO3	21	4.0		0				21.06	1.2	10	
Carbonate as CO3	ND	4.0		0				0		10	

Associated samples: H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-005A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A

Run ID :Run Order: PHSC_101-H_230516A: 148	SampType: Sample Duplicate				Lab ID: H23050437-017ADUP				Method: A2320 B		
Analysis Date: 05/16/23 16:44	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	18	4.0		0				18.93	5.1	10	
Bicarbonate as HCO3	21	4.0		0				22.28	5.2	10	
Carbonate as CO3	ND	4.0		0				0		10	

Associated samples: H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-005A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** R184548

**Date:** 31-May-23

Run ID :Run Order: ICP2-HE_230515B: 20	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.7		
Analysis Date: 05/15/23 13:09	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <span style="color: red;">6</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.10	0.10	4	0	103	95	105				
Calcium	40.9	1.0	40	0	102	95	105				
Iron	4.10	0.020	4	0	103	95	105				
Magnesium	41.3	1.0	40	0	103	95	105				
Manganese	4.05	0.010	4	0	101	95	105				
Zinc	0.794	0.010	0.8	0	99	95	105				

Associated samples: H23050392-016B

Run ID :Run Order: ICP2-HE_230515B: 21	SampType: Continuing Calibration Verification Standar				Lab ID: CCV-1				Method: E200.7		
Analysis Date: 05/15/23 13:13	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <span style="color: red;">6</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.55	0.10	2.5	0	102	95	105				
Calcium	25.6	1.0	25	0	102	95	105				
Iron	2.58	0.020	2.5	0	103	95	105				
Magnesium	26.3	1.0	25	0	105	95	105				
Manganese	2.53	0.010	2.5	0	101	95	105				
Zinc	2.42	0.010	2.5	0	97	95	105				

Associated samples: H23050392-016B

Run ID :Run Order: ICP2-HE_230515B: 27	SampType: Method Blank				Lab ID: MB				Method: E200.7		
Analysis Date: 05/15/23 13:36	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <span style="color: red;">6</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.03									
Calcium	ND	0.2									
Iron	ND	0.008									
Magnesium	ND	0.05									
Manganese	ND	0.001									
Zinc	ND	0.003									

Associated samples: H23050392-016B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** R184548

**Date:** 31-May-23

Run ID :Run Order: ICP2-HE_230515B: 28	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.7		
Analysis Date: 05/15/23 13:40	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.22	0.10	5	0	104	85	115				
Calcium	49.2	1.0	50	0	98	85	115				
Iron	5.16	0.020	5	0	103	85	115				
Magnesium	53.3	1.0	50	0	107	85	115				
Manganese	5.21	0.010	5	0	104	85	115				
Zinc	0.919	0.010	1	0	92	85	115				

Associated samples: H23050392-016B

Run ID :Run Order: ICP2-HE_230515B: 37	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 05/15/23 15:29	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.59	0.10	2.5	0	103	90	110				
Calcium	25.4	1.0	25	0	101	90	110				
Iron	2.63	0.020	2.5	0	105	90	110				
Magnesium	27.1	1.0	25	0	108	90	110				
Manganese	2.60	0.010	2.5	0	104	90	110				
Zinc	2.49	0.010	2.5	0	99	90	110				

Associated samples: H23050392-016B

Run ID :Run Order: ICP2-HE_230515B: 43	SampType: Sample Matrix Spike				Lab ID: H23050392-016BMS2				Method: E200.7		
Analysis Date: 05/15/23 15:51	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	29.2	0.15	25	3.625	102	70	130				
Calcium	702	1.0	250	461.6	96	70	130				
Iron	371	0.041	25	346.6		70	130				A
Magnesium	426	1.0	250	170	103	70	130				
Manganese	241	0.0068	25	217		70	130				A
Zinc	210	0.014	5	200.2		70	130				A

Associated samples: H23050392-016B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050392

BatchID: R184548

Date: 31-May-23

Run ID :Run Order: ICP2-HE_230515B: 44	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050392-016BMSD2				Method: E200.7		
Analysis Date: 05/15/23 15:55	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	30.2	0.15	25	3.625	106	70	130	29.24	3.1	20	
Calcium	714	1.0	250	461.6	101	70	130	701.6	1.7	20	
Iron	375	0.041	25	346.6		70	130	370.8	1.1	20	A
Magnesium	435	1.0	250	170	106	70	130	426.5	1.9	20	
Manganese	244	0.0068	25	217		70	130	241.2	0.9	20	A
Zinc	203	0.014	5	200.2		70	130	210.4	3.6	20	A

Associated samples: H23050392-016B

Qualifiers: ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount





## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** R184586

**Date:** 31-May-23

Run ID :Run Order: <b>IC METROHM_230516A: 2</b>		SampType: <b>Method Blank</b>			Lab ID: <b>ICB</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/16/23 09:57</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.02									
Sulfate	ND	0.03									
Bromide	ND	0.001									
Fluoride	ND	0.01									

Associated samples: **H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A**

Run ID :Run Order: <b>IC METROHM_230516A: 3</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/16/23 10:12</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	101	1.0	100	0	<b>101</b>	90	110				
Sulfate	394	1.0	400	0	<b>98</b>	90	110				
Bromide	4.89	0.50	5	0	<b>98</b>	90	110				
Fluoride	5.28	0.10	5	0	<b>106</b>	90	110				

Associated samples: **H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A**

Run ID :Run Order: <b>IC METROHM_230516A: 4</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/16/23 10:26</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	24.6	1.0	25	0	<b>99</b>	90	110				
Sulfate	102	1.0	100	0	<b>102</b>	90	110				
Bromide	1.15	0.50	1.25	0	<b>92</b>	90	110				
Fluoride	1.28	0.10	1.25	0	<b>102</b>	90	110				

Associated samples: **H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A**

Run ID :Run Order: <b>IC METROHM_230516A: 35</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/16/23 18:21</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	49.1	1.0	50	0	<b>98</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050392

BatchID: R184586

Date: 31-May-23

Run ID :Run Order: <b>IC METROHM_230516A: 35</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>				Method: <b>E300.0</b>		
Analysis Date: <b>05/16/23 18:21</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	195	1.0	200	0	97	90	110				
Bromide	2.40	0.50	2.5	0	96	90	110				
Fluoride	2.53	0.10	2.5	0	101	90	110				

Associated samples: H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A

Run ID :Run Order: <b>IC METROHM_230516A: 49</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>				Method: <b>E300.0</b>		
Analysis Date: <b>05/16/23 21:57</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	50.7	1.0	50	0	101	90	110				
Sulfate	205	1.0	200	0	103	90	110				
Bromide	2.47	0.50	2.5	0	99	90	110				
Fluoride	2.61	0.10	2.5	0	104	90	110				

Associated samples: H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A

Run ID :Run Order: <b>IC METROHM_230516A: 52</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050392-003AMS</b>				Method: <b>E300.0</b>		
Analysis Date: <b>05/16/23 22:55</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	156	1.0	125	30.7	100	90	110				
Sulfate	1650	1.0	500	1145	101	90	110				
Bromide	5.82	0.50	6.25	0.085	92	90	110				
Fluoride	6.92	0.10	6.25	0.445	104	90	110				

Associated samples: H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A

Run ID :Run Order: <b>IC METROHM_230516A: 53</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050392-003AMSD</b>				Method: <b>E300.0</b>		
Analysis Date: <b>05/16/23 23:09</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	156	1.0	125	30.7	100	90	110	156.1	0.2	20	
Sulfate	1650	1.0	500	1145	101	90	110	1648	0	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** R184586

**Date:** 31-May-23

Run ID :Run Order: <b>IC METROHM_230516A: 53</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23050392-003AMSD</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/16/23 23:09</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	5.83	0.50	6.25	0.085	<b>92</b>	90	110	5.821	<b>0.2</b>	20	
Fluoride	6.91	0.10	6.25	0.445	<b>103</b>	90	110	6.923	<b>0.2</b>	20	

Associated samples: **H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A**

Run ID :Run Order: <b>IC METROHM_230516A: 63</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/17/23 01:32</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	50.8	1.0	50	0	<b>102</b>	90	110				
Sulfate	202	1.0	200	0	<b>101</b>	90	110				
Bromide	2.48	0.50	2.5	0	<b>99</b>	90	110				
Fluoride	2.62	0.10	2.5	0	<b>105</b>	90	110				

Associated samples: **H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A**

Run ID :Run Order: <b>IC METROHM_230516A: 66</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23050392-013AMS</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/17/23 02:30</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	117	1.0	50	66	<b>101</b>	90	110				
Sulfate	771	1.0	200	561.6	<b>104</b>	90	110				
Bromide	2.57	0.50	2.5	0.19	<b>95</b>	90	110				
Fluoride	3.08	0.10	2.5	0.394	<b>107</b>	90	110				

Associated samples: **H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A**

Run ID :Run Order: <b>IC METROHM_230516A: 67</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23050392-013AMSD</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/17/23 02:44</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	116	1.0	50	66	<b>99</b>	90	110	116.5	<b>0.7</b>	20	
Sulfate	770	1.0	200	561.6	<b>104</b>	90	110	770.6	<b>0.1</b>	20	
Bromide	2.55	0.50	2.5	0.19	<b>94</b>	90	110	2.574	<b>0.9</b>	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** R184586

**Date:** 31-May-23

Run ID :Run Order: <b>IC METROHM_230516A: 67</b>		SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050392-013AMSD</b>				Method: <b>E300.0</b>		
Analysis Date: <b>05/17/23 02:44</b>		Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride		3.06	0.10	2.5	0.394	<b>107</b>	90	110	3.079	<b>0.7</b>	20	

Associated samples: **H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A**

Run ID :Run Order: <b>IC METROHM_230516A: 109</b>		SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050437-010AMS</b>				Method: <b>E300.0</b>		
Analysis Date: <b>05/17/23 13:32</b>		Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		127	1.0	50	75.29	<b>103</b>	90	110				
Sulfate		923	1.0	200	711.5	<b>106</b>	90	110				
Bromide		2.67	0.50	2.5	0.254	<b>97</b>	90	110				
Fluoride		2.76	0.10	2.5	0.188	<b>103</b>	90	110				

Associated samples: **H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A**

Run ID :Run Order: <b>IC METROHM_230516A: 110</b>		SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050437-010AMSD</b>				Method: <b>E300.0</b>		
Analysis Date: <b>05/17/23 13:47</b>		Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		127	1.0	50	75.29	<b>103</b>	90	110	126.8	<b>0.2</b>	20	
Sulfate		923	1.0	200	711.5	<b>106</b>	90	110	922.8	<b>0</b>	20	
Bromide		2.68	0.50	2.5	0.254	<b>97</b>	90	110	2.671	<b>0.2</b>	20	
Fluoride		2.76	0.10	2.5	0.188	<b>103</b>	90	110	2.756	<b>0.2</b>	20	

Associated samples: **H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A**

Run ID :Run Order: <b>IC METROHM_230516A: 124</b>		SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050437-021AMS</b>				Method: <b>E300.0</b>		
Analysis Date: <b>05/17/23 17:23</b>		Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		147	1.0	125	18.7	<b>102</b>	90	110				
Sulfate		2130	1.0	500	1619	<b>103</b>	90	110				
Bromide		5.92	0.50	6.25	0.13	<b>93</b>	90	110				
Fluoride		8.12	0.10	6.25	1.445	<b>107</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** R184586

**Date:** 31-May-23

Run ID :Run Order: **IC METROHM\_230516A: 124**      SampType: **Sample Matrix Spike**      Lab ID: **H23050437-021AMS**      Method: **E300.0**  
 Analysis Date: **05/17/23 17:23**      Units: **mg/L**      Prep Info:    Prep Date:      Prep Method:  
 Analytes **4**      Result      PQL      SPK value    SPK Ref Val      %REC    LowLimit    HighLimit    RPD Ref Val      %RPD    RPDLimit    Qual

Associated samples: **H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A**

Run ID :Run Order: <b>IC METROHM_230516A: 125</b>		SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050437-021AMSD</b>				Method: <b>E300.0</b>	
Analysis Date: <b>05/17/23 17:37</b>		Units: <b>mg/L</b>				Prep Info:    Prep Date:				Prep Method:	
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	149	1.0	125	18.7	<b>104</b>	90	110	146.7	<b>1.7</b>	20	
Sulfate	2140	1.0	500	1619	<b>104</b>	90	110	2131	<b>0.5</b>	20	
Bromide	6.06	0.50	6.25	0.13	<b>95</b>	90	110	5.922	<b>2.3</b>	20	
Fluoride	8.61	0.10	6.25	1.445	<b>115</b>	90	110	8.121	<b>5.9</b>	20	S

Associated samples: **H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A**

**Qualifiers:**    ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
                           J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050392

BatchID: R184592

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230516C: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 05/16/23 15:19	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 26	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.280	0.10	0.3	0	93	90	110				
Antimony	0.0563	0.050	0.06	0	94	90	110				
Arsenic	0.0566	0.0050	0.06	0	94	90	110				
Barium	0.0558	0.10	0.06	0	93	90	110				
Beryllium	0.0271	0.0010	0.03	0	90	90	110				
Cadmium	0.0288	0.0010	0.03	0	96	90	110				
Chromium	0.0566	0.010	0.06	0	94	90	110				
Cobalt	0.0566	0.010	0.06	0	94	90	110				
Copper	0.0577	0.010	0.06	0	96	90	110				
Iron	0.286	0.020	0.3	0	95	90	110				
Lead	0.0564	0.010	0.06	0	94	90	110				
Magnesium	2.80	0.50	3	0	93	90	110				
Manganese	0.282	0.010	0.3	0	94	90	110				
Molybdenum	0.0560	0.0050	0.06	0	93	90	110				
Nickel	0.0572	0.010	0.06	0	95	90	110				
Potassium	2.81	0.50	3	0	94	90	110				
Selenium	0.0542	0.0050	0.06	0	90	90	110				
Silver	0.0285	0.0050	0.03	0	95	90	110				
Sodium	2.83	0.50	3	0	94	90	110				
Strontium	0.0571	0.10	0.06	0	95	90	110				
Thallium	0.0564	0.10	0.06	0	94	90	110				
Tin	0.0583	0.10	0.06	0	97	90	110				
Titanium	0.0567	0.010	0.06	0	95	90	110				
Uranium	0.0570	0.00030	0.06	0	95	90	110				
Vanadium	0.0560	0.10	0.06	0	93	90	110				
Zinc	0.0584	0.010	0.06	0	97	90	110				

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Run ID :Run Order: ICPMS205-H_230516C: 22	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 05/16/23 15:48	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 26	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** R184592

**Date:** 31-May-23

Run ID :Run Order: ICPMS205-H_230516C: 22	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 05/16/23 15:48	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>26</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.0002									
Arsenic	ND	0.0002									
Barium	ND	0.0002									
Beryllium	ND	0.0002									
Cadmium	ND	0.00002									
Chromium	ND	0.0001									
Cobalt	ND	0.001									
Copper	ND	0.0001									
Iron	ND	0.004									
Lead	ND	0.0001									
Magnesium	ND	0.01									
Manganese	ND	0.0003									
Molybdenum	ND	0.0003									
Nickel	ND	0.0002									
Potassium	ND	0.04									
Selenium	ND	0.00007									
Silver	ND	0.00008									
Sodium	ND	0.04									
Strontium	ND	0.0001									
Thallium	ND	0.00008									
Tin	ND	0.0002									
Titanium	ND	0.0005									
Uranium	ND	0.00002									
Vanadium	ND	0.0001									
Zinc	ND	0.001									

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Run ID :Run Order: ICPMS205-H_230516C: 23	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.8		
Analysis Date: 05/16/23 15:51	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>26</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0501	0.10	0.05	0	100	85	115				
Antimony	0.0447	0.050	0.05	0	89	85	115				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050392

BatchID: R184592

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230516C: 23	SampType: Laboratory Fortified Blank				Lab ID: LFB			Method: E200.8			
Analysis Date: 05/16/23 15:51	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 26	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0497	0.0050	0.05	0	99	85	115				
Barium	0.0480	0.10	0.05	0	96	85	115				
Beryllium	0.0480	0.0010	0.05	0	96	85	115				
Cadmium	0.0491	0.0010	0.05	0	98	85	115				
Chromium	0.0489	0.010	0.05	0	98	85	115				
Cobalt	0.0496	0.010	0.05	0	99	85	115				
Copper	0.0496	0.010	0.05	0	99	85	115				
Iron	0.150	0.020	0.15	0	100	85	115				
Lead	0.0484	0.010	0.05	0	97	85	115				
Magnesium	0.992	0.50	1	0	99	85	115				
Manganese	0.0497	0.010	0.05	0	99	85	115				
Molybdenum	0.0483	0.0050	0.05	0	97	85	115				
Nickel	0.0500	0.010	0.05	0	100	85	115				
Potassium	0.989	0.50	1	0	99	85	115				
Selenium	0.0492	0.0050	0.05	0	98	85	115				
Silver	0.0197	0.0050	0.02	0	98	85	115				
Sodium	0.966	0.50	1	0	97	85	115				
Strontium	0.0502	0.10	0.05	0	100	85	115				
Thallium	0.0491	0.10	0.05	0	98	85	115				
Tin	0.0466	0.10	0.05	0	93	85	115				
Titanium	0.0462	0.010	0.05	0	92	85	115				
Uranium	0.0476	0.00030	0.05	0	95	85	115				
Vanadium	0.0483	0.10	0.05	0	97	85	115				
Zinc	0.0514	0.010	0.05	0	103	85	115				

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Run ID :Run Order: ICPMS205-H_230516C: 97	SampType: Sample Matrix Spike				Lab ID: H23050407-005BMS			Method: E200.8			
Analysis Date: 05/16/23 20:39	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 26	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0526	0.030	0.05	0	105	70	130				
Antimony	0.0444	0.0010	0.05	0	89	70	130				
Arsenic	0.0501	0.0010	0.05	0	100	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050392

BatchID: R184592

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230516C: 97	SampType: Sample Matrix Spike				Lab ID: H23050407-005BMS				Method: E200.8		
Analysis Date: 05/16/23 20:39	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 26	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.193	0.050	0.05	0.147	92	70	130				
Beryllium	0.0564	0.0010	0.05	0	113	70	130				
Cadmium	0.0496	0.0010	0.05	0	99	70	130				
Chromium	0.0490	0.0050	0.05	0.0001427	98	70	130				
Cobalt	0.0489	0.0050	0.05	0	98	70	130				
Copper	0.0487	0.0050	0.05	0	97	70	130				
Iron	0.147	0.020	0.15	0	98	70	130				
Lead	0.0500	0.0010	0.05	0	100	70	130				
Magnesium	8.89	1.0	1	8.156		70	130				A
Manganese	0.0499	0.0010	0.05	0	100	70	130				
Molybdenum	0.0462	0.0010	0.05	0	92	70	130				
Nickel	0.0487	0.0050	0.05	0	97	70	130				
Potassium	1.39	1.0	1	0.3824	100	70	130				
Selenium	0.0509	0.0010	0.05	0	102	70	130				
Silver	0.0196	0.0010	0.02	0	98	70	130				
Sodium	2.15	1.0	1	1.158	99	70	130				
Strontium	0.0980	0.010	0.05	0.04924	97	70	130				
Thallium	0.0508	0.00050	0.05	0	102	70	130				
Tin	0.0445	0.050	0.05	0	89	70	130				
Titanium	0.0509	0.0050	0.05	0	102	70	130				
Uranium	0.0489	0.00030	0.05	0.0002205	97	70	130				
Vanadium	0.0488	0.010	0.05	0	97	70	130				
Zinc	0.0522	0.010	0.05	0	104	70	130				

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Run ID :Run Order: ICPMS205-H_230516C: 98	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050407-005BMSD				Method: E200.8		
Analysis Date: 05/16/23 20:42	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 26	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0529	0.030	0.05	0	106	70	130	0.05263	0.5	20	
Antimony	0.0438	0.0010	0.05	0	88	70	130	0.04435	1.2	20	
Arsenic	0.0502	0.0010	0.05	0	100	70	130	0.0501	0.1	20	
Barium	0.194	0.050	0.05	0.147	95	70	130	0.193	0.7	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** R184592

**Date:** 31-May-23

Run ID :Run Order: ICPMS205-H_230516C: 98	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050407-005BMSD				Method: E200.8		
Analysis Date: 05/16/23 20:42	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 26	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0548	0.0010	0.05	0	110	70	130	0.05636	2.7	20	
Cadmium	0.0498	0.0010	0.05	0	100	70	130	0.04957	0.4	20	
Chromium	0.0492	0.0050	0.05	0.0001427	98	70	130	0.04896	0.6	20	
Cobalt	0.0484	0.0050	0.05	0	97	70	130	0.04894	1.0	20	
Copper	0.0491	0.0050	0.05	0	98	70	130	0.04866	0.9	20	
Iron	0.147	0.020	0.15	0	98	70	130	0.1473	0.4	20	
Lead	0.0497	0.0010	0.05	0	99	70	130	0.04997	0.6	20	
Magnesium	8.93	1.0	1	8.156		70	130	8.893	0.4	20	A
Manganese	0.0495	0.0010	0.05	0	99	70	130	0.04986	0.7	20	
Molybdenum	0.0461	0.0010	0.05	0	92	70	130	0.04622	0.3	20	
Nickel	0.0484	0.0050	0.05	0	97	70	130	0.04866	0.6	20	
Potassium	1.40	1.0	1	0.3824	101	70	130	1.387	0.6	20	
Selenium	0.0508	0.0010	0.05	0	102	70	130	0.0509	0.2	20	
Silver	0.0196	0.0010	0.02	0	98	70	130	0.01957	0.4	20	
Sodium	2.16	1.0	1	1.158	101	70	130	2.149	0.7	20	
Strontium	0.0981	0.010	0.05	0.04924	98	70	130	0.09796	0.1	20	
Thallium	0.0502	0.00050	0.05	0	100	70	130	0.05076	1.0	20	
Tin	0.0449	0.050	0.05	0	90	70	130	0.04451		20	
Titanium	0.0452	0.0050	0.05	0	90	70	130	0.05094	12	20	
Uranium	0.0485	0.00030	0.05	0.0002205	96	70	130	0.04889	0.9	20	
Vanadium	0.0488	0.010	0.05	0	98	70	130	0.04875	0	20	
Zinc	0.0527	0.010	0.05	0	105	70	130	0.05215	1.0	20	

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Run ID :Run Order: ICPMS205-H_230516C: 99	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/16/23 20:45	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 26	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0484	0.10	0.05	0	97	90	110				
Antimony	0.0504	0.050	0.05	0	101	90	110				
Arsenic	0.0497	0.0050	0.05	0	99	90	110				
Barium	0.0493	0.10	0.05	0	99	90	110				
Beryllium	0.0494	0.0010	0.05	0	99	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** R184592

**Date:** 31-May-23

Run ID :Run Order: ICPMS205-H_230516C: 99	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/16/23 20:45	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 26	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0498	0.0010	0.05	0	100	90	110				
Chromium	0.0502	0.010	0.05	0	100	90	110				
Cobalt	0.0502	0.010	0.05	0	100	90	110				
Copper	0.0499	0.010	0.05	0	100	90	110				
Iron	1.30	0.020	1.3	0	100	90	110				
Lead	0.0497	0.010	0.05	0	99	90	110				
Magnesium	12.3	0.50	12.5	0	99	90	110				
Manganese	0.0510	0.010	0.05	0	102	90	110				
Molybdenum	0.0504	0.0050	0.05	0	101	90	110				
Nickel	0.0507	0.010	0.05	0	101	90	110				
Potassium	12.7	0.50	12.5	0	102	90	110				
Selenium	0.0491	0.0050	0.05	0	98	90	110				
Silver	0.0199	0.0050	0.02	0	100	90	110				
Sodium	12.3	0.50	12.5	0	99	90	110				
Strontium	0.0500	0.10	0.05	0	100	90	110				
Thallium	0.0500	0.10	0.05	0	100	90	110				
Tin	0.0513	0.10	0.05	0	103	90	110				
Titanium	0.0508	0.010	0.05	0	101	90	110				
Uranium	0.0500	0.00030	0.05	0	100	90	110				
Vanadium	0.0502	0.10	0.05	0	100	90	110				
Zinc	0.0500	0.010	0.05	0	100	90	110				

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Run ID :Run Order: ICPMS205-H_230516C: 111	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/16/23 21:20	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 26	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0479	0.10	0.05	0	96	90	110				
Antimony	0.0488	0.050	0.05	0	98	90	110				
Arsenic	0.0491	0.0050	0.05	0	98	90	110				
Barium	0.0488	0.10	0.05	0	97	90	110				
Beryllium	0.0478	0.0010	0.05	0	96	90	110				
Cadmium	0.0494	0.0010	0.05	0	99	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050392

BatchID: R184592

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230516C: 111	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/16/23 21:20	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>26</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.0493	0.010	0.05	0	99	90	110				
Cobalt	0.0492	0.010	0.05	0	98	90	110				
Copper	0.0491	0.010	0.05	0	98	90	110				
Iron	1.29	0.020	1.3	0	99	90	110				
Lead	0.0491	0.010	0.05	0	98	90	110				
Magnesium	12.1	0.50	12.5	0	97	90	110				
Manganese	0.0498	0.010	0.05	0	100	90	110				
Molybdenum	0.0486	0.0050	0.05	0	97	90	110				
Nickel	0.0494	0.010	0.05	0	99	90	110				
Potassium	12.6	0.50	12.5	0	101	90	110				
Selenium	0.0477	0.0050	0.05	0	95	90	110				
Silver	0.0196	0.0050	0.02	0	98	90	110				
Sodium	12.3	0.50	12.5	0	98	90	110				
Strontium	0.0495	0.10	0.05	0	99	90	110				
Thallium	0.0487	0.10	0.05	0	97	90	110				
Tin	0.0483	0.10	0.05	0	97	90	110				
Titanium	0.0503	0.010	0.05	0	101	90	110				
Uranium	0.0488	0.00030	0.05	0	98	90	110				
Vanadium	0.0493	0.10	0.05	0	99	90	110				
Zinc	0.0506	0.010	0.05	0	101	90	110				

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Run ID :Run Order: ICPMS205-H_230516C: 119	SampType: Sample Matrix Spike				Lab ID: H23050392-007BMS				Method: E200.8		
Analysis Date: 05/16/23 21:44	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>26</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0569	0.030	0.05	0	114	70	130				
Antimony	0.0460	0.0010	0.05	0.0006107	91	70	130				
Arsenic	0.0544	0.0010	0.05	0.004866	99	70	130				
Barium	0.0897	0.050	0.05	0.04118	97	70	130				
Beryllium	0.0545	0.0010	0.05	0	109	70	130				
Cadmium	0.0535	0.0010	0.05	0.006045	95	70	130				
Chromium	0.0482	0.0050	0.05	0.0002739	96	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount

### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050392

BatchID: R184592

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230516C: 119	SampType: Sample Matrix Spike				Lab ID: H23050392-007BMS				Method: E200.8		
Analysis Date: 05/16/23 21:44	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>26</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	0.0474	0.0050	0.05	0	95	70	130				
Copper	0.0582	0.0050	0.05	0.01125	94	70	130				
Iron	0.158	0.020	0.15	0.01265	97	70	130				
Lead	0.0524	0.0010	0.05	0	105	70	130				
Magnesium	46.2	1.0	1	43.64		70	130				A
Manganese	0.595	0.0010	0.05	0.557		70	130				A
Molybdenum	0.0715	0.0010	0.05	0.02402	95	70	130				
Nickel	0.0492	0.0050	0.05	0.002574	93	70	130				
Potassium	8.58	1.0	1	7.799		70	130				A
Selenium	0.0532	0.0010	0.05	0.001339	104	70	130				
Silver	0.0130	0.0010	0.02	0	65	70	130				S
Sodium	92.2	1.0	1	88.38		70	130				A
Strontium	0.793	0.010	0.05	0.7556		70	130				A
Thallium	0.0535	0.00050	0.05	0	107	70	130				
Tin	0.0452	0.050	0.05	0	90	70	130				
Titanium	0.0503	0.0050	0.05	0	101	70	130				
Uranium	0.0782	0.00030	0.05	0.02467	107	70	130				
Vanadium	0.0521	0.010	0.05	0.004318	96	70	130				
Zinc	2.43	0.010	0.05	2.401		70	130				A

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Run ID :Run Order: ICPMS205-H_230516C: 120	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050392-007BMSD				Method: E200.8		
Analysis Date: 05/16/23 21:47	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>26</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0474	0.030	0.05	0	95	70	130	0.05688	18	20	
Antimony	0.0459	0.0010	0.05	0.0006107	90	70	130	0.04596	0.2	20	
Arsenic	0.0536	0.0010	0.05	0.004866	97	70	130	0.05444	1.5	20	
Barium	0.0895	0.050	0.05	0.04118	97	70	130	0.08974	0.3	20	
Beryllium	0.0533	0.0010	0.05	0	107	70	130	0.05446	2.2	20	
Cadmium	0.0536	0.0010	0.05	0.006045	95	70	130	0.05348	0.1	20	
Chromium	0.0478	0.0050	0.05	0.0002739	95	70	130	0.0482	0.8	20	
Cobalt	0.0474	0.0050	0.05	0	95	70	130	0.04737	0.2	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** R184592

**Date:** 31-May-23

Run ID :Run Order: ICPMS205-H_230516C: 120	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050392-007BMSD				Method: E200.8		
Analysis Date: 05/16/23 21:47	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 26	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0571	0.0050	0.05	0.01125	92	70	130	0.05815	1.9	20	
Iron	0.156	0.020	0.15	0.01265	96	70	130	0.1575	0.6	20	
Lead	0.0503	0.0010	0.05	0	101	70	130	0.05242	4.1	20	
Magnesium	42.5	1.0	1	43.64		70	130	46.23	8.3	20	A
Manganese	0.590	0.0010	0.05	0.557		70	130	0.5954	0.8	20	A
Molybdenum	0.0720	0.0010	0.05	0.02402	96	70	130	0.07154	0.6	20	
Nickel	0.0490	0.0050	0.05	0.002574	93	70	130	0.04925	0.4	20	
Potassium	8.56	1.0	1	7.799		70	130	8.58	0.2	20	A
Selenium	0.0492	0.0010	0.05	0.001339	96	70	130	0.05324	7.8	20	
Silver	0.0133	0.0010	0.02	0	67	70	130	0.01295	2.8	20	S
Sodium	85.2	1.0	1	88.38		70	130	92.21	7.9	20	A
Strontium	0.786	0.010	0.05	0.7556		70	130	0.793	0.9	20	A
Thallium	0.0510	0.00050	0.05	0	102	70	130	0.05352	4.7	20	
Tin	0.0457	0.050	0.05	0	91	70	130	0.04524		20	
Titanium	0.0480	0.0050	0.05	0	96	70	130	0.05032	4.8	20	
Uranium	0.0750	0.00030	0.05	0.02467	101	70	130	0.07817	4.1	20	
Vanadium	0.0517	0.010	0.05	0.004318	95	70	130	0.05212	0.8	20	
Zinc	2.39	0.010	0.05	2.401		70	130	2.429	1.5	20	A

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Run ID :Run Order: ICPMS205-H_230516C: 121	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/16/23 21:50	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 26	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0514	0.10	0.05	0	103	90	110				
Antimony	0.0490	0.050	0.05	0	98	90	110				
Arsenic	0.0486	0.0050	0.05	0	97	90	110				
Barium	0.0486	0.10	0.05	0	97	90	110				
Beryllium	0.0494	0.0010	0.05	0	99	90	110				
Cadmium	0.0497	0.0010	0.05	0	99	90	110				
Chromium	0.0490	0.010	0.05	0	98	90	110				
Cobalt	0.0484	0.010	0.05	0	97	90	110				
Copper	0.0482	0.010	0.05	0	96	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** R184592

**Date:** 31-May-23

Run ID :Run Order: ICPMS205-H_230516C: 121	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/16/23 21:50	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 26	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.27	0.020	1.3	0	98	90	110				
Lead	0.0494	0.010	0.05	0	99	90	110				
Magnesium	12.3	0.50	12.5	0	98	90	110				
Manganese	0.0498	0.010	0.05	0	99	90	110				
Molybdenum	0.0494	0.0050	0.05	0	99	90	110				
Nickel	0.0488	0.010	0.05	0	98	90	110				
Potassium	12.4	0.50	12.5	0	99	90	110				
Selenium	0.0485	0.0050	0.05	0	97	90	110				
Silver	0.0196	0.0050	0.02	0	98	90	110				
Sodium	12.4	0.50	12.5	0	99	90	110				
Strontium	0.0502	0.10	0.05	0	100	90	110				
Thallium	0.0494	0.10	0.05	0	99	90	110				
Tin	0.0498	0.10	0.05	0	100	90	110				
Titanium	0.0452	0.010	0.05	0	90	90	110				
Uranium	0.0496	0.00030	0.05	0	99	90	110				
Vanadium	0.0479	0.10	0.05	0	96	90	110				
Zinc	0.0498	0.010	0.05	0	100	90	110				

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Run ID :Run Order: ICPMS205-H_230516C: 129	SampType: Sample Matrix Spike				Lab ID: H23050437-001BMS				Method: E200.8		
Analysis Date: 05/16/23 22:13	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 26	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0496	0.030	0.05	0	99	70	130				
Antimony	0.0453	0.0010	0.05	0	91	70	130				
Arsenic	0.0541	0.0010	0.05	0.004222	100	70	130				
Barium	0.0783	0.050	0.05	0.02966	97	70	130				
Beryllium	0.0522	0.0010	0.05	0	104	70	130				
Cadmium	0.0497	0.0010	0.05	0.0003974	99	70	130				
Chromium	0.0476	0.0050	0.05	0.0006463	94	70	130				
Cobalt	0.0483	0.0050	0.05	0	97	70	130				
Copper	0.0498	0.0050	0.05	0.001706	96	70	130				
Iron	0.151	0.020	0.15	0	101	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050392

BatchID: R184592

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230516C: 129	SampType: Sample Matrix Spike				Lab ID: H23050437-001BMS				Method: E200.8		
Analysis Date: 05/16/23 22:13	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 26	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.0494	0.0010	0.05	0	99	70	130				
Magnesium	7.06	1.0	1	6.363		70	130				A
Manganese	0.0489	0.0010	0.05	0	98	70	130				
Molybdenum	0.0657	0.0010	0.05	0.0186	94	70	130				
Nickel	0.0484	0.0050	0.05	0	97	70	130				
Potassium	3.83	1.0	1	2.923	91	70	130				
Selenium	0.0508	0.0010	0.05	0.0002728	101	70	130				
Silver	0.0192	0.0010	0.02	0	96	70	130				
Sodium	22.4	1.0	1	22.49		70	130				A
Strontium	0.235	0.010	0.05	0.1838	102	70	130				
Thallium	0.0501	0.00050	0.05	0	100	70	130				
Tin	0.0460	0.050	0.05	0	92	70	130				
Titanium	0.0471	0.0050	0.05	0	94	70	130				
Uranium	0.0527	0.00030	0.05	0.003664	98	70	130				
Vanadium	0.0536	0.010	0.05	0.005978	95	70	130				
Zinc	0.100	0.010	0.05	0.04807	104	70	130				

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Run ID :Run Order: ICPMS205-H_230516C: 130	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050437-001BMSD				Method: E200.8		
Analysis Date: 05/16/23 22:16	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 26	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0545	0.030	0.05	0	109	70	130	0.04958	9.4	20	
Antimony	0.0454	0.0010	0.05	0	91	70	130	0.04531	0.1	20	
Arsenic	0.0549	0.0010	0.05	0.004222	101	70	130	0.05408	1.5	20	
Barium	0.0783	0.050	0.05	0.02966	97	70	130	0.07831	0	20	
Beryllium	0.0525	0.0010	0.05	0	105	70	130	0.05216	0.6	20	
Cadmium	0.0494	0.0010	0.05	0.0003974	98	70	130	0.0497	0.5	20	
Chromium	0.0496	0.0050	0.05	0.0006463	98	70	130	0.04761	4.1	20	
Cobalt	0.0488	0.0050	0.05	0	98	70	130	0.04827	1.1	20	
Copper	0.0510	0.0050	0.05	0.001706	99	70	130	0.04981	2.3	20	
Iron	0.149	0.020	0.15	0	100	70	130	0.1508	0.9	20	
Lead	0.0499	0.0010	0.05	0	100	70	130	0.04942	1.0	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050392

BatchID: R184592

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230516C: 130	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050437-001BMSD				Method: E200.8		
Analysis Date: 05/16/23 22:16	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 26	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	7.10	1.0	1	6.363		70	130	7.065	0.5	20	A
Manganese	0.0506	0.0010	0.05	0	101	70	130	0.04894	3.3	20	
Molybdenum	0.0659	0.0010	0.05	0.0186	95	70	130	0.06568	0.3	20	
Nickel	0.0484	0.0050	0.05	0	97	70	130	0.04839	0.1	20	
Potassium	3.89	1.0	1	2.923	96	70	130	3.832	1.4	20	
Selenium	0.0505	0.0010	0.05	0.0002728	100	70	130	0.05081	0.6	20	
Silver	0.0192	0.0010	0.02	0	96	70	130	0.01921	0.1	20	
Sodium	22.5	1.0	1	22.49		70	130	22.4	0.3	20	A
Strontium	0.239	0.010	0.05	0.1838	111	70	130	0.2349	1.9	20	
Thallium	0.0504	0.00050	0.05	0	101	70	130	0.05009	0.6	20	
Tin	0.0464	0.050	0.05	0	93	70	130	0.04599		20	
Titanium	0.0496	0.0050	0.05	0	99	70	130	0.04709	5.1	20	
Uranium	0.0529	0.00030	0.05	0.003664	98	70	130	0.05269	0.4	20	
Vanadium	0.0545	0.010	0.05	0.005978	97	70	130	0.05357	1.8	20	
Zinc	0.101	0.010	0.05	0.04807	105	70	130	0.1003	0.3	20	

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Run ID :Run Order: ICPMS205-H_230516C: 131	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/16/23 22:19	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0514	0.050	0.05	0	103	90	110				
Arsenic	0.0499	0.0050	0.05	0	100	90	110				
Barium	0.0507	0.10	0.05	0	101	90	110				
Beryllium	0.0452	0.0010	0.05	0	90	90	110				
Cadmium	0.0509	0.0010	0.05	0	102	90	110				
Chromium	0.0494	0.010	0.05	0	99	90	110				
Cobalt	0.0493	0.010	0.05	0	99	90	110				
Copper	0.0492	0.010	0.05	0	98	90	110				
Iron	1.29	0.020	1.3	0	99	90	110				
Lead	0.0518	0.010	0.05	0	104	90	110				
Magnesium	13.2	0.50	12.5	0	105	90	110				
Manganese	0.0505	0.010	0.05	0	101	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** R184592

**Date:** 31-May-23

Run ID :Run Order: ICPMS205-H_230516C: 131	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/16/23 22:19	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>25</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.0509	0.0050	0.05	0	102	90	110				
Nickel	0.0492	0.010	0.05	0	98	90	110				
Potassium	12.6	0.50	12.5	0	100	90	110				
Selenium	0.0461	0.0050	0.05	0	92	90	110				
Silver	0.0201	0.0050	0.02	0	101	90	110				
Sodium	13.3	0.50	12.5	0	106	90	110				
Strontium	0.0512	0.10	0.05	0	102	90	110				
Thallium	0.0518	0.10	0.05	0	104	90	110				
Tin	0.0515	0.10	0.05	0	103	90	110				
Titanium	0.0496	0.010	0.05	0	99	90	110				
Uranium	0.0519	0.00030	0.05	0	104	90	110				
Vanadium	0.0490	0.10	0.05	0	98	90	110				
Zinc	0.0506	0.010	0.05	0	101	90	110				

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Run ID :Run Order: ICPMS205-H_230516C: 155	SampType: Sample Matrix Spike				Lab ID: H23050437-021BMS				Method: E200.8		
Analysis Date: 05/16/23 23:30	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>26</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.402	0.030	0.05	0.3484		70	130				A
Antimony	0.0442	0.0010	0.05	0	88	70	130				
Arsenic	0.0510	0.0010	0.05	0.0004837	101	70	130				
Barium	0.0558	0.050	0.05	0.006942	98	70	130				
Beryllium	0.0514	0.0010	0.05	0.0006241	102	70	130				
Cadmium	0.144	0.0010	0.05	0.09659	95	70	130				
Chromium	0.0489	0.0050	0.05	0	98	70	130				
Cobalt	0.373	0.0050	0.05	0.3256		70	130				A
Copper	0.202	0.0050	0.05	0.1551	94	70	130				
Iron	88.7	0.020	0.15	89.19		70	130				AE
Lead	0.0513	0.0010	0.05	0.0009845	101	70	130				
Magnesium	74.6	1.0	1	72.24		70	130				A
Manganese	89.4	0.0010	0.05	90.25		70	130				AE
Molybdenum	0.0512	0.0010	0.05	0.001274	100	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050392

BatchID: R184592

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230516C: 155		SampType: Sample Matrix Spike			Lab ID: H23050437-021BMS				Method: E200.8		
Analysis Date: 05/16/23 23:30		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 26	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	0.240	0.0050	0.05	0.1919	95	70	130				
Potassium	19.9	1.0	1	18.98		70	130				A
Selenium	0.0596	0.0010	0.05	0.0001041	119	70	130				
Silver	0.0192	0.0010	0.02	0	96	70	130				
Sodium	38.3	1.0	1	36.68		70	130				A
Strontium	2.10	0.010	0.05	2.044		70	130				A
Thallium	0.0526	0.00050	0.05	0.0005993	104	70	130				
Tin	0.0484	0.050	0.05	0	97	70	130				
Titanium	0.0455	0.0050	0.05	0	91	70	130				
Uranium	0.0528	0.00030	0.05	0.001044	104	70	130				
Vanadium	0.0489	0.010	0.05	0	98	70	130				
Zinc	35.8	0.010	0.05	35.86		70	130				AE

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Run ID :Run Order: ICPMS205-H_230516C: 156		SampType: Sample Matrix Spike Duplicate			Lab ID: H23050437-021BMSD				Method: E200.8		
Analysis Date: 05/16/23 23:33		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 26	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.414	0.030	0.05	0.3484		70	130	0.4015	3.1	20	A
Antimony	0.0446	0.0010	0.05	0	89	70	130	0.04416	1.1	20	
Arsenic	0.0505	0.0010	0.05	0.0004837	100	70	130	0.05098	1.0	20	
Barium	0.0566	0.050	0.05	0.006942	99	70	130	0.05575	1.5	20	
Beryllium	0.0454	0.0010	0.05	0.0006241	89	70	130	0.05142	13	20	
Cadmium	0.143	0.0010	0.05	0.09659	93	70	130	0.144	0.6	20	
Chromium	0.0488	0.0050	0.05	0	98	70	130	0.04886	0.1	20	
Cobalt	0.376	0.0050	0.05	0.3256		70	130	0.3732	0.7	20	A
Copper	0.203	0.0050	0.05	0.1551	96	70	130	0.2019	0.6	20	
Iron	89.2	0.020	0.15	89.19		70	130	88.72	0.5	20	AE
Lead	0.0513	0.0010	0.05	0.0009845	101	70	130	0.05132	0.1	20	
Magnesium	74.8	1.0	1	72.24		70	130	74.58	0.2	20	A
Manganese	89.4	0.0010	0.05	90.25		70	130	89.36	0.0	20	AE
Molybdenum	0.0516	0.0010	0.05	0.001274	101	70	130	0.05115	0.8	20	
Nickel	0.240	0.0050	0.05	0.1919	97	70	130	0.2395	0.4	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050392

BatchID: R184592

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230516C: 156	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050437-021BMSD				Method: E200.8		
Analysis Date: 05/16/23 23:33	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 26	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	20.0	1.0	1	18.98		70	130	19.87	0.5	20	A
Selenium	0.0479	0.0010	0.05	0.0001041	96	70	130	0.05964	22	20	R
Silver	0.0193	0.0010	0.02	0	97	70	130	0.0192	0.6	20	
Sodium	38.4	1.0	1	36.68		70	130	38.34	0.3	20	A
Strontium	2.09	0.010	0.05	2.044		70	130	2.098	0.5	20	A
Thallium	0.0521	0.00050	0.05	0.0005993	103	70	130	0.05255	0.9	20	
Tin	0.0488	0.050	0.05	0	97	70	130	0.04835		20	
Titanium	0.0507	0.0050	0.05	0	101	70	130	0.04546	11	20	
Uranium	0.0526	0.00030	0.05	0.001044	103	70	130	0.05285	0.5	20	
Vanadium	0.0492	0.010	0.05	0	98	70	130	0.04887	0.7	20	
Zinc	35.8	0.010	0.05	35.86		70	130	35.82	0.1	20	AE

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

Run ID :Run Order: ICPMS205-H_230516C: 157	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/16/23 23:36	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0468	0.10	0.05	0	94	90	110				
Antimony	0.0490	0.050	0.05	0	98	90	110				
Arsenic	0.0481	0.0050	0.05	0	96	90	110				
Barium	0.0490	0.10	0.05	0	98	90	110				
Beryllium	0.0479	0.0010	0.05	0	96	90	110				
Cadmium	0.0501	0.0010	0.05	0	100	90	110				
Chromium	0.0489	0.010	0.05	0	98	90	110				
Cobalt	0.0492	0.010	0.05	0	98	90	110				
Copper	0.0504	0.010	0.05	0	101	90	110				
Iron	1.30	0.020	1.3	0	100	90	110				
Lead	0.0500	0.010	0.05	0	100	90	110				
Magnesium	12.6	0.50	12.5	0	100	90	110				
Molybdenum	0.0510	0.0050	0.05	0	102	90	110				
Nickel	0.0499	0.010	0.05	0	100	90	110				
Potassium	12.2	0.50	12.5	0	97	90	110				
Selenium	0.0508	0.0050	0.05	0	102	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** R184592

**Date:** 31-May-23

Run ID :Run Order: ICPMS205-H_230516C: 157	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 05/16/23 23:36	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0205	0.0050	0.02	0	102	90	110				
Sodium	13.0	0.50	12.5	0	104	90	110				
Strontium	0.0495	0.10	0.05	0	99	90	110				
Thallium	0.0501	0.10	0.05	0	100	90	110				
Tin	0.0511	0.10	0.05	0	102	90	110				
Titanium	0.0482	0.010	0.05	0	96	90	110				
Uranium	0.0496	0.00030	0.05	0	99	90	110				
Vanadium	0.0485	0.10	0.05	0	97	90	110				

Associated samples: H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050392

BatchID: R184602

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230517A: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 05/17/23 09:57	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.284	0.10	0.3	0	95	90	110				
Magnesium	2.92	0.50	3	0	97	90	110				

Associated samples: H23050392-005B, H23050392-006B, H23050392-008B, H23050392-009B, H23050392-013B, H23050392-015B

Run ID :Run Order: ICPMS205-H_230517A: 22	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 05/17/23 10:34	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Magnesium	ND	0.01									

Associated samples: H23050392-005B, H23050392-006B, H23050392-008B, H23050392-009B, H23050392-013B, H23050392-015B

Run ID :Run Order: ICPMS205-H_230517A: 23	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.8		
Analysis Date: 05/17/23 10:37	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0536	0.10	0.05	0	107	85	115				
Magnesium	1.03	0.50	1	0	103	85	115				

Associated samples: H23050392-005B, H23050392-006B, H23050392-008B, H23050392-009B, H23050392-013B, H23050392-015B

Run ID :Run Order: ICPMS205-H_230517A: 51	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 05/17/23 17:02	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.284	0.10	0.3	0	95	90	110				
Magnesium	2.88	0.50	3	0	96	90	110				

Associated samples: H23050392-005B, H23050392-006B, H23050392-008B, H23050392-009B, H23050392-013B, H23050392-015B

Run ID :Run Order: ICPMS205-H_230517A: 108	SampType: Sample Matrix Spike				Lab ID: H23050474-001DMS				Method: E200.8		
Analysis Date: 05/17/23 19:58	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.323	0.030	0.05	0.2933		70	130				A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** R184602

**Date:** 31-May-23

Run ID :Run Order: <b>ICPMS205-H_230517A: 108</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050474-001DMS</b>				Method: <b>E200.8</b>		
Analysis Date: <b>05/17/23 19:58</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	1.70	1.0	1	0.7046	<b>100</b>	70	130				

Associated samples: **H23050392-005B, H23050392-006B, H23050392-008B, H23050392-009B, H23050392-013B, H23050392-015B**

Run ID :Run Order: <b>ICPMS205-H_230517A: 109</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050474-001DMSD</b>				Method: <b>E200.8</b>		
Analysis Date: <b>05/17/23 20:01</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.324	0.030	0.05	0.2933		70	130	0.3234	<b>0.1</b>	20	A
Magnesium	1.70	1.0	1	0.7046	<b>100</b>	70	130	1.705	<b>0.1</b>	20	

Associated samples: **H23050392-005B, H23050392-006B, H23050392-008B, H23050392-009B, H23050392-013B, H23050392-015B**

Run ID :Run Order: <b>ICPMS205-H_230517A: 110</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>				Method: <b>E200.8</b>		
Analysis Date: <b>05/17/23 20:04</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0501	0.10	0.05	0	<b>100</b>	90	110				
Magnesium	12.7	0.50	12.5	0	<b>102</b>	90	110				

Associated samples: **H23050392-005B, H23050392-006B, H23050392-008B, H23050392-009B, H23050392-013B, H23050392-015B**

Run ID :Run Order: <b>ICPMS205-H_230517A: 137</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050556-005BMS</b>				Method: <b>E200.8</b>		
Analysis Date: <b>05/17/23 21:23</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0959	0.030	0.1	0	<b>96</b>	70	130				
Magnesium	12.8	1.0	2	11.1		70	130				A

Associated samples: **H23050392-005B, H23050392-006B, H23050392-008B, H23050392-009B, H23050392-013B, H23050392-015B**

Run ID :Run Order: <b>ICPMS205-H_230517A: 138</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050556-005BMSD</b>				Method: <b>E200.8</b>		
Analysis Date: <b>05/17/23 21:26</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.101	0.030	0.1	0	<b>101</b>	70	130	0.09594	<b>4.7</b>	20	
Magnesium	12.7	1.0	2	11.1		70	130	12.85	<b>1.0</b>	20	A

Associated samples: **H23050392-005B, H23050392-006B, H23050392-008B, H23050392-009B, H23050392-013B, H23050392-015B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** R184602

**Date:** 31-May-23

Run ID :Run Order: <b>ICPMS205-H_230517A: 138</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23050556-005BMSD</b>	Method: <b>E200.8</b>
Analysis Date: <b>05/17/23 21:26</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>2</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
		LowLimit	HighLimit
		RPD Ref Val	%RPD
			RPDLimit
			Qual

Associated samples: **H23050392-005B, H23050392-006B, H23050392-008B, H23050392-009B, H23050392-013B, H23050392-015B**

Run ID :Run Order: <b>ICPMS205-H_230517A: 139</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E200.8</b>
Analysis Date: <b>05/17/23 21:29</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>2</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
		LowLimit	HighLimit
		RPD Ref Val	%RPD
			RPDLimit
			Qual

Associated samples: **H23050392-005B, H23050392-006B, H23050392-008B, H23050392-009B, H23050392-013B, H23050392-015B**

Run ID :Run Order: <b>ICPMS205-H_230517A: 154</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23050392-005BMS</b>	Method: <b>E200.8</b>
Analysis Date: <b>05/17/23 22:13</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>2</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
		LowLimit	HighLimit
		RPD Ref Val	%RPD
			RPDLimit
			Qual

Associated samples: **H23050392-005B, H23050392-006B, H23050392-008B, H23050392-009B, H23050392-013B, H23050392-015B**

Run ID :Run Order: <b>ICPMS205-H_230517A: 155</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23050392-005BMSD</b>	Method: <b>E200.8</b>
Analysis Date: <b>05/17/23 22:16</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>2</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
		LowLimit	HighLimit
		RPD Ref Val	%RPD
			RPDLimit
			Qual

Associated samples: **H23050392-005B, H23050392-006B, H23050392-008B, H23050392-009B, H23050392-013B, H23050392-015B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** R184650

**Date:** 31-May-23

Run ID :Run Order: <b>ICPMS205-H_230517D: 12</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/17/23 11:59</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zirconium	0.0614	0.0050	0.06	0	<b>102</b>	90	110				

Associated samples: **H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B**

Run ID :Run Order: <b>ICPMS205-H_230517D: 22</b>	SampType: <b>Method Blank</b>				Lab ID: <b>LRB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/17/23 12:16</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zirconium	ND	0.0003									

Associated samples: **H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B**

Run ID :Run Order: <b>ICPMS205-H_230517D: 24</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/17/23 12:24</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zirconium	0.0509	0.0050	0.05	0	<b>102</b>	85	115				

Associated samples: **H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B**

Run ID :Run Order: <b>ICPMS205-H_230517D: 57</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/17/23 13:18</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zirconium	0.0514	0.0050	0.05	0	<b>103</b>	90	110				

Associated samples: **H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B**

Run ID :Run Order: <b>ICPMS205-H_230517D: 66</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050437-021BMS</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/17/23 13:32</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zirconium	0.0568	0.0050	0.05	0.0008357	<b>112</b>	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** R184650

**Date:** 31-May-23

Run ID :Run Order: <b>ICPMS205-H_230517D: 66</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23050437-021BMS</b>	Method: <b>E200.8</b>
Analysis Date: <b>05/17/23 13:32</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Associated samples: **H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B**

Run ID :Run Order: <b>ICPMS205-H_230517D: 67</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23050437-021BMSD</b>	Method: <b>E200.8</b>
Analysis Date: <b>05/17/23 13:34</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Associated samples: **H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B**

Run ID :Run Order: <b>ICPMS205-H_230517D: 102</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E200.8</b>
Analysis Date: <b>05/17/23 15:03</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Associated samples: **H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B**

Run ID :Run Order: <b>ICPMS205-H_230517D: 108</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23050392-007BMS</b>	Method: <b>E200.8</b>
Analysis Date: <b>05/17/23 15:12</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Associated samples: **H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B**

Run ID :Run Order: <b>ICPMS205-H_230517D: 109</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23050392-007BMSD</b>	Method: <b>E200.8</b>
Analysis Date: <b>05/17/23 15:14</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Associated samples: **H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B**

<b>Qualifiers:</b> ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limit	N - Analyte concentration was not sufficiently high to calculate RPD
J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** R184650

**Date:** 31-May-23

Run ID :Run Order: <b>ICPMS205-H_230517D: 113</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E200.8</b>								
Analysis Date: <b>05/17/23 15:20</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zirconium	0.0532	0.0050	0.05	0	<b>106</b>	90	110				

Associated samples: **H23050392-001B, H23050392-002B, H23050392-003B, H23050392-004B, H23050392-005B, H23050392-006B, H23050392-007B, H23050392-008B, H23050392-009B, H23050392-010B, H23050392-011B, H23050392-012B, H23050392-013B, H23050392-014B, H23050392-015B, H23050392-016B**



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** R184665

**Date:** 31-May-23

Run ID :Run Order: <b>FIA203-HE_230518A: 10</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>			Method: <b>E353.2</b>			
Analysis Date: <b>05/18/23 12:41</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.986	0.010	1	0	<b>99</b>	90	110				
Associated samples: <b>H23050392-001C, H23050392-002C, H23050392-003C, H23050392-004C, H23050392-006C, H23050392-007C, H23050392-008C, H23050392-009C, H23050392-010C, H23050392-011C, H23050392-012C, H23050392-013C, H23050392-014C, H23050392-015C, H23050392-016C</b>											

Run ID :Run Order: <b>FIA203-HE_230518A: 11</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>			Method: <b>E353.2</b>			
Analysis Date: <b>05/18/23 12:42</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.008									
Associated samples: <b>H23050392-001C, H23050392-002C, H23050392-003C, H23050392-004C, H23050392-006C, H23050392-007C, H23050392-008C, H23050392-009C, H23050392-010C, H23050392-011C, H23050392-012C, H23050392-013C, H23050392-014C, H23050392-015C, H23050392-016C</b>											

Run ID :Run Order: <b>FIA203-HE_230518A: 12</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>			Method: <b>E353.2</b>			
Analysis Date: <b>05/18/23 12:44</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.942	0.011	1	0	<b>94</b>	90	110				
Associated samples: <b>H23050392-001C, H23050392-002C, H23050392-003C, H23050392-004C, H23050392-006C, H23050392-007C, H23050392-008C, H23050392-009C, H23050392-010C, H23050392-011C, H23050392-012C, H23050392-013C, H23050392-014C, H23050392-015C, H23050392-016C</b>											

Run ID :Run Order: <b>FIA203-HE_230518A: 34</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>			Method: <b>E353.2</b>			
Analysis Date: <b>05/18/23 13:44</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.481	0.010	0.5	0	<b>96</b>	90	110				
Associated samples: <b>H23050392-001C, H23050392-002C, H23050392-003C, H23050392-004C, H23050392-006C, H23050392-007C, H23050392-008C, H23050392-009C, H23050392-010C, H23050392-011C, H23050392-012C, H23050392-013C, H23050392-014C, H23050392-015C, H23050392-016C</b>											

Run ID :Run Order: <b>FIA203-HE_230518A: 37</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050357-001DMS</b>			Method: <b>E353.2</b>			
Analysis Date: <b>05/18/23 13:48</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.11	0.011	1	0.2018	<b>91</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050392

BatchID: R184665

Date: 31-May-23

Run ID :Run Order: FIA203-HE_230518A: 37	SampType: Sample Matrix Spike	Lab ID: H23050357-001DMS	Method: E353.2								
Analysis Date: 05/18/23 13:48	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23050392-001C, H23050392-002C, H23050392-003C, H23050392-004C, H23050392-006C, H23050392-007C, H23050392-008C, H23050392-009C, H23050392-010C, H23050392-011C, H23050392-012C, H23050392-013C, H23050392-014C, H23050392-015C, H23050392-016C

Run ID :Run Order: FIA203-HE_230518A: 38	SampType: Sample Matrix Spike Duplicate	Lab ID: H23050357-001DMSD	Method: E353.2								
Analysis Date: 05/18/23 13:49	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrogen, Nitrate+Nitrite as N	1.12	0.011	1	0.2018	91	90	110	1.115	0.1	10
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Associated samples: H23050392-001C, H23050392-002C, H23050392-003C, H23050392-004C, H23050392-006C, H23050392-007C, H23050392-008C, H23050392-009C, H23050392-010C, H23050392-011C, H23050392-012C, H23050392-013C, H23050392-014C, H23050392-015C, H23050392-016C

Run ID :Run Order: FIA203-HE_230518A: 48	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E353.2								
Analysis Date: 05/18/23 14:01	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrogen, Nitrate+Nitrite as N	0.467	0.010	0.5	0	93	90	110
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Associated samples: H23050392-001C, H23050392-002C, H23050392-003C, H23050392-004C, H23050392-006C, H23050392-007C, H23050392-008C, H23050392-009C, H23050392-010C, H23050392-011C, H23050392-012C, H23050392-013C, H23050392-014C, H23050392-015C, H23050392-016C

Run ID :Run Order: FIA203-HE_230518A: 56	SampType: Sample Matrix Spike	Lab ID: H23050392-011CMS	Method: E353.2								
Analysis Date: 05/18/23 14:10	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrogen, Nitrate+Nitrite as N	0.943	0.011	1	0	94	90	110
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Associated samples: H23050392-001C, H23050392-002C, H23050392-003C, H23050392-004C, H23050392-006C, H23050392-007C, H23050392-008C, H23050392-009C, H23050392-010C, H23050392-011C, H23050392-012C, H23050392-013C, H23050392-014C, H23050392-015C, H23050392-016C

Run ID :Run Order: FIA203-HE_230518A: 57	SampType: Sample Matrix Spike Duplicate	Lab ID: H23050392-011CMSD	Method: E353.2								
Analysis Date: 05/18/23 14:11	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrogen, Nitrate+Nitrite as N	0.937	0.011	1	0	94	90	110	0.943	0.7	10
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Associated samples: H23050392-001C, H23050392-002C, H23050392-003C, H23050392-004C, H23050392-006C, H23050392-007C, H23050392-008C, H23050392-009C, H23050392-010C, H23050392-011C, H23050392-012C, H23050392-013C, H23050392-014C, H23050392-015C, H23050392-016C

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050392

BatchID: R184665

Date: 31-May-23

Run ID :Run Order: <b>FIA203-HE_230518A: 62</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E353.2</b>								
Analysis Date: <b>05/18/23 14:17</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.473	0.010	0.5	0	<b>95</b>	90	110				
Associated samples: <b>H23050392-001C, H23050392-002C, H23050392-003C, H23050392-004C, H23050392-006C, H23050392-007C, H23050392-008C, H23050392-009C, H23050392-010C, H23050392-011C, H23050392-012C, H23050392-013C, H23050392-014C, H23050392-015C, H23050392-016C</b>											

Run ID :Run Order: <b>FIA203-HE_230518A: 65</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23050392-016CMS</b>	Method: <b>E353.2</b>								
Analysis Date: <b>05/18/23 14:21</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.342	0.011	1	0	<b>34</b>	90	110				S
Associated samples: <b>H23050392-001C, H23050392-002C, H23050392-003C, H23050392-004C, H23050392-006C, H23050392-007C, H23050392-008C, H23050392-009C, H23050392-010C, H23050392-011C, H23050392-012C, H23050392-013C, H23050392-014C, H23050392-015C, H23050392-016C</b>											

Run ID :Run Order: <b>FIA203-HE_230518A: 66</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23050392-016CMSD</b>	Method: <b>E353.2</b>								
Analysis Date: <b>05/18/23 14:22</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.348	0.011	1	0	<b>35</b>	90	110	0.3418	<b>1.7</b>	10	S
Associated samples: <b>H23050392-001C, H23050392-002C, H23050392-003C, H23050392-004C, H23050392-006C, H23050392-007C, H23050392-008C, H23050392-009C, H23050392-010C, H23050392-011C, H23050392-012C, H23050392-013C, H23050392-014C, H23050392-015C, H23050392-016C</b>											

Run ID :Run Order: <b>FIA203-HE_230518A: 81</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23050437-003CMS</b>	Method: <b>E353.2</b>								
Analysis Date: <b>05/18/23 14:40</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.639	0.011	1	0.0083	<b>63</b>	90	110				S
Associated samples: <b>H23050392-001C, H23050392-002C, H23050392-003C, H23050392-004C, H23050392-006C, H23050392-007C, H23050392-008C, H23050392-009C, H23050392-010C, H23050392-011C, H23050392-012C, H23050392-013C, H23050392-014C, H23050392-015C, H23050392-016C</b>											

Run ID :Run Order: <b>FIA203-HE_230518A: 82</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23050437-003CMSD</b>	Method: <b>E353.2</b>								
Analysis Date: <b>05/18/23 14:41</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.643	0.011	1	0.0083	<b>63</b>	90	110	0.6386	<b>0.7</b>	10	S

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** R184665

**Date:** 31-May-23

Run ID :Run Order: <b>FIA203-HE_230518A: 82</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23050437-003CMSD</b>	Method: <b>E353.2</b>
Analysis Date: <b>05/18/23 14:41</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Associated samples: **H23050392-001C, H23050392-002C, H23050392-003C, H23050392-004C, H23050392-006C, H23050392-007C, H23050392-008C, H23050392-009C, H23050392-010C, H23050392-011C, H23050392-012C, H23050392-013C, H23050392-014C, H23050392-015C, H23050392-016C**

Run ID :Run Order: <b>FIA203-HE_230518A: 88</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23050437-003CMS</b>	Method: <b>E353.2</b>
Analysis Date: <b>05/18/23 14:48</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Nitrogen, Nitrate+Nitrite as N	3.87	0.055	5	0.0083	<b>ZZ</b>	90	110			S
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Associated samples: **H23050392-001C, H23050392-002C, H23050392-003C, H23050392-004C, H23050392-006C, H23050392-007C, H23050392-008C, H23050392-009C, H23050392-010C, H23050392-011C, H23050392-012C, H23050392-013C, H23050392-014C, H23050392-015C, H23050392-016C**

Run ID :Run Order: <b>FIA203-HE_230518A: 89</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23050437-003CMSD</b>	Method: <b>E353.2</b>
Analysis Date: <b>05/18/23 14:49</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Nitrogen, Nitrate+Nitrite as N	3.84	0.055	5	0.0083	<b>ZZ</b>	90	110	3.866	<b>0.8</b>	10	S
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Associated samples: **H23050392-001C, H23050392-002C, H23050392-003C, H23050392-004C, H23050392-006C, H23050392-007C, H23050392-008C, H23050392-009C, H23050392-010C, H23050392-011C, H23050392-012C, H23050392-013C, H23050392-014C, H23050392-015C, H23050392-016C**

Run ID :Run Order: <b>FIA203-HE_230518A: 191</b>	SampType: <b>Initial Calibration Verification Standard</b>	Lab ID: <b>ICV</b>	Method: <b>E353.2</b>
Analysis Date: <b>05/18/23 15:33</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Nitrogen, Nitrate+Nitrite as N	1.01	0.010	1	0	<b>101</b>	90	110			
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Associated samples: **H23050392-001C, H23050392-002C, H23050392-003C, H23050392-004C, H23050392-006C, H23050392-007C, H23050392-008C, H23050392-009C, H23050392-010C, H23050392-011C, H23050392-012C, H23050392-013C, H23050392-014C, H23050392-015C, H23050392-016C**

Run ID :Run Order: <b>FIA203-HE_230518A: 193</b>	SampType: <b>Laboratory Fortified Blank</b>	Lab ID: <b>LFB</b>	Method: <b>E353.2</b>
Analysis Date: <b>05/18/23 15:36</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Nitrogen, Nitrate+Nitrite as N	0.963	0.011	1	0	<b>96</b>	90	110			
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Associated samples: **H23050392-001C, H23050392-002C, H23050392-003C, H23050392-004C, H23050392-006C, H23050392-007C, H23050392-008C, H23050392-009C, H23050392-010C, H23050392-011C, H23050392-012C, H23050392-013C, H23050392-014C, H23050392-015C, H23050392-016C**

<b>Qualifiers:</b> ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limit	N - Analyte concentration was not sufficiently high to calculate RPD
J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050392

BatchID: R184665

Date: 31-May-23

Run ID :Run Order: FIA203-HE_230518A: 196	SampType: Sample Matrix Spike	Lab ID: H23050437-014CMS	Method: E353.2								
Analysis Date: 05/18/23 15:39	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.01	0.011	1	0.0168	99	90	110				
Associated samples: H23050392-001C, H23050392-002C, H23050392-003C, H23050392-004C, H23050392-006C, H23050392-007C, H23050392-008C, H23050392-009C, H23050392-010C, H23050392-011C, H23050392-012C, H23050392-013C, H23050392-014C, H23050392-015C, H23050392-016C											

Run ID :Run Order: FIA203-HE_230518A: 197	SampType: Sample Matrix Spike Duplicate	Lab ID: H23050437-014CMSD	Method: E353.2								
Analysis Date: 05/18/23 15:41	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.01	0.011	1	0.0168	99	90	110	1.009	0.1	10	
Associated samples: H23050392-001C, H23050392-002C, H23050392-003C, H23050392-004C, H23050392-006C, H23050392-007C, H23050392-008C, H23050392-009C, H23050392-010C, H23050392-011C, H23050392-012C, H23050392-013C, H23050392-014C, H23050392-015C, H23050392-016C											

Run ID :Run Order: FIA203-HE_230518A: 220	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E353.2								
Analysis Date: 05/18/23 16:08	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.507	0.010	0.5	0	101	90	110				
Associated samples: H23050392-001C, H23050392-002C, H23050392-003C, H23050392-004C, H23050392-006C, H23050392-007C, H23050392-008C, H23050392-009C, H23050392-010C, H23050392-011C, H23050392-012C, H23050392-013C, H23050392-014C, H23050392-015C, H23050392-016C											

Run ID :Run Order: FIA203-HE_230518A: 226	SampType: Sample Matrix Spike	Lab ID: H23050524-017CMS	Method: E353.2								
Analysis Date: 05/18/23 16:15	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.10	0.011	1	0.046	106	90	110				
Associated samples: H23050392-001C, H23050392-002C, H23050392-003C, H23050392-004C, H23050392-006C, H23050392-007C, H23050392-008C, H23050392-009C, H23050392-010C, H23050392-011C, H23050392-012C, H23050392-013C, H23050392-014C, H23050392-015C, H23050392-016C											

Run ID :Run Order: FIA203-HE_230518A: 227	SampType: Sample Matrix Spike Duplicate	Lab ID: H23050524-017CMSD	Method: E353.2								
Analysis Date: 05/18/23 16:16	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.10	0.011	1	0.046	106	90	110	1.102	0.1	10	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** R184665

**Date:** 31-May-23

Run ID :Run Order: <b>FIA203-HE_230518A: 227</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23050524-017CMSD</b>	Method: <b>E353.2</b>								
Analysis Date: <b>05/18/23 16:16</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H23050392-001C, H23050392-002C, H23050392-003C, H23050392-004C, H23050392-006C, H23050392-007C, H23050392-008C, H23050392-009C, H23050392-010C, H23050392-011C, H23050392-012C, H23050392-013C, H23050392-014C, H23050392-015C, H23050392-016C**



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** R184848

**Date:** 31-May-23

Run ID :Run Order: <b>IC METROHM_230524A: 2</b>		SampType: <b>Method Blank</b>			Lab ID: <b>ICB</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/24/23 11:41</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.02									
Sulfate	ND	0.03									
Bromide	ND	0.001									
Fluoride	ND	0.01									

Associated samples: **H23050392-005A**

Run ID :Run Order: <b>IC METROHM_230524A: 3</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/24/23 11:55</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	101	1.0	100	0	<b>101</b>	90	110				
Sulfate	390	1.0	400	0	<b>98</b>	90	110				
Bromide	4.80	0.50	5	0	<b>96</b>	90	110				
Fluoride	5.35	0.10	5	0	<b>107</b>	90	110				

Associated samples: **H23050392-005A**

Run ID :Run Order: <b>IC METROHM_230524A: 4</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/24/23 12:10</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	24.3	1.0	25	0	<b>97</b>	90	110				
Sulfate	101	1.0	100	0	<b>101</b>	90	110				
Bromide	1.25	0.50	1.25	0	<b>100</b>	90	110				
Fluoride	1.24	0.10	1.25	0	<b>100</b>	90	110				

Associated samples: **H23050392-005A**

Run ID :Run Order: <b>IC METROHM_230524A: 23</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/24/23 16:57</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	50.5	1.0	50	0	<b>101</b>	90	110				
Sulfate	202	1.0	200	0	<b>101</b>	90	110				
Bromide	2.38	0.50	2.5	0	<b>95</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** R184848

**Date:** 31-May-23

Run ID :Run Order: <b>IC METROHM_230524A: 23</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>				Method: <b>E300.0</b>		
Analysis Date: <b>05/24/23 16:57</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.65	0.10	2.5	0	<b>106</b>	90	110				

Associated samples: **H23050392-005A**

Run ID :Run Order: <b>IC METROHM_230524A: 35</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050437-008AMS</b>				Method: <b>E300.0</b>		
Analysis Date: <b>05/24/23 20:05</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	211	1.0	125	87.28	<b>99</b>	90	110				
Sulfate	1430	1.0	500	942.9	<b>98</b>	90	110				
Bromide	5.70	0.50	6.25	0.21	<b>88</b>	90	110				S
Fluoride	6.76	0.10	6.25	0.42	<b>101</b>	90	110				

Associated samples: **H23050392-005A**

Run ID :Run Order: <b>IC METROHM_230524A: 36</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050437-008AMSD</b>				Method: <b>E300.0</b>		
Analysis Date: <b>05/24/23 20:19</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	211	1.0	125	87.28	<b>99</b>	90	110	211.5	<b>0.3</b>	20	
Sulfate	1430	1.0	500	942.9	<b>98</b>	90	110	1433	<b>0.1</b>	20	
Bromide	5.70	0.50	6.25	0.21	<b>88</b>	90	110	5.703	<b>0.0</b>	20	S
Fluoride	6.74	0.10	6.25	0.42	<b>101</b>	90	110	6.757	<b>0.3</b>	20	

Associated samples: **H23050392-005A**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** R184859

**Date:** 31-May-23

Run ID :Run Order: <b>SEAL AA500_230524A: 12</b>	SampType: <b>Method Blank</b>				Lab ID: <b>ICB</b>				Method: <b>E353.2</b>		
Analysis Date: <b>05/24/23 13:22</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.01									

Associated samples: **H23050392-005C**

Run ID :Run Order: <b>SEAL AA500_230524A: 14</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>				Method: <b>E353.2</b>		
Analysis Date: <b>05/24/23 13:24</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.01	0.010	1	0	<b>101</b>	90	110				

Associated samples: **H23050392-005C**

Run ID :Run Order: <b>SEAL AA500_230524A: 15</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>				Method: <b>E353.2</b>		
Analysis Date: <b>05/24/23 13:25</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.950	0.011	1	0	<b>95</b>	90	110				

Associated samples: **H23050392-005C**

Run ID :Run Order: <b>SEAL AA500_230524A: 17</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050699-001BMS</b>				Method: <b>E353.2</b>		
Analysis Date: <b>05/24/23 13:27</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.00	0.011	1	0.0533	<b>95</b>	90	110				

Associated samples: **H23050392-005C**

Run ID :Run Order: <b>SEAL AA500_230524A: 18</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050699-001BMSD</b>				Method: <b>E353.2</b>		
Analysis Date: <b>05/24/23 13:28</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.01	0.011	1	0.0533	<b>96</b>	90	110	1.002	<b>0.7</b>	10	

Associated samples: **H23050392-005C**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050392

**BatchID:** TDS230512A

**Date:** 31-May-23

Run ID :Run Order: <b>ACCU-124 (14410200)_230512B: 1</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MB-1_230512</b>	Method: <b>A2540 C</b>
Analysis Date: <b>05/12/23 10:26</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
		Qual	

Associated samples: **H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-005A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A**

Run ID :Run Order: <b>ACCU-124 (14410200)_230512B: 2</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS-2_230512</b>	Method: <b>A2540 C</b>
Analysis Date: <b>05/12/23 10:26</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
		Qual	

Associated samples: **H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-005A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A**

Run ID :Run Order: <b>ACCU-124 (14410200)_230512B: 4</b>	SampType: <b>Sample Duplicate</b>	Lab ID: <b>H23050392-016A DUP</b>	Method: <b>A2540 C</b>
Analysis Date: <b>05/12/23 11:11</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
		Qual	

Associated samples: **H23050392-001A, H23050392-002A, H23050392-003A, H23050392-004A, H23050392-005A, H23050392-006A, H23050392-007A, H23050392-008A, H23050392-009A, H23050392-010A, H23050392-011A, H23050392-012A, H23050392-013A, H23050392-014A, H23050392-015A, H23050392-016A**

<p><b>Qualifiers:</b> ND - Not Detected at the Reporting Limit</p> <p>J - Analyte detected below quantitation limits</p>	<p>S - Spike Recovery outside accepted recovery limit</p> <p>R - RPD outside accepted recovery limits</p>	<p>N - Analyte concentration was not sufficiently high to calculate RPD</p> <p>A - Analyte concentration greater than four times the spike amount</p>
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# Work Order Receipt Checklist

MT Dept of Justice

H23050392

Login completed by: Wanda Johnson

Date Received: 5/11/2023

Reviewed by: tjones

Received by: rrs

Reviewed Date: 5/12/2023

Carrier name: Hand Deliver

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	7.1°C On Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

## Contact and Corrective Action Comments:

The Temperature Blank temperature for shipping container 1 was 7.1°C, shipping container 2 was 4.6°C, shipping container 3 was 5.9°C, shipping container 4 was 2.2°C.

No signature from client when relinquished.

Sample BPS11-14B one of the TOC bottles is not marked as "filtered", the other one is marked as "unfiltered".

Assigned the not marked as the "filtered" sample. wjj 5/11/2023



# Chain of Custody & Analytical Request Record

[www.energylab.com](http://www.energylab.com)

### Account Information (Billing information)

Company/Name MT DOJ / Natural Resource Damage Program		
Contact Jim Ford		
Phone (406) 439-2108		
Mailing Address 1720 9th Avenue		
City, State, Zip Helena, Montana 59620-1425		
Email jford@mt.gov		
Receive Invoice <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	
Purchase Order	Quote	Bottle Order

### Report Information (if different than Account Information)

Company/Name Water & Environmental Technologies		
Contact Janelle Garza		
Phone (406) 565-4291		
Mailing Address 480 East Park Street		
City, State, Zip Butte, Montana 59701		
Email jgarza@waterenvtech.com		
Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email		
Special Report/Formats		
<input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC <input checked="" type="checkbox"/> EDD/EDT (contact laboratory) <input type="checkbox"/> Other		

### Comments

Please do not use any "EB" or "FB" samples for MS/MSD.

C1-7.1  
C2-4.6  
C3-5.9  
C4-2.2

### Project Information

Project Name, PWSID, Permit, etc. NRDPM16 TO2 - Task 001	
Sampler Name Janelle Garza	Sampler Phone (406) 599-6770
Sample Origin State Montana	EPA/State Compliance <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
URANIUM MINING CLIENTS MUST indicate sample type	
<input type="checkbox"/> Unprocessed Ore	
<input type="checkbox"/> Processed Ore (Ground or Refined) **CALL BEFORE SENDING	
<input type="checkbox"/> 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)	

### Matrix Codes

- A - Air
- W - Water
- S - Soils/ Solids
- V - Vegetation
- B - Bioassay
- O - Oil
- DW - Drinking Water

### Analysis Requested

	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
pH & pH Meas. Temp															
A4500-H B															
Conductivity															
A25510 B															
TDS															
A2540 C															
CaCO3, HCO3, CO3															
A2320 B															
Cl(-), SO4(2-), Br(-), F(-)															
E300.0															
Hardness															
A2340 B															
DOC & TOC															
A5310 C															
Nitrate+Nitrite															
E353.2															
Dissolved Metals															
E200.7B															
See Attached															

All turnaround times are standard unless marked as RUSH.  
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page

C4  
C4  
C4  
C4  
C3  
C3  
C3  
C3  
C2

Sample Identification <small>(Name Location Interval etc.)</small>	Collection		Number of Containers	Matrix <small>(See Codes Above)</small>	pH & pH Meas. Temp	Conductivity	TDS	CaCO3, HCO3, CO3	Cl(-), SO4(2-), Br(-), F(-)	E300.0	Hardness	DOC & TOC	Nitrate+Nitrite	Dissolved Metals	See Attached	RUSH TAT	ELI LAB ID <small>Laboratory Use Only</small>
	Date	Time															
1 BPS11-14A	05/10/2023	11:16 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		H23050392
2 AMC-24C	05/10/2023	11:35 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
3 BPS11-14B	05/10/2023	11:52 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
4 BPS11-17C	05/10/2023	12:59 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
5 MSD-03	05/10/2023	1:08 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
6 MF-07B	05/10/2023	1:43 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
7 MF-11	05/10/2023	2:08 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
8 MF-07	05/10/2023	2:11 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
9 MSD-04	05/10/2023	2:33 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print) Janelle Garza	Date/Time 5-11-23/0945	Signature <i>JG</i>	Received by (print) Anthony Laslovich	Date/Time 5-11-23/0945	Signature <i>Anthony Laslovich</i>			
	Relinquished by (print) Anthony Laslovich	Date/Time 5-11-23/1327	Signature <i>AL</i>	Received by Laboratory (print) R SPONHOLZ	Date/Time 051123 1327	Signature <i>R Sponholz</i>			
LABORATORY USE ONLY									
Shipped By HAND	Cooler ID(s) Y	Custody Seals Y (N) C B	Intact Y N	Receipt Temp TOP °C	Temp Blank (Y) N	On Ice (Y) N	Payment Type CC Cash Check	Amount \$	Receipt Number (if check only)

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly noted on your analytical report.







# ANALYTICAL SUMMARY REPORT

May 31, 2023

MT Dept of Justice  
Natural Resource Damage Program  
Helena, MT 59620-1425

Work Order: H23050437      Quote ID: H2187

Project Name: NRDPM16 TO2-Task 001

Energy Laboratories Inc Helena MT received the following 22 samples for MT Dept of Justice on 5/12/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H23050437-001	PMP-11B	05/11/23 10:43	05/12/23	Groundwater	Rare Earth Metals, Dissolved Metals by ICP/ICPMS, Dissolved Alkalinity to pH 4.5 Anion - Cation Balance Carbon, Dissolved Organic Conductivity Carbon, Total Organic Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Solids, Total Dissolved
H23050437-002	PMP-05A	05/11/23 10:49	05/12/23	Aqueous	Rare Earth Metals, Dissolved Metals by ICP/ICPMS, Dissolved Alkalinity to pH 4.5 Anion - Cation Balance Carbon, Dissolved Organic Conductivity Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Solids, Total Dissolved
H23050437-003	PMP-05BR	05/11/23 11:18	05/12/23	Aqueous	Rare Earth Metals, Dissolved Metals by ICP/ICPMS, Dissolved Alkalinity to pH 4.5 Anion - Cation Balance Carbon, Dissolved Organic Conductivity Carbon, Total Organic Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Solids, Total Dissolved
H23050437-004	AMW-13A	05/11/23 11:41	05/12/23	Aqueous	Same As Above
H23050437-005	BPS07-11B	05/11/23 11:46	05/12/23	Aqueous	Same As Above
H23050437-006	BPS07-11A	05/11/23 12:21	05/12/23	Aqueous	Same As Above
H23050437-007	BPS11-18B	05/11/23 13:08	05/12/23	Aqueous	Same As Above



# ANALYTICAL SUMMARY REPORT

H23050437-008	BPS11-18C	05/11/23 13:33	05/12/23	Aqueous	Rare Earth Metals, Dissolved Metals by ICP/ICPMS, Dissolved Alkalinity to pH 4.5 Anion - Cation Balance Carbon, Dissolved Organic Conductivity Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Solids, Total Dissolved
H23050437-009	PMP-03A	05/11/23 13:53	05/12/23	Aqueous	Rare Earth Metals, Dissolved Metals by ICP/ICPMS, Dissolved Alkalinity to pH 4.5 Anion - Cation Balance Carbon, Dissolved Organic Conductivity Carbon, Total Organic Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Solids, Total Dissolved
H23050437-010	PMP-01B	05/11/23 14:39	05/12/23	Aqueous	Same As Above
H23050437-011	AMW-01B	05/11/23 15:00	05/12/23	Aqueous	Same As Above
H23050437-012	GS-28	05/12/23 9:45	05/12/23	Aqueous	Same As Above
H23050437-013	GS-28B	05/12/23 10:50	05/12/23	Aqueous	Same As Above
H23050437-014	PMP-08A	05/12/23 11:19	05/12/23	Aqueous	Same As Above
H23050437-015	FB-4	05/12/23 11:05	05/12/23	Aqueous	Same As Above
H23050437-016	AMW-01C	05/12/23 11:51	05/12/23	Aqueous	Same As Above
H23050437-017	DUP-4	05/12/23 11:52	05/12/23	Aqueous	Same As Above
H23050437-018	EB-4	05/12/23 12:10	05/12/23	Aqueous	Same As Above
H23050437-019	PT14-1	05/11/23 12:26	05/12/23	Aqueous	Same As Above
H23050437-020	AMW-09	05/11/23 13:13	05/12/23	Aqueous	Same As Above
H23050437-021	GS-40R	05/12/23 13:50	05/12/23	Aqueous	Same As Above
H23050437-022	AMW-08	05/12/23 13:52	05/12/23	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

  
Log-In Technician

Digitally signed by  
Taylor K. Jones  
Date: 2023.06.02 17:06:05 -06:00





**CLIENT:** MT Dept of Justice  
**Project:** NRDPM16 TO2-Task 001  
**Work Order:** H23050437

**Report Date:** 05/31/23

## CASE NARRATIVE

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Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002.

TOC for samples BPS11-18C and PMP-05A were received broken in Casper. Samples cancelled. Janelle Garza was notified per phone conversation on 5/23/23.

tj 5/23/23



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-11B  
**Lab ID:** H23050437-001  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 10:43 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.5	s.u.	H	0.1		A4500-H B	05/15/23 11:17 / ljs		PHSC_101-H_230515A : 27		R184515
pH Measurement Temp	12.0	°C				A4500-H B	05/15/23 11:17 / ljs		PHSC_101-H_230515A : 27		R184515
Conductivity @ 25 C	296	umhos/cm		5		A2510 B	05/15/23 11:17 / ljs		PHSC_101-H_230515A : 28		R184515
Solids, Total Dissolved TDS @ 180 C	180	mg/L		20		A2540 C	05/15/23 14:04 / ljs		124 (14410200)_230515A : 10		TDS230515A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	87	mg/L		4		A2320 B	05/16/23 14:37 / ams		PHSC_101-H_230516A : 110		R184539
Bicarbonate as HCO3	110	mg/L		4		A2320 B	05/16/23 14:37 / ams		PHSC_101-H_230516A : 110		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 14:37 / ams		PHSC_101-H_230516A : 110		R184539
Chloride	8	mg/L		1		E300.0	05/17/23 10:25 / ljs		IC METROHM_230516A : 97		R184586
Sulfate	38	mg/L		1		E300.0	05/17/23 10:25 / ljs		IC METROHM_230516A : 97		R184586
Bromide	ND	mg/L		0.5		E300.0	05/17/23 10:25 / ljs		IC METROHM_230516A : 97		R184586
Fluoride	1.2	mg/L		0.1		E300.0	05/17/23 10:25 / ljs		IC METROHM_230516A : 97		R184586
Hardness as CaCO3	91	mg/L		1		A2340 B	05/15/23 16:36 / abc		CALC_230522A : 179		R184728
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	05/23/23 01:40 / eli-c		SUB-C294878 : 26		C_R294878
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	05/22/23 17:47 / eli-c		SUB-C294878 : 4		C_R294878
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.84	mg/L		0.01		E353.2	05/18/23 14:34 / JAR		FIA203-HE_230518A : 76		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/16/23 21:35 / dck		ICPMS205-H_230516C : 116		R184592
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 21:35 / dck		ICPMS205-H_230516C : 116		R184592
Arsenic	0.004	mg/L		0.001		E200.8	05/16/23 21:35 / dck		ICPMS205-H_230516C : 116		R184592
Barium	0.030	mg/L		0.003		E200.8	05/16/23 21:35 / dck		ICPMS205-H_230516C : 116		R184592
Beryllium	ND	mg/L		0.0008		E200.8	05/16/23 21:35 / dck		ICPMS205-H_230516C : 116		R184592
Boron	ND	mg/L		0.05		E200.7	05/15/23 16:36 / slj		ICP2-HE_230515B : 55		R184548
Cadmium	0.00040	mg/L		0.00003		E200.8	05/16/23 21:35 / dck		ICPMS205-H_230516C : 116		R184592
Cesium	ND	mg/L		0.01		E200.8	05/17/23 12:28 / dck		ICPMS205-H_230517D : 26		R184650

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-11B  
**Lab ID:** H23050437-001  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 10:43 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	25	mg/L		1		E200.7	05/15/23 16:36 / slj		ICP2-HE_230515B : 55		R184548
Chromium	ND	mg/L		0.005		E200.8	05/16/23 21:35 / dck		ICPMS205-H_230516C : 116		R184592
Cobalt	ND	mg/L		0.005		E200.8	05/16/23 21:35 / dck		ICPMS205-H_230516C : 116		R184592
Copper	ND	mg/L		0.002		E200.8	05/16/23 21:35 / dck		ICPMS205-H_230516C : 116		R184592
Gallium	ND	mg/L		0.01		E200.8	05/17/23 12:28 / dck		ICPMS205-H_230517D : 26		R184650
Iron	ND	mg/L		0.02		E200.8	05/16/23 21:35 / dck		ICPMS205-H_230516C : 116		R184592
Lead	ND	mg/L		0.0003		E200.8	05/16/23 21:35 / dck		ICPMS205-H_230516C : 116		R184592
Lanthanum	ND	mg/L		0.01		E200.8	05/17/23 12:28 / dck		ICPMS205-H_230517D : 26		R184650
Lithium	ND	mg/L		0.1		E200.7	05/15/23 16:36 / slj		ICP2-HE_230515B : 55		R184548
Magnesium	7	mg/L		1		E200.7	05/15/23 16:36 / slj		ICP2-HE_230515B : 55		R184548
Neodymium	ND	mg/L		0.005		E200.8	05/17/23 12:28 / dck		ICPMS205-H_230517D : 26		R184650
Niobium	ND	mg/L		0.01		E200.8	05/17/23 12:28 / dck		ICPMS205-H_230517D : 26		R184650
Manganese	ND	mg/L		0.001		E200.8	05/16/23 21:35 / dck		ICPMS205-H_230516C : 116		R184592
Molybdenum	0.019	mg/L		0.001		E200.8	05/16/23 21:35 / dck		ICPMS205-H_230516C : 116		R184592
Nickel	ND	mg/L		0.002		E200.8	05/16/23 21:35 / dck		ICPMS205-H_230516C : 116		R184592
Palladium	ND	mg/L		0.01		E200.8	05/17/23 12:28 / dck		ICPMS205-H_230517D : 26		R184650
Praseodymium	ND	mg/L		0.01		E200.8	05/17/23 12:28 / dck		ICPMS205-H_230517D : 26		R184650
Rubidium	ND	mg/L		0.01		E200.8	05/17/23 12:28 / dck		ICPMS205-H_230517D : 26		R184650
Potassium	3	mg/L		1		E200.7	05/15/23 16:36 / slj		ICP2-HE_230515B : 55		R184548
Selenium	ND	mg/L		0.001		E200.8	05/16/23 21:35 / dck		ICPMS205-H_230516C : 116		R184592
Silver	ND	mg/L		0.0002		E200.8	05/16/23 21:35 / dck		ICPMS205-H_230516C : 116		R184592
Sodium	23	mg/L		1		E200.7	05/15/23 16:36 / slj		ICP2-HE_230515B : 55		R184548
Strontium	0.18	mg/L		0.01		E200.8	05/16/23 21:35 / dck		ICPMS205-H_230516C : 116		R184592
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 21:35 / dck		ICPMS205-H_230516C : 116		R184592
Thorium	ND	mg/L		0.005		E200.8	05/17/23 12:28 / dck		ICPMS205-H_230517D : 148		R184650
Tin	ND	mg/L		0.05		E200.8	05/16/23 21:35 / dck		ICPMS205-H_230516C : 116		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 21:35 / dck		ICPMS205-H_230516C : 116		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/17/23 12:28 / dck		ICPMS205-H_230517D : 26		R184650
Uranium	0.0037	mg/L		0.0002		E200.8	05/16/23 21:35 / dck		ICPMS205-H_230516C : 116		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 21:35 / dck		ICPMS205-H_230516C : 116		R184592
Zinc	0.048	mg/L		0.008		E200.8	05/16/23 21:35 / dck		ICPMS205-H_230516C : 116		R184592
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 12:28 / dck		ICPMS205-H_230517D : 26		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-11B  
**Lab ID:** H23050437-001  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 10:43      **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	0.02	%				A1030 E	05/22/23 12:45 / abc		CALC_230522A : 177		R184728
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-05A  
**Lab ID:** H23050437-002  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 10:49 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.2	s.u.	H	0.1		A4500-H B	05/15/23 11:21 / ljs		PHSC_101-H_230515A : 31		R184515
pH Measurement Temp	11.9	°C				A4500-H B	05/15/23 11:21 / ljs		PHSC_101-H_230515A : 31		R184515
Conductivity @ 25 C	1540	umhos/cm		5		A2510 B	05/15/23 11:21 / ljs		PHSC_101-H_230515A : 32		R184515
Solids, Total Dissolved TDS @ 180 C	1970	mg/L		20		A2540 C	05/16/23 14:24 / ams		-124 (14410200)_230516B : 3		TDS230516A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	41	mg/L		4		A2320 B	05/16/23 14:43 / ams		PHSC_101-H_230516A : 112		R184539
Bicarbonate as HCO3	49	mg/L		4		A2320 B	05/16/23 14:43 / ams		PHSC_101-H_230516A : 112		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 14:43 / ams		PHSC_101-H_230516A : 112		R184539
Chloride	69	mg/L		1		E300.0	05/17/23 10:40 / ljs		IC METROHM_230516A : 98		R184586
Sulfate	1240	mg/L		1		E300.0	05/17/23 10:40 / ljs		IC METROHM_230516A : 98		R184586
Bromide	ND	mg/L		0.5		E300.0	05/17/23 10:40 / ljs		IC METROHM_230516A : 98		R184586
Fluoride	0.5	mg/L		0.1		E300.0	05/17/23 10:40 / ljs		IC METROHM_230516A : 98		R184586
Hardness as CaCO3	1030	mg/L		1		A2340 B	05/15/23 16:40 / abc		CALC_230522A : 531		R184728
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.3	mg/L		0.5		A5310 C	05/23/23 02:34 / eli-c		SUB-C294878 : 29		C_R294878
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.08	mg/L		0.01		E353.2	05/18/23 14:35 / JAR		FIA203-HE_230518A : 77		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	0.149	mg/L		0.009		E200.8	05/17/23 21:55 / dck		ICPMS205-H_230517A : 148		R184602
Antimony	0.0031	mg/L		0.0005		E200.8	05/16/23 22:49 / dck		ICPMS205-H_230516C : 141		R184592
Arsenic	0.015	mg/L		0.001		E200.8	05/16/23 22:49 / dck		ICPMS205-H_230516C : 141		R184592
Barium	0.022	mg/L		0.003		E200.8	05/16/23 22:49 / dck		ICPMS205-H_230516C : 141		R184592
Beryllium	0.0009	mg/L		0.0008		E200.8	05/16/23 22:49 / dck		ICPMS205-H_230516C : 141		R184592
Boron	0.12	mg/L		0.05		E200.7	05/15/23 16:40 / slj		ICP2-HE_230515B : 56		R184548
Cadmium	0.246	mg/L		0.00003		E200.8	05/16/23 22:49 / dck		ICPMS205-H_230516C : 141		R184592
Cesium	ND	mg/L		0.01		E200.8	05/17/23 12:29 / dck		ICPMS205-H_230517D : 27		R184650
Calcium	270	mg/L		1		E200.7	05/15/23 16:40 / slj		ICP2-HE_230515B : 56		R184548

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-05A  
**Lab ID:** H23050437-002  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 10:49 **DateReceived:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Chromium	ND	mg/L		0.005		E200.8	05/16/23 22:49 / dck		ICPMS205-H_230516C : 141		R184592
Cobalt	0.411	mg/L		0.005		E200.8	05/16/23 22:49 / dck		ICPMS205-H_230516C : 141		R184592
Copper	0.719	mg/L		0.002		E200.8	05/16/23 22:49 / dck		ICPMS205-H_230516C : 141		R184592
Gallium	ND	mg/L		0.01		E200.8	05/17/23 12:29 / dck		ICPMS205-H_230517D : 27		R184650
Iron	4.18	mg/L		0.02		E200.7	05/15/23 16:40 / slj		ICP2-HE_230515B : 56		R184548
Lead	0.0024	mg/L		0.0003		E200.8	05/16/23 22:49 / dck		ICPMS205-H_230516C : 141		R184592
Lanthanum	ND	mg/L		0.01		E200.8	05/17/23 12:29 / dck		ICPMS205-H_230517D : 27		R184650
Lithium	0.3	mg/L		0.1		E200.7	05/15/23 16:40 / slj		ICP2-HE_230515B : 56		R184548
Magnesium	87	mg/L		1		E200.7	05/15/23 16:40 / slj		ICP2-HE_230515B : 56		R184548
Neodymium	ND	mg/L		0.005		E200.8	05/17/23 12:29 / dck		ICPMS205-H_230517D : 27		R184650
Niobium	ND	mg/L		0.01		E200.8	05/17/23 12:29 / dck		ICPMS205-H_230517D : 27		R184650
Manganese	72.3	mg/L		0.001		E200.7	05/15/23 16:40 / slj		ICP2-HE_230515B : 56		R184548
Molybdenum	0.008	mg/L		0.001		E200.8	05/16/23 22:49 / dck		ICPMS205-H_230516C : 141		R184592
Nickel	0.128	mg/L		0.002		E200.8	05/16/23 22:49 / dck		ICPMS205-H_230516C : 141		R184592
Palladium	ND	mg/L		0.01		E200.8	05/17/23 12:29 / dck		ICPMS205-H_230517D : 27		R184650
Praseodymium	ND	mg/L		0.01		E200.8	05/17/23 12:29 / dck		ICPMS205-H_230517D : 27		R184650
Rubidium	ND	mg/L		0.01		E200.8	05/17/23 12:29 / dck		ICPMS205-H_230517D : 27		R184650
Potassium	12	mg/L		1		E200.7	05/15/23 16:40 / slj		ICP2-HE_230515B : 56		R184548
Selenium	ND	mg/L		0.001		E200.8	05/16/23 22:49 / dck		ICPMS205-H_230516C : 141		R184592
Silver	ND	mg/L		0.0002		E200.8	05/16/23 22:49 / dck		ICPMS205-H_230516C : 141		R184592
Sodium	62	mg/L		1		E200.7	05/15/23 16:40 / slj		ICP2-HE_230515B : 56		R184548
Strontium	1.54	mg/L		0.01		E200.7	05/15/23 16:40 / slj		ICP2-HE_230515B : 56		R184548
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 22:49 / dck		ICPMS205-H_230516C : 141		R184592
Thorium	ND	mg/L		0.005		E200.8	05/16/23 22:49 / dck		ICPMS205-H_230516C : 141		R184592
Tin	ND	mg/L		0.05		E200.8	05/16/23 22:49 / dck		ICPMS205-H_230516C : 141		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 22:49 / dck		ICPMS205-H_230516C : 141		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/17/23 12:29 / dck		ICPMS205-H_230517D : 27		R184650
Uranium	0.0035	mg/L		0.0002		E200.8	05/16/23 22:49 / dck		ICPMS205-H_230516C : 141		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 22:49 / dck		ICPMS205-H_230516C : 141		R184592
Zinc	29.5	mg/L		0.008		E200.7	05/15/23 16:40 / slj		ICP2-HE_230515B : 56		R184548
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 12:29 / dck		ICPMS205-H_230517D : 27		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-05A  
**Lab ID:** H23050437-002  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 10:49      **DateReceived:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-3.88	%				A1030 E	05/22/23 13:03 / abc		CALC_230522A : 529		R184728

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-05BR  
**Lab ID:** H23050437-003  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 11:18 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.5	s.u.	H	0.1		A4500-H B	05/15/23 11:23 / ljs		PHSC_101-H_230515A : 33		R184515
pH Measurement Temp	12.1	°C				A4500-H B	05/15/23 11:23 / ljs		PHSC_101-H_230515A : 33		R184515
Conductivity @ 25 C	4040	umhos/cm		5		A2510 B	05/15/23 11:23 / ljs		PHSC_101-H_230515A : 34		R184515
Solids, Total Dissolved TDS @ 180 C	4100	mg/L		100		A2540 C	05/15/23 14:04 / ljs		124 (14410200)_230515A : 12		TDS230515A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	05/16/23 14:50 / ams		PHSC_101-H_230516A : 114		R184539
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	05/16/23 14:50 / ams		PHSC_101-H_230516A : 114		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 14:50 / ams		PHSC_101-H_230516A : 114		R184539
Chloride	112	mg/L		1		E300.0	05/24/23 19:21 / SR		IC METROHM_230524A : 32		R184848
Sulfate	2470	mg/L		1		E300.0	05/24/23 19:21 / SR		IC METROHM_230524A : 32		R184848
Bromide	ND	mg/L		0.5		E300.0	05/24/23 19:21 / SR		IC METROHM_230524A : 32		R184848
Fluoride	2.4	mg/L		0.1		E300.0	05/24/23 19:21 / SR		IC METROHM_230524A : 32		R184848
Hardness as CaCO3	1640	mg/L		1		A2340 B	05/15/23 16:44 / SR		CALC_230526A : 454		R184891
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.3	mg/L		0.5		A5310 C	05/23/23 02:57 / eli-c		SUB-C294878 : 30		C_R294878
Organic Carbon, Total (TOC)	1.2	mg/L		0.5		A5310 C	05/22/23 18:41 / eli-c		SUB-C294878 : 7		C_R294878
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	05/18/23 14:39 / JAR		FIA203-HE_230518A : 80		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	3.67	mg/L		0.03		E200.7	05/15/23 16:44 / slj		ICP2-HE_230515B : 57		R184548
Antimony	ND	mg/L		0.0005		E200.8	05/17/23 22:25 / dck		ICPMS205-H_230517A : 158		R184602
Arsenic	ND	mg/L		0.001		E200.8	05/17/23 22:25 / dck		ICPMS205-H_230517A : 158		R184602
Barium	0.019	mg/L		0.003		E200.8	05/17/23 22:25 / dck		ICPMS205-H_230517A : 158		R184602
Beryllium	0.0103	mg/L		0.0008		E200.8	05/17/23 22:25 / dck		ICPMS205-H_230517A : 158		R184602
Boron	0.12	mg/L		0.05		E200.7	05/15/23 16:44 / slj		ICP2-HE_230515B : 57		R184548
Cadmium	0.702	mg/L		0.00003		E200.8	05/17/23 22:25 / dck		ICPMS205-H_230517A : 158		R184602
Cesium	ND	mg/L		0.01		E200.8	05/17/23 12:31 / dck		ICPMS205-H_230517D : 28		R184650

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-05BR  
**Lab ID:** H23050437-003  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 11:18 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	400	mg/L		1		E200.7	05/15/23 16:44 / slj		ICP2-HE_230515B : 57		R184548
Chromium	ND	mg/L		0.005		E200.8	05/17/23 22:25 / dck		ICPMS205-H_230517A : 158		R184602
Cobalt	1.71	mg/L		0.005		E200.8	05/17/23 22:25 / dck		ICPMS205-H_230517A : 158		R184602
Copper	35.7	mg/L		0.01		E200.7	05/15/23 16:44 / slj		ICP2-HE_230515B : 57		R184548
Gallium	ND	mg/L		0.01		E200.8	05/17/23 12:31 / dck		ICPMS205-H_230517D : 28		R184650
Iron	65.3	mg/L		0.02		E200.7	05/15/23 16:44 / slj		ICP2-HE_230515B : 57		R184548
Lead	0.0089	mg/L		0.0003		E200.8	05/17/23 22:25 / dck		ICPMS205-H_230517A : 158		R184602
Lanthanum	0.03	mg/L		0.01		E200.8	05/17/23 12:31 / dck		ICPMS205-H_230517D : 28		R184650
Lithium	0.7	mg/L		0.1		E200.7	05/15/23 16:44 / slj		ICP2-HE_230515B : 57		R184548
Magnesium	155	mg/L		1		E200.7	05/15/23 16:44 / slj		ICP2-HE_230515B : 57		R184548
Neodymium	0.029	mg/L		0.005		E200.8	05/17/23 12:31 / dck		ICPMS205-H_230517D : 28		R184650
Niobium	ND	mg/L		0.01		E200.8	05/17/23 12:31 / dck		ICPMS205-H_230517D : 28		R184650
Manganese	209	mg/L		0.007		E200.7	05/16/23 13:10 / kjb		ICP2-HE_230516A : 26		R184601
Molybdenum	ND	mg/L		0.001		E200.8	05/17/23 22:25 / dck		ICPMS205-H_230517A : 158		R184602
Nickel	0.446	mg/L		0.002		E200.8	05/17/23 22:25 / dck		ICPMS205-H_230517A : 158		R184602
Palladium	ND	mg/L		0.01		E200.8	05/17/23 12:31 / dck		ICPMS205-H_230517D : 28		R184650
Praseodymium	ND	mg/L		0.01		E200.8	05/17/23 12:31 / dck		ICPMS205-H_230517D : 28		R184650
Rubidium	0.01	mg/L		0.01		E200.8	05/17/23 12:31 / dck		ICPMS205-H_230517D : 28		R184650
Potassium	23	mg/L		1		E200.7	05/15/23 16:44 / slj		ICP2-HE_230515B : 57		R184548
Selenium	ND	mg/L		0.001		E200.8	05/18/23 21:13 / dck		ICPMS205-H_230518A : 88		R184669
Silver	ND	mg/L		0.0002		E200.8	05/18/23 21:13 / dck		ICPMS205-H_230518A : 88		R184669
Sodium	99	mg/L		1		E200.7	05/15/23 16:44 / slj		ICP2-HE_230515B : 57		R184548
Strontium	3.42	mg/L		0.01		E200.7	05/15/23 16:44 / slj		ICP2-HE_230515B : 57		R184548
Thallium	ND	mg/L		0.0002		E200.8	05/17/23 22:25 / dck		ICPMS205-H_230517A : 158		R184602
Thorium	ND	mg/L		0.005		E200.8	05/17/23 22:25 / dck		ICPMS205-H_230517A : 158		R184602
Tin	ND	mg/L		0.05		E200.8	05/17/23 22:25 / dck		ICPMS205-H_230517A : 158		R184602
Titanium	ND	mg/L		0.005		E200.8	05/17/23 22:25 / dck		ICPMS205-H_230517A : 158		R184602
Tungsten	ND	mg/L		0.1		E200.8	05/17/23 12:31 / dck		ICPMS205-H_230517D : 28		R184650
Uranium	0.0076	mg/L		0.0002		E200.8	05/17/23 22:25 / dck		ICPMS205-H_230517A : 158		R184602
Vanadium	ND	mg/L		0.01		E200.8	05/17/23 22:25 / dck		ICPMS205-H_230517A : 158		R184602
Zinc	178	mg/L		0.01		E200.7	05/16/23 13:10 / kjb		ICP2-HE_230516A : 26		R184601
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 12:31 / dck		ICPMS205-H_230517D : 28		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-05BR  
**Lab ID:** H23050437-003  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 11:18      **DateReceived:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-6.03	%				A1030 E	05/26/23 11:06 / SR		CALC_230526A : 452		R184891

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13A  
**Lab ID:** H23050437-004  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 11:41 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.7	s.u.	H	0.1		A4500-H B	05/15/23 11:25 / ljs		PHSC_101-H_230515A : 35		R184515
pH Measurement Temp	12.3	°C				A4500-H B	05/15/23 11:25 / ljs		PHSC_101-H_230515A : 35		R184515
Conductivity @ 25 C	1410	umhos/cm		5		A2510 B	05/15/23 11:25 / ljs		PHSC_101-H_230515A : 36		R184515
Solids, Total Dissolved TDS @ 180 C	985	mg/L		20		A2540 C	05/15/23 14:05 / ljs		124 (14410200)_230515A : 14		TDS230515A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	420	mg/L		4		A2320 B	05/16/23 14:54 / ams		PHSC_101-H_230516A : 116		R184539
Bicarbonate as HCO3	510	mg/L		4		A2320 B	05/16/23 14:54 / ams		PHSC_101-H_230516A : 116		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 14:54 / ams		PHSC_101-H_230516A : 116		R184539
Chloride	12	mg/L		1		E300.0	05/17/23 11:09 / ljs		C METROHM_230516A : 100		R184586
Sulfate	356	mg/L		1		E300.0	05/17/23 11:09 / ljs		C METROHM_230516A : 100		R184586
Bromide	ND	mg/L		0.5		E300.0	05/17/23 11:09 / ljs		C METROHM_230516A : 100		R184586
Fluoride	0.2	mg/L		0.1		E300.0	05/17/23 11:09 / ljs		C METROHM_230516A : 100		R184586
Hardness as CaCO3	731	mg/L		1		A2340 B	05/15/23 17:37 / abc		CALC_230522A : 190		R184728
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	5.3	mg/L		0.5		A5310 C	05/23/23 03:21 / eli-c		SUB-C294878 : 31		C_R294878
Organic Carbon, Total (TOC)	5.0	mg/L		0.5		A5310 C	05/22/23 19:05 / eli-c		SUB-C294878 : 8		C_R294878
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	3.41	mg/L		0.02		E353.2	05/18/23 16:24 / JAR		FIA203-HE_230518A : 233		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/16/23 21:38 / dck		ICPMS205-H_230516C : 117		R184592
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 21:38 / dck		ICPMS205-H_230516C : 117		R184592
Arsenic	ND	mg/L		0.001		E200.8	05/16/23 21:38 / dck		ICPMS205-H_230516C : 117		R184592
Barium	0.047	mg/L		0.003		E200.8	05/16/23 21:38 / dck		ICPMS205-H_230516C : 117		R184592
Beryllium	ND	mg/L		0.0008		E200.8	05/16/23 21:38 / dck		ICPMS205-H_230516C : 117		R184592
Boron	0.44	mg/L		0.05		E200.7	05/15/23 17:37 / slj		ICP2-HE_230515B : 71		R184548
Cadmium	0.00064	mg/L		0.00003		E200.8	05/16/23 21:38 / dck		ICPMS205-H_230516C : 117		R184592
Cesium	ND	mg/L		0.01		E200.8	05/17/23 12:32 / dck		ICPMS205-H_230517D : 29		R184650

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13A  
**Lab ID:** H23050437-004  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 11:41  
**Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	255	mg/L		1		E200.7	05/15/23 17:37 / slj		ICP2-HE_230515B : 71		R184548
Chromium	ND	mg/L		0.005		E200.8	05/16/23 21:38 / dck		ICPMS205-H_230516C : 117		R184592
Cobalt	ND	mg/L		0.005		E200.8	05/16/23 21:38 / dck		ICPMS205-H_230516C : 117		R184592
Copper	0.011	mg/L		0.002		E200.8	05/16/23 21:38 / dck		ICPMS205-H_230516C : 117		R184592
Gallium	ND	mg/L		0.01		E200.8	05/17/23 12:32 / dck		ICPMS205-H_230517D : 29		R184650
Iron	5.58	mg/L		0.02		E200.7	05/15/23 17:37 / slj		ICP2-HE_230515B : 71		R184548
Lead	ND	mg/L		0.0003		E200.8	05/16/23 21:38 / dck		ICPMS205-H_230516C : 117		R184592
Lanthanum	ND	mg/L		0.01		E200.8	05/17/23 12:32 / dck		ICPMS205-H_230517D : 29		R184650
Lithium	ND	mg/L		0.1		E200.7	05/15/23 17:37 / slj		ICP2-HE_230515B : 71		R184548
Magnesium	23	mg/L		1		E200.7	05/15/23 17:37 / slj		ICP2-HE_230515B : 71		R184548
Neodymium	ND	mg/L		0.005		E200.8	05/17/23 12:32 / dck		ICPMS205-H_230517D : 29		R184650
Niobium	ND	mg/L		0.01		E200.8	05/17/23 12:32 / dck		ICPMS205-H_230517D : 29		R184650
Manganese	0.455	mg/L		0.001		E200.8	05/16/23 21:38 / dck		ICPMS205-H_230516C : 117		R184592
Molybdenum	ND	mg/L		0.001		E200.8	05/16/23 21:38 / dck		ICPMS205-H_230516C : 117		R184592
Nickel	0.004	mg/L		0.002		E200.8	05/16/23 21:38 / dck		ICPMS205-H_230516C : 117		R184592
Palladium	ND	mg/L		0.01		E200.8	05/17/23 12:32 / dck		ICPMS205-H_230517D : 29		R184650
Praseodymium	ND	mg/L		0.01		E200.8	05/17/23 12:32 / dck		ICPMS205-H_230517D : 29		R184650
Rubidium	ND	mg/L		0.01		E200.8	05/17/23 12:32 / dck		ICPMS205-H_230517D : 29		R184650
Potassium	15	mg/L		1		E200.7	05/15/23 17:37 / slj		ICP2-HE_230515B : 71		R184548
Selenium	ND	mg/L		0.001		E200.8	05/16/23 21:38 / dck		ICPMS205-H_230516C : 117		R184592
Silver	ND	mg/L		0.0002		E200.8	05/16/23 21:38 / dck		ICPMS205-H_230516C : 117		R184592
Sodium	23	mg/L		1		E200.7	05/15/23 17:37 / slj		ICP2-HE_230515B : 71		R184548
Strontium	1.36	mg/L		0.01		E200.7	05/15/23 17:37 / slj		ICP2-HE_230515B : 71		R184548
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 21:38 / dck		ICPMS205-H_230516C : 117		R184592
Thorium	ND	mg/L		0.005		E200.8	05/17/23 12:32 / dck		ICPMS205-H_230517D : 151		R184650
Tin	ND	mg/L		0.05		E200.8	05/16/23 21:38 / dck		ICPMS205-H_230516C : 117		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 21:38 / dck		ICPMS205-H_230516C : 117		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/17/23 12:32 / dck		ICPMS205-H_230517D : 29		R184650
Uranium	0.0024	mg/L		0.0002		E200.8	05/16/23 21:38 / dck		ICPMS205-H_230516C : 117		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 21:38 / dck		ICPMS205-H_230516C : 117		R184592
Zinc	0.324	mg/L		0.008		E200.8	05/16/23 21:38 / dck		ICPMS205-H_230516C : 117		R184592
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 12:32 / dck		ICPMS205-H_230517D : 29		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13A  
**Lab ID:** H23050437-004  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 11:41      **DateReceived:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.28	%				A1030 E	05/22/23 12:45 / abc		CALC_230522A : 188		R184728

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-11B  
**Lab ID:** H23050437-005  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 11:46 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.2	s.u.	H	0.1		A4500-H B	05/15/23 11:27 / ljs		PHSC_101-H_230515A : 37		R184515
pH Measurement Temp	12.3	°C				A4500-H B	05/15/23 11:27 / ljs		PHSC_101-H_230515A : 37		R184515
Conductivity @ 25 C	1590	umhos/cm		5		A2510 B	05/15/23 11:27 / ljs		PHSC_101-H_230515A : 38		R184515
Solids, Total Dissolved TDS @ 180 C	1230	mg/L		20		A2540 C	05/15/23 14:04 / ljs		124 (14410200)_230515A : 13		TDS230515A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	6	mg/L		4		A2320 B	05/16/23 15:03 / ams		PHSC_101-H_230516A : 118		R184539
Bicarbonate as HCO3	7	mg/L		4		A2320 B	05/16/23 15:03 / ams		PHSC_101-H_230516A : 118		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 15:03 / ams		PHSC_101-H_230516A : 118		R184539
Chloride	79	mg/L		1		E300.0	05/17/23 11:23 / ljs		C METROHM_230516A : 101		R184586
Sulfate	755	mg/L		1		E300.0	05/17/23 11:23 / ljs		C METROHM_230516A : 101		R184586
Bromide	ND	mg/L		0.5		E300.0	05/17/23 11:23 / ljs		C METROHM_230516A : 101		R184586
Fluoride	0.4	mg/L		0.1		E300.0	05/17/23 11:23 / ljs		C METROHM_230516A : 101		R184586
Hardness as CaCO3	601	mg/L		1		A2340 B	05/17/23 22:01 / SR		CALC_230523B : 91		R184776
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.2	mg/L		0.5		A5310 C	05/23/23 03:38 / eli-c		SUB-C294878 : 32		C_R294878
Organic Carbon, Total (TOC)	1.3	mg/L		0.5		A5310 C	05/22/23 19:22 / eli-c		SUB-C294878 : 9		C_R294878
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	05/18/23 14:44 / JAR		FIA203-HE_230518A : 84		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	0.345	mg/L		0.009		E200.8	05/17/23 22:01 / dck		ICPMS205-H_230517A : 150		R184602
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 22:54 / dck		ICPMS205-H_230516C : 143		R184592
Arsenic	ND	mg/L		0.001		E200.8	05/16/23 22:54 / dck		ICPMS205-H_230516C : 143		R184592
Barium	0.013	mg/L		0.003		E200.8	05/16/23 22:54 / dck		ICPMS205-H_230516C : 143		R184592
Beryllium	ND	mg/L		0.0008		E200.8	05/16/23 22:54 / dck		ICPMS205-H_230516C : 143		R184592
Boron	0.12	mg/L		0.05		E200.7	05/15/23 17:40 / slj		ICP2-HE_230515B : 72		R184548
Cadmium	0.0871	mg/L		0.00003		E200.8	05/16/23 22:54 / dck		ICPMS205-H_230516C : 143		R184592
Cesium	ND	mg/L		0.01		E200.8	05/17/23 12:34 / dck		ICPMS205-H_230517D : 30		R184650

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time





**LABORATORY ANALYTICAL REPORT**

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-11B  
**Lab ID:** H23050437-005  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 11:46 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	161	mg/L		1		E200.7	05/15/23 17:40 / slj		ICP2-HE_230515B : 72		R184548
Chromium	ND	mg/L		0.005		E200.8	05/16/23 22:54 / dck		ICPMS205-H_230516C : 143		R184592
Cobalt	0.315	mg/L		0.005		E200.8	05/16/23 22:54 / dck		ICPMS205-H_230516C : 143		R184592
Copper	0.719	mg/L		0.002		E200.8	05/16/23 22:54 / dck		ICPMS205-H_230516C : 143		R184592
Gallium	ND	mg/L		0.01		E200.8	05/17/23 12:34 / dck		ICPMS205-H_230517D : 30		R184650
Iron	24.1	mg/L		0.02		E200.7	05/15/23 17:40 / slj		ICP2-HE_230515B : 72		R184548
Lead	0.0021	mg/L		0.0003		E200.8	05/16/23 22:54 / dck		ICPMS205-H_230516C : 143		R184592
Lanthanum	ND	mg/L		0.01		E200.8	05/17/23 12:34 / dck		ICPMS205-H_230517D : 30		R184650
Lithium	0.2	mg/L		0.1		E200.7	05/15/23 17:40 / slj		ICP2-HE_230515B : 72		R184548
Magnesium	48	mg/L		1		E200.8	05/17/23 22:01 / dck		ICPMS205-H_230517A : 150		R184602
Neodymium	ND	mg/L		0.005		E200.8	05/17/23 12:34 / dck		ICPMS205-H_230517D : 30		R184650
Niobium	ND	mg/L		0.01		E200.8	05/17/23 12:34 / dck		ICPMS205-H_230517D : 30		R184650
Manganese	31.4	mg/L		0.001		E200.7	05/15/23 17:40 / slj		ICP2-HE_230515B : 72		R184548
Molybdenum	ND	mg/L		0.001		E200.8	05/16/23 22:54 / dck		ICPMS205-H_230516C : 143		R184592
Nickel	0.086	mg/L		0.002		E200.8	05/16/23 22:54 / dck		ICPMS205-H_230516C : 143		R184592
Palladium	ND	mg/L		0.01		E200.8	05/17/23 12:34 / dck		ICPMS205-H_230517D : 30		R184650
Praseodymium	ND	mg/L		0.01		E200.8	05/17/23 12:34 / dck		ICPMS205-H_230517D : 30		R184650
Rubidium	ND	mg/L		0.01		E200.8	05/17/23 12:34 / dck		ICPMS205-H_230517D : 30		R184650
Potassium	12	mg/L		1		E200.8	05/17/23 22:01 / dck		ICPMS205-H_230517A : 150		R184602
Selenium	ND	mg/L		0.001		E200.8	05/16/23 22:54 / dck		ICPMS205-H_230516C : 143		R184592
Silver	0.0003	mg/L		0.0002		E200.8	05/16/23 22:54 / dck		ICPMS205-H_230516C : 143		R184592
Sodium	42	mg/L		1		E200.8	05/16/23 22:54 / dck		ICPMS205-H_230516C : 143		R184592
Strontium	0.92	mg/L		0.01		E200.7	05/15/23 17:40 / slj		ICP2-HE_230515B : 72		R184548
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 22:54 / dck		ICPMS205-H_230516C : 143		R184592
Thorium	ND	mg/L		0.005		E200.8	05/16/23 22:54 / dck		ICPMS205-H_230516C : 143		R184592
Tin	ND	mg/L		0.05		E200.8	05/16/23 22:54 / dck		ICPMS205-H_230516C : 143		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 22:54 / dck		ICPMS205-H_230516C : 143		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/17/23 12:34 / dck		ICPMS205-H_230517D : 30		R184650
Uranium	0.0009	mg/L		0.0002		E200.8	05/16/23 22:54 / dck		ICPMS205-H_230516C : 143		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 22:54 / dck		ICPMS205-H_230516C : 143		R184592
Zinc	20.4	mg/L		0.008		E200.7	05/15/23 17:40 / slj		ICP2-HE_230515B : 72		R184548
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 12:34 / dck		ICPMS205-H_230517D : 30		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-11B  
**Lab ID:** H23050437-005  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 11:46      **DateReceived:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.98	%				A1030 E	05/23/23 12:19 / SR		CALC_230523B : 89		R184776

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-11A  
**Lab ID:** H23050437-006  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 12:21 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.4	s.u.	H	0.1		A4500-H B	05/15/23 11:29 / ljs		PHSC_101-H_230515A : 39		R184515
pH Measurement Temp	12.5	°C				A4500-H B	05/15/23 11:29 / ljs		PHSC_101-H_230515A : 39		R184515
Conductivity @ 25 C	544	umhos/cm		5		A2510 B	05/15/23 11:29 / ljs		PHSC_101-H_230515A : 40		R184515
Solids, Total Dissolved TDS @ 180 C	400	mg/L		20		A2540 C	05/15/23 14:05 / ljs		124 (14410200)_230515A : 15		TDS230515A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	14	mg/L		4		A2320 B	05/16/23 15:09 / ams		PHSC_101-H_230516A : 120		R184539
Bicarbonate as HCO3	16	mg/L		4		A2320 B	05/16/23 15:09 / ams		PHSC_101-H_230516A : 120		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 15:09 / ams		PHSC_101-H_230516A : 120		R184539
Chloride	26	mg/L		1		E300.0	05/17/23 11:37 / ljs		C METROHM_230516A : 102		R184586
Sulfate	202	mg/L		1		E300.0	05/17/23 11:37 / ljs		C METROHM_230516A : 102		R184586
Bromide	ND	mg/L		0.5		E300.0	05/17/23 11:37 / ljs		C METROHM_230516A : 102		R184586
Fluoride	0.5	mg/L		0.1		E300.0	05/17/23 11:37 / ljs		C METROHM_230516A : 102		R184586
Hardness as CaCO3	178	mg/L		1		A2340 B	05/15/23 17:44 / abc		CALC_230522A : 542		R184728
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.0	mg/L		0.5		A5310 C	05/23/23 03:59 / eli-c		SUB-C294878 : 33		C_R294878
Organic Carbon, Total (TOC)	1.0	mg/L		0.5		A5310 C	05/22/23 19:42 / eli-c		SUB-C294878 : 10		C_R294878
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.47	mg/L		0.01		E353.2	05/18/23 14:45 / JAR		FIA203-HE_230518A : 85		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	0.300	mg/L		0.009		E200.8	05/17/23 20:13 / dck		ICPMS205-H_230517A : 113		R184602
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 22:07 / dck		ICPMS205-H_230516C : 127		R184592
Arsenic	ND	mg/L		0.001		E200.8	05/16/23 22:07 / dck		ICPMS205-H_230516C : 127		R184592
Barium	0.020	mg/L		0.003		E200.8	05/16/23 22:07 / dck		ICPMS205-H_230516C : 127		R184592
Beryllium	ND	mg/L		0.0008		E200.8	05/16/23 22:07 / dck		ICPMS205-H_230516C : 127		R184592
Boron	0.27	mg/L		0.05		E200.7	05/15/23 17:44 / slj		ICP2-HE_230515B : 73		R184548
Cadmium	0.0229	mg/L		0.00003		E200.8	05/16/23 22:07 / dck		ICPMS205-H_230516C : 127		R184592
Cesium	ND	mg/L		0.01		E200.8	05/17/23 12:36 / dck		ICPMS205-H_230517D : 31		R184650

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-11A  
**Lab ID:** H23050437-006  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 12:21 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	54	mg/L		1		E200.7	05/15/23 17:44 / slj		ICP2-HE_230515B : 73		R184548
Chromium	ND	mg/L		0.005		E200.8	05/16/23 22:07 / dck		ICPMS205-H_230516C : 127		R184592
Cobalt	0.019	mg/L		0.005		E200.8	05/16/23 22:07 / dck		ICPMS205-H_230516C : 127		R184592
Copper	0.193	mg/L		0.002		E200.8	05/16/23 22:07 / dck		ICPMS205-H_230516C : 127		R184592
Gallium	ND	mg/L		0.01		E200.8	05/17/23 12:36 / dck		ICPMS205-H_230517D : 31		R184650
Iron	ND	mg/L		0.02		E200.8	05/16/23 22:07 / dck		ICPMS205-H_230516C : 127		R184592
Lead	ND	mg/L		0.0003		E200.8	05/16/23 22:07 / dck		ICPMS205-H_230516C : 127		R184592
Lanthanum	ND	mg/L		0.01		E200.8	05/17/23 12:36 / dck		ICPMS205-H_230517D : 31		R184650
Lithium	ND	mg/L		0.1		E200.7	05/15/23 17:44 / slj		ICP2-HE_230515B : 73		R184548
Magnesium	11	mg/L		1		E200.7	05/15/23 17:44 / slj		ICP2-HE_230515B : 73		R184548
Neodymium	ND	mg/L		0.005		E200.8	05/17/23 12:36 / dck		ICPMS205-H_230517D : 31		R184650
Niobium	ND	mg/L		0.01		E200.8	05/17/23 12:36 / dck		ICPMS205-H_230517D : 31		R184650
Manganese	6.42	mg/L		0.001		E200.7	05/15/23 17:44 / slj		ICP2-HE_230515B : 73		R184548
Molybdenum	ND	mg/L		0.001		E200.8	05/16/23 22:07 / dck		ICPMS205-H_230516C : 127		R184592
Nickel	0.015	mg/L		0.002		E200.8	05/16/23 22:07 / dck		ICPMS205-H_230516C : 127		R184592
Palladium	ND	mg/L		0.01		E200.8	05/17/23 12:36 / dck		ICPMS205-H_230517D : 31		R184650
Praseodymium	ND	mg/L		0.01		E200.8	05/17/23 12:36 / dck		ICPMS205-H_230517D : 31		R184650
Rubidium	ND	mg/L		0.01		E200.8	05/17/23 12:36 / dck		ICPMS205-H_230517D : 31		R184650
Potassium	4	mg/L		1		E200.7	05/15/23 17:44 / slj		ICP2-HE_230515B : 73		R184548
Selenium	ND	mg/L		0.001		E200.8	05/16/23 22:07 / dck		ICPMS205-H_230516C : 127		R184592
Silver	ND	mg/L		0.0002		E200.8	05/16/23 22:07 / dck		ICPMS205-H_230516C : 127		R184592
Sodium	21	mg/L		1		E200.7	05/15/23 17:44 / slj		ICP2-HE_230515B : 73		R184548
Strontium	0.37	mg/L		0.01		E200.8	05/16/23 22:07 / dck		ICPMS205-H_230516C : 127		R184592
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 22:07 / dck		ICPMS205-H_230516C : 127		R184592
Thorium	ND	mg/L		0.005		E200.8	05/16/23 22:07 / dck		ICPMS205-H_230516C : 127		R184592
Tin	ND	mg/L		0.05		E200.8	05/16/23 22:07 / dck		ICPMS205-H_230516C : 127		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 22:07 / dck		ICPMS205-H_230516C : 127		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/17/23 12:36 / dck		ICPMS205-H_230517D : 31		R184650
Uranium	0.0008	mg/L		0.0002		E200.8	05/16/23 22:07 / dck		ICPMS205-H_230516C : 127		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 22:07 / dck		ICPMS205-H_230516C : 127		R184592
Zinc	3.03	mg/L		0.008		E200.7	05/15/23 17:44 / slj		ICP2-HE_230515B : 73		R184548
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 12:36 / dck		ICPMS205-H_230517D : 31		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-11A  
**Lab ID:** H23050437-006  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 12:21      **DateReceived:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.16	%				A1030 E	05/22/23 13:04 / abc		CALC_230522A : 540		R184728

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-18B  
**Lab ID:** H23050437-007  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 13:08 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.4	s.u.	H	0.1		A4500-H B	05/15/23 11:31 / ljs		PHSC_101-H_230515A : 41		R184515
pH Measurement Temp	12.6	°C				A4500-H B	05/15/23 11:31 / ljs		PHSC_101-H_230515A : 41		R184515
Conductivity @ 25 C	3790	umhos/cm		5		A2510 B	05/15/23 11:31 / ljs		PHSC_101-H_230515A : 42		R184515
Solids, Total Dissolved TDS @ 180 C	3870	mg/L		100		A2540 C	05/15/23 14:05 / ljs		124 (14410200)_230515A : 16		TDS230515A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	05/16/23 15:16 / ams		PHSC_101-H_230516A : 122		R184539
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	05/16/23 15:16 / ams		PHSC_101-H_230516A : 122		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 15:16 / ams		PHSC_101-H_230516A : 122		R184539
Chloride	99	mg/L		1		E300.0	05/24/23 19:36 / SR		IC METROHM_230524A : 33		R184848
Sulfate	2340	mg/L		1		E300.0	05/24/23 19:36 / SR		IC METROHM_230524A : 33		R184848
Bromide	ND	mg/L		0.5		E300.0	05/17/23 11:52 / ljs		IC METROHM_230516A : 103		R184586
Fluoride	0.9	mg/L		0.1		E300.0	05/24/23 19:36 / SR		IC METROHM_230524A : 33		R184848
Hardness as CaCO3	1450	mg/L		1		A2340 B	05/15/23 17:48 / SR		CALC_230526A : 465		R184891
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.3	mg/L		0.5		A5310 C	05/23/23 04:21 / eli-c		SUB-C294878 : 34		C_R294878
Organic Carbon, Total (TOC)	1.3	mg/L		0.5		A5310 C	05/22/23 20:00 / eli-c		SUB-C294878 : 11		C_R294878
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	05/18/23 14:46 / JAR		FIA203-HE_230518A : 86		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	2.40	mg/L		0.03		E200.7	05/15/23 17:48 / slj		ICP2-HE_230515B : 74		R184548
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 22:40 / dck		ICPMS205-H_230516C : 138		R184592
Arsenic	0.001	mg/L		0.001		E200.8	05/16/23 22:40 / dck		ICPMS205-H_230516C : 138		R184592
Barium	0.013	mg/L		0.003		E200.8	05/16/23 22:40 / dck		ICPMS205-H_230516C : 138		R184592
Beryllium	0.0045	mg/L		0.0008		E200.8	05/16/23 22:40 / dck		ICPMS205-H_230516C : 138		R184592
Boron	0.11	mg/L		0.05		E200.7	05/15/23 17:48 / slj		ICP2-HE_230515B : 74		R184548
Cadmium	0.502	mg/L		0.00003		E200.8	05/16/23 22:40 / dck		ICPMS205-H_230516C : 138		R184592
Cesium	ND	mg/L		0.01		E200.8	05/17/23 12:37 / dck		ICPMS205-H_230517D : 32		R184650

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-18B  
**Lab ID:** H23050437-007  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 13:08 **DateReceived:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	375	mg/L		1		E200.7	05/15/23 17:48 / slj		ICP2-HE_230515B : 74		R184548
Chromium	ND	mg/L		0.005		E200.8	05/16/23 22:40 / dck		ICPMS205-H_230516C : 138		R184592
Cobalt	1.12	mg/L		0.005		E200.8	05/16/23 22:40 / dck		ICPMS205-H_230516C : 138		R184592
Copper	13.0	mg/L		0.01		E200.7	05/15/23 17:48 / slj		ICP2-HE_230515B : 74		R184548
Gallium	ND	mg/L		0.01		E200.8	05/17/23 12:37 / dck		ICPMS205-H_230517D : 32		R184650
Iron	173	mg/L		0.02		E200.7	05/15/23 17:48 / slj		ICP2-HE_230515B : 74		R184548
Lead	0.0174	mg/L		0.0003		E200.8	05/16/23 22:40 / dck		ICPMS205-H_230516C : 138		R184592
Lanthanum	0.07	mg/L		0.01		E200.8	05/17/23 12:37 / dck		ICPMS205-H_230517D : 32		R184650
Lithium	0.6	mg/L		0.1		E200.7	05/15/23 17:48 / slj		ICP2-HE_230515B : 74		R184548
Magnesium	124	mg/L		1		E200.7	05/15/23 17:48 / slj		ICP2-HE_230515B : 74		R184548
Neodymium	0.037	mg/L		0.005		E200.8	05/17/23 12:37 / dck		ICPMS205-H_230517D : 32		R184650
Niobium	ND	mg/L		0.01		E200.8	05/17/23 12:37 / dck		ICPMS205-H_230517D : 32		R184650
Manganese	133	mg/L		0.001		E200.7	05/15/23 17:48 / slj		ICP2-HE_230515B : 74		R184548
Molybdenum	ND	mg/L		0.001		E200.8	05/16/23 22:40 / dck		ICPMS205-H_230516C : 138		R184592
Nickel	0.329	mg/L		0.002		E200.8	05/16/23 22:40 / dck		ICPMS205-H_230516C : 138		R184592
Palladium	ND	mg/L		0.01		E200.8	05/17/23 12:37 / dck		ICPMS205-H_230517D : 32		R184650
Praseodymium	0.01	mg/L		0.01		E200.8	05/17/23 12:37 / dck		ICPMS205-H_230517D : 32		R184650
Rubidium	0.01	mg/L		0.01		E200.8	05/17/23 12:37 / dck		ICPMS205-H_230517D : 32		R184650
Potassium	17	mg/L		1		E200.7	05/15/23 17:48 / slj		ICP2-HE_230515B : 74		R184548
Selenium	ND	mg/L		0.001		E200.8	05/16/23 22:40 / dck		ICPMS205-H_230516C : 138		R184592
Silver	0.0033	mg/L		0.0002		E200.8	05/16/23 22:40 / dck		ICPMS205-H_230516C : 138		R184592
Sodium	87	mg/L		1		E200.7	05/15/23 17:48 / slj		ICP2-HE_230515B : 74		R184548
Strontium	2.49	mg/L		0.01		E200.7	05/15/23 17:48 / slj		ICP2-HE_230515B : 74		R184548
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 22:40 / dck		ICPMS205-H_230516C : 138		R184592
Thorium	ND	mg/L		0.005		E200.8	05/16/23 22:40 / dck		ICPMS205-H_230516C : 138		R184592
Tin	ND	mg/L		0.05		E200.8	05/16/23 22:40 / dck		ICPMS205-H_230516C : 138		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 22:40 / dck		ICPMS205-H_230516C : 138		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/17/23 12:37 / dck		ICPMS205-H_230517D : 32		R184650
Uranium	0.0149	mg/L		0.0002		E200.8	05/16/23 22:40 / dck		ICPMS205-H_230516C : 138		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 22:40 / dck		ICPMS205-H_230516C : 138		R184592
Zinc	117	mg/L		0.008		E200.7	05/15/23 17:48 / slj		ICP2-HE_230515B : 74		R184548
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 12:37 / dck		ICPMS205-H_230517D : 32		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-18B  
**Lab ID:** H23050437-007  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 13:08      **DateReceived:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-5.75	%				A1030 E	05/26/23 11:07 / SR		CALC_230526A : 463		R184891

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-18C  
**Lab ID:** H23050437-008  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 13:33 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.8	s.u.	H	0.1		A4500-H B	05/15/23 11:33 / ljs		PHSC_101-H_230515A : 43		R184515
pH Measurement Temp	12.9	°C				A4500-H B	05/15/23 11:33 / ljs		PHSC_101-H_230515A : 43		R184515
Conductivity @ 25 C	2080	umhos/cm		5		A2510 B	05/15/23 11:33 / ljs		PHSC_101-H_230515A : 44		R184515
Solids, Total Dissolved TDS @ 180 C	1750	mg/L		50		A2540 C	05/15/23 14:05 / ljs		124 (14410200)_230515A : 17		TDS230515A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	51	mg/L		4		A2320 B	05/16/23 15:19 / ams		PHSC_101-H_230516A : 124		R184539
Bicarbonate as HCO3	62	mg/L		4		A2320 B	05/16/23 15:19 / ams		PHSC_101-H_230516A : 124		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 15:19 / ams		PHSC_101-H_230516A : 124		R184539
Chloride	87	mg/L		1		E300.0	05/24/23 19:50 / SR		IC METROHM_230524A : 34		R184848
Sulfate	943	mg/L		1		E300.0	05/24/23 19:50 / SR		IC METROHM_230524A : 34		R184848
Bromide	ND	mg/L		0.5		E300.0	05/24/23 19:50 / SR		IC METROHM_230524A : 34		R184848
Fluoride	0.4	mg/L		0.1		E300.0	05/24/23 19:50 / SR		IC METROHM_230524A : 34		R184848
Hardness as CaCO3	853	mg/L		1		A2340 B	05/15/23 17:52 / SR		CALC_230526A : 476		R184891
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.4	mg/L		0.5		A5310 C	05/23/23 04:39 / eli-c		SUB-C294878 : 35		C_R294878
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	6.92	mg/L		0.05		E353.2	05/18/23 14:47 / JAR		FIA203-HE_230518A : 87		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	0.047	mg/L		0.009		E200.8	05/17/23 22:04 / dck		ICPMS205-H_230517A : 151		R184602
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 22:57 / dck		ICPMS205-H_230516C : 144		R184592
Arsenic	0.004	mg/L		0.001		E200.8	05/16/23 22:57 / dck		ICPMS205-H_230516C : 144		R184592
Barium	0.020	mg/L		0.003		E200.8	05/16/23 22:57 / dck		ICPMS205-H_230516C : 144		R184592
Beryllium	0.0011	mg/L		0.0008		E200.8	05/16/23 22:57 / dck		ICPMS205-H_230516C : 144		R184592
Boron	0.24	mg/L		0.05		E200.7	05/15/23 17:52 / slj		ICP2-HE_230515B : 75		R184548
Cadmium	0.103	mg/L		0.00003		E200.8	05/16/23 22:57 / dck		ICPMS205-H_230516C : 144		R184592
Cesium	ND	mg/L		0.01		E200.8	05/17/23 12:39 / dck		ICPMS205-H_230517D : 33		R184650
Calcium	224	mg/L		1		E200.7	05/15/23 17:52 / slj		ICP2-HE_230515B : 75		R184548

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-18C  
**Lab ID:** H23050437-008  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 13:33 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Chromium	ND	mg/L		0.005		E200.8	05/16/23 22:57 / dck		ICPMS205-H_230516C : 144		R184592
Cobalt	0.014	mg/L		0.005		E200.8	05/16/23 22:57 / dck		ICPMS205-H_230516C : 144		R184592
Copper	5.13	mg/L		0.01		E200.7	05/15/23 17:52 / slj		ICP2-HE_230515B : 75		R184548
Gallium	ND	mg/L		0.01		E200.8	05/17/23 12:39 / dck		ICPMS205-H_230517D : 33		R184650
Iron	ND	mg/L		0.02		E200.8	05/16/23 22:57 / dck		ICPMS205-H_230516C : 144		R184592
Lead	0.0004	mg/L		0.0003		E200.8	05/16/23 22:57 / dck		ICPMS205-H_230516C : 144		R184592
Lanthanum	ND	mg/L		0.01		E200.8	05/17/23 12:39 / dck		ICPMS205-H_230517D : 33		R184650
Lithium	0.4	mg/L		0.1		E200.7	05/15/23 17:52 / slj		ICP2-HE_230515B : 75		R184548
Magnesium	71	mg/L		1		E200.7	05/15/23 17:52 / slj		ICP2-HE_230515B : 75		R184548
Neodymium	ND	mg/L		0.005		E200.8	05/17/23 12:39 / dck		ICPMS205-H_230517D : 33		R184650
Niobium	ND	mg/L		0.01		E200.8	05/17/23 12:39 / dck		ICPMS205-H_230517D : 33		R184650
Manganese	50.3	mg/L		0.001		E200.7	05/15/23 17:52 / slj		ICP2-HE_230515B : 75		R184548
Molybdenum	ND	mg/L		0.001		E200.8	05/16/23 22:57 / dck		ICPMS205-H_230516C : 144		R184592
Nickel	0.131	mg/L		0.002		E200.8	05/16/23 22:57 / dck		ICPMS205-H_230516C : 144		R184592
Palladium	ND	mg/L		0.01		E200.8	05/17/23 12:39 / dck		ICPMS205-H_230517D : 33		R184650
Praseodymium	ND	mg/L		0.01		E200.8	05/17/23 12:39 / dck		ICPMS205-H_230517D : 33		R184650
Rubidium	0.03	mg/L		0.01		E200.8	05/17/23 12:39 / dck		ICPMS205-H_230517D : 33		R184650
Potassium	17	mg/L		1		E200.7	05/15/23 17:52 / slj		ICP2-HE_230515B : 75		R184548
Selenium	ND	mg/L		0.001		E200.8	05/16/23 22:57 / dck		ICPMS205-H_230516C : 144		R184592
Silver	0.0009	mg/L		0.0002		E200.8	05/16/23 22:57 / dck		ICPMS205-H_230516C : 144		R184592
Sodium	61	mg/L		1		E200.7	05/15/23 17:52 / slj		ICP2-HE_230515B : 75		R184548
Strontium	2.53	mg/L		0.01		E200.7	05/15/23 17:52 / slj		ICP2-HE_230515B : 75		R184548
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 22:57 / dck		ICPMS205-H_230516C : 144		R184592
Thorium	ND	mg/L		0.005		E200.8	05/16/23 22:57 / dck		ICPMS205-H_230516C : 144		R184592
Tin	ND	mg/L		0.05		E200.8	05/16/23 22:57 / dck		ICPMS205-H_230516C : 144		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 22:57 / dck		ICPMS205-H_230516C : 144		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/17/23 12:39 / dck		ICPMS205-H_230517D : 33		R184650
Uranium	0.0014	mg/L		0.0002		E200.8	05/16/23 22:57 / dck		ICPMS205-H_230516C : 144		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 22:57 / dck		ICPMS205-H_230516C : 144		R184592
Zinc	31.6	mg/L		0.008		E200.7	05/15/23 17:52 / slj		ICP2-HE_230515B : 75		R184548
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 12:39 / dck		ICPMS205-H_230517D : 33		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-18C  
**Lab ID:** H23050437-008  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 13:33      **DateReceived:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-3.62	%				A1030 E	05/26/23 11:07 / SR		CALC_230526A : 474		R184891

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-03A  
**Lab ID:** H23050437-009  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 13:53 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.8	s.u.	H	0.1		A4500-H B	05/15/23 11:35 / ljs		PHSC_101-H_230515A : 45		R184515
pH Measurement Temp	13.5	°C				A4500-H B	05/15/23 11:35 / ljs		PHSC_101-H_230515A : 45		R184515
Conductivity @ 25 C	3920	umhos/cm		5		A2510 B	05/15/23 11:35 / ljs		PHSC_101-H_230515A : 46		R184515
Solids, Total Dissolved TDS @ 180 C	4010	mg/L		100		A2540 C	05/15/23 14:05 / ljs		124 (14410200)_230515A : 18		TDS230515A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	05/16/23 15:25 / ams		PHSC_101-H_230516A : 126		R184539
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	05/16/23 15:25 / ams		PHSC_101-H_230516A : 126		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 15:25 / ams		PHSC_101-H_230516A : 126		R184539
Chloride	319	mg/L		1		E300.0	05/17/23 13:03 / ljs		C METROHM_230516A : 107		R184586
Sulfate	2120	mg/L		1		E300.0	05/17/23 13:03 / ljs		C METROHM_230516A : 107		R184586
Bromide	1.1	mg/L		0.5		E300.0	05/17/23 13:03 / ljs		C METROHM_230516A : 107		R184586
Fluoride	1.6	mg/L		0.1		E300.0	05/17/23 13:03 / ljs		C METROHM_230516A : 107		R184586
Hardness as CaCO3	1220	mg/L		1		A2340 B	05/15/23 17:55 / abc		CALC_230522A : 553		R184728
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.8	mg/L		0.5		A5310 C	05/23/23 05:04 / eli-c		SUB-C294878 : 36		C_R294878
Organic Carbon, Total (TOC)	2.8	mg/L		0.5		A5310 C	05/22/23 20:26 / eli-c		SUB-C294878 : 12		C_R294878
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	05/18/23 14:51 / JAR		FIA203-HE_230518A : 90		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	1.09	mg/L		0.03		E200.7	05/15/23 17:55 / slj		ICP2-HE_230515B : 76		R184548
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 23:18 / dck		ICPMS205-H_230516C : 151		R184592
Arsenic	0.066	mg/L		0.001		E200.8	05/16/23 23:18 / dck		ICPMS205-H_230516C : 151		R184592
Barium	0.016	mg/L		0.003		E200.8	05/16/23 23:18 / dck		ICPMS205-H_230516C : 151		R184592
Beryllium	0.0048	mg/L		0.0008		E200.8	05/16/23 23:18 / dck		ICPMS205-H_230516C : 151		R184592
Boron	0.61	mg/L		0.05		E200.7	05/15/23 17:55 / slj		ICP2-HE_230515B : 76		R184548
Cadmium	0.935	mg/L		0.00003		E200.8	05/16/23 23:18 / dck		ICPMS205-H_230516C : 151		R184592
Cesium	ND	mg/L		0.01		E200.8	05/17/23 12:41 / dck		ICPMS205-H_230517D : 34		R184650

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-03A  
**Lab ID:** H23050437-009  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 13:53 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	312	mg/L		1		E200.7	05/15/23 17:55 / slj		ICP2-HE_230515B : 76		R184548
Chromium	ND	mg/L		0.005		E200.8	05/16/23 23:18 / dck		ICPMS205-H_230516C : 151		R184592
Cobalt	0.843	mg/L		0.005		E200.8	05/16/23 23:18 / dck		ICPMS205-H_230516C : 151		R184592
Copper	7.18	mg/L		0.01		E200.7	05/15/23 17:55 / slj		ICP2-HE_230515B : 76		R184548
Gallium	ND	mg/L		0.01		E200.8	05/17/23 12:41 / dck		ICPMS205-H_230517D : 34		R184650
Iron	352	mg/L		0.02		E200.7	05/15/23 17:55 / slj		ICP2-HE_230515B : 76		R184548
Lead	0.0087	mg/L		0.0003		E200.8	05/16/23 23:18 / dck		ICPMS205-H_230516C : 151		R184592
Lanthanum	ND	mg/L		0.01		E200.8	05/17/23 12:41 / dck		ICPMS205-H_230517D : 34		R184650
Lithium	0.7	mg/L		0.1		E200.7	05/15/23 17:55 / slj		ICP2-HE_230515B : 76		R184548
Magnesium	107	mg/L		1		E200.7	05/15/23 17:55 / slj		ICP2-HE_230515B : 76		R184548
Neodymium	ND	mg/L		0.005		E200.8	05/17/23 12:41 / dck		ICPMS205-H_230517D : 34		R184650
Niobium	ND	mg/L		0.01		E200.8	05/17/23 12:41 / dck		ICPMS205-H_230517D : 34		R184650
Manganese	116	mg/L		0.001		E200.7	05/15/23 17:55 / slj		ICP2-HE_230515B : 76		R184548
Molybdenum	ND	mg/L		0.001		E200.8	05/16/23 23:18 / dck		ICPMS205-H_230516C : 151		R184592
Nickel	0.342	mg/L		0.002		E200.8	05/16/23 23:18 / dck		ICPMS205-H_230516C : 151		R184592
Palladium	ND	mg/L		0.01		E200.8	05/17/23 12:41 / dck		ICPMS205-H_230517D : 34		R184650
Praseodymium	ND	mg/L		0.01		E200.8	05/17/23 12:41 / dck		ICPMS205-H_230517D : 34		R184650
Rubidium	ND	mg/L		0.01		E200.8	05/17/23 12:41 / dck		ICPMS205-H_230517D : 34		R184650
Potassium	16	mg/L		1		E200.7	05/15/23 17:55 / slj		ICP2-HE_230515B : 76		R184548
Selenium	ND	mg/L		0.001		E200.8	05/16/23 23:18 / dck		ICPMS205-H_230516C : 151		R184592
Silver	ND	mg/L		0.0002		E200.8	05/16/23 23:18 / dck		ICPMS205-H_230516C : 151		R184592
Sodium	99	mg/L		1		E200.7	05/15/23 17:55 / slj		ICP2-HE_230515B : 76		R184548
Strontium	2.16	mg/L		0.01		E200.7	05/15/23 17:55 / slj		ICP2-HE_230515B : 76		R184548
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 23:18 / dck		ICPMS205-H_230516C : 151		R184592
Thorium	ND	mg/L		0.005		E200.8	05/16/23 23:18 / dck		ICPMS205-H_230516C : 151		R184592
Tin	ND	mg/L		0.05		E200.8	05/16/23 23:18 / dck		ICPMS205-H_230516C : 151		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 23:18 / dck		ICPMS205-H_230516C : 151		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/17/23 12:41 / dck		ICPMS205-H_230517D : 34		R184650
Uranium	0.0017	mg/L		0.0002		E200.8	05/16/23 23:18 / dck		ICPMS205-H_230516C : 151		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 23:18 / dck		ICPMS205-H_230516C : 151		R184592
Zinc	133	mg/L		0.008		E200.7	05/15/23 17:55 / slj		ICP2-HE_230515B : 76		R184548
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 12:41 / dck		ICPMS205-H_230517D : 34		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-03A  
**Lab ID:** H23050437-009  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 13:53      **DateReceived:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-3.95	%				A1030 E	05/22/23 13:05 / abc		CALC_230522A : 551		R184728

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-01B  
**Lab ID:** H23050437-010  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 14:39 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.8	s.u.	H	0.1		A4500-H B	05/15/23 11:37 / ljs		PHSC_101-H_230515A : 47		R184515
pH Measurement Temp	13.4	°C				A4500-H B	05/15/23 11:37 / ljs		PHSC_101-H_230515A : 47		R184515
Conductivity @ 25 C	1660	umhos/cm		5		A2510 B	05/15/23 11:37 / ljs		PHSC_101-H_230515A : 48		R184515
Solids, Total Dissolved TDS @ 180 C	1270	mg/L		20		A2540 C	05/15/23 14:05 / ljs		124 (14410200)_230515A : 19		TDS230515A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	50	mg/L		4		A2320 B	05/16/23 15:30 / ams		PHSC_101-H_230516A : 128		R184539
Bicarbonate as HCO3	60	mg/L		4		A2320 B	05/16/23 15:30 / ams		PHSC_101-H_230516A : 128		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 15:30 / ams		PHSC_101-H_230516A : 128		R184539
Chloride	75	mg/L		1		E300.0	05/17/23 13:18 / ljs		C METROHM_230516A : 108		R184586
Sulfate	711	mg/L		1		E300.0	05/17/23 13:18 / ljs		C METROHM_230516A : 108		R184586
Bromide	ND	mg/L		0.5		E300.0	05/17/23 13:18 / ljs		C METROHM_230516A : 108		R184586
Fluoride	0.2	mg/L		0.1		E300.0	05/17/23 13:18 / ljs		C METROHM_230516A : 108		R184586
Hardness as CaCO3	555	mg/L		1		A2340 B	05/17/23 22:10 / SR		CALC_230523B : 102		R184776
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.7	mg/L		0.5		A5310 C	05/23/23 05:23 / eli-c		SUB-C294878 : 37		C_R294878
Organic Carbon, Total (TOC)	1.8	mg/L		0.5		A5310 C	05/22/23 20:46 / eli-c		SUB-C294878 : 13		C_R294878
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	5.87	mg/L		0.05		E353.2	05/18/23 14:52 / JAR		FIA203-HE_230518A : 91		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	0.021	mg/L		0.009		E200.8	05/17/23 22:10 / dck		ICPMS205-H_230517A : 153		R184602
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 23:00 / dck		ICPMS205-H_230516C : 145		R184592
Arsenic	0.007	mg/L		0.001		E200.8	05/16/23 23:00 / dck		ICPMS205-H_230516C : 145		R184592
Barium	0.011	mg/L		0.003		E200.8	05/16/23 23:00 / dck		ICPMS205-H_230516C : 145		R184592
Beryllium	ND	mg/L		0.0008		E200.8	05/16/23 23:00 / dck		ICPMS205-H_230516C : 145		R184592
Boron	0.34	mg/L		0.05		E200.7	05/15/23 17:59 / slj		ICP2-HE_230515B : 77		R184548
Cadmium	0.170	mg/L		0.00003		E200.8	05/16/23 23:00 / dck		ICPMS205-H_230516C : 145		R184592
Cesium	ND	mg/L		0.01		E200.8	05/17/23 12:42 / dck		ICPMS205-H_230517D : 35		R184650

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-01B  
**Lab ID:** H23050437-010  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 14:39 **DateReceived:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	150	mg/L		1		E200.7	05/15/23 17:59 / slj		ICP2-HE_230515B : 77		R184548
Chromium	ND	mg/L		0.005		E200.8	05/16/23 23:00 / dck		ICPMS205-H_230516C : 145		R184592
Cobalt	ND	mg/L		0.005		E200.8	05/16/23 23:00 / dck		ICPMS205-H_230516C : 145		R184592
Copper	2.41	mg/L		0.01		E200.7	05/15/23 17:59 / slj		ICP2-HE_230515B : 77		R184548
Gallium	ND	mg/L		0.01		E200.8	05/17/23 12:42 / dck		ICPMS205-H_230517D : 35		R184650
Iron	ND	mg/L		0.02		E200.8	05/16/23 23:00 / dck		ICPMS205-H_230516C : 145		R184592
Lead	ND	mg/L		0.0003		E200.8	05/16/23 23:00 / dck		ICPMS205-H_230516C : 145		R184592
Lanthanum	ND	mg/L		0.01		E200.8	05/17/23 12:42 / dck		ICPMS205-H_230517D : 35		R184650
Lithium	0.2	mg/L		0.1		E200.7	05/15/23 17:59 / slj		ICP2-HE_230515B : 77		R184548
Magnesium	44	mg/L		1		E200.8	05/17/23 22:10 / dck		ICPMS205-H_230517A : 153		R184602
Neodymium	ND	mg/L		0.005		E200.8	05/17/23 12:42 / dck		ICPMS205-H_230517D : 35		R184650
Niobium	ND	mg/L		0.01		E200.8	05/17/23 12:42 / dck		ICPMS205-H_230517D : 35		R184650
Manganese	35.3	mg/L		0.001		E200.7	05/15/23 17:59 / slj		ICP2-HE_230515B : 77		R184548
Molybdenum	ND	mg/L		0.001		E200.8	05/16/23 23:00 / dck		ICPMS205-H_230516C : 145		R184592
Nickel	0.095	mg/L		0.002		E200.8	05/16/23 23:00 / dck		ICPMS205-H_230516C : 145		R184592
Palladium	ND	mg/L		0.01		E200.8	05/17/23 12:42 / dck		ICPMS205-H_230517D : 35		R184650
Praseodymium	ND	mg/L		0.01		E200.8	05/17/23 12:42 / dck		ICPMS205-H_230517D : 35		R184650
Rubidium	0.02	mg/L		0.01		E200.8	05/17/23 12:42 / dck		ICPMS205-H_230517D : 35		R184650
Potassium	11	mg/L		1		E200.7	05/15/23 17:59 / slj		ICP2-HE_230515B : 77		R184548
Selenium	0.001	mg/L		0.001		E200.8	05/16/23 23:00 / dck		ICPMS205-H_230516C : 145		R184592
Silver	0.0005	mg/L		0.0002		E200.8	05/16/23 23:00 / dck		ICPMS205-H_230516C : 145		R184592
Sodium	91	mg/L		1		E200.7	05/15/23 17:59 / slj		ICP2-HE_230515B : 77		R184548
Strontium	1.11	mg/L		0.01		E200.7	05/15/23 17:59 / slj		ICP2-HE_230515B : 77		R184548
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 23:00 / dck		ICPMS205-H_230516C : 145		R184592
Thorium	ND	mg/L		0.005		E200.8	05/16/23 23:00 / dck		ICPMS205-H_230516C : 145		R184592
Tin	ND	mg/L		0.05		E200.8	05/16/23 23:00 / dck		ICPMS205-H_230516C : 145		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 23:00 / dck		ICPMS205-H_230516C : 145		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/17/23 12:42 / dck		ICPMS205-H_230517D : 35		R184650
Uranium	0.0014	mg/L		0.0002		E200.8	05/16/23 23:00 / dck		ICPMS205-H_230516C : 145		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 23:00 / dck		ICPMS205-H_230516C : 145		R184592
Zinc	26.8	mg/L		0.008		E200.7	05/15/23 17:59 / slj		ICP2-HE_230515B : 77		R184548
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 12:42 / dck		ICPMS205-H_230517D : 35		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-01B  
**Lab ID:** H23050437-010  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 14:39      **DateReceived:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.97	%				A1030 E	05/23/23 12:21 / SR		CALC_230523B : 100		R184776

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01B  
**Lab ID:** H23050437-011  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 15:00 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.3	s.u.	H	0.1		A4500-H B	05/15/23 11:38 / ljs		PHSC_101-H_230515A : 49		R184515
pH Measurement Temp	13.6	°C				A4500-H B	05/15/23 11:38 / ljs		PHSC_101-H_230515A : 49		R184515
Conductivity @ 25 C	4170	umhos/cm		5		A2510 B	05/15/23 11:38 / ljs		PHSC_101-H_230515A : 50		R184515
Solids, Total Dissolved TDS @ 180 C	4340	mg/L		100		A2540 C	05/15/23 14:06 / ljs		124 (14410200)_230515A : 20		TDS230515A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	05/16/23 15:37 / ams		PHSC_101-H_230516A : 130		R184539
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	05/16/23 15:37 / ams		PHSC_101-H_230516A : 130		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 15:37 / ams		PHSC_101-H_230516A : 130		R184539
Chloride	166	mg/L		1		E300.0	05/24/23 20:33 / SR		IC METROHM_230524A : 37		R184848
Sulfate	2530	mg/L		1		E300.0	05/24/23 20:33 / SR		IC METROHM_230524A : 37		R184848
Bromide	ND	mg/L		0.5		E300.0	05/24/23 20:33 / SR		IC METROHM_230524A : 37		R184848
Fluoride	6.0	mg/L	*	0.1		E300.0	05/24/23 20:33 / SR		IC METROHM_230524A : 37		R184848
Hardness as CaCO3	1640	mg/L		1		A2340 B	05/16/23 13:21 / SR		CALC_230526A : 487		R184891
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.7	mg/L		0.5		A5310 C	05/23/23 06:20 / eli-c		SUB-C294878 : 39		C_R294878
Organic Carbon, Total (TOC)	0.7	mg/L		0.5		A5310 C	05/22/23 21:38 / eli-c		SUB-C294878 : 15		C_R294878
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	7.11	mg/L		0.05		E353.2	05/18/23 16:21 / JAR		FIA203-HE_230518A : 231		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	10.1	mg/L		0.03		E200.7	05/15/23 18:03 / slj		ICP2-HE_230515B : 78		R184548
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 23:48 / dck		ICPMS205-H_230516C : 161		R184592
Arsenic	0.002	mg/L		0.001		E200.8	05/16/23 23:48 / dck		ICPMS205-H_230516C : 161		R184592
Barium	0.011	mg/L		0.003		E200.8	05/16/23 23:48 / dck		ICPMS205-H_230516C : 161		R184592
Beryllium	0.0095	mg/L		0.0008		E200.8	05/16/23 23:48 / dck		ICPMS205-H_230516C : 161		R184592
Boron	0.19	mg/L		0.05		E200.7	05/15/23 18:03 / slj		ICP2-HE_230515B : 78		R184548
Cadmium	1.14	mg/L		0.00003		E200.8	05/16/23 23:48 / dck		ICPMS205-H_230516C : 161		R184592
Cesium	ND	mg/L		0.01		E200.8	05/17/23 12:50 / dck		ICPMS205-H_230517D : 40		R184650

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** \* - The result exceeds the Maximum Contaminant Level (MCL)

H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01B  
**Lab ID:** H23050437-011  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 15:00 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	432	mg/L		1		E200.7	05/15/23 18:03 / slj		ICP2-HE_230515B : 78		R184548
Chromium	ND	mg/L		0.005		E200.8	05/16/23 23:48 / dck		ICPMS205-H_230516C : 161		R184592
Cobalt	0.324	mg/L		0.005		E200.8	05/16/23 23:48 / dck		ICPMS205-H_230516C : 161		R184592
Copper	83.1	mg/L		0.01		E200.7	05/15/23 18:03 / slj		ICP2-HE_230515B : 78		R184548
Gallium	ND	mg/L		0.01		E200.8	05/17/23 12:50 / dck		ICPMS205-H_230517D : 40		R184650
Iron	0.28	mg/L		0.02		E200.8	05/16/23 23:48 / dck		ICPMS205-H_230516C : 161		R184592
Lead	0.0052	mg/L		0.0003		E200.8	05/16/23 23:48 / dck		ICPMS205-H_230516C : 161		R184592
Lanthanum	0.10	mg/L		0.01		E200.8	05/17/23 12:50 / dck		ICPMS205-H_230517D : 40		R184650
Lithium	0.7	mg/L		0.1		E200.7	05/15/23 18:03 / slj		ICP2-HE_230515B : 78		R184548
Magnesium	137	mg/L		1		E200.7	05/15/23 18:03 / slj		ICP2-HE_230515B : 78		R184548
Neodymium	0.063	mg/L		0.005		E200.8	05/17/23 12:50 / dck		ICPMS205-H_230517D : 40		R184650
Niobium	ND	mg/L		0.01		E200.8	05/17/23 12:50 / dck		ICPMS205-H_230517D : 40		R184650
Manganese	244	mg/L		0.007		E200.7	05/16/23 13:21 / kjb		ICP2-HE_230516A : 29		R184601
Molybdenum	ND	mg/L		0.001		E200.8	05/16/23 23:48 / dck		ICPMS205-H_230516C : 161		R184592
Nickel	0.533	mg/L		0.002		E200.8	05/16/23 23:48 / dck		ICPMS205-H_230516C : 161		R184592
Palladium	ND	mg/L		0.01		E200.8	05/17/23 12:50 / dck		ICPMS205-H_230517D : 40		R184650
Praseodymium	0.02	mg/L		0.01		E200.8	05/17/23 12:50 / dck		ICPMS205-H_230517D : 40		R184650
Rubidium	0.04	mg/L		0.01		E200.8	05/17/23 12:50 / dck		ICPMS205-H_230517D : 40		R184650
Potassium	29	mg/L		1		E200.7	05/15/23 18:03 / slj		ICP2-HE_230515B : 78		R184548
Selenium	ND	mg/L		0.001		E200.8	05/16/23 23:48 / dck		ICPMS205-H_230516C : 161		R184592
Silver	0.0097	mg/L		0.0002		E200.8	05/16/23 23:48 / dck		ICPMS205-H_230516C : 161		R184592
Sodium	68	mg/L		1		E200.7	05/15/23 18:03 / slj		ICP2-HE_230515B : 78		R184548
Strontium	4.05	mg/L		0.01		E200.7	05/15/23 18:03 / slj		ICP2-HE_230515B : 78		R184548
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 23:48 / dck		ICPMS205-H_230516C : 161		R184592
Thorium	ND	mg/L		0.005		E200.8	05/16/23 23:48 / dck		ICPMS205-H_230516C : 161		R184592
Tin	ND	mg/L		0.05		E200.8	05/16/23 23:48 / dck		ICPMS205-H_230516C : 161		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 23:48 / dck		ICPMS205-H_230516C : 161		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/17/23 12:50 / dck		ICPMS205-H_230517D : 40		R184650
Uranium	0.0332	mg/L		0.0002		E200.8	05/16/23 23:48 / dck		ICPMS205-H_230516C : 161		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 23:48 / dck		ICPMS205-H_230516C : 161		R184592
Zinc	167	mg/L		0.008		E200.7	05/15/23 18:03 / slj		ICP2-HE_230515B : 78		R184548
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 14:40 / dck		ICPMS205-H_230517D : 88		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01B  
**Lab ID:** H23050437-011  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 15:00      **DateReceived:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-11.0	%				A1030 E	05/26/23 11:08 / SR		CALC_230526A : 485		R184891

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-28  
**Lab ID:** H23050437-012  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/12/23 09:45 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.2	s.u.	H	0.1		A4500-H B	05/15/23 11:52 / ljs		PHSC_101-H_230515A : 54		R184515
pH Measurement Temp	15.0	°C				A4500-H B	05/15/23 11:52 / ljs		PHSC_101-H_230515A : 54		R184515
Conductivity @ 25 C	1160	umhos/cm		5		A2510 B	05/15/23 11:52 / ljs		PHSC_101-H_230515A : 55		R184515
Solids, Total Dissolved TDS @ 180 C	722	mg/L		20		A2540 C	05/15/23 14:06 / ljs		124 (14410200)_230515A : 21		TDS230515A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	390	mg/L		4		A2320 B	05/16/23 15:41 / ams		PHSC_101-H_230516A : 132		R184539
Bicarbonate as HCO3	480	mg/L		4		A2320 B	05/16/23 15:41 / ams		PHSC_101-H_230516A : 132		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 15:41 / ams		PHSC_101-H_230516A : 132		R184539
Chloride	32	mg/L		1		E300.0	05/17/23 14:15 / ljs		C METROHM_230516A : 112		R184586
Sulfate	178	mg/L		1		E300.0	05/17/23 14:15 / ljs		C METROHM_230516A : 112		R184586
Bromide	ND	mg/L		0.5		E300.0	05/17/23 14:15 / ljs		C METROHM_230516A : 112		R184586
Fluoride	0.8	mg/L		0.1		E300.0	05/17/23 14:15 / ljs		C METROHM_230516A : 112		R184586
Hardness as CaCO3	509	mg/L		1		A2340 B	05/15/23 18:07 / abc		CALC_230522A : 201		R184728
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	11.7	mg/L		0.5		A5310 C	05/18/23 02:29 / eli-c		SUB-C294719 : 15		C_R294719
Organic Carbon, Total (TOC)	11.3	mg/L		0.5		A5310 C	05/17/23 17:03 / eli-c		SUB-C294719 : 4		C_R294719
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.02	mg/L		0.01		E353.2	05/18/23 14:54 / JAR		FIA203-HE_230518A : 93		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/16/23 21:41 / dck		ICPMS205-H_230516C : 118		R184592
Antimony	0.0014	mg/L		0.0005		E200.8	05/16/23 21:41 / dck		ICPMS205-H_230516C : 118		R184592
Arsenic	0.002	mg/L		0.001		E200.8	05/16/23 21:41 / dck		ICPMS205-H_230516C : 118		R184592
Barium	0.207	mg/L		0.003		E200.8	05/16/23 21:41 / dck		ICPMS205-H_230516C : 118		R184592
Beryllium	ND	mg/L		0.0008		E200.8	05/16/23 21:41 / dck		ICPMS205-H_230516C : 118		R184592
Boron	0.20	mg/L		0.05		E200.7	05/15/23 18:07 / slj		ICP2-HE_230515B : 79		R184548
Cadmium	0.00006	mg/L		0.00003		E200.8	05/16/23 21:41 / dck		ICPMS205-H_230516C : 118		R184592
Cesium	ND	mg/L		0.01		E200.8	05/17/23 12:52 / dck		ICPMS205-H_230517D : 41		R184650

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





**LABORATORY ANALYTICAL REPORT**

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-28  
**Lab ID:** H23050437-012  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/12/23 09:45 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	126	mg/L		1		E200.7	05/15/23 18:07 / slj		ICP2-HE_230515B : 79		R184548
Chromium	ND	mg/L		0.005		E200.8	05/16/23 21:41 / dck		ICPMS205-H_230516C : 118		R184592
Cobalt	ND	mg/L		0.005		E200.8	05/16/23 21:41 / dck		ICPMS205-H_230516C : 118		R184592
Copper	0.004	mg/L		0.002		E200.8	05/16/23 21:41 / dck		ICPMS205-H_230516C : 118		R184592
Gallium	ND	mg/L		0.01		E200.8	05/17/23 12:52 / dck		ICPMS205-H_230517D : 41		R184650
Iron	0.51	mg/L		0.02		E200.8	05/16/23 21:41 / dck		ICPMS205-H_230516C : 118		R184592
Lead	ND	mg/L		0.0003		E200.8	05/16/23 21:41 / dck		ICPMS205-H_230516C : 118		R184592
Lanthanum	ND	mg/L		0.01		E200.8	05/17/23 12:52 / dck		ICPMS205-H_230517D : 41		R184650
Lithium	ND	mg/L		0.1		E200.7	05/15/23 18:07 / slj		ICP2-HE_230515B : 79		R184548
Magnesium	47	mg/L		1		E200.7	05/15/23 18:07 / slj		ICP2-HE_230515B : 79		R184548
Neodymium	ND	mg/L		0.005		E200.8	05/17/23 12:52 / dck		ICPMS205-H_230517D : 41		R184650
Niobium	ND	mg/L		0.01		E200.8	05/17/23 12:52 / dck		ICPMS205-H_230517D : 41		R184650
Manganese	0.767	mg/L		0.001		E200.8	05/16/23 21:41 / dck		ICPMS205-H_230516C : 118		R184592
Molybdenum	0.040	mg/L		0.001		E200.8	05/16/23 21:41 / dck		ICPMS205-H_230516C : 118		R184592
Nickel	ND	mg/L		0.002		E200.8	05/16/23 21:41 / dck		ICPMS205-H_230516C : 118		R184592
Palladium	ND	mg/L		0.01		E200.8	05/17/23 12:52 / dck		ICPMS205-H_230517D : 41		R184650
Praseodymium	ND	mg/L		0.01		E200.8	05/17/23 12:52 / dck		ICPMS205-H_230517D : 41		R184650
Rubidium	ND	mg/L		0.01		E200.8	05/17/23 12:52 / dck		ICPMS205-H_230517D : 41		R184650
Potassium	8	mg/L		1		E200.7	05/15/23 18:07 / slj		ICP2-HE_230515B : 79		R184548
Selenium	ND	mg/L		0.001		E200.8	05/16/23 21:41 / dck		ICPMS205-H_230516C : 118		R184592
Silver	ND	mg/L		0.0002		E200.8	05/16/23 21:41 / dck		ICPMS205-H_230516C : 118		R184592
Sodium	61	mg/L		1		E200.7	05/15/23 18:07 / slj		ICP2-HE_230515B : 79		R184548
Strontium	1.00	mg/L		0.01		E200.7	05/15/23 18:07 / slj		ICP2-HE_230515B : 79		R184548
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 21:41 / dck		ICPMS205-H_230516C : 118		R184592
Thorium	ND	mg/L		0.005		E200.8	05/17/23 12:52 / dck		ICPMS205-H_230517D : 163		R184650
Tin	ND	mg/L		0.05		E200.8	05/16/23 21:41 / dck		ICPMS205-H_230516C : 118		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 21:41 / dck		ICPMS205-H_230516C : 118		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/17/23 12:52 / dck		ICPMS205-H_230517D : 41		R184650
Uranium	0.0735	mg/L		0.0002		E200.8	05/16/23 21:41 / dck		ICPMS205-H_230516C : 118		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 21:41 / dck		ICPMS205-H_230516C : 118		R184592
Zinc	0.023	mg/L		0.008		E200.8	05/16/23 21:41 / dck		ICPMS205-H_230516C : 118		R184592
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 14:47 / dck		ICPMS205-H_230517D : 92		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-28  
**Lab ID:** H23050437-012  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/12/23 09:45      **DateReceived:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	2.01	%				A1030 E	05/22/23 12:47 / abc		CALC_230522A : 199		R184728

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-28B  
**Lab ID:** H23050437-013  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/12/23 10:50 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.3	s.u.	H	0.1		A4500-H B	05/15/23 11:57 / ljs		PHSC_101-H_230515A : 58		R184515
pH Measurement Temp	14.6	°C				A4500-H B	05/15/23 11:57 / ljs		PHSC_101-H_230515A : 58		R184515
Conductivity @ 25 C	325	umhos/cm		5		A2510 B	05/15/23 11:57 / ljs		PHSC_101-H_230515A : 59		R184515
Solids, Total Dissolved TDS @ 180 C	214	mg/L		20		A2540 C	05/15/23 14:06 / ljs		124 (14410200)_230515A : 22		TDS230515A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	89	mg/L		4		A2320 B	05/16/23 15:50 / ams		PHSC_101-H_230516A : 134		R184539
Bicarbonate as HCO3	110	mg/L		4		A2320 B	05/16/23 15:50 / ams		PHSC_101-H_230516A : 134		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 15:50 / ams		PHSC_101-H_230516A : 134		R184539
Chloride	7	mg/L		1		E300.0	05/17/23 14:30 / ljs		C METROHM_230516A : 113		R184586
Sulfate	55	mg/L		1		E300.0	05/17/23 14:30 / ljs		C METROHM_230516A : 113		R184586
Bromide	ND	mg/L		0.5		E300.0	05/17/23 14:30 / ljs		C METROHM_230516A : 113		R184586
Fluoride	0.6	mg/L		0.1		E300.0	05/17/23 14:30 / ljs		C METROHM_230516A : 113		R184586
Hardness as CaCO3	103	mg/L		1		A2340 B	05/15/23 18:18 / abc		CALC_230522A : 212		R184728
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.8	mg/L		0.5		A5310 C	05/18/23 02:45 / eli-c		SUB-C294719 : 16		C_R294719
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	05/17/23 17:55 / eli-c		SUB-C294719 : 7		C_R294719
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.45	mg/L		0.01		E353.2	05/18/23 15:37 / JAR		FIA203-HE_230518A : 194		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/17/23 20:19 / dck		ICPMS205-H_230517A : 115		R184602
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 21:56 / dck		ICPMS205-H_230516C : 123		R184592
Arsenic	0.002	mg/L		0.001		E200.8	05/16/23 21:56 / dck		ICPMS205-H_230516C : 123		R184592
Barium	0.028	mg/L		0.003		E200.8	05/16/23 21:56 / dck		ICPMS205-H_230516C : 123		R184592
Beryllium	ND	mg/L		0.0008		E200.8	05/16/23 21:56 / dck		ICPMS205-H_230516C : 123		R184592
Boron	ND	mg/L		0.05		E200.7	05/15/23 18:18 / slj		ICP2-HE_230515B : 82		R184548
Cadmium	0.00019	mg/L		0.00003		E200.8	05/16/23 21:56 / dck		ICPMS205-H_230516C : 123		R184592
Cesium	ND	mg/L		0.01		E200.8	05/17/23 12:54 / dck		ICPMS205-H_230517D : 42		R184650

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-28B  
**Lab ID:** H23050437-013  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/12/23 10:50 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	30	mg/L		1		E200.7	05/15/23 18:18 / slj		ICP2-HE_230515B : 82		R184548
Chromium	ND	mg/L		0.005		E200.8	05/16/23 21:56 / dck		ICPMS205-H_230516C : 123		R184592
Cobalt	ND	mg/L		0.005		E200.8	05/16/23 21:56 / dck		ICPMS205-H_230516C : 123		R184592
Copper	ND	mg/L		0.002		E200.8	05/16/23 21:56 / dck		ICPMS205-H_230516C : 123		R184592
Gallium	ND	mg/L		0.01		E200.8	05/17/23 12:54 / dck		ICPMS205-H_230517D : 42		R184650
Iron	ND	mg/L		0.02		E200.8	05/16/23 21:56 / dck		ICPMS205-H_230516C : 123		R184592
Lead	ND	mg/L		0.0003		E200.8	05/16/23 21:56 / dck		ICPMS205-H_230516C : 123		R184592
Lanthanum	ND	mg/L		0.01		E200.8	05/17/23 12:54 / dck		ICPMS205-H_230517D : 42		R184650
Lithium	ND	mg/L		0.1		E200.7	05/15/23 18:18 / slj		ICP2-HE_230515B : 82		R184548
Magnesium	7	mg/L		1		E200.7	05/15/23 18:18 / slj		ICP2-HE_230515B : 82		R184548
Neodymium	ND	mg/L		0.005		E200.8	05/17/23 12:54 / dck		ICPMS205-H_230517D : 42		R184650
Niobium	ND	mg/L		0.01		E200.8	05/17/23 12:54 / dck		ICPMS205-H_230517D : 42		R184650
Manganese	ND	mg/L		0.001		E200.8	05/16/23 21:56 / dck		ICPMS205-H_230516C : 123		R184592
Molybdenum	0.013	mg/L		0.001		E200.8	05/16/23 21:56 / dck		ICPMS205-H_230516C : 123		R184592
Nickel	ND	mg/L		0.002		E200.8	05/16/23 21:56 / dck		ICPMS205-H_230516C : 123		R184592
Palladium	ND	mg/L		0.01		E200.8	05/17/23 12:54 / dck		ICPMS205-H_230517D : 42		R184650
Praseodymium	ND	mg/L		0.01		E200.8	05/17/23 12:54 / dck		ICPMS205-H_230517D : 42		R184650
Rubidium	ND	mg/L		0.01		E200.8	05/17/23 12:54 / dck		ICPMS205-H_230517D : 42		R184650
Potassium	3	mg/L		1		E200.7	05/15/23 18:18 / slj		ICP2-HE_230515B : 82		R184548
Selenium	ND	mg/L		0.001		E200.8	05/16/23 21:56 / dck		ICPMS205-H_230516C : 123		R184592
Silver	ND	mg/L		0.0002		E200.8	05/16/23 21:56 / dck		ICPMS205-H_230516C : 123		R184592
Sodium	21	mg/L		1		E200.7	05/15/23 18:18 / slj		ICP2-HE_230515B : 82		R184548
Strontium	0.20	mg/L		0.01		E200.8	05/16/23 21:56 / dck		ICPMS205-H_230516C : 123		R184592
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 21:56 / dck		ICPMS205-H_230516C : 123		R184592
Thorium	ND	mg/L		0.005		E200.8	05/16/23 21:56 / dck		ICPMS205-H_230516C : 123		R184592
Tin	ND	mg/L		0.05		E200.8	05/16/23 21:56 / dck		ICPMS205-H_230516C : 123		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 21:56 / dck		ICPMS205-H_230516C : 123		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/17/23 12:54 / dck		ICPMS205-H_230517D : 42		R184650
Uranium	0.0032	mg/L		0.0002		E200.8	05/16/23 21:56 / dck		ICPMS205-H_230516C : 123		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 21:56 / dck		ICPMS205-H_230516C : 123		R184592
Zinc	0.011	mg/L		0.008		E200.8	05/16/23 21:56 / dck		ICPMS205-H_230516C : 123		R184592
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 14:48 / dck		ICPMS205-H_230517D : 93		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-28B  
**Lab ID:** H23050437-013  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/12/23 10:50      **DateReceived:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.50	%				A1030 E	05/22/23 12:47 / abc		CALC_230522A : 210		R184728

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08A  
**Lab ID:** H23050437-014  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/12/23 11:19 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.4	s.u.	H	0.1		A4500-H B	05/15/23 11:59 / ljs		PHSC_101-H_230515A : 60		R184515
pH Measurement Temp	14.4	°C				A4500-H B	05/15/23 11:59 / ljs		PHSC_101-H_230515A : 60		R184515
Conductivity @ 25 C	1130	umhos/cm		5		A2510 B	05/15/23 11:59 / ljs		PHSC_101-H_230515A : 61		R184515
Solids, Total Dissolved TDS @ 180 C	753	mg/L		20		A2540 C	05/15/23 14:06 / ljs		124 (14410200)_230515A : 23		TDS230515A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	05/16/23 15:56 / ams		PHSC_101-H_230516A : 136		R184539
Bicarbonate as HCO3	130	mg/L		4		A2320 B	05/16/23 15:56 / ams		PHSC_101-H_230516A : 136		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 15:56 / ams		PHSC_101-H_230516A : 136		R184539
Chloride	77	mg/L		1		E300.0	05/17/23 14:44 / ljs		C METROHM_230516A : 114		R184586
Sulfate	327	mg/L		1		E300.0	05/17/23 14:44 / ljs		C METROHM_230516A : 114		R184586
Bromide	ND	mg/L		0.5		E300.0	05/17/23 14:44 / ljs		C METROHM_230516A : 114		R184586
Fluoride	4.4	mg/L	*	0.1		E300.0	05/17/23 14:44 / ljs		C METROHM_230516A : 114		R184586
Hardness as CaCO3	376	mg/L		1		A2340 B	05/15/23 18:33 / abc		CALC_230522A : 564		R184728
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	4.1	mg/L		0.5		A5310 C	05/18/23 03:06 / eli-c		SUB-C294719 : 17		C_R294719
Organic Carbon, Total (TOC)	3.9	mg/L		0.5		A5310 C	05/17/23 18:16 / eli-c		SUB-C294719 : 8		C_R294719
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.02	mg/L		0.01		E353.2	05/18/23 15:38 / JAR		FIA203-HE_230518A : 195		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	0.075	mg/L		0.009		E200.8	05/17/23 20:21 / dck		ICPMS205-H_230517A : 116		R184602
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 22:10 / dck		ICPMS205-H_230516C : 128		R184592
Arsenic	0.756	mg/L		0.001		E200.8	05/16/23 22:10 / dck		ICPMS205-H_230516C : 128		R184592
Barium	0.021	mg/L		0.003		E200.8	05/16/23 22:10 / dck		ICPMS205-H_230516C : 128		R184592
Beryllium	ND	mg/L		0.0008		E200.8	05/16/23 22:10 / dck		ICPMS205-H_230516C : 128		R184592
Boron	0.30	mg/L		0.05		E200.7	05/15/23 18:33 / slj		ICP2-HE_230515B : 86		R184548
Cadmium	0.00136	mg/L		0.00003		E200.8	05/16/23 22:10 / dck		ICPMS205-H_230516C : 128		R184592
Cesium	ND	mg/L		0.01		E200.8	05/17/23 12:55 / dck		ICPMS205-H_230517D : 43		R184650

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** \* - The result exceeds the Maximum Contaminant Level (MCL)

H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08A  
**Lab ID:** H23050437-014  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/12/23 11:19 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	110	mg/L		1		E200.7	05/15/23 18:33 / slj		ICP2-HE_230515B : 86		R184548
Chromium	ND	mg/L		0.005		E200.8	05/16/23 22:10 / dck		ICPMS205-H_230516C : 128		R184592
Cobalt	0.011	mg/L		0.005		E200.8	05/16/23 22:10 / dck		ICPMS205-H_230516C : 128		R184592
Copper	0.007	mg/L		0.002		E200.8	05/16/23 22:10 / dck		ICPMS205-H_230516C : 128		R184592
Gallium	ND	mg/L		0.01		E200.8	05/17/23 12:55 / dck		ICPMS205-H_230517D : 43		R184650
Iron	61.8	mg/L		0.02		E200.7	05/15/23 18:33 / slj		ICP2-HE_230515B : 86		R184548
Lead	0.0007	mg/L		0.0003		E200.8	05/16/23 22:10 / dck		ICPMS205-H_230516C : 128		R184592
Lanthanum	ND	mg/L		0.01		E200.8	05/17/23 12:55 / dck		ICPMS205-H_230517D : 43		R184650
Lithium	ND	mg/L		0.1		E200.7	05/15/23 18:33 / slj		ICP2-HE_230515B : 86		R184548
Magnesium	25	mg/L		1		E200.7	05/15/23 18:33 / slj		ICP2-HE_230515B : 86		R184548
Neodymium	ND	mg/L		0.005		E200.8	05/17/23 12:55 / dck		ICPMS205-H_230517D : 43		R184650
Niobium	ND	mg/L		0.01		E200.8	05/17/23 12:55 / dck		ICPMS205-H_230517D : 43		R184650
Manganese	6.81	mg/L		0.001		E200.7	05/15/23 18:33 / slj		ICP2-HE_230515B : 86		R184548
Molybdenum	0.009	mg/L		0.001		E200.8	05/16/23 22:10 / dck		ICPMS205-H_230516C : 128		R184592
Nickel	0.006	mg/L		0.002		E200.8	05/16/23 22:10 / dck		ICPMS205-H_230516C : 128		R184592
Palladium	ND	mg/L		0.01		E200.8	05/17/23 12:55 / dck		ICPMS205-H_230517D : 43		R184650
Praseodymium	ND	mg/L		0.01		E200.8	05/17/23 12:55 / dck		ICPMS205-H_230517D : 43		R184650
Rubidium	ND	mg/L		0.01		E200.8	05/17/23 12:55 / dck		ICPMS205-H_230517D : 43		R184650
Potassium	11	mg/L		1		E200.7	05/15/23 18:33 / slj		ICP2-HE_230515B : 86		R184548
Selenium	ND	mg/L		0.001		E200.8	05/16/23 22:10 / dck		ICPMS205-H_230516C : 128		R184592
Silver	ND	mg/L		0.0002		E200.8	05/16/23 22:10 / dck		ICPMS205-H_230516C : 128		R184592
Sodium	34	mg/L		1		E200.7	05/15/23 18:33 / slj		ICP2-HE_230515B : 86		R184548
Strontium	0.45	mg/L		0.01		E200.8	05/16/23 22:10 / dck		ICPMS205-H_230516C : 128		R184592
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 22:10 / dck		ICPMS205-H_230516C : 128		R184592
Thorium	ND	mg/L		0.005		E200.8	05/16/23 22:10 / dck		ICPMS205-H_230516C : 128		R184592
Tin	ND	mg/L		0.05		E200.8	05/16/23 22:10 / dck		ICPMS205-H_230516C : 128		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 22:10 / dck		ICPMS205-H_230516C : 128		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/17/23 12:55 / dck		ICPMS205-H_230517D : 43		R184650
Uranium	0.0040	mg/L		0.0002		E200.8	05/16/23 22:10 / dck		ICPMS205-H_230516C : 128		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 22:10 / dck		ICPMS205-H_230516C : 128		R184592
Zinc	8.02	mg/L		0.008		E200.7	05/15/23 18:33 / slj		ICP2-HE_230515B : 86		R184548
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 14:50 / dck		ICPMS205-H_230517D : 94		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08A  
**Lab ID:** H23050437-014  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/12/23 11:19      **DateReceived:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	3.91	%				A1030 E	05/22/23 13:06 / abc		CALC_230522A : 562		R184728

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-4  
**Lab ID:** H23050437-015  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/12/23 11:05 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.1	s.u.	H	0.1		A4500-H B	05/15/23 12:01 / ljs		PHSC_101-H_230515A : 62		R184515
pH Measurement Temp	14.5	°C				A4500-H B	05/15/23 12:01 / ljs		PHSC_101-H_230515A : 62		R184515
Conductivity @ 25 C	6	umhos/cm			5	A2510 B	05/15/23 12:01 / ljs		PHSC_101-H_230515A : 63		R184515
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	L	20		A2540 C	05/16/23 14:25 / ams		-124 (14410200)_230516B : 5		TDS230516A
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.											
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	05/16/23 16:04 / ams		PHSC_101-H_230516A : 138		R184539
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	05/16/23 16:04 / ams		PHSC_101-H_230516A : 138		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 16:04 / ams		PHSC_101-H_230516A : 138		R184539
Chloride	ND	mg/L		1		E300.0	05/17/23 14:59 / ljs		C METROHM_230516A : 115		R184586
Sulfate	ND	mg/L		1		E300.0	05/17/23 14:59 / ljs		C METROHM_230516A : 115		R184586
Bromide	ND	mg/L		0.5		E300.0	05/17/23 14:59 / ljs		C METROHM_230516A : 115		R184586
Fluoride	ND	mg/L		0.1		E300.0	05/17/23 14:59 / ljs		C METROHM_230516A : 115		R184586
Hardness as CaCO3	ND	mg/L		1		A2340 B	05/15/23 18:36 / abc		CALC_230522A : 223		R184728
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	05/23/23 07:23 / eli-c		SUB-C294878 : 42		C_R294878
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	05/22/23 22:40 / eli-c		SUB-C294878 : 18		C_R294878
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	05/18/23 15:42 / JAR		FIA203-HE_230518A : 198		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/17/23 20:27 / dck		ICPMS205-H_230517A : 118		R184602
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 21:58 / dck		ICPMS205-H_230516C : 124		R184592
Arsenic	ND	mg/L		0.001		E200.8	05/16/23 21:58 / dck		ICPMS205-H_230516C : 124		R184592
Barium	ND	mg/L		0.003		E200.8	05/16/23 21:58 / dck		ICPMS205-H_230516C : 124		R184592
Beryllium	ND	mg/L		0.0008		E200.8	05/16/23 21:58 / dck		ICPMS205-H_230516C : 124		R184592
Boron	ND	mg/L		0.05		E200.7	05/15/23 18:36 / slj		ICP2-HE_230515B : 87		R184548
Cadmium	ND	mg/L		0.00003		E200.8	05/16/23 21:58 / dck		ICPMS205-H_230516C : 124		R184592
Cesium	ND	mg/L		0.01		E200.8	05/17/23 12:57 / dck		ICPMS205-H_230517D : 44		R184650

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level  
L - Lowest available reporting limit for the analytical method used

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-4  
**Lab ID:** H23050437-015  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/12/23 11:05  
**Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	ND	mg/L		1		E200.7	05/15/23 18:36 / slj		ICP2-HE_230515B : 87		R184548
Chromium	ND	mg/L		0.005		E200.8	05/16/23 21:58 / dck		ICPMS205-H_230516C : 124		R184592
Cobalt	ND	mg/L		0.005		E200.8	05/16/23 21:58 / dck		ICPMS205-H_230516C : 124		R184592
Copper	ND	mg/L		0.002		E200.8	05/16/23 21:58 / dck		ICPMS205-H_230516C : 124		R184592
Gallium	ND	mg/L		0.01		E200.8	05/17/23 12:57 / dck		ICPMS205-H_230517D : 44		R184650
Iron	ND	mg/L		0.02		E200.8	05/16/23 21:58 / dck		ICPMS205-H_230516C : 124		R184592
Lead	ND	mg/L		0.0003		E200.8	05/16/23 21:58 / dck		ICPMS205-H_230516C : 124		R184592
Lanthanum	ND	mg/L		0.01		E200.8	05/17/23 12:57 / dck		ICPMS205-H_230517D : 44		R184650
Lithium	ND	mg/L		0.1		E200.7	05/15/23 18:36 / slj		ICP2-HE_230515B : 87		R184548
Magnesium	ND	mg/L		1		E200.7	05/15/23 18:36 / slj		ICP2-HE_230515B : 87		R184548
Neodymium	ND	mg/L		0.005		E200.8	05/17/23 12:57 / dck		ICPMS205-H_230517D : 44		R184650
Niobium	ND	mg/L		0.01		E200.8	05/17/23 12:57 / dck		ICPMS205-H_230517D : 44		R184650
Manganese	ND	mg/L		0.001		E200.8	05/16/23 21:58 / dck		ICPMS205-H_230516C : 124		R184592
Molybdenum	ND	mg/L		0.001		E200.8	05/16/23 21:58 / dck		ICPMS205-H_230516C : 124		R184592
Nickel	ND	mg/L		0.002		E200.8	05/16/23 21:58 / dck		ICPMS205-H_230516C : 124		R184592
Palladium	ND	mg/L		0.01		E200.8	05/17/23 12:57 / dck		ICPMS205-H_230517D : 44		R184650
Praseodymium	ND	mg/L		0.01		E200.8	05/17/23 12:57 / dck		ICPMS205-H_230517D : 44		R184650
Rubidium	ND	mg/L		0.01		E200.8	05/17/23 12:57 / dck		ICPMS205-H_230517D : 44		R184650
Potassium	ND	mg/L		1		E200.7	05/15/23 18:36 / slj		ICP2-HE_230515B : 87		R184548
Selenium	ND	mg/L		0.001		E200.8	05/16/23 21:58 / dck		ICPMS205-H_230516C : 124		R184592
Silver	ND	mg/L		0.0002		E200.8	05/16/23 21:58 / dck		ICPMS205-H_230516C : 124		R184592
Sodium	ND	mg/L		1		E200.7	05/15/23 18:36 / slj		ICP2-HE_230515B : 87		R184548
Strontium	ND	mg/L		0.01		E200.8	05/16/23 21:58 / dck		ICPMS205-H_230516C : 124		R184592
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 21:58 / dck		ICPMS205-H_230516C : 124		R184592
Thorium	ND	mg/L		0.005		E200.8	05/16/23 21:58 / dck		ICPMS205-H_230516C : 124		R184592
Tin	ND	mg/L		0.05		E200.8	05/16/23 21:58 / dck		ICPMS205-H_230516C : 124		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 21:58 / dck		ICPMS205-H_230516C : 124		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/17/23 12:57 / dck		ICPMS205-H_230517D : 44		R184650
Uranium	ND	mg/L		0.0002		E200.8	05/16/23 21:58 / dck		ICPMS205-H_230516C : 124		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 21:58 / dck		ICPMS205-H_230516C : 124		R184592
Zinc	ND	mg/L		0.008		E200.8	05/16/23 21:58 / dck		ICPMS205-H_230516C : 124		R184592
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 14:51 / dck		ICPMS205-H_230517D : 95		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-4  
**Lab ID:** H23050437-015  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/12/23 11:05      **DateReceived:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	ND	%				A1030 E	05/22/23 12:47 / abc		CALC_230522A : 221		R184728
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01C  
**Lab ID:** H23050437-016  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/12/23 11:51 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.6	s.u.	H	0.1		A4500-H B	05/15/23 12:03 / ljs		PHSC_101-H_230515A : 64		R184515
pH Measurement Temp	14.4	°C				A4500-H B	05/15/23 12:03 / ljs		PHSC_101-H_230515A : 64		R184515
Conductivity @ 25 C	3050	umhos/cm		5		A2510 B	05/15/23 12:03 / ljs		PHSC_101-H_230515A : 65		R184515
Solids, Total Dissolved TDS @ 180 C	2720	mg/L		50		A2540 C	05/16/23 14:25 / ams		-124 (14410200)_230516B : 6		TDS230516A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	18	mg/L		4		A2320 B	05/16/23 16:10 / ams		PHSC_101-H_230516A : 140		R184539
Bicarbonate as HCO3	21	mg/L		4		A2320 B	05/16/23 16:10 / ams		PHSC_101-H_230516A : 140		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 16:10 / ams		PHSC_101-H_230516A : 140		R184539
Chloride	12	mg/L		1		E300.0	05/17/23 15:13 / ljs		C METROHM_230516A : 116		R184586
Sulfate	1870	mg/L		1		E300.0	05/17/23 15:13 / ljs		C METROHM_230516A : 116		R184586
Bromide	ND	mg/L		0.5		E300.0	05/17/23 15:13 / ljs		C METROHM_230516A : 116		R184586
Fluoride	1.1	mg/L		0.1		E300.0	05/17/23 15:13 / ljs		C METROHM_230516A : 116		R184586
Hardness as CaCO3	1330	mg/L		1		A2340 B	05/17/23 22:27 / SR		CALC_230523B : 113		R184776
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.6	mg/L		0.5		A5310 C	05/23/23 07:43 / eli-c		SUB-C294878 : 43		C_R294878
Organic Carbon, Total (TOC)	0.6	mg/L		0.5		A5310 C	05/22/23 23:00 / eli-c		SUB-C294878 : 19		C_R294878
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.25	mg/L		0.01		E353.2	05/18/23 15:43 / JAR		FIA203-HE_230518A : 199		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	0.260	mg/L		0.009		E200.8	05/16/23 23:09 / dck		ICPMS205-H_230516C : 148		R184592
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 23:09 / dck		ICPMS205-H_230516C : 148		R184592
Arsenic	0.006	mg/L		0.001		E200.8	05/16/23 23:09 / dck		ICPMS205-H_230516C : 148		R184592
Barium	ND	mg/L		0.003		E200.8	05/16/23 23:09 / dck		ICPMS205-H_230516C : 148		R184592
Beryllium	ND	mg/L		0.0008		E200.8	05/16/23 23:09 / dck		ICPMS205-H_230516C : 148		R184592
Boron	0.24	mg/L		0.05		E200.7	05/15/23 18:40 / slj		ICP2-HE_230515B : 88		R184548
Cadmium	0.120	mg/L		0.00003		E200.8	05/16/23 23:09 / dck		ICPMS205-H_230516C : 148		R184592
Cesium	ND	mg/L		0.01		E200.8	05/17/23 12:58 / dck		ICPMS205-H_230517D : 45		R184650

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01C  
**Lab ID:** H23050437-016  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/12/23 11:51 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	372	mg/L		1		E200.7	05/16/23 13:29 / kjb		ICP2-HE_230516A : 31		R184601
Chromium	ND	mg/L		0.005		E200.8	05/16/23 23:09 / dck		ICPMS205-H_230516C : 148		R184592
Cobalt	ND	mg/L		0.005		E200.8	05/16/23 23:09 / dck		ICPMS205-H_230516C : 148		R184592
Copper	5.04	mg/L		0.01		E200.7	05/15/23 18:40 / slj		ICP2-HE_230515B : 88		R184548
Gallium	ND	mg/L		0.01		E200.8	05/17/23 12:58 / dck		ICPMS205-H_230517D : 45		R184650
Iron	0.03	mg/L		0.02		E200.8	05/18/23 21:04 / dck		ICPMS205-H_230518A : 85		R184669
Lead	ND	mg/L		0.0003		E200.8	05/16/23 23:09 / dck		ICPMS205-H_230516C : 148		R184592
Lanthanum	ND	mg/L		0.01		E200.8	05/17/23 12:58 / dck		ICPMS205-H_230517D : 45		R184650
Lithium	0.8	mg/L		0.1		E200.7	05/15/23 18:40 / slj		ICP2-HE_230515B : 88		R184548
Magnesium	97	mg/L		1		E200.8	05/17/23 22:27 / dck		ICPMS205-H_230517A : 159		R184602
Neodymium	ND	mg/L		0.005		E200.8	05/17/23 12:58 / dck		ICPMS205-H_230517D : 45		R184650
Niobium	ND	mg/L		0.01		E200.8	05/17/23 12:58 / dck		ICPMS205-H_230517D : 45		R184650
Manganese	19.0	mg/L		0.001		E200.7	05/15/23 18:40 / slj		ICP2-HE_230515B : 88		R184548
Molybdenum	ND	mg/L		0.001		E200.8	05/16/23 23:09 / dck		ICPMS205-H_230516C : 148		R184592
Nickel	0.135	mg/L		0.002		E200.8	05/16/23 23:09 / dck		ICPMS205-H_230516C : 148		R184592
Palladium	ND	mg/L		0.01		E200.8	05/17/23 12:58 / dck		ICPMS205-H_230517D : 45		R184650
Praseodymium	ND	mg/L		0.01		E200.8	05/17/23 12:58 / dck		ICPMS205-H_230517D : 45		R184650
Rubidium	0.07	mg/L		0.01		E200.8	05/17/23 12:58 / dck		ICPMS205-H_230517D : 45		R184650
Potassium	30	mg/L		1		E200.7	05/15/23 18:40 / slj		ICP2-HE_230515B : 88		R184548
Selenium	ND	mg/L		0.001		E200.8	05/16/23 23:09 / dck		ICPMS205-H_230516C : 148		R184592
Silver	ND	mg/L		0.0002		E200.8	05/16/23 23:09 / dck		ICPMS205-H_230516C : 148		R184592
Sodium	180	mg/L		1		E200.7	05/15/23 18:40 / slj		ICP2-HE_230515B : 88		R184548
Strontium	8.25	mg/L		0.01		E200.7	05/15/23 18:40 / slj		ICP2-HE_230515B : 88		R184548
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 23:09 / dck		ICPMS205-H_230516C : 148		R184592
Thorium	ND	mg/L		0.005		E200.8	05/16/23 23:09 / dck		ICPMS205-H_230516C : 148		R184592
Tin	ND	mg/L		0.05		E200.8	05/16/23 23:09 / dck		ICPMS205-H_230516C : 148		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 23:09 / dck		ICPMS205-H_230516C : 148		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/17/23 12:58 / dck		ICPMS205-H_230517D : 45		R184650
Uranium	0.0017	mg/L		0.0002		E200.8	05/16/23 23:09 / dck		ICPMS205-H_230516C : 148		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 23:09 / dck		ICPMS205-H_230516C : 148		R184592
Zinc	26.7	mg/L		0.008		E200.7	05/15/23 18:40 / slj		ICP2-HE_230515B : 88		R184548
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 15:06 / dck		ICPMS205-H_230517D : 104		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01C  
**Lab ID:** H23050437-016  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/12/23 11:51      **DateReceived:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.99	%				A1030 E	05/23/23 12:23 / SR		CALC_230523B : 111		R184776

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-4  
**Lab ID:** H23050437-017  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/12/23 11:52 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.6	s.u.	H	0.1		A4500-H B	05/15/23 12:05 / ljs		PHSC_101-H_230515A : 66		R184515
pH Measurement Temp	14.5	°C				A4500-H B	05/15/23 12:05 / ljs		PHSC_101-H_230515A : 66		R184515
Conductivity @ 25 C	3050	umhos/cm		5		A2510 B	05/15/23 12:05 / ljs		PHSC_101-H_230515A : 67		R184515
Solids, Total Dissolved TDS @ 180 C	2700	mg/L		50		A2540 C	05/16/23 14:25 / ams		-124 (14410200)_230516B : 7		TDS230516A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	19	mg/L		4		A2320 B	05/16/23 16:37 / ams		PHSC_101-H_230516A : 146		R184539
Bicarbonate as HCO3	22	mg/L		4		A2320 B	05/16/23 16:37 / ams		PHSC_101-H_230516A : 146		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 16:37 / ams		PHSC_101-H_230516A : 146		R184539
Chloride	11	mg/L		1		E300.0	05/24/23 21:31 / SR		IC METROHM_230524A : 40		R184848
Sulfate	1760	mg/L		1		E300.0	05/24/23 21:31 / SR		IC METROHM_230524A : 40		R184848
Bromide	ND	mg/L		0.5		E300.0	05/17/23 15:27 / ljs		IC METROHM_230516A : 117		R184586
Fluoride	1.1	mg/L		0.1		E300.0	05/24/23 21:31 / SR		IC METROHM_230524A : 40		R184848
Hardness as CaCO3	1280	mg/L		1		A2340 B	05/15/23 18:44 / SR		CALC_230526A : 14		R184891
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.6	mg/L		0.5		A5310 C	05/23/23 08:03 / eli-c		SUB-C294878 : 44		C_R294878
Organic Carbon, Total (TOC)	0.6	mg/L		0.5		A5310 C	05/22/23 23:20 / eli-c		SUB-C294878 : 20		C_R294878
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.24	mg/L		0.01		E353.2	05/18/23 15:44 / JAR		FIA203-HE_230518A : 200		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	0.256	mg/L		0.009		E200.8	05/16/23 23:12 / dck		ICPMS205-H_230516C : 149		R184592
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 23:12 / dck		ICPMS205-H_230516C : 149		R184592
Arsenic	0.006	mg/L		0.001		E200.8	05/16/23 23:12 / dck		ICPMS205-H_230516C : 149		R184592
Barium	ND	mg/L		0.003		E200.8	05/16/23 23:12 / dck		ICPMS205-H_230516C : 149		R184592
Beryllium	0.0008	mg/L		0.0008		E200.8	05/16/23 23:12 / dck		ICPMS205-H_230516C : 149		R184592
Boron	0.24	mg/L		0.05		E200.7	05/15/23 18:44 / slj		ICP2-HE_230515B : 89		R184548
Cadmium	0.120	mg/L		0.00003		E200.8	05/16/23 23:12 / dck		ICPMS205-H_230516C : 149		R184592
Cesium	ND	mg/L		0.01		E200.8	05/17/23 13:00 / dck		ICPMS205-H_230517D : 46		R184650

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-4  
**Lab ID:** H23050437-017  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/12/23 11:52 **DateReceived:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	359	mg/L		1		E200.7	05/15/23 18:44 / slj		ICP2-HE_230515B : 89		R184548
Chromium	ND	mg/L		0.005		E200.8	05/16/23 23:12 / dck		ICPMS205-H_230516C : 149		R184592
Cobalt	ND	mg/L		0.005		E200.8	05/16/23 23:12 / dck		ICPMS205-H_230516C : 149		R184592
Copper	5.16	mg/L		0.01		E200.7	05/15/23 18:44 / slj		ICP2-HE_230515B : 89		R184548
Gallium	ND	mg/L		0.01		E200.8	05/17/23 13:00 / dck		ICPMS205-H_230517D : 46		R184650
Iron	0.02	mg/L		0.02		E200.8	05/17/23 22:36 / dck		ICPMS205-H_230517A : 162		R184602
Lead	ND	mg/L		0.0003		E200.8	05/16/23 23:12 / dck		ICPMS205-H_230516C : 149		R184592
Lanthanum	ND	mg/L		0.01		E200.8	05/17/23 13:00 / dck		ICPMS205-H_230517D : 46		R184650
Lithium	0.9	mg/L		0.1		E200.7	05/15/23 18:44 / slj		ICP2-HE_230515B : 89		R184548
Magnesium	94	mg/L		1		E200.7	05/15/23 18:44 / slj		ICP2-HE_230515B : 89		R184548
Neodymium	ND	mg/L		0.005		E200.8	05/17/23 13:00 / dck		ICPMS205-H_230517D : 46		R184650
Niobium	ND	mg/L		0.01		E200.8	05/17/23 13:00 / dck		ICPMS205-H_230517D : 46		R184650
Manganese	19.8	mg/L		0.001		E200.7	05/15/23 18:44 / slj		ICP2-HE_230515B : 89		R184548
Molybdenum	ND	mg/L		0.001		E200.8	05/16/23 23:12 / dck		ICPMS205-H_230516C : 149		R184592
Nickel	0.136	mg/L		0.002		E200.8	05/16/23 23:12 / dck		ICPMS205-H_230516C : 149		R184592
Palladium	ND	mg/L		0.01		E200.8	05/17/23 13:00 / dck		ICPMS205-H_230517D : 46		R184650
Praseodymium	ND	mg/L		0.01		E200.8	05/17/23 13:00 / dck		ICPMS205-H_230517D : 46		R184650
Rubidium	0.07	mg/L		0.01		E200.8	05/17/23 13:00 / dck		ICPMS205-H_230517D : 46		R184650
Potassium	32	mg/L		1		E200.7	05/15/23 18:44 / slj		ICP2-HE_230515B : 89		R184548
Selenium	ND	mg/L		0.001		E200.8	05/16/23 23:12 / dck		ICPMS205-H_230516C : 149		R184592
Silver	ND	mg/L		0.0002		E200.8	05/16/23 23:12 / dck		ICPMS205-H_230516C : 149		R184592
Sodium	185	mg/L		1		E200.7	05/15/23 18:44 / slj		ICP2-HE_230515B : 89		R184548
Strontium	8.44	mg/L		0.01		E200.7	05/15/23 18:44 / slj		ICP2-HE_230515B : 89		R184548
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 23:12 / dck		ICPMS205-H_230516C : 149		R184592
Thorium	ND	mg/L		0.005		E200.8	05/16/23 23:12 / dck		ICPMS205-H_230516C : 149		R184592
Tin	ND	mg/L		0.05		E200.8	05/16/23 23:12 / dck		ICPMS205-H_230516C : 149		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 23:12 / dck		ICPMS205-H_230516C : 149		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/17/23 13:00 / dck		ICPMS205-H_230517D : 46		R184650
Uranium	0.0016	mg/L		0.0002		E200.8	05/16/23 23:12 / dck		ICPMS205-H_230516C : 149		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 23:12 / dck		ICPMS205-H_230516C : 149		R184592
Zinc	27.6	mg/L		0.008		E200.7	05/15/23 18:44 / slj		ICP2-HE_230515B : 89		R184548
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 14:55 / dck		ICPMS205-H_230517D : 97		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-4  
**Lab ID:** H23050437-017  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/12/23 11:52      **DateReceived:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-4.18	%				A1030 E	05/26/23 10:50 / SR		CALC_230526A : 12		R184891

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



**LABORATORY ANALYTICAL REPORT**

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-4  
**Lab ID:** H23050437-018  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/12/23 12:10 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.8	s.u.	H	0.1		A4500-H B	05/17/23 09:15 / ams		PHSC_101-H_230517A : 12		R184580
pH Measurement Temp	8.0	°C				A4500-H B	05/17/23 09:15 / ams		PHSC_101-H_230517A : 12		R184580
Conductivity @ 25 C	15	umhos/cm		5		A2510 B	05/17/23 09:15 / ams		PHSC_101-H_230517A : 13		R184580
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	L	20		A2540 C	05/16/23 14:25 / ams		-124 (14410200)_230516B : 8		TDS230516A
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.											
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	05/16/23 16:50 / ams		PHSC_101-H_230516A : 150		R184539
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	05/16/23 16:50 / ams		PHSC_101-H_230516A : 150		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 16:50 / ams		PHSC_101-H_230516A : 150		R184539
Chloride	ND	mg/L		1		E300.0	05/17/23 15:42 / ljs		C METROHM_230516A : 118		R184586
Sulfate	ND	mg/L		1		E300.0	05/17/23 15:42 / ljs		C METROHM_230516A : 118		R184586
Bromide	ND	mg/L		0.5		E300.0	05/17/23 15:42 / ljs		C METROHM_230516A : 118		R184586
Fluoride	ND	mg/L		0.1		E300.0	05/17/23 15:42 / ljs		C METROHM_230516A : 118		R184586
Hardness as CaCO3	ND	mg/L		1		A2340 B	05/15/23 18:48 / abc		CALC_230522A : 234		R184728
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	05/23/23 08:23 / eli-c		SUB-C294878 : 45		C_R294878
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	05/22/23 23:40 / eli-c		SUB-C294878 : 21		C_R294878
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	05/18/23 15:45 / JAR		FIA203-HE_230518A : 201		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/17/23 20:30 / dck		ICPMS205-H_230517A : 119		R184602
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 22:01 / dck		ICPMS205-H_230516C : 125		R184592
Arsenic	ND	mg/L		0.001		E200.8	05/16/23 22:01 / dck		ICPMS205-H_230516C : 125		R184592
Barium	ND	mg/L		0.003		E200.8	05/16/23 22:01 / dck		ICPMS205-H_230516C : 125		R184592
Beryllium	ND	mg/L		0.0008		E200.8	05/16/23 22:01 / dck		ICPMS205-H_230516C : 125		R184592
Boron	ND	mg/L		0.05		E200.7	05/15/23 18:48 / slj		ICP2-HE_230515B : 90		R184548
Cadmium	ND	mg/L		0.00003		E200.8	05/17/23 20:30 / dck		ICPMS205-H_230517A : 119		R184602
Cesium	ND	mg/L		0.01		E200.8	05/17/23 13:02 / dck		ICPMS205-H_230517D : 47		R184650

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level  
L - Lowest available reporting limit for the analytical method used

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-4  
**Lab ID:** H23050437-018  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/12/23 12:10 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	ND	mg/L		1		E200.7	05/15/23 18:48 / slj		ICP2-HE_230515B : 90		R184548
Chromium	ND	mg/L		0.005		E200.8	05/16/23 22:01 / dck		ICPMS205-H_230516C : 125		R184592
Cobalt	ND	mg/L		0.005		E200.8	05/16/23 22:01 / dck		ICPMS205-H_230516C : 125		R184592
Copper	0.002	mg/L		0.002		E200.8	05/16/23 22:01 / dck		ICPMS205-H_230516C : 125		R184592
Gallium	ND	mg/L		0.01		E200.8	05/17/23 13:02 / dck		ICPMS205-H_230517D : 47		R184650
Iron	ND	mg/L		0.02		E200.8	05/16/23 22:01 / dck		ICPMS205-H_230516C : 125		R184592
Lead	ND	mg/L		0.0003		E200.8	05/16/23 22:01 / dck		ICPMS205-H_230516C : 125		R184592
Lanthanum	ND	mg/L		0.01		E200.8	05/17/23 13:02 / dck		ICPMS205-H_230517D : 47		R184650
Lithium	ND	mg/L		0.1		E200.7	05/15/23 18:48 / slj		ICP2-HE_230515B : 90		R184548
Magnesium	ND	mg/L		1		E200.7	05/15/23 18:48 / slj		ICP2-HE_230515B : 90		R184548
Neodymium	ND	mg/L		0.005		E200.8	05/17/23 13:02 / dck		ICPMS205-H_230517D : 47		R184650
Niobium	ND	mg/L		0.01		E200.8	05/17/23 13:02 / dck		ICPMS205-H_230517D : 47		R184650
Manganese	0.004	mg/L		0.001		E200.8	05/16/23 22:01 / dck		ICPMS205-H_230516C : 125		R184592
Molybdenum	ND	mg/L		0.001		E200.8	05/16/23 22:01 / dck		ICPMS205-H_230516C : 125		R184592
Nickel	ND	mg/L		0.002		E200.8	05/16/23 22:01 / dck		ICPMS205-H_230516C : 125		R184592
Palladium	ND	mg/L		0.01		E200.8	05/17/23 13:02 / dck		ICPMS205-H_230517D : 47		R184650
Praseodymium	ND	mg/L		0.01		E200.8	05/17/23 13:02 / dck		ICPMS205-H_230517D : 47		R184650
Rubidium	ND	mg/L		0.01		E200.8	05/17/23 13:02 / dck		ICPMS205-H_230517D : 47		R184650
Potassium	ND	mg/L		1		E200.7	05/15/23 18:48 / slj		ICP2-HE_230515B : 90		R184548
Selenium	ND	mg/L		0.001		E200.8	05/16/23 22:01 / dck		ICPMS205-H_230516C : 125		R184592
Silver	ND	mg/L		0.0002		E200.8	05/16/23 22:01 / dck		ICPMS205-H_230516C : 125		R184592
Sodium	ND	mg/L		1		E200.7	05/15/23 18:48 / slj		ICP2-HE_230515B : 90		R184548
Strontium	ND	mg/L		0.01		E200.8	05/16/23 22:01 / dck		ICPMS205-H_230516C : 125		R184592
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 22:01 / dck		ICPMS205-H_230516C : 125		R184592
Thorium	ND	mg/L		0.005		E200.8	05/16/23 22:01 / dck		ICPMS205-H_230516C : 125		R184592
Tin	ND	mg/L		0.05		E200.8	05/16/23 22:01 / dck		ICPMS205-H_230516C : 125		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 22:01 / dck		ICPMS205-H_230516C : 125		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/17/23 13:02 / dck		ICPMS205-H_230517D : 47		R184650
Uranium	ND	mg/L		0.0002		E200.8	05/16/23 22:01 / dck		ICPMS205-H_230516C : 125		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 22:01 / dck		ICPMS205-H_230516C : 125		R184592
Zinc	ND	mg/L		0.008		E200.8	05/16/23 22:01 / dck		ICPMS205-H_230516C : 125		R184592
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 14:56 / dck		ICPMS205-H_230517D : 98		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-4  
**Lab ID:** H23050437-018  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/12/23 12:10      **DateReceived:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-50.4	%				A1030 E	05/22/23 12:48 / abc		CALC_230522A : 232		R184728
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PT14-1  
**Lab ID:** H23050437-019  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 12:26 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.2	s.u.	H	0.1		A4500-H B	05/15/23 12:09 / ljs		PHSC_101-H_230515A : 70		R184515
pH Measurement Temp	14.8	°C				A4500-H B	05/15/23 12:09 / ljs		PHSC_101-H_230515A : 70		R184515
Conductivity @ 25 C	3210	umhos/cm		5		A2510 B	05/15/23 12:09 / ljs		PHSC_101-H_230515A : 71		R184515
Solids, Total Dissolved TDS @ 180 C	2950	mg/L		50		A2540 C	05/16/23 14:25 / ams		-124 (14410200)_230516B : 9		TDS230516A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	05/16/23 16:56 / ams		PHSC_101-H_230516A : 152		R184539
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	05/16/23 16:56 / ams		PHSC_101-H_230516A : 152		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 16:56 / ams		PHSC_101-H_230516A : 152		R184539
Chloride	261	mg/L		1		E300.0	05/24/23 21:45 / SR		IC METROHM_230524A : 41		R184848
Sulfate	1600	mg/L		1		E300.0	05/24/23 21:45 / SR		IC METROHM_230524A : 41		R184848
Bromide	0.7	mg/L		0.5		E300.0	05/24/23 21:45 / SR		IC METROHM_230524A : 41		R184848
Fluoride	5.1	mg/L	*	0.1		E300.0	05/24/23 21:45 / SR		IC METROHM_230524A : 41		R184848
Hardness as CaCO3	1110	mg/L		1		A2340 B	05/15/23 18:52 / SR		CALC_230526A : 498		R184891
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.9	mg/L		0.5		A5310 C	05/23/23 08:46 / eli-c		SUB-C294878 : 46		C_R294878
Organic Carbon, Total (TOC)	2.9	mg/L		0.5		A5310 C	05/23/23 00:02 / eli-c		SUB-C294878 : 22		C_R294878
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	05/18/23 15:47 / JAR		FIA203-HE_230518A : 202		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	24.5	mg/L		0.03		E200.7	05/15/23 18:52 / slj		ICP2-HE_230515B : 91		R184548
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 23:15 / dck		ICPMS205-H_230516C : 150		R184592
Arsenic	0.003	mg/L		0.001		E200.8	05/16/23 23:15 / dck		ICPMS205-H_230516C : 150		R184592
Barium	0.014	mg/L		0.003		E200.8	05/16/23 23:15 / dck		ICPMS205-H_230516C : 150		R184592
Beryllium	0.0120	mg/L		0.0008		E200.8	05/17/23 22:39 / dck		ICPMS205-H_230517A : 163		R184602
Boron	0.09	mg/L		0.05		E200.7	05/15/23 18:52 / slj		ICP2-HE_230515B : 91		R184548
Cadmium	0.432	mg/L		0.00003		E200.8	05/16/23 23:15 / dck		ICPMS205-H_230516C : 150		R184592
Cesium	ND	mg/L		0.01		E200.8	05/17/23 13:03 / dck		ICPMS205-H_230517D : 48		R184650

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** \* - The result exceeds the Maximum Contaminant Level (MCL)

H - Analysis performed past the method holding time





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PT14-1  
**Lab ID:** H23050437-019  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 12:26 **DateReceived:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	337	mg/L		1		E200.7	05/15/23 18:52 / slj		ICP2-HE_230515B : 91		R184548
Chromium	ND	mg/L		0.005		E200.8	05/16/23 23:15 / dck		ICPMS205-H_230516C : 150		R184592
Cobalt	0.226	mg/L		0.005		E200.8	05/16/23 23:15 / dck		ICPMS205-H_230516C : 150		R184592
Copper	46.6	mg/L		0.01		E200.7	05/15/23 18:52 / slj		ICP2-HE_230515B : 91		R184548
Gallium	ND	mg/L		0.01		E200.8	05/17/23 13:03 / dck		ICPMS205-H_230517D : 48		R184650
Iron	124	mg/L		0.02		E200.7	05/15/23 18:52 / slj		ICP2-HE_230515B : 91		R184548
Lead	0.0129	mg/L		0.0003		E200.8	05/16/23 23:15 / dck		ICPMS205-H_230516C : 150		R184592
Lanthanum	0.16	mg/L		0.01		E200.8	05/17/23 13:03 / dck		ICPMS205-H_230517D : 48		R184650
Lithium	0.3	mg/L		0.1		E200.7	05/15/23 18:52 / slj		ICP2-HE_230515B : 91		R184548
Magnesium	66	mg/L		1		E200.7	05/15/23 18:52 / slj		ICP2-HE_230515B : 91		R184548
Neodymium	0.100	mg/L		0.005		E200.8	05/17/23 13:03 / dck		ICPMS205-H_230517D : 48		R184650
Niobium	ND	mg/L		0.01		E200.8	05/17/23 13:03 / dck		ICPMS205-H_230517D : 48		R184650
Manganese	17.3	mg/L		0.001		E200.7	05/15/23 18:52 / slj		ICP2-HE_230515B : 91		R184548
Molybdenum	ND	mg/L		0.001		E200.8	05/16/23 23:15 / dck		ICPMS205-H_230516C : 150		R184592
Nickel	0.132	mg/L		0.002		E200.8	05/16/23 23:15 / dck		ICPMS205-H_230516C : 150		R184592
Palladium	ND	mg/L		0.01		E200.8	05/17/23 13:03 / dck		ICPMS205-H_230517D : 48		R184650
Praseodymium	0.03	mg/L		0.01		E200.8	05/17/23 13:03 / dck		ICPMS205-H_230517D : 48		R184650
Rubidium	ND	mg/L		0.01		E200.8	05/17/23 13:03 / dck		ICPMS205-H_230517D : 48		R184650
Potassium	12	mg/L		1		E200.7	05/15/23 18:52 / slj		ICP2-HE_230515B : 91		R184548
Selenium	0.001	mg/L		0.001		E200.8	05/16/23 23:15 / dck		ICPMS205-H_230516C : 150		R184592
Silver	0.0003	mg/L		0.0002		E200.8	05/16/23 23:15 / dck		ICPMS205-H_230516C : 150		R184592
Sodium	87	mg/L		1		E200.7	05/15/23 18:52 / slj		ICP2-HE_230515B : 91		R184548
Strontium	1.24	mg/L		0.01		E200.7	05/15/23 18:52 / slj		ICP2-HE_230515B : 91		R184548
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 23:15 / dck		ICPMS205-H_230516C : 150		R184592
Thorium	ND	mg/L		0.005		E200.8	05/16/23 23:15 / dck		ICPMS205-H_230516C : 150		R184592
Tin	ND	mg/L		0.05		E200.8	05/16/23 23:15 / dck		ICPMS205-H_230516C : 150		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 23:15 / dck		ICPMS205-H_230516C : 150		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/17/23 13:03 / dck		ICPMS205-H_230517D : 48		R184650
Uranium	0.0881	mg/L		0.0002		E200.8	05/16/23 23:15 / dck		ICPMS205-H_230516C : 150		R184592
Vanadium	0.04	mg/L		0.01		E200.8	05/16/23 23:15 / dck		ICPMS205-H_230516C : 150		R184592
Zinc	60.4	mg/L		0.008		E200.7	05/15/23 18:52 / slj		ICP2-HE_230515B : 91		R184548
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 14:58 / dck		ICPMS205-H_230517D : 99		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PT14-1  
**Lab ID:** H23050437-019  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 12:26      **DateReceived:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-7.42	%				A1030 E	05/26/23 11:10 / SR		CALC_230526A : 496		R184891

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-09  
**Lab ID:** H23050437-020  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 13:13 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.3	s.u.	H	0.1		A4500-H B	05/15/23 12:11 / ljs		PHSC_101-H_230515A : 72		R184515
pH Measurement Temp	15.1	°C				A4500-H B	05/15/23 12:11 / ljs		PHSC_101-H_230515A : 72		R184515
Conductivity @ 25 C	1390	umhos/cm		5		A2510 B	05/15/23 12:11 / ljs		PHSC_101-H_230515A : 73		R184515
Solids, Total Dissolved TDS @ 180 C	1170	mg/L		20		A2540 C	05/16/23 14:25 / ams		124 (14410200)_230516B : 10		TDS230516A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	05/16/23 16:59 / ams		PHSC_101-H_230516A : 154		R184539
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	05/16/23 16:59 / ams		PHSC_101-H_230516A : 154		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 16:59 / ams		PHSC_101-H_230516A : 154		R184539
Chloride	32	mg/L		1		E300.0	05/24/23 22:00 / SR		IC METROHM_230524A : 42		R184848
Sulfate	692	mg/L		1		E300.0	05/24/23 22:00 / SR		IC METROHM_230524A : 42		R184848
Bromide	ND	mg/L		0.5		E300.0	05/24/23 22:00 / SR		IC METROHM_230524A : 42		R184848
Fluoride	3.0	mg/L		0.1		E300.0	05/24/23 22:00 / SR		IC METROHM_230524A : 42		R184848
Hardness as CaCO3	523	mg/L		1		A2340 B	05/15/23 19:03 / SR		CALC_230526A : 509		R184891
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.1	mg/L		0.5		A5310 C	05/18/23 03:22 / eli-c		SUB-C294719 : 18		C_R294719
Organic Carbon, Total (TOC)	1.0	mg/L		0.5		A5310 C	05/17/23 18:32 / eli-c		SUB-C294719 : 9		C_R294719
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	2.36	mg/L		0.02		E353.2	05/18/23 15:48 / JAR		FIA203-HE_230518A : 203		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	4.30	mg/L		0.009		E200.8	05/16/23 23:24 / dck		ICPMS205-H_230516C : 153		R184592
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 23:24 / dck		ICPMS205-H_230516C : 153		R184592
Arsenic	ND	mg/L		0.001		E200.8	05/16/23 23:24 / dck		ICPMS205-H_230516C : 153		R184592
Barium	0.008	mg/L		0.003		E200.8	05/16/23 23:24 / dck		ICPMS205-H_230516C : 153		R184592
Beryllium	0.0104	mg/L		0.0008		E200.8	05/16/23 23:24 / dck		ICPMS205-H_230516C : 153		R184592
Boron	0.14	mg/L		0.05		E200.7	05/15/23 19:03 / slj		ICP2-HE_230515B : 94		R184548
Cadmium	0.0892	mg/L		0.00003		E200.8	05/16/23 23:24 / dck		ICPMS205-H_230516C : 153		R184592
Cesium	ND	mg/L		0.01		E200.8	05/17/23 13:05 / dck		ICPMS205-H_230517D : 49		R184650

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-09  
**Lab ID:** H23050437-020  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 13:13 **DateReceived:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	152	mg/L		1		E200.7	05/15/23 19:03 / slj		ICP2-HE_230515B : 94		R184548
Chromium	ND	mg/L		0.005		E200.8	05/16/23 23:24 / dck		ICPMS205-H_230516C : 153		R184592
Cobalt	0.174	mg/L		0.005		E200.8	05/16/23 23:24 / dck		ICPMS205-H_230516C : 153		R184592
Copper	9.76	mg/L		0.01		E200.7	05/15/23 19:03 / slj		ICP2-HE_230515B : 94		R184548
Gallium	ND	mg/L		0.01		E200.8	05/17/23 13:05 / dck		ICPMS205-H_230517D : 49		R184650
Iron	0.23	mg/L		0.02		E200.8	05/16/23 23:24 / dck		ICPMS205-H_230516C : 153		R184592
Lead	0.0027	mg/L		0.0003		E200.8	05/16/23 23:24 / dck		ICPMS205-H_230516C : 153		R184592
Lanthanum	0.04	mg/L		0.01		E200.8	05/17/23 13:05 / dck		ICPMS205-H_230517D : 49		R184650
Lithium	0.3	mg/L		0.1		E200.7	05/15/23 19:03 / slj		ICP2-HE_230515B : 94		R184548
Magnesium	35	mg/L		1		E200.7	05/15/23 19:03 / slj		ICP2-HE_230515B : 94		R184548
Neodymium	0.024	mg/L		0.005		E200.8	05/17/23 13:05 / dck		ICPMS205-H_230517D : 49		R184650
Niobium	ND	mg/L		0.01		E200.8	05/17/23 13:05 / dck		ICPMS205-H_230517D : 49		R184650
Manganese	25.3	mg/L		0.001		E200.7	05/15/23 19:03 / slj		ICP2-HE_230515B : 94		R184548
Molybdenum	ND	mg/L		0.001		E200.8	05/16/23 23:24 / dck		ICPMS205-H_230516C : 153		R184592
Nickel	0.087	mg/L		0.002		E200.8	05/16/23 23:24 / dck		ICPMS205-H_230516C : 153		R184592
Palladium	ND	mg/L		0.01		E200.8	05/17/23 13:05 / dck		ICPMS205-H_230517D : 49		R184650
Praseodymium	ND	mg/L		0.01		E200.8	05/17/23 13:05 / dck		ICPMS205-H_230517D : 49		R184650
Rubidium	0.03	mg/L		0.01		E200.8	05/17/23 13:05 / dck		ICPMS205-H_230517D : 49		R184650
Potassium	11	mg/L		1		E200.7	05/15/23 19:03 / slj		ICP2-HE_230515B : 94		R184548
Selenium	ND	mg/L		0.001		E200.8	05/16/23 23:24 / dck		ICPMS205-H_230516C : 153		R184592
Silver	ND	mg/L		0.0002		E200.8	05/16/23 23:24 / dck		ICPMS205-H_230516C : 153		R184592
Sodium	34	mg/L		1		E200.7	05/15/23 19:03 / slj		ICP2-HE_230515B : 94		R184548
Strontium	0.83	mg/L		0.01		E200.8	05/16/23 23:24 / dck		ICPMS205-H_230516C : 153		R184592
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 23:24 / dck		ICPMS205-H_230516C : 153		R184592
Thorium	ND	mg/L		0.005		E200.8	05/16/23 23:24 / dck		ICPMS205-H_230516C : 153		R184592
Tin	ND	mg/L		0.05		E200.8	05/16/23 23:24 / dck		ICPMS205-H_230516C : 153		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 23:24 / dck		ICPMS205-H_230516C : 153		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/17/23 13:05 / dck		ICPMS205-H_230517D : 49		R184650
Uranium	0.0184	mg/L		0.0002		E200.8	05/16/23 23:24 / dck		ICPMS205-H_230516C : 153		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 23:24 / dck		ICPMS205-H_230516C : 153		R184592
Zinc	28.4	mg/L		0.008		E200.7	05/15/23 19:03 / slj		ICP2-HE_230515B : 94		R184548
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 14:59 / dck		ICPMS205-H_230517D : 100		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-09  
**Lab ID:** H23050437-020  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/11/23 13:13      **DateReceived:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-7.00	%				A1030 E	05/26/23 11:12 / SR		CALC_230526A : 507		R184891

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-40R  
**Lab ID:** H23050437-021  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/12/23 13:50 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.1	s.u.	H	0.1		A4500-H B	05/15/23 12:12 / ljs		PHSC_101-H_230515A : 74		R184515
pH Measurement Temp	15.3	°C				A4500-H B	05/15/23 12:12 / ljs		PHSC_101-H_230515A : 74		R184515
Conductivity @ 25 C	2490	umhos/cm		5		A2510 B	05/15/23 12:12 / ljs		PHSC_101-H_230515A : 75		R184515
Solids, Total Dissolved TDS @ 180 C	2380	mg/L		50		A2540 C	05/16/23 14:26 / ams		124 (14410200)_230516B : 11		TDS230516A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	05/16/23 17:03 / ams		PHSC_101-H_230516A : 156		R184539
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	05/16/23 17:03 / ams		PHSC_101-H_230516A : 156		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 17:03 / ams		PHSC_101-H_230516A : 156		R184539
Chloride	18	mg/L		1		E300.0	05/24/23 22:14 / SR		IC METROHM_230524A : 43		R184848
Sulfate	1550	mg/L		1		E300.0	05/24/23 22:14 / SR		IC METROHM_230524A : 43		R184848
Bromide	ND	mg/L		0.5		E300.0	05/17/23 17:08 / ljs		IC METROHM_230516A : 123		R184586
Fluoride	1.3	mg/L		0.1		E300.0	05/24/23 22:14 / SR		IC METROHM_230524A : 43		R184848
Hardness as CaCO3	1060	mg/L		1		A2340 B	05/15/23 19:06 / SR		CALC_230526A : 520		R184891
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.4	mg/L		0.5		A5310 C	05/18/23 03:42 / eli-c		SUB-C294719 : 19		C_R294719
Organic Carbon, Total (TOC)	1.4	mg/L		0.5		A5310 C	05/17/23 18:49 / eli-c		SUB-C294719 : 10		C_R294719
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	05/18/23 15:49 / JAR		FIA203-HE_230518A : 204		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	0.371	mg/L		0.009		E200.8	05/17/23 22:48 / dck		ICPMS205-H_230517A : 166		R184602
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 23:27 / dck		ICPMS205-H_230516C : 154		R184592
Arsenic	ND	mg/L		0.001		E200.8	05/16/23 23:27 / dck		ICPMS205-H_230516C : 154		R184592
Barium	0.007	mg/L		0.003		E200.8	05/16/23 23:27 / dck		ICPMS205-H_230516C : 154		R184592
Beryllium	ND	mg/L		0.0008		E200.8	05/17/23 22:48 / dck		ICPMS205-H_230517A : 166		R184602
Boron	0.08	mg/L		0.05		E200.7	05/15/23 19:06 / slj		ICP2-HE_230515B : 95		R184548
Cadmium	0.0966	mg/L		0.00003		E200.8	05/16/23 23:27 / dck		ICPMS205-H_230516C : 154		R184592
Cesium	ND	mg/L		0.01		E200.8	05/17/23 13:13 / dck		ICPMS205-H_230517D : 54		R184650

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-40R  
**Lab ID:** H23050437-021  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/12/23 13:50 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	302	mg/L		1		E200.7	05/15/23 19:06 / slj		ICP2-HE_230515B : 95		R184548
Chromium	ND	mg/L		0.005		E200.8	05/16/23 23:27 / dck		ICPMS205-H_230516C : 154		R184592
Cobalt	0.326	mg/L		0.005		E200.8	05/16/23 23:27 / dck		ICPMS205-H_230516C : 154		R184592
Copper	0.155	mg/L		0.002		E200.8	05/16/23 23:27 / dck		ICPMS205-H_230516C : 154		R184592
Gallium	ND	mg/L		0.01		E200.8	05/17/23 13:13 / dck		ICPMS205-H_230517D : 54		R184650
Iron	84.3	mg/L		0.02		E200.7	05/15/23 19:06 / slj		ICP2-HE_230515B : 95		R184548
Lead	0.0010	mg/L		0.0003		E200.8	05/16/23 23:27 / dck		ICPMS205-H_230516C : 154		R184592
Lanthanum	0.01	mg/L		0.01		E200.8	05/17/23 13:13 / dck		ICPMS205-H_230517D : 54		R184650
Lithium	0.3	mg/L		0.1		E200.7	05/15/23 19:06 / slj		ICP2-HE_230515B : 95		R184548
Magnesium	74	mg/L		1		E200.7	05/15/23 19:06 / slj		ICP2-HE_230515B : 95		R184548
Neodymium	ND	mg/L		0.005		E200.8	05/17/23 13:13 / dck		ICPMS205-H_230517D : 54		R184650
Niobium	ND	mg/L		0.01		E200.8	05/17/23 13:13 / dck		ICPMS205-H_230517D : 54		R184650
Manganese	79.7	mg/L		0.001		E200.7	05/15/23 19:06 / slj		ICP2-HE_230515B : 95		R184548
Molybdenum	0.001	mg/L		0.001		E200.8	05/16/23 23:27 / dck		ICPMS205-H_230516C : 154		R184592
Nickel	0.192	mg/L		0.002		E200.8	05/16/23 23:27 / dck		ICPMS205-H_230516C : 154		R184592
Palladium	ND	mg/L		0.01		E200.8	05/17/23 13:13 / dck		ICPMS205-H_230517D : 54		R184650
Praseodymium	ND	mg/L		0.01		E200.8	05/17/23 13:13 / dck		ICPMS205-H_230517D : 54		R184650
Rubidium	0.08	mg/L		0.01		E200.8	05/17/23 13:13 / dck		ICPMS205-H_230517D : 54		R184650
Potassium	19	mg/L		1		E200.7	05/15/23 19:06 / slj		ICP2-HE_230515B : 95		R184548
Selenium	ND	mg/L		0.001		E200.8	05/16/23 23:27 / dck		ICPMS205-H_230516C : 154		R184592
Silver	ND	mg/L		0.0002		E200.8	05/16/23 23:27 / dck		ICPMS205-H_230516C : 154		R184592
Sodium	37	mg/L		1		E200.7	05/15/23 19:06 / slj		ICP2-HE_230515B : 95		R184548
Strontium	1.95	mg/L		0.01		E200.7	05/15/23 19:06 / slj		ICP2-HE_230515B : 95		R184548
Thallium	0.0006	mg/L		0.0002		E200.8	05/16/23 23:27 / dck		ICPMS205-H_230516C : 154		R184592
Thorium	ND	mg/L		0.005		E200.8	05/16/23 23:27 / dck		ICPMS205-H_230516C : 154		R184592
Tin	ND	mg/L		0.05		E200.8	05/16/23 23:27 / dck		ICPMS205-H_230516C : 154		R184592
Titanium	ND	mg/L		0.005		E200.8	05/16/23 23:27 / dck		ICPMS205-H_230516C : 154		R184592
Tungsten	ND	mg/L		0.1		E200.8	05/17/23 13:13 / dck		ICPMS205-H_230517D : 54		R184650
Uranium	0.0010	mg/L		0.0002		E200.8	05/16/23 23:27 / dck		ICPMS205-H_230516C : 154		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/16/23 23:27 / dck		ICPMS205-H_230516C : 154		R184592
Zinc	34.6	mg/L		0.008		E200.7	05/15/23 19:06 / slj		ICP2-HE_230515B : 95		R184548
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 15:08 / dck		ICPMS205-H_230517D : 105		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-40R  
**Lab ID:** H23050437-021  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/12/23 13:50      **DateReceived:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.58	%				A1030 E	05/26/23 11:12 / SR		CALC_230526A : 518		R184891

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-08  
**Lab ID:** H23050437-022  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/12/23 13:52 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	3.4	s.u.	H	0.1		A4500-H B	05/15/23 12:16 / ljs		PHSC_101-H_230515A : 78		R184515
pH Measurement Temp	17.0	°C				A4500-H B	05/15/23 12:16 / ljs		PHSC_101-H_230515A : 78		R184515
Conductivity @ 25 C	5520	umhos/cm		5		A2510 B	05/15/23 12:16 / ljs		PHSC_101-H_230515A : 79		R184515
Solids, Total Dissolved TDS @ 180 C	6790	mg/L		100		A2540 C	05/16/23 14:26 / ams		124 (14410200)_230516B : 12		TDS230516A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	05/16/23 17:07 / ams		PHSC_101-H_230516A : 158		R184539
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	05/16/23 17:07 / ams		PHSC_101-H_230516A : 158		R184539
Carbonate as CO3	ND	mg/L		4		A2320 B	05/16/23 17:07 / ams		PHSC_101-H_230516A : 158		R184539
Chloride	62	mg/L		1		E300.0	05/19/23 15:17 / ljs		IC METROHM_230519A : 17		R184723
Sulfate	3740	mg/L		1		E300.0	05/19/23 15:17 / ljs		IC METROHM_230519A : 17		R184723
Bromide	ND	mg/L		0.5		E300.0	05/19/23 15:17 / ljs		IC METROHM_230519A : 17		R184723
Fluoride	6.0	mg/L	*	0.1		E300.0	05/19/23 15:17 / ljs		IC METROHM_230519A : 17		R184723
Hardness as CaCO3	1980	mg/L		1		A2340 B	05/15/23 19:10 / abc		CALC_230522A : 575		R184728
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	3.1	mg/L		0.5		A5310 C	05/18/23 04:35 / eli-c		SUB-C294719 : 22		C_R294719
Organic Carbon, Total (TOC)	3.0	mg/L		0.5		A5310 C	05/17/23 19:12 / eli-c		SUB-C294719 : 11		C_R294719
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	05/18/23 15:50 / JAR		FIA203-HE_230518A : 205		R184665
<b>METALS, DISSOLVED</b>											
Aluminum	39.3	mg/L		0.03		E200.7	05/15/23 19:10 / slj		ICP2-HE_230515B : 96		R184548
Antimony	ND	mg/L		0.0005		E200.8	05/16/23 23:53 / dck		ICPMS205-H_230516C : 163		R184592
Arsenic	0.012	mg/L		0.001		E200.8	05/17/23 22:51 / dck		ICPMS205-H_230517A : 167		R184602
Barium	ND	mg/L		0.003		E200.8	05/16/23 23:53 / dck		ICPMS205-H_230516C : 163		R184592
Beryllium	0.0224	mg/L		0.0008		E200.8	05/17/23 22:51 / dck		ICPMS205-H_230517A : 167		R184602
Boron	0.08	mg/L		0.05		E200.7	05/15/23 19:10 / slj		ICP2-HE_230515B : 96		R184548
Cadmium	0.149	mg/L		0.00003		E200.8	05/16/23 23:53 / dck		ICPMS205-H_230516C : 163		R184592
Cesium	ND	mg/L		0.01		E200.8	05/17/23 13:15 / dck		ICPMS205-H_230517D : 55		R184650

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** \* - The result exceeds the Maximum Contaminant Level (MCL)

H - Analysis performed past the method holding time



**LABORATORY ANALYTICAL REPORT**

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-08  
**Lab ID:** H23050437-022  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/12/23 13:52 **Date Received:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	421	mg/L		1		E200.7	05/15/23 19:10 / slj		ICP2-HE_230515B : 96		R184548
Chromium	ND	mg/L		0.005		E200.8	05/17/23 22:51 / dck		ICPMS205-H_230517A : 167		R184602
Cobalt	0.398	mg/L		0.005		E200.8	05/17/23 22:51 / dck		ICPMS205-H_230517A : 167		R184602
Copper	13.2	mg/L		0.01		E200.7	05/15/23 19:10 / slj		ICP2-HE_230515B : 96		R184548
Gallium	0.01	mg/L		0.01		E200.8	05/17/23 13:15 / dck		ICPMS205-H_230517D : 55		R184650
Iron	300	mg/L		0.02		E200.7	05/15/23 19:10 / slj		ICP2-HE_230515B : 96		R184548
Lead	0.0008	mg/L		0.0003		E200.8	05/16/23 23:53 / dck		ICPMS205-H_230516C : 163		R184592
Lanthanum	0.19	mg/L		0.01		E200.8	05/17/23 13:15 / dck		ICPMS205-H_230517D : 55		R184650
Lithium	0.7	mg/L		0.1		E200.7	05/15/23 19:10 / slj		ICP2-HE_230515B : 96		R184548
Magnesium	225	mg/L		1		E200.7	05/15/23 19:10 / slj		ICP2-HE_230515B : 96		R184548
Neodymium	0.151	mg/L		0.005		E200.8	05/17/23 13:15 / dck		ICPMS205-H_230517D : 55		R184650
Niobium	ND	mg/L		0.01		E200.8	05/17/23 13:15 / dck		ICPMS205-H_230517D : 55		R184650
Manganese	345	mg/L		0.007		E200.7	05/16/23 13:47 / kjb		ICP2-HE_230516A : 36		R184601
Molybdenum	ND	mg/L		0.001		E200.8	05/16/23 23:53 / dck		ICPMS205-H_230516C : 163		R184592
Nickel	0.208	mg/L		0.002		E200.8	05/17/23 22:51 / dck		ICPMS205-H_230517A : 167		R184602
Palladium	ND	mg/L		0.01		E200.8	05/17/23 13:15 / dck		ICPMS205-H_230517D : 55		R184650
Praseodymium	0.04	mg/L		0.01		E200.8	05/17/23 13:15 / dck		ICPMS205-H_230517D : 55		R184650
Rubidium	ND	mg/L		0.01		E200.8	05/17/23 13:15 / dck		ICPMS205-H_230517D : 55		R184650
Potassium	8	mg/L		1		E200.7	05/15/23 19:10 / slj		ICP2-HE_230515B : 96		R184548
Selenium	ND	mg/L		0.001		E200.8	05/16/23 23:53 / dck		ICPMS205-H_230516C : 163		R184592
Silver	ND	mg/L		0.0002		E200.8	05/16/23 23:53 / dck		ICPMS205-H_230516C : 163		R184592
Sodium	73	mg/L		1		E200.7	05/15/23 19:10 / slj		ICP2-HE_230515B : 96		R184548
Strontium	3.05	mg/L		0.01		E200.7	05/15/23 19:10 / slj		ICP2-HE_230515B : 96		R184548
Thallium	ND	mg/L		0.0002		E200.8	05/16/23 23:53 / dck		ICPMS205-H_230516C : 163		R184592
Thorium	0.016	mg/L		0.005		E200.8	05/16/23 23:53 / dck		ICPMS205-H_230516C : 163		R184592
Tin	ND	mg/L		0.05		E200.8	05/16/23 23:53 / dck		ICPMS205-H_230516C : 163		R184592
Titanium	ND	mg/L		0.005		E200.8	05/17/23 22:51 / dck		ICPMS205-H_230517A : 167		R184602
Tungsten	ND	mg/L		0.1		E200.8	05/17/23 13:15 / dck		ICPMS205-H_230517D : 55		R184650
Uranium	0.458	mg/L		0.0002		E200.8	05/16/23 23:53 / dck		ICPMS205-H_230516C : 163		R184592
Vanadium	ND	mg/L		0.01		E200.8	05/17/23 22:51 / dck		ICPMS205-H_230517A : 167		R184602
Zinc	327	mg/L		0.01		E200.7	05/16/23 13:47 / kjb		ICP2-HE_230516A : 36		R184601
Zirconium	ND	mg/L		0.005		E200.8	05/17/23 15:09 / dck		ICPMS205-H_230517D : 106		R184650

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-08  
**Lab ID:** H23050437-022  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/12/23 13:52      **DateReceived:** 05/12/23  
**Report Date:** 06/02/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.37	%				A1030 E	05/22/23 13:08 / abc		CALC_230522A : 573		R184728

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** C\_R294719

**Date:** 31-May-23

Run ID :Run Order: <b>SUB-C294719: 1</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MBLK</b>	Method: <b>A5310 C</b>
Analysis Date: <b>05/17/23 16:09</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
		Qual	

Organic Carbon, Total (TOC)	0.2	0.1	
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Associated samples: **H23050437-012D, H23050437-012E, H23050437-013D, H23050437-013E, H23050437-014D, H23050437-014E, H23050437-020D, H23050437-020E, H23050437-021D, H23050437-021E, H23050437-022D, H23050437-022E**

Run ID :Run Order: <b>SUB-C294719: 2</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS-11923</b>	Method: <b>A5310 C</b>
Analysis Date: <b>05/17/23 16:29</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
		Qual	

Organic Carbon, Total (TOC)	5.10	0.50	5
			0
		<b>102</b>	90
		111	0

Associated samples: **H23050437-012D, H23050437-012E, H23050437-013D, H23050437-013E, H23050437-014D, H23050437-014E, H23050437-020D, H23050437-020E, H23050437-021D, H23050437-021E, H23050437-022D, H23050437-022E**

Run ID :Run Order: <b>SUB-C294719: 3</b>	SampType: <b>Continuing Calibration Verification Standard</b>	Lab ID: <b>CCV-11940</b>	Method: <b>A5310 C</b>
Analysis Date: <b>05/17/23 16:46</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
		Qual	

Organic Carbon, Total (TOC)	5.28	0.50	5
			0
		<b>106</b>	90
		110	0

Associated samples: **H23050437-012D, H23050437-012E, H23050437-013D, H23050437-013E, H23050437-014D, H23050437-014E, H23050437-020D, H23050437-020E, H23050437-021D, H23050437-021E, H23050437-022D, H23050437-022E**

Run ID :Run Order: <b>SUB-C294719: 5</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23050437-012E</b>	Method: <b>A5310 C</b>
Analysis Date: <b>05/17/23 17:20</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
		Qual	

Organic Carbon, Total (TOC)	16.1	0.50	5
			11.26
		<b>96</b>	90
		111	0

Associated samples: **H23050437-012D, H23050437-012E, H23050437-013D, H23050437-013E, H23050437-014D, H23050437-014E, H23050437-020D, H23050437-020E, H23050437-021D, H23050437-021E, H23050437-022D, H23050437-022E**

Run ID :Run Order: <b>SUB-C294719: 6</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23050437-012E</b>	Method: <b>A5310 C</b>
Analysis Date: <b>05/17/23 17:38</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
		Qual	

Organic Carbon, Total (TOC)	16.4	0.50	5
			11.26
		<b>102</b>	90
		111	16.08
		<b>1.7</b>	20

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: C\_R294719

Date: 31-May-23

Run ID :Run Order: <b>SUB-C294719: 6</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23050437-012E</b>	Method: <b>A5310 C</b>
Analysis Date: <b>05/17/23 17:38</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Associated samples: H23050437-012D, H23050437-012E, H23050437-013D, H23050437-013E, H23050437-014D, H23050437-014E, H23050437-020D, H23050437-020E, H23050437-021D, H23050437-021E, H23050437-022D, H23050437-022E

Run ID :Run Order: <b>SUB-C294719: 12</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MBLK</b>	Method: <b>A5310 C</b>
Analysis Date: <b>05/18/23 01:26</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Organic Carbon, Dissolved (DOC) 0.1 0.1  
Associated samples: H23050437-012D, H23050437-012E, H23050437-013D, H23050437-013E, H23050437-014D, H23050437-014E, H23050437-020D, H23050437-020E, H23050437-021D, H23050437-021E, H23050437-022D, H23050437-022E

Run ID :Run Order: <b>SUB-C294719: 13</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS-11923</b>	Method: <b>A5310 C</b>
Analysis Date: <b>05/18/23 01:57</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Organic Carbon, Dissolved (DOC) 5.10 0.50 5 0 **102** 88 112 0  
Associated samples: H23050437-012D, H23050437-012E, H23050437-013D, H23050437-013E, H23050437-014D, H23050437-014E, H23050437-020D, H23050437-020E, H23050437-021D, H23050437-021E, H23050437-022D, H23050437-022E

Run ID :Run Order: <b>SUB-C294719: 14</b>	SampType: <b>Continuing Calibration Verification Standard</b>	Lab ID: <b>CCV-11940</b>	Method: <b>A5310 C</b>
Analysis Date: <b>05/18/23 02:12</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Organic Carbon, Dissolved (DOC) 5.23 0.50 5 0 **105** 90 110 0  
Associated samples: H23050437-012D, H23050437-012E, H23050437-013D, H23050437-013E, H23050437-014D, H23050437-014E, H23050437-020D, H23050437-020E, H23050437-021D, H23050437-021E, H23050437-022D, H23050437-022E

Run ID :Run Order: <b>SUB-C294719: 20</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23050437-021D</b>	Method: <b>A5310 C</b>
Analysis Date: <b>05/18/23 03:59</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Organic Carbon, Dissolved (DOC) 6.52 0.50 5 1.395 **102** 88 112 0  
Associated samples: H23050437-012D, H23050437-012E, H23050437-013D, H23050437-013E, H23050437-014D, H23050437-014E, H23050437-020D, H23050437-020E, H23050437-021D, H23050437-021E, H23050437-022D, H23050437-022E

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limit N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** C\_R294719

**Date:** 31-May-23

Run ID :Run Order: <b>SUB-C294719: 21</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050437-021D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/18/23 04:16</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	6.60	0.50	5	1.395	<b>104</b>	88	112	6.515	<b>1.2</b>	20	

Associated samples: **H23050437-012D, H23050437-012E, H23050437-013D, H23050437-013E, H23050437-014D, H23050437-014E, H23050437-020D, H23050437-020E, H23050437-021D, H23050437-021E, H23050437-022D, H23050437-022E**





## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** C\_R294878

**Date:** 31-May-23

Run ID :Run Order: <b>SUB-C294878: 1</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MBLK</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>05/22/23 16:57</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	ND	0.1									

Associated samples: H23050437-001D, H23050437-001E, H23050437-002D, H23050437-003D, H23050437-003E, H23050437-004D, H23050437-004E, H23050437-005D, H23050437-005E, H23050437-006D, H23050437-006E, H23050437-007D, H23050437-007E, H23050437-008D, H23050437-009D, H23050437-009E, H23050437-010D, H23050437-010E, H23050437-011D, H23050437-011E, H23050437-015D, H23050437-015E, H23050437-016D, H23050437-016E, H23050437-017D, H23050437-017E, H23050437-018D, H23050437-018E, H23050437-019D, H23050437-019E

Run ID :Run Order: <b>SUB-C294878: 2</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS-11923</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>05/22/23 17:16</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.06	0.50	5	0	<b>101</b>	90	111	0			

Associated samples: H23050437-001D, H23050437-001E, H23050437-002D, H23050437-003D, H23050437-003E, H23050437-004D, H23050437-004E, H23050437-005D, H23050437-005E, H23050437-006D, H23050437-006E, H23050437-007D, H23050437-007E, H23050437-008D, H23050437-009D, H23050437-009E, H23050437-010D, H23050437-010E, H23050437-011D, H23050437-011E, H23050437-015D, H23050437-015E, H23050437-016D, H23050437-016E, H23050437-017D, H23050437-017E, H23050437-018D, H23050437-018E, H23050437-019D, H23050437-019E

Run ID :Run Order: <b>SUB-C294878: 3</b>	SampType: <b>Continuing Calibration Verification Standard</b>	Lab ID: <b>CCV-11940</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>05/22/23 17:32</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.23	0.50	5	0	<b>105</b>	90	110	0			

Associated samples: H23050437-001D, H23050437-001E, H23050437-002D, H23050437-003D, H23050437-003E, H23050437-004D, H23050437-004E, H23050437-005D, H23050437-005E, H23050437-006D, H23050437-006E, H23050437-007D, H23050437-007E, H23050437-008D, H23050437-009D, H23050437-009E, H23050437-010D, H23050437-010E, H23050437-011D, H23050437-011E, H23050437-015D, H23050437-015E, H23050437-016D, H23050437-016E, H23050437-017D, H23050437-017E, H23050437-018D, H23050437-018E, H23050437-019D, H23050437-019E

Run ID :Run Order: <b>SUB-C294878: 5</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23050437-001E</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>05/22/23 18:07</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.36	0.50	5	0.2874	<b>101</b>	90	111	0			

Associated samples: H23050437-001D, H23050437-001E, H23050437-002D, H23050437-003D, H23050437-003E, H23050437-004D, H23050437-004E, H23050437-005D, H23050437-005E, H23050437-006D, H23050437-006E, H23050437-007D, H23050437-007E, H23050437-008D, H23050437-009D, H23050437-009E, H23050437-010D, H23050437-010E, H23050437-011D, H23050437-011E, H23050437-015D, H23050437-015E, H23050437-016D, H23050437-016E, H23050437-017D, H23050437-017E, H23050437-018D, H23050437-018E, H23050437-019D, H23050437-019E

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: C\_R294878

Date: 31-May-23

Run ID :Run Order: SUB-C294878: 6	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050437-001E				Method: A5310 C		
Analysis Date: 05/22/23 18:23	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.25	0.50	5	0.2874	99	90	111	5.357	2.1	20	

Associated samples: H23050437-001D, H23050437-001E, H23050437-002D, H23050437-003D, H23050437-003E, H23050437-004D, H23050437-004E, H23050437-005D, H23050437-005E, H23050437-006D, H23050437-006E, H23050437-007D, H23050437-007E, H23050437-008D, H23050437-009D, H23050437-009E, H23050437-010D, H23050437-010E, H23050437-011D, H23050437-011E, H23050437-015D, H23050437-015E, H23050437-016D, H23050437-016E, H23050437-017D, H23050437-017E, H23050437-018D, H23050437-018E, H23050437-019D, H23050437-019E

Run ID :Run Order: SUB-C294878: 14	SampType: Continuing Calibration Verification Standard				Lab ID: CCV-11940				Method: A5310 C		
Analysis Date: 05/22/23 21:02	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.18	0.50	5	0	104	90	110	0			

Associated samples: H23050437-001D, H23050437-001E, H23050437-002D, H23050437-003D, H23050437-003E, H23050437-004D, H23050437-004E, H23050437-005D, H23050437-005E, H23050437-006D, H23050437-006E, H23050437-007D, H23050437-007E, H23050437-008D, H23050437-009D, H23050437-009E, H23050437-010D, H23050437-010E, H23050437-011D, H23050437-011E, H23050437-015D, H23050437-015E, H23050437-016D, H23050437-016E, H23050437-017D, H23050437-017E, H23050437-018D, H23050437-018E, H23050437-019D, H23050437-019E

Run ID :Run Order: SUB-C294878: 16	SampType: Sample Matrix Spike				Lab ID: H23050437-011E				Method: A5310 C		
Analysis Date: 05/22/23 22:04	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.44	0.50	5	0.7265	94	90	111	0			

Associated samples: H23050437-001D, H23050437-001E, H23050437-002D, H23050437-003D, H23050437-003E, H23050437-004D, H23050437-004E, H23050437-005D, H23050437-005E, H23050437-006D, H23050437-006E, H23050437-007D, H23050437-007E, H23050437-008D, H23050437-009D, H23050437-009E, H23050437-010D, H23050437-010E, H23050437-011D, H23050437-011E, H23050437-015D, H23050437-015E, H23050437-016D, H23050437-016E, H23050437-017D, H23050437-017E, H23050437-018D, H23050437-018E, H23050437-019D, H23050437-019E

Run ID :Run Order: SUB-C294878: 17	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050437-011E				Method: A5310 C		
Analysis Date: 05/22/23 22:23	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.44	0.50	5	0.7265	94	90	111	5.436	0.1	20	

Associated samples: H23050437-001D, H23050437-001E, H23050437-002D, H23050437-003D, H23050437-003E, H23050437-004D, H23050437-004E, H23050437-005D, H23050437-005E, H23050437-006D, H23050437-006E, H23050437-007D, H23050437-007E, H23050437-008D, H23050437-009D, H23050437-009E, H23050437-010D, H23050437-010E, H23050437-011D, H23050437-011E, H23050437-015D, H23050437-015E, H23050437-016D, H23050437-016E, H23050437-017D, H23050437-017E, H23050437-018D, H23050437-018E, H23050437-019D, H23050437-019E

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: C\_R294878

Date: 31-May-23

Run ID :Run Order: <b>SUB-C294878: 23</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/23/23 00:54</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	ND	0.1									
Associated samples: H23050437-001D, H23050437-001E, H23050437-002D, H23050437-003D, H23050437-003E, H23050437-004D, H23050437-004E, H23050437-005D, H23050437-005E, H23050437-006D, H23050437-006E, H23050437-007D, H23050437-007E, H23050437-008D, H23050437-009D, H23050437-009E, H23050437-010D, H23050437-010E, H23050437-011D, H23050437-011E, H23050437-015D, H23050437-015E, H23050437-016D, H23050437-016E, H23050437-017D, H23050437-017E, H23050437-018D, H23050437-018E, H23050437-019D, H23050437-019E											

Run ID :Run Order: <b>SUB-C294878: 24</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS-11923</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/23/23 01:10</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.30	0.50	5	0	<b>106</b>	88	112	0			
Associated samples: H23050437-001D, H23050437-001E, H23050437-002D, H23050437-003D, H23050437-003E, H23050437-004D, H23050437-004E, H23050437-005D, H23050437-005E, H23050437-006D, H23050437-006E, H23050437-007D, H23050437-007E, H23050437-008D, H23050437-009D, H23050437-009E, H23050437-010D, H23050437-010E, H23050437-011D, H23050437-011E, H23050437-015D, H23050437-015E, H23050437-016D, H23050437-016E, H23050437-017D, H23050437-017E, H23050437-018D, H23050437-018E, H23050437-019D, H23050437-019E											

Run ID :Run Order: <b>SUB-C294878: 25</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV-11940</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/23/23 01:25</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.20	0.50	5	0	<b>104</b>	90	110	0			
Associated samples: H23050437-001D, H23050437-001E, H23050437-002D, H23050437-003D, H23050437-003E, H23050437-004D, H23050437-004E, H23050437-005D, H23050437-005E, H23050437-006D, H23050437-006E, H23050437-007D, H23050437-007E, H23050437-008D, H23050437-009D, H23050437-009E, H23050437-010D, H23050437-010E, H23050437-011D, H23050437-011E, H23050437-015D, H23050437-015E, H23050437-016D, H23050437-016E, H23050437-017D, H23050437-017E, H23050437-018D, H23050437-018E, H23050437-019D, H23050437-019E											

Run ID :Run Order: <b>SUB-C294878: 27</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050437-001D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/23/23 02:01</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.53	0.50	5	0.3547	<b>104</b>	88	112	0			
Associated samples: H23050437-001D, H23050437-001E, H23050437-002D, H23050437-003D, H23050437-003E, H23050437-004D, H23050437-004E, H23050437-005D, H23050437-005E, H23050437-006D, H23050437-006E, H23050437-007D, H23050437-007E, H23050437-008D, H23050437-009D, H23050437-009E, H23050437-010D, H23050437-010E, H23050437-011D, H23050437-011E, H23050437-015D, H23050437-015E, H23050437-016D, H23050437-016E, H23050437-017D, H23050437-017E, H23050437-018D, H23050437-018E, H23050437-019D, H23050437-019E											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** C\_R294878

**Date:** 31-May-23

Run ID :Run Order: <b>SUB-C294878: 28</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050437-001D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/23/23 02:17</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.66	0.50	5	0.3547	<b>106</b>	88	112	5.533	<b>2.2</b>	20	

Associated samples: H23050437-001D, H23050437-001E, H23050437-002D, H23050437-003D, H23050437-003E, H23050437-004D, H23050437-004E, H23050437-005D, H23050437-005E, H23050437-006D, H23050437-006E, H23050437-007D, H23050437-007E, H23050437-008D, H23050437-009D, H23050437-009E, H23050437-010D, H23050437-010E, H23050437-011D, H23050437-011E, H23050437-015D, H23050437-015E, H23050437-016D, H23050437-016E, H23050437-017D, H23050437-017E, H23050437-018D, H23050437-018E, H23050437-019D, H23050437-019E

Run ID :Run Order: <b>SUB-C294878: 38</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV-11940</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/23/23 05:44</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.28	0.50	5	0	<b>106</b>	90	110	0			

Associated samples: H23050437-001D, H23050437-001E, H23050437-002D, H23050437-003D, H23050437-003E, H23050437-004D, H23050437-004E, H23050437-005D, H23050437-005E, H23050437-006D, H23050437-006E, H23050437-007D, H23050437-007E, H23050437-008D, H23050437-009D, H23050437-009E, H23050437-010D, H23050437-010E, H23050437-011D, H23050437-011E, H23050437-015D, H23050437-015E, H23050437-016D, H23050437-016E, H23050437-017D, H23050437-017E, H23050437-018D, H23050437-018E, H23050437-019D, H23050437-019E

Run ID :Run Order: <b>SUB-C294878: 40</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050437-011D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/23/23 06:46</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.57	0.50	5	0.6652	<b>98</b>	88	112	0			

Associated samples: H23050437-001D, H23050437-001E, H23050437-002D, H23050437-003D, H23050437-003E, H23050437-004D, H23050437-004E, H23050437-005D, H23050437-005E, H23050437-006D, H23050437-006E, H23050437-007D, H23050437-007E, H23050437-008D, H23050437-009D, H23050437-009E, H23050437-010D, H23050437-010E, H23050437-011D, H23050437-011E, H23050437-015D, H23050437-015E, H23050437-016D, H23050437-016E, H23050437-017D, H23050437-017E, H23050437-018D, H23050437-018E, H23050437-019D, H23050437-019E

Run ID :Run Order: <b>SUB-C294878: 41</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050437-011D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/23/23 07:05</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.59	0.50	5	0.6652	<b>99</b>	88	112	5.566	<b>0.5</b>	20	

Associated samples: H23050437-001D, H23050437-001E, H23050437-002D, H23050437-003D, H23050437-003E, H23050437-004D, H23050437-004E, H23050437-005D, H23050437-005E, H23050437-006D, H23050437-006E, H23050437-007D, H23050437-007E, H23050437-008D, H23050437-009D, H23050437-009E, H23050437-010D, H23050437-010E, H23050437-011D, H23050437-011E, H23050437-015D, H23050437-015E, H23050437-016D, H23050437-016E, H23050437-017D, H23050437-017E, H23050437-018D, H23050437-018E, H23050437-019D, H23050437-019E

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184515

**Date:** 31-May-23

Run ID :Run Order: <b>PHSC_101-H_230515A: 2</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>SC 150</b>			Method: <b>A2510 B</b>			
Analysis Date: <b>05/15/23 09:29</b>	Units: <b>umhos/cm</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	156	5.0	150	0	<b>104</b>	90	110				

Associated samples: H23050437-001A, H23050437-002A, H23050437-003A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-008A, H23050437-009A, H23050437-010A, H23050437-011A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-019A, H23050437-020A, H23050437-021A, H23050437-022A

Run ID :Run Order: <b>PHSC_101-H_230515A: 3</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>SC 20000</b>			Method: <b>A2510 B</b>			
Analysis Date: <b>05/15/23 09:31</b>	Units: <b>umhos/cm</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	19900	5.0	20000	0	<b>99</b>	90	110				

Associated samples: H23050437-001A, H23050437-002A, H23050437-003A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-008A, H23050437-009A, H23050437-010A, H23050437-011A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-019A, H23050437-020A, H23050437-021A, H23050437-022A

Run ID :Run Order: <b>PHSC_101-H_230515A: 4</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>SC 5000</b>			Method: <b>A2510 B</b>			
Analysis Date: <b>05/15/23 09:33</b>	Units: <b>umhos/cm</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	5040	5.0	5000	0	<b>101</b>	90	110				

Associated samples: H23050437-001A, H23050437-002A, H23050437-003A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-008A, H23050437-009A, H23050437-010A, H23050437-011A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-019A, H23050437-020A, H23050437-021A, H23050437-022A

Run ID :Run Order: <b>PHSC_101-H_230515A: 5</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>SC 1000</b>			Method: <b>A2510 B</b>			
Analysis Date: <b>05/15/23 09:35</b>	Units: <b>umhos/cm</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1030	5.0	1000	0	<b>103</b>	90	110				

Associated samples: H23050437-001A, H23050437-002A, H23050437-003A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-008A, H23050437-009A, H23050437-010A, H23050437-011A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-019A, H23050437-020A, H23050437-021A, H23050437-022A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184515

**Date:** 31-May-23

Run ID :Run Order: <b>PHSC_101-H_230515A: 6</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MBLK</b>	Method: <b>A2510 B</b>								
Analysis Date: <b>05/15/23 10:56</b>	Units: <b>umhos/cm</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	ND	5									

Associated samples: H23050437-001A, H23050437-002A, H23050437-003A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-008A, H23050437-009A, H23050437-010A, H23050437-011A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-019A, H23050437-020A, H23050437-021A, H23050437-022A

Run ID :Run Order: <b>PHSC_101-H_230515A: 30</b>	SampType: <b>Sample Duplicate</b>	Lab ID: <b>H23050437-001ADUP</b>	Method: <b>A2510 B</b>								
Analysis Date: <b>05/15/23 11:19</b>	Units: <b>umhos/cm</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	297	5.0		0				296.1	0.4	10	

Associated samples: H23050437-001A, H23050437-002A, H23050437-003A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-008A, H23050437-009A, H23050437-010A, H23050437-011A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-019A, H23050437-020A, H23050437-021A, H23050437-022A

Run ID :Run Order: <b>PHSC_101-H_230515A: 52</b>	SampType: <b>Continuing Calibration Verification Standard</b>	Lab ID: <b>CCV - SC 1413</b>	Method: <b>A2510 B</b>								
Analysis Date: <b>05/15/23 11:43</b>	Units: <b>umhos/cm</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1430	5.0	1413	0	101	90	110				

Associated samples: H23050437-001A, H23050437-002A, H23050437-003A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-008A, H23050437-009A, H23050437-010A, H23050437-011A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-019A, H23050437-020A, H23050437-021A, H23050437-022A

Run ID :Run Order: <b>PHSC_101-H_230515A: 57</b>	SampType: <b>Sample Duplicate</b>	Lab ID: <b>H23050437-012ADUP</b>	Method: <b>A2510 B</b>								
Analysis Date: <b>05/15/23 11:55</b>	Units: <b>umhos/cm</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1140	5.0		0				1159	1.8	10	

Associated samples: H23050437-001A, H23050437-002A, H23050437-003A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-008A, H23050437-009A, H23050437-010A, H23050437-011A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-019A, H23050437-020A, H23050437-021A, H23050437-022A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184515

**Date:** 31-May-23

Run ID :Run Order: <b>PHSC_101-H_230515A: 77</b>	SampType: <b>Sample Duplicate</b>	Lab ID: <b>H23050437-021ADUP</b>	Method: <b>A2510 B</b>								
Analysis Date: <b>05/15/23 12:14</b>	Units: <b>umhos/cm</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	2440	5.0		0				2487	2.0	10	

Associated samples: H23050437-001A, H23050437-002A, H23050437-003A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-008A, H23050437-009A, H23050437-010A, H23050437-011A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-019A, H23050437-020A, H23050437-021A, H23050437-022A





## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184515

**Date:** 31-May-23

Run ID :Run Order: <b>PHSC_101-H_230515A: 1</b>		SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>pH 7</b>			Method: <b>A4500-H B</b>			
Analysis Date: <b>05/15/23 09:24</b>		Units: <b>s.u.</b>		Prep Info: Prep Date:			Prep Method:					
Analytes <b>2</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH		7.0	0.1	7	0	100	98	102				
pH Measurement Temp		21.2			0		0	0				

Associated samples: **H23050437-001A, H23050437-002A, H23050437-003A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-008A, H23050437-009A, H23050437-010A, H23050437-011A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-019A, H23050437-020A, H23050437-021A, H23050437-022A**

Run ID :Run Order: <b>PHSC_101-H_230515A: 29</b>		SampType: <b>Sample Duplicate</b>				Lab ID: <b>H23050437-001ADUP</b>			Method: <b>A4500-H B</b>			
Analysis Date: <b>05/15/23 11:19</b>		Units: <b>s.u.</b>		Prep Info: Prep Date:			Prep Method:					
Analytes <b>2</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH		7.4	0.1		0				7.46	0.4	3	H
pH Measurement Temp		12.4			0				12			

Associated samples: **H23050437-001A, H23050437-002A, H23050437-003A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-008A, H23050437-009A, H23050437-010A, H23050437-011A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-019A, H23050437-020A, H23050437-021A, H23050437-022A**

Run ID :Run Order: <b>PHSC_101-H_230515A: 56</b>		SampType: <b>Sample Duplicate</b>				Lab ID: <b>H23050437-012ADUP</b>			Method: <b>A4500-H B</b>			
Analysis Date: <b>05/15/23 11:55</b>		Units: <b>s.u.</b>		Prep Info: Prep Date:			Prep Method:					
Analytes <b>2</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH		7.2	0.1		0				7.21	0.1	3	H
pH Measurement Temp		15.0			0				15			

Associated samples: **H23050437-001A, H23050437-002A, H23050437-003A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-008A, H23050437-009A, H23050437-010A, H23050437-011A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-019A, H23050437-020A, H23050437-021A, H23050437-022A**

Run ID :Run Order: <b>PHSC_101-H_230515A: 76</b>		SampType: <b>Sample Duplicate</b>				Lab ID: <b>H23050437-021ADUP</b>			Method: <b>A4500-H B</b>			
Analysis Date: <b>05/15/23 12:14</b>		Units: <b>s.u.</b>		Prep Info: Prep Date:			Prep Method:					
Analytes <b>2</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH		5.1	0.1		0				5.07	0.0	3	H
pH Measurement Temp		17.2			0				15.3			

Associated samples: **H23050437-001A, H23050437-002A, H23050437-003A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-008A, H23050437-009A, H23050437-010A, H23050437-011A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-019A, H23050437-020A, H23050437-021A, H23050437-022A**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184539

**Date:** 31-May-23

Run ID :Run Order: **PHSC\_101-H\_230516A: 6**      SampType: **Method Blank**      Lab ID: **MBLK**      Method: **A2320 B**  
 Analysis Date: **05/16/23 08:13**      Units: **mg/L**      Prep Info:    Prep Date:      Prep Method:  
 Analytes **1**      Result      PQL      SPK value    SPK Ref Val      %REC    LowLimit    HighLimit    RPD Ref Val      %RPD    RPDLimit    Qual

Analytes	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									

Associated samples: **H23050437-001A, H23050437-002A, H23050437-003A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-008A, H23050437-009A, H23050437-010A, H23050437-011A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-018A, H23050437-019A, H23050437-020A, H23050437-021A, H23050437-022A**

Run ID :Run Order: **PHSC\_101-H\_230516A: 7**      SampType: **Laboratory Control Sample**      Lab ID: **LCS**      Method: **A2320 B**  
 Analysis Date: **05/16/23 08:18**      Units: **mg/L**      Prep Info:    Prep Date:      Prep Method:  
 Analytes **1**      Result      PQL      SPK value    SPK Ref Val      %REC    LowLimit    HighLimit    RPD Ref Val      %RPD    RPDLimit    Qual

Analytes	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	560	4.0	600	0	93	90	110				

Associated samples: **H23050437-001A, H23050437-002A, H23050437-003A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-008A, H23050437-009A, H23050437-010A, H23050437-011A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-018A, H23050437-019A, H23050437-020A, H23050437-021A, H23050437-022A**

Run ID :Run Order: **PHSC\_101-H\_230516A: 50**      SampType: **Sample Duplicate**      Lab ID: **H23050392-008ADUP**      Method: **A2320 B**  
 Analysis Date: **05/16/23 10:51**      Units: **mg/L**      Prep Info:    Prep Date:      Prep Method:  
 Analytes **3**      Result      PQL      SPK value    SPK Ref Val      %REC    LowLimit    HighLimit    RPD Ref Val      %RPD    RPDLimit    Qual

Analytes	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	210	4.0		0				206.2	1.9	10	
Bicarbonate as HCO3	260	4.0		0				251	1.9	10	
Carbonate as CO3	ND	4.0		0				0		10	

Associated samples: **H23050437-001A, H23050437-002A, H23050437-003A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-008A, H23050437-009A, H23050437-010A, H23050437-011A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-018A, H23050437-019A, H23050437-020A, H23050437-021A, H23050437-022A**

Run ID :Run Order: **PHSC\_101-H\_230516A: 56**      SampType: **Sample Duplicate**      Lab ID: **H23050392-009ADUP**      Method: **A2320 B**  
 Analysis Date: **05/16/23 11:20**      Units: **mg/L**      Prep Info:    Prep Date:      Prep Method:  
 Analytes **3**      Result      PQL      SPK value    SPK Ref Val      %REC    LowLimit    HighLimit    RPD Ref Val      %RPD    RPDLimit    Qual

Analytes	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	58	4.0		0				56.9	1.6	10	
Bicarbonate as HCO3	70	4.0		0				68.81	1.6	10	
Carbonate as CO3	ND	4.0		0				0		10	

Associated samples: **H23050437-001A, H23050437-002A, H23050437-003A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-008A, H23050437-009A, H23050437-010A, H23050437-011A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-018A, H23050437-019A, H23050437-020A, H23050437-021A, H23050437-022A**

**Qualifiers:**    ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
                           J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184539

**Date:** 31-May-23

Run ID :Run Order: <b>PHSC_101-H_230516A: 142</b>	SampType: <b>Sample Duplicate</b>				Lab ID: <b>H23050437-016ADUP</b>				Method: <b>A2320 B</b>		
Analysis Date: <b>05/16/23 16:16</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	18	4.0		0				17.93	<b>1.1</b>	10	
Bicarbonate as HCO3	21	4.0		0				21.06	<b>1.2</b>	10	
Carbonate as CO3	ND	4.0		0				0		10	

Associated samples: **H23050437-001A, H23050437-002A, H23050437-003A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-008A, H23050437-009A, H23050437-010A, H23050437-011A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-018A, H23050437-019A, H23050437-020A, H23050437-021A, H23050437-022A**

Run ID :Run Order: <b>PHSC_101-H_230516A: 148</b>	SampType: <b>Sample Duplicate</b>				Lab ID: <b>H23050437-017ADUP</b>				Method: <b>A2320 B</b>		
Analysis Date: <b>05/16/23 16:44</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	18	4.0		0				18.93	<b>5.1</b>	10	
Bicarbonate as HCO3	21	4.0		0				22.28	<b>5.2</b>	10	
Carbonate as CO3	ND	4.0		0				0		10	

Associated samples: **H23050437-001A, H23050437-002A, H23050437-003A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-008A, H23050437-009A, H23050437-010A, H23050437-011A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-018A, H23050437-019A, H23050437-020A, H23050437-021A, H23050437-022A**



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: R184548

Date: 31-May-23

Run ID :Run Order: ICP2-HE_230515B: 20	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.7		
Analysis Date: 05/15/23 13:09	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.10	0.10	4	0	103	95	105				
Boron	0.786	0.10	0.8	0	98	95	105				
Calcium	40.9	1.0	40	0	102	95	105				
Copper	0.823	0.012	0.8	0	103	95	105				
Iron	4.10	0.020	4	0	103	95	105				
Lithium	0.823	0.10	0.8	0	103	95	105				
Magnesium	41.3	1.0	40	0	103	95	105				
Manganese	4.05	0.010	4	0	101	95	105				
Potassium	40.9	1.0	40	0	102	95	105				
Sodium	40.7	1.0	40	0	102	95	105				
Strontium	0.804	0.10	0.8	0	101	95	105				
Zinc	0.794	0.010	0.8	0	99	95	105				

Associated samples: H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICP2-HE_230515B: 21	SampType: Continuing Calibration Verification Standard				Lab ID: CCV-1				Method: E200.7		
Analysis Date: 05/15/23 13:13	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.55	0.10	2.5	0	102	95	105				
Boron	2.39	0.10	2.5	0	96	95	105				
Calcium	25.6	1.0	25	0	102	95	105				
Copper	2.55	0.012	2.5	0	102	95	105				
Iron	2.58	0.020	2.5	0	103	95	105				
Lithium	1.21	0.10	1.25	0	97	95	105				
Magnesium	26.3	1.0	25	0	105	95	105				
Manganese	2.53	0.010	2.5	0	101	95	105				
Potassium	24.2	1.0	25	0	97	95	105				
Sodium	24.2	1.0	25	0	97	95	105				
Strontium	2.50	0.10	2.5	0	100	95	105				
Zinc	2.42	0.010	2.5	0	97	95	105				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: R184548

Date: 31-May-23

Run ID :Run Order: **ICP2-HE\_230515B: 21**      SampType: **Continuing Calibration Verification Standard**      Lab ID: **CCV-1**      Method: **E200.7**  
 Analysis Date: **05/15/23 13:13**      Units: **mg/L**      Prep Info:      Prep Date:      Prep Method:  
 Analytes **12**      Result      PQL      SPK value      SPK Ref Val      %REC      LowLimit      HighLimit      RPD Ref Val      %RPD      RPDLimit      Qual

Associated samples: **H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B**

Run ID :Run Order: **ICP2-HE\_230515B: 27**      SampType: **Method Blank**      Lab ID: **MB**      Method: **E200.7**  
 Analysis Date: **05/15/23 13:36**      Units: **mg/L**      Prep Info:      Prep Date:      Prep Method:  
 Analytes **12**      Result      PQL      SPK value      SPK Ref Val      %REC      LowLimit      HighLimit      RPD Ref Val      %RPD      RPDLimit      Qual

Aluminum	ND	0.03									
Boron	ND	0.004									
Calcium	ND	0.2									
Copper	ND	0.01									
Iron	ND	0.008									
Lithium	ND	0.002									
Magnesium	ND	0.05									
Manganese	ND	0.001									
Potassium	ND	0.06									
Sodium	ND	0.03									
Strontium	ND	0.0003									
Zinc	ND	0.003									

Associated samples: **H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B**

Run ID :Run Order: **ICP2-HE\_230515B: 28**      SampType: **Laboratory Fortified Blank**      Lab ID: **LFB**      Method: **E200.7**  
 Analysis Date: **05/15/23 13:40**      Units: **mg/L**      Prep Info:      Prep Date:      Prep Method:  
 Analytes **12**      Result      PQL      SPK value      SPK Ref Val      %REC      LowLimit      HighLimit      RPD Ref Val      %RPD      RPDLimit      Qual

Aluminum	5.22	0.10	5	0	104	85	115				
Boron	0.901	0.10	1	0	90	85	115				
Calcium	49.2	1.0	50	0	98	85	115				
Copper	1.04	0.012	1	0	104	85	115				
Iron	5.16	0.020	5	0	103	85	115				
Lithium	1.08	0.10	1	0	108	85	115				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184548

**Date:** 31-May-23

Run ID :Run Order: ICP2-HE_230515B: 28	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.7		
Analysis Date: 05/15/23 13:40	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <span style="color: red;">12</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	53.3	1.0	50	0	107	85	115				
Manganese	5.21	0.010	5	0	104	85	115				
Potassium	53.1	1.0	50	0	106	85	115				
Sodium	53.3	1.0	50	0	107	85	115				
Strontium	0.993	0.10	1	0	99	85	115				
Zinc	0.919	0.010	1	0	92	85	115				

Associated samples: H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICP2-HE_230515B: 49	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.7		
Analysis Date: 05/15/23 16:14	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <span style="color: red;">12</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.61	0.10	2.5	0	104	90	110				
Boron	2.40	0.10	2.5	0	96	90	110				
Calcium	24.5	1.0	25	0	98	90	110				
Copper	2.57	0.012	2.5	0	103	90	110				
Iron	2.55	0.020	2.5	0	102	90	110				
Lithium	1.34	0.10	1.25	0	107	90	110				
Magnesium	26.7	1.0	25	0	107	90	110				
Manganese	2.54	0.010	2.5	0	102	90	110				
Potassium	26.0	1.0	25	0	104	90	110				
Sodium	26.4	1.0	25	0	105	90	110				
Strontium	2.50	0.10	2.5	0	100	90	110				
Zinc	2.39	0.010	2.5	0	95	90	110				

Associated samples: H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount

### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: R184548

Date: 31-May-23

Run ID :Run Order: ICP2-HE_230515B: 59	SampType: Sample Matrix Spike				Lab ID: H23050437-003BMS2				Method: E200.7		
Analysis Date: 05/15/23 16:51	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9.37	0.030	5	3.667	114	70	130				
Boron	1.02	0.050	1	0.1204	90	70	130				
Calcium	440	1.0	50	399.7		70	130				A
Copper	36.1	0.012	1	35.73		70	130				A
Iron	70.4	0.020	5	65.28		70	130				A
Lithium	1.82	0.10	1	0.7084	111	70	130				
Magnesium	205	1.0	50	155.1	100	70	130				
Manganese	210	0.0090	5	208.4		70	130				A
Potassium	76.4	1.0	50	22.82	107	70	130				
Sodium	152	1.0	50	99.03	107	70	130				
Strontium	4.35	0.010	1	3.425	93	70	130				
Zinc	149	0.010	1	148.1		70	130				A

Associated samples: H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICP2-HE_230515B: 60	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050437-003BMSD2				Method: E200.7		
Analysis Date: 05/15/23 16:55	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9.39	0.030	5	3.667	114	70	130	9.374	0.2	20	
Boron	1.04	0.050	1	0.1204	92	70	130	1.016	1.9	20	
Calcium	444	1.0	50	399.7		70	130	440.4	0.9	20	A
Copper	36.7	0.012	1	35.73		70	130	36.1	1.7	20	A
Iron	71.2	0.020	5	65.28		70	130	70.4	1.2	20	A
Lithium	1.78	0.10	1	0.7084	107	70	130	1.815	1.8	20	
Magnesium	208	1.0	50	155.1	105	70	130	205	1.3	20	
Manganese	212	0.0090	5	208.4		70	130	210	1.0	20	A
Potassium	75.9	1.0	50	22.82	106	70	130	76.43	0.7	20	
Sodium	152	1.0	50	99.03	106	70	130	152.4	0.3	20	
Strontium	4.41	0.010	1	3.425	98	70	130	4.354	1.2	20	
Zinc	151	0.010	1	148.1		70	130	149.4	1.2	20	A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184548

**Date:** 31-May-23

Run ID :Run Order: <b>ICP2-HE_230515B: 60</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23050437-003BMSD2</b>	Method: <b>E200.7</b>								
Analysis Date: <b>05/15/23 16:55</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B**

Run ID :Run Order: <b>ICP2-HE_230515B: 68</b>	SampType: <b>Continuing Calibration Verification Standard</b>	Lab ID: <b>CCV</b>	Method: <b>E200.7</b>								
Analysis Date: <b>05/15/23 17:25</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.55	0.10	2.5	0	<b>102</b>	90	110				
Boron	2.39	0.10	2.5	0	<b>96</b>	90	110				
Calcium	25.6	1.0	25	0	<b>103</b>	90	110				
Copper	2.53	0.012	2.5	0	<b>101</b>	90	110				
Iron	2.53	0.020	2.5	0	<b>101</b>	90	110				
Lithium	1.26	0.10	1.25	0	<b>101</b>	90	110				
Magnesium	25.5	1.0	25	0	<b>102</b>	90	110				
Manganese	2.46	0.010	2.5	0	<b>98</b>	90	110				
Potassium	25.1	1.0	25	0	<b>101</b>	90	110				
Sodium	25.1	1.0	25	0	<b>100</b>	90	110				
Strontium	2.46	0.10	2.5	0	<b>98</b>	90	110				
Zinc	2.41	0.010	2.5	0	<b>96</b>	90	110				

Associated samples: **H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B**

Run ID :Run Order: <b>ICP2-HE_230515B: 80</b>	SampType: <b>Continuing Calibration Verification Standard</b>	Lab ID: <b>CCV</b>	Method: <b>E200.7</b>								
Analysis Date: <b>05/15/23 18:11</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.60	0.10	2.5	0	<b>104</b>	90	110				
Boron	2.45	0.10	2.5	0	<b>98</b>	90	110				
Calcium	25.0	1.0	25	0	<b>100</b>	90	110				
Copper	2.55	0.012	2.5	0	<b>102</b>	90	110				
Iron	2.51	0.020	2.5	0	<b>100</b>	90	110				
Lithium	1.24	0.10	1.25	0	<b>99</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184548

**Date:** 31-May-23

Run ID :Run Order: **ICP2-HE\_230515B: 80**

SampType: **Continuing Calibration Verification Standard**

Lab ID: **CCV**

Method: **E200.7**

Analysis Date: **05/15/23 18:11**

Units: **mg/L**

Prep Info: Prep Date:

Prep Method:

Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	25.4	1.0	25	0	<b>102</b>	90	110				
Manganese	2.44	0.010	2.5	0	<b>98</b>	90	110				
Potassium	24.2	1.0	25	0	<b>97</b>	90	110				
Sodium	24.4	1.0	25	0	<b>97</b>	90	110				
Strontium	2.48	0.10	2.5	0	<b>99</b>	90	110				
Zinc	2.42	0.010	2.5	0	<b>97</b>	90	110				

Associated samples: **H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B**

Run ID :Run Order: **ICP2-HE\_230515B: 84**

SampType: **Sample Matrix Spike**

Lab ID: **H23050437-013BMS2**

Method: **E200.7**

Analysis Date: **05/15/23 18:26**

Units: **mg/L**

Prep Info: Prep Date:

Prep Method:

Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.14	0.030	5	0	<b>103</b>	70	130				
Boron	0.890	0.050	1	0.02676	<b>86</b>	70	130				
Calcium	77.8	1.0	50	29.5	<b>97</b>	70	130				
Copper	1.02	0.012	1	0	<b>102</b>	70	130				
Iron	4.85	0.020	5	0	<b>97</b>	70	130				
Lithium	1.05	0.10	1	0.00832	<b>104</b>	70	130				
Magnesium	56.2	1.0	50	7.237	<b>98</b>	70	130				
Manganese	4.82	0.0014	5	0.00138	<b>96</b>	70	130				
Potassium	54.2	1.0	50	3.319	<b>102</b>	70	130				
Sodium	72.8	1.0	50	21.42	<b>103</b>	70	130				
Strontium	1.17	0.010	1	0.1962	<b>98</b>	70	130				
Zinc	0.882	0.010	1	0.01257	<b>87</b>	70	130				

Associated samples: **H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B**

**Qualifiers:** ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limit

N - Analyte concentration was not sufficiently high to calculate RPD

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

A - Analyte concentration greater than four times the spike amount

## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184548

**Date:** 31-May-23

Run ID :Run Order: ICP2-HE_230515B: 85	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050437-013BMSD2				Method: E200.7			
Analysis Date: 05/15/23 18:29	Units: mg/L				Prep Info:		Prep Date:		Prep Method:			
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Aluminum	5.30	0.030	5	0	106	70	130	5.142	3.0	20		
Boron	0.949	0.050	1	0.02676	92	70	130	0.8903	6.4	20		
Calcium	81.3	1.0	50	29.5	104	70	130	77.82	4.4	20		
Copper	1.04	0.012	1	0	104	70	130	1.023	2.1	20		
Iron	5.08	0.020	5	0	102	70	130	4.853	4.5	20		
Lithium	1.09	0.10	1	0.00832	108	70	130	1.05	3.5	20		
Magnesium	58.3	1.0	50	7.237	102	70	130	56.16	3.7	20		
Manganese	5.03	0.0014	5	0.00138	101	70	130	4.822	4.3	20		
Potassium	57.7	1.0	50	3.319	109	70	130	54.19	6.3	20		
Sodium	76.0	1.0	50	21.42	109	70	130	72.75	4.4	20		
Strontium	1.20	0.010	1	0.1962	101	70	130	1.173	2.4	20		
Zinc	0.958	0.010	1	0.01257	95	70	130	0.8822	8.2	20		

Associated samples: H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICP2-HE_230515B: 92	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.7			
Analysis Date: 05/15/23 18:55	Units: mg/L				Prep Info:		Prep Date:		Prep Method:			
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Aluminum	2.57	0.10	2.5	0	103	90	110					
Boron	2.51	0.10	2.5	0	100	90	110					
Calcium	24.9	1.0	25	0	100	90	110					
Copper	2.55	0.012	2.5	0	102	90	110					
Iron	2.53	0.020	2.5	0	101	90	110					
Lithium	1.33	0.10	1.25	0	106	90	110					
Magnesium	25.4	1.0	25	0	102	90	110					
Manganese	2.44	0.010	2.5	0	98	90	110					
Potassium	25.7	1.0	25	0	103	90	110					
Sodium	26.0	1.0	25	0	104	90	110					
Strontium	2.49	0.10	2.5	0	100	90	110					
Zinc	2.45	0.010	2.5	0	98	90	110					

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: R184548

Date: 31-May-23

Run ID :Run Order: ICP2-HE_230515B: 92	SampType: Continuing Calibration Verification Standard	Lab ID: CCV	Method: E200.7								
Analysis Date: 05/15/23 18:55	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICP2-HE_230515B: 100	SampType: Sample Matrix Spike	Lab ID: H23050368-001DMS2	Method: E200.7								
Analysis Date: 05/15/23 19:26	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.24	0.030	5	0	105	70	130				
Boron	0.975	0.050	1	0	97	70	130				
Calcium	67.9	1.0	50	18.6	99	70	130				
Copper	1.04	0.012	1	0	104	70	130				
Iron	5.09	0.020	5	0	102	70	130				
Lithium	1.03	0.10	1	0	103	70	130				
Magnesium	56.2	1.0	50	5.292	102	70	130				
Manganese	4.99	0.0014	5	0.00203	100	70	130				
Potassium	51.7	1.0	50	0.6736	102	70	130				
Sodium	61.8	1.0	50	10.92	102	70	130				
Strontium	1.22	0.010	1	0.2347	99	70	130				
Zinc	0.975	0.010	1	0.00438	97	70	130				

Associated samples: H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICP2-HE_230515B: 101	SampType: Sample Matrix Spike Duplicate	Lab ID: H23050368-001DMSD2	Method: E200.7								
Analysis Date: 05/15/23 19:29	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.23	0.030	5	0	105	70	130	5.238	0.1	20	
Boron	0.941	0.050	1	0	94	70	130	0.9746	3.5	20	
Calcium	67.5	1.0	50	18.6	98	70	130	67.9	0.5	20	
Copper	1.03	0.012	1	0	103	70	130	1.038	0.4	20	
Iron	5.08	0.020	5	0	102	70	130	5.086	0.2	20	
Lithium	1.03	0.10	1	0	103	70	130	1.032	0.1	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: R184548

Date: 31-May-23

Run ID :Run Order: ICP2-HE_230515B: 101	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050368-001DMSD2				Method: E200.7		
Analysis Date: 05/15/23 19:29	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	55.8	1.0	50	5.292	101	70	130	56.2	0.6	20	
Manganese	4.95	0.0014	5	0.00203	99	70	130	4.994	1.0	20	
Potassium	51.7	1.0	50	0.6736	102	70	130	51.7	0.1	20	
Sodium	61.8	1.0	50	10.92	102	70	130	61.77	0	20	
Strontium	1.21	0.010	1	0.2347	98	70	130	1.222	0.8	20	
Zinc	0.944	0.010	1	0.00438	94	70	130	0.9749	3.2	20	

Associated samples: H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID: R184580**

**Date:** 31-May-23

Run ID :Run Order: <b>PHSC_101-H_230517A: 2</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>SC 150</b>			Method: <b>A2510 B</b>				
Analysis Date: <b>05/17/23 08:16</b>		Units: <b>umhos/cm</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C		154	5.0	150	0	<b>103</b>	90	110				

Associated samples: **H23050437-018A**

Run ID :Run Order: <b>PHSC_101-H_230517A: 3</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>SC 20000</b>			Method: <b>A2510 B</b>				
Analysis Date: <b>05/17/23 08:18</b>		Units: <b>umhos/cm</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C		19700	5.0	20000	0	<b>99</b>	90	110				

Associated samples: **H23050437-018A**

Run ID :Run Order: <b>PHSC_101-H_230517A: 4</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>SC 5000</b>			Method: <b>A2510 B</b>				
Analysis Date: <b>05/17/23 08:20</b>		Units: <b>umhos/cm</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C		5000	5.0	5000	0	<b>100</b>	90	110				

Associated samples: **H23050437-018A**

Run ID :Run Order: <b>PHSC_101-H_230517A: 5</b>		SampType: <b>Laboratory Control Sample</b>			Lab ID: <b>SC 1000</b>			Method: <b>A2510 B</b>				
Analysis Date: <b>05/17/23 08:22</b>		Units: <b>umhos/cm</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C		1040	5.0	1000	0	<b>104</b>	90	110				

Associated samples: **H23050437-018A**

Run ID :Run Order: <b>PHSC_101-H_230517A: 7</b>		SampType: <b>Method Blank</b>			Lab ID: <b>MBLK</b>			Method: <b>A2510 B</b>				
Analysis Date: <b>05/17/23 09:07</b>		Units: <b>umhos/cm</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C		ND	5									

Associated samples: **H23050437-018A**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184580

**Date:** 31-May-23

Run ID :Run Order: <b>PHSC_101-H_230517A: 15</b>	SampType: <b>Sample Duplicate</b>				Lab ID: <b>H23050437-018ADUP</b>				Method: <b>A2510 B</b>		
Analysis Date: <b>05/17/23 09:18</b>	Units: <b>umhos/cm</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	14.8	5.0		0				15	<b>1.3</b>	10	

Associated samples: **H23050437-018A**

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount





## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID: R184580**

**Date:** 31-May-23

Run ID :Run Order: <b>PHSC_101-H_230517A: 1</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>pH 7</b>				Method: <b>A4500-H B</b>		
Analysis Date: <b>05/17/23 08:11</b>	Units: <b>s.u.</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	<b>100</b>	98	102				
pH Measurement Temp	21.2			0		0	0				

Associated samples: **H23050437-018A**

Run ID :Run Order: <b>PHSC_101-H_230517A: 14</b>	SampType: <b>Sample Duplicate</b>				Lab ID: <b>H23050437-018ADUP</b>				Method: <b>A4500-H B</b>		
Analysis Date: <b>05/17/23 09:18</b>	Units: <b>s.u.</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	4.8	0.1		0				4.83	<b>0.2</b>	3	H
pH Measurement Temp	8.0			0				8			

Associated samples: **H23050437-018A**



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184586

**Date:** 31-May-23

Run ID :Run Order: <b>IC METROHM_230516A: 2</b>		SampType: <b>Method Blank</b>			Lab ID: <b>ICB</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/16/23 09:57</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.02									
Sulfate	ND	0.03									
Bromide	ND	0.001									
Fluoride	ND	0.01									

Associated samples: H23050437-001A, H23050437-002A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-009A, H23050437-010A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-018A, H23050437-021A

Run ID :Run Order: <b>IC METROHM_230516A: 3</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/16/23 10:12</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	101	1.0	100	0	<b>101</b>	90	110				
Sulfate	394	1.0	400	0	<b>98</b>	90	110				
Bromide	4.89	0.50	5	0	<b>98</b>	90	110				
Fluoride	5.28	0.10	5	0	<b>106</b>	90	110				

Associated samples: H23050437-001A, H23050437-002A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-009A, H23050437-010A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-018A, H23050437-021A

Run ID :Run Order: <b>IC METROHM_230516A: 4</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/16/23 10:26</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	24.6	1.0	25	0	<b>99</b>	90	110				
Sulfate	102	1.0	100	0	<b>102</b>	90	110				
Bromide	1.15	0.50	1.25	0	<b>92</b>	90	110				
Fluoride	1.28	0.10	1.25	0	<b>102</b>	90	110				

Associated samples: H23050437-001A, H23050437-002A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-009A, H23050437-010A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-018A, H23050437-021A

Run ID :Run Order: <b>IC METROHM_230516A: 52</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23050392-003AMS</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/16/23 22:55</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	156	1.0	125	30.7	<b>100</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184586

**Date:** 31-May-23

Run ID :Run Order: <b>IC METROHM_230516A: 52</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050392-003AMS</b>				Method: <b>E300.0</b>		
Analysis Date: <b>05/16/23 22:55</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	1650	1.0	500	1145	<b>101</b>	90	110				
Bromide	5.82	0.50	6.25	0.085	<b>92</b>	90	110				
Fluoride	6.92	0.10	6.25	0.445	<b>104</b>	90	110				

Associated samples: **H23050437-001A, H23050437-002A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-009A, H23050437-010A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-018A, H23050437-021A**

Run ID :Run Order: <b>IC METROHM_230516A: 53</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050392-003AMSD</b>				Method: <b>E300.0</b>		
Analysis Date: <b>05/16/23 23:09</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	156	1.0	125	30.7	<b>100</b>	90	110	156.1	<b>0.2</b>	20	
Sulfate	1650	1.0	500	1145	<b>101</b>	90	110	1648	<b>0</b>	20	
Bromide	5.83	0.50	6.25	0.085	<b>92</b>	90	110	5.821	<b>0.2</b>	20	
Fluoride	6.91	0.10	6.25	0.445	<b>103</b>	90	110	6.923	<b>0.2</b>	20	

Associated samples: **H23050437-001A, H23050437-002A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-009A, H23050437-010A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-018A, H23050437-021A**

Run ID :Run Order: <b>IC METROHM_230516A: 66</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050392-013AMS</b>				Method: <b>E300.0</b>		
Analysis Date: <b>05/17/23 02:30</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	117	1.0	50	66	<b>101</b>	90	110				
Sulfate	771	1.0	200	561.6	<b>104</b>	90	110				
Bromide	2.57	0.50	2.5	0.19	<b>95</b>	90	110				
Fluoride	3.08	0.10	2.5	0.394	<b>107</b>	90	110				

Associated samples: **H23050437-001A, H23050437-002A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-009A, H23050437-010A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-018A, H23050437-021A**

Run ID :Run Order: <b>IC METROHM_230516A: 67</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050392-013AMSD</b>				Method: <b>E300.0</b>		
Analysis Date: <b>05/17/23 02:44</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	116	1.0	50	66	<b>99</b>	90	110	116.5	<b>0.7</b>	20	
Sulfate	770	1.0	200	561.6	<b>104</b>	90	110	770.6	<b>0.1</b>	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: R184586

Date: 31-May-23

Run ID :Run Order: <b>IC METROHM_230516A: 67</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050392-013AMSD</b>				Method: <b>E300.0</b>		
Analysis Date: <b>05/17/23 02:44</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.55	0.50	2.5	0.19	<b>94</b>	90	110	2.574	<b>0.9</b>	20	
Fluoride	3.06	0.10	2.5	0.394	<b>107</b>	90	110	3.079	<b>0.7</b>	20	

Associated samples: H23050437-001A, H23050437-002A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-009A, H23050437-010A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-018A, H23050437-021A

Run ID :Run Order: <b>IC METROHM_230516A: 91</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>E300.0</b>		
Analysis Date: <b>05/17/23 08:45</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	50.9	1.0	50	0	<b>102</b>	90	110				
Sulfate	204	1.0	200	0	<b>102</b>	90	110				
Bromide	2.48	0.50	2.5	0	<b>99</b>	90	110				
Fluoride	2.55	0.10	2.5	0	<b>102</b>	90	110				

Associated samples: H23050437-001A, H23050437-002A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-009A, H23050437-010A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-018A, H23050437-021A

Run ID :Run Order: <b>IC METROHM_230516A: 94</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050431-001AMS</b>				Method: <b>E300.0</b>		
Analysis Date: <b>05/17/23 09:42</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	55.9	1.0	50	4.102	<b>104</b>	90	110				
Sulfate	267	1.0	200	63.63	<b>102</b>	90	110				
Bromide	2.50	0.50	2.5	0.086	<b>97</b>	90	110				
Fluoride	3.65	0.10	2.5	0.93	<b>109</b>	90	110				

Associated samples: H23050437-001A, H23050437-002A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-009A, H23050437-010A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-018A, H23050437-021A

Run ID :Run Order: <b>IC METROHM_230516A: 95</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050431-001AMSD</b>				Method: <b>E300.0</b>		
Analysis Date: <b>05/17/23 09:57</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	56.0	1.0	50	4.102	<b>104</b>	90	110	55.87	<b>0.3</b>	20	
Sulfate	271	1.0	200	63.63	<b>104</b>	90	110	267.3	<b>1.2</b>	20	
Bromide	2.50	0.50	2.5	0.086	<b>97</b>	90	110	2.5	<b>0.2</b>	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184586

**Date:** 31-May-23

Run ID :Run Order: <b>IC METROHM_230516A: 95</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050431-001AMSD</b>				Method: <b>E300.0</b>		
Analysis Date: <b>05/17/23 09:57</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
<b>Analytes 4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	3.66	0.10	2.5	0.93	109	90	110	3.651	0.1	20	

Associated samples: H23050437-001A, H23050437-002A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-009A, H23050437-010A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-018A, H23050437-021A

Run ID :Run Order: <b>IC METROHM_230516A: 105</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>E300.0</b>		
Analysis Date: <b>05/17/23 12:20</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
<b>Analytes 4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	51.2	1.0	50	0	102	90	110				
Sulfate	207	1.0	200	0	104	90	110				
Bromide	2.50	0.50	2.5	0	100	90	110				
Fluoride	2.58	0.10	2.5	0	103	90	110				

Associated samples: H23050437-001A, H23050437-002A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-009A, H23050437-010A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-018A, H23050437-021A

Run ID :Run Order: <b>IC METROHM_230516A: 109</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050437-010AMS</b>				Method: <b>E300.0</b>		
Analysis Date: <b>05/17/23 13:32</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
<b>Analytes 4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	127	1.0	50	75.29	103	90	110				
Sulfate	923	1.0	200	711.5	106	90	110				
Bromide	2.67	0.50	2.5	0.254	97	90	110				
Fluoride	2.76	0.10	2.5	0.188	103	90	110				

Associated samples: H23050437-001A, H23050437-002A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-009A, H23050437-010A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-018A, H23050437-021A

Run ID :Run Order: <b>IC METROHM_230516A: 110</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050437-010AMSD</b>				Method: <b>E300.0</b>		
Analysis Date: <b>05/17/23 13:47</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
<b>Analytes 4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	127	1.0	50	75.29	103	90	110	126.8	0.2	20	
Sulfate	923	1.0	200	711.5	106	90	110	922.8	0	20	
Bromide	2.68	0.50	2.5	0.254	97	90	110	2.671	0.2	20	
Fluoride	2.76	0.10	2.5	0.188	103	90	110	2.756	0.2	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184586

**Date:** 31-May-23

Run ID :Run Order: **IC METROHM\_230516A: 110**      SampType: **Sample Matrix Spike Duplicate**      Lab ID: **H23050437-010AMSD**      Method: **E300.0**  
 Analysis Date: **05/17/23 13:47**      Units: **mg/L**      Prep Info:    Prep Date:      Prep Method:  
 Analytes **4**      Result      PQL      SPK value    SPK Ref Val      %REC    LowLimit    HighLimit    RPD Ref Val      %RPD    RPDLimit    Qual

Associated samples: **H23050437-001A, H23050437-002A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-009A, H23050437-010A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-018A, H23050437-021A**

Run ID :Run Order: **IC METROHM\_230516A: 119**      SampType: **Continuing Calibration Verification Standard**      Lab ID: **CCV**      Method: **E300.0**  
 Analysis Date: **05/17/23 15:56**      Units: **mg/L**      Prep Info:    Prep Date:      Prep Method:  
 Analytes **4**      Result      PQL      SPK value    SPK Ref Val      %REC    LowLimit    HighLimit    RPD Ref Val      %RPD    RPDLimit    Qual

Analytes	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	51.3	1.0	50	0	103	90	110				
Sulfate	205	1.0	200	0	102	90	110				
Bromide	2.50	0.50	2.5	0	100	90	110				
Fluoride	2.66	0.10	2.5	0	106	90	110				

Associated samples: **H23050437-001A, H23050437-002A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-009A, H23050437-010A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-018A, H23050437-021A**

Run ID :Run Order: **IC METROHM\_230516A: 124**      SampType: **Sample Matrix Spike**      Lab ID: **H23050437-021AMS**      Method: **E300.0**  
 Analysis Date: **05/17/23 17:23**      Units: **mg/L**      Prep Info:    Prep Date:      Prep Method:  
 Analytes **4**      Result      PQL      SPK value    SPK Ref Val      %REC    LowLimit    HighLimit    RPD Ref Val      %RPD    RPDLimit    Qual

Analytes	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	147	1.0	125	18.7	102	90	110				
Sulfate	2130	1.0	500	1619	103	90	110				
Bromide	5.92	0.50	6.25	0.13	93	90	110				
Fluoride	8.12	0.10	6.25	1.445	107	90	110				

Associated samples: **H23050437-001A, H23050437-002A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-009A, H23050437-010A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-018A, H23050437-021A**

Run ID :Run Order: **IC METROHM\_230516A: 125**      SampType: **Sample Matrix Spike Duplicate**      Lab ID: **H23050437-021AMSD**      Method: **E300.0**  
 Analysis Date: **05/17/23 17:37**      Units: **mg/L**      Prep Info:    Prep Date:      Prep Method:  
 Analytes **4**      Result      PQL      SPK value    SPK Ref Val      %REC    LowLimit    HighLimit    RPD Ref Val      %RPD    RPDLimit    Qual

Analytes	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	149	1.0	125	18.7	104	90	110	146.7	1.7	20	
Sulfate	2140	1.0	500	1619	104	90	110	2131	0.5	20	
Bromide	6.06	0.50	6.25	0.13	95	90	110	5.922	2.3	20	
Fluoride	8.61	0.10	6.25	1.445	115	90	110	8.121	5.9	20	S

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184586

**Date:** 31-May-23

Run ID :Run Order: <b>IC METROHM_230516A: 125</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23050437-021AMSD</b>	Method: <b>E300.0</b>
Analysis Date: <b>05/17/23 17:37</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>4</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
	HighLimit	RPD Ref Val	%RPD
	RPDLimit	Qual	

Associated samples: H23050437-001A, H23050437-002A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-009A, H23050437-010A, H23050437-012A, H23050437-013A, H23050437-014A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-018A, H23050437-021A





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: R184592

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230516C: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 05/16/23 15:19	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.280	0.10	0.3	0	93	90	110				
Antimony	0.0563	0.050	0.06	0	94	90	110				
Arsenic	0.0566	0.0050	0.06	0	94	90	110				
Barium	0.0558	0.10	0.06	0	93	90	110				
Beryllium	0.0271	0.0010	0.03	0	90	90	110				
Cadmium	0.0288	0.0010	0.03	0	96	90	110				
Chromium	0.0566	0.010	0.06	0	94	90	110				
Cobalt	0.0566	0.010	0.06	0	94	90	110				
Copper	0.0577	0.010	0.06	0	96	90	110				
Iron	0.286	0.020	0.3	0	95	90	110				
Lead	0.0564	0.010	0.06	0	94	90	110				
Manganese	0.282	0.010	0.3	0	94	90	110				
Molybdenum	0.0560	0.0050	0.06	0	93	90	110				
Nickel	0.0572	0.010	0.06	0	95	90	110				
Selenium	0.0542	0.0050	0.06	0	90	90	110				
Silver	0.0285	0.0050	0.03	0	95	90	110				
Sodium	2.83	0.50	3	0	94	90	110				
Strontium	0.0571	0.10	0.06	0	95	90	110				
Thallium	0.0564	0.10	0.06	0	94	90	110				
Thorium	0.0602	0.0010	0.06	0	100	90	110				
Tin	0.0583	0.10	0.06	0	97	90	110				
Titanium	0.0567	0.010	0.06	0	95	90	110				
Uranium	0.0570	0.00030	0.06	0	95	90	110				
Vanadium	0.0560	0.10	0.06	0	93	90	110				
Zinc	0.0584	0.010	0.06	0	97	90	110				

Associated samples: H23050437-001B, H23050437-002B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICPMS205-H_230516C: 22	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 05/16/23 15:48	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184592

**Date:** 31-May-23

Run ID :Run Order: ICPMS205-H_230516C: 22	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 05/16/23 15:48	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.0002									
Arsenic	ND	0.0002									
Barium	ND	0.0002									
Beryllium	ND	0.0002									
Cadmium	ND	0.00002									
Chromium	ND	0.0001									
Cobalt	ND	0.001									
Copper	ND	0.0001									
Iron	ND	0.004									
Lead	ND	0.0001									
Manganese	ND	0.0003									
Molybdenum	ND	0.0003									
Nickel	ND	0.0002									
Selenium	ND	0.00007									
Silver	ND	0.00008									
Sodium	ND	0.04									
Strontium	ND	0.0001									
Thallium	ND	0.00008									
Thorium	ND	0.0002									
Tin	ND	0.0002									
Titanium	ND	0.0005									
Uranium	ND	0.00002									
Vanadium	ND	0.0001									
Zinc	ND	0.001									

Associated samples: H23050437-001B, H23050437-002B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICPMS205-H_230516C: 23	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.8		
Analysis Date: 05/16/23 15:51	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0501	0.10	0.05	0	100	85	115				
Antimony	0.0447	0.050	0.05	0	89	85	115				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: R184592

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230516C: 23	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.8		
Analysis Date: 05/16/23 15:51	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0497	0.0050	0.05	0	99	85	115				
Barium	0.0480	0.10	0.05	0	96	85	115				
Beryllium	0.0480	0.0010	0.05	0	96	85	115				
Cadmium	0.0491	0.0010	0.05	0	98	85	115				
Chromium	0.0489	0.010	0.05	0	98	85	115				
Cobalt	0.0496	0.010	0.05	0	99	85	115				
Copper	0.0496	0.010	0.05	0	99	85	115				
Iron	0.150	0.020	0.15	0	100	85	115				
Lead	0.0484	0.010	0.05	0	97	85	115				
Manganese	0.0497	0.010	0.05	0	99	85	115				
Molybdenum	0.0483	0.0050	0.05	0	97	85	115				
Nickel	0.0500	0.010	0.05	0	100	85	115				
Selenium	0.0492	0.0050	0.05	0	98	85	115				
Silver	0.0197	0.0050	0.02	0	98	85	115				
Sodium	0.966	0.50	1	0	97	85	115				
Strontium	0.0502	0.10	0.05	0	100	85	115				
Thallium	0.0491	0.10	0.05	0	98	85	115				
Thorium	0.0436	0.0010	0.05	0	87	85	115				
Tin	0.0466	0.10	0.05	0	93	85	115				
Titanium	0.0462	0.010	0.05	0	92	85	115				
Uranium	0.0476	0.00030	0.05	0	95	85	115				
Vanadium	0.0483	0.10	0.05	0	97	85	115				
Zinc	0.0514	0.010	0.05	0	103	85	115				

Associated samples: H23050437-001B, H23050437-002B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICPMS205-H_230516C: 111	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/16/23 21:20	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0479	0.10	0.05	0	96	90	110				
Antimony	0.0488	0.050	0.05	0	98	90	110				
Arsenic	0.0491	0.0050	0.05	0	98	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184592

**Date:** 31-May-23

Run ID :Run Order: ICPMS205-H_230516C: 111	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/16/23 21:20	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.0488	0.10	0.05	0	97	90	110				
Beryllium	0.0478	0.0010	0.05	0	96	90	110				
Cadmium	0.0494	0.0010	0.05	0	99	90	110				
Chromium	0.0493	0.010	0.05	0	99	90	110				
Cobalt	0.0492	0.010	0.05	0	98	90	110				
Copper	0.0491	0.010	0.05	0	98	90	110				
Iron	1.29	0.020	1.3	0	99	90	110				
Lead	0.0491	0.010	0.05	0	98	90	110				
Manganese	0.0498	0.010	0.05	0	100	90	110				
Molybdenum	0.0486	0.0050	0.05	0	97	90	110				
Nickel	0.0494	0.010	0.05	0	99	90	110				
Selenium	0.0477	0.0050	0.05	0	95	90	110				
Silver	0.0196	0.0050	0.02	0	98	90	110				
Sodium	12.3	0.50	12.5	0	98	90	110				
Strontium	0.0495	0.10	0.05	0	99	90	110				
Thallium	0.0487	0.10	0.05	0	97	90	110				
Tin	0.0483	0.10	0.05	0	97	90	110				
Titanium	0.0503	0.010	0.05	0	101	90	110				
Uranium	0.0488	0.00030	0.05	0	98	90	110				
Vanadium	0.0493	0.10	0.05	0	99	90	110				
Zinc	0.0506	0.010	0.05	0	101	90	110				

Associated samples: H23050437-001B, H23050437-002B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICPMS205-H_230516C: 119	SampType: Sample Matrix Spike				Lab ID: H23050392-007BMS				Method: E200.8		
Analysis Date: 05/16/23 21:44	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>25</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0569	0.030	0.05	0	114	70	130				
Antimony	0.0460	0.0010	0.05	0.0006107	91	70	130				
Arsenic	0.0544	0.0010	0.05	0.004866	99	70	130				
Barium	0.0897	0.050	0.05	0.04118	97	70	130				
Beryllium	0.0545	0.0010	0.05	0	109	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: R184592

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230516C: 119	SampType: Sample Matrix Spike				Lab ID: H23050392-007BMS				Method: E200.8		
Analysis Date: 05/16/23 21:44	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0535	0.0010	0.05	0.006045	95	70	130				
Chromium	0.0482	0.0050	0.05	0.0002739	96	70	130				
Cobalt	0.0474	0.0050	0.05	0	95	70	130				
Copper	0.0582	0.0050	0.05	0.01125	94	70	130				
Iron	0.158	0.020	0.15	0.01265	97	70	130				
Lead	0.0524	0.0010	0.05	0	105	70	130				
Manganese	0.595	0.0010	0.05	0.557		70	130				A
Molybdenum	0.0715	0.0010	0.05	0.02402	95	70	130				
Nickel	0.0492	0.0050	0.05	0.002574	93	70	130				
Selenium	0.0532	0.0010	0.05	0.001339	104	70	130				
Silver	0.0130	0.0010	0.02	0	65	70	130				S
Sodium	92.2	1.0	1	88.38		70	130				A
Strontium	0.793	0.010	0.05	0.7556		70	130				A
Thallium	0.0535	0.00050	0.05	0	107	70	130				
Thorium	0.0473	0.0050	0.05	0	95	70	130				
Tin	0.0452	0.050	0.05	0	90	70	130				
Titanium	0.0503	0.0050	0.05	0	101	70	130				
Uranium	0.0782	0.00030	0.05	0.02467	107	70	130				
Vanadium	0.0521	0.010	0.05	0.004318	96	70	130				
Zinc	2.43	0.010	0.05	2.401		70	130				A

Associated samples: H23050437-001B, H23050437-002B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICPMS205-H_230516C: 120	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050392-007BMSD				Method: E200.8		
Analysis Date: 05/16/23 21:47	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0474	0.030	0.05	0	95	70	130	0.05688	18	20	
Antimony	0.0459	0.0010	0.05	0.0006107	90	70	130	0.04596	0.2	20	
Arsenic	0.0536	0.0010	0.05	0.004866	97	70	130	0.05444	1.5	20	
Barium	0.0895	0.050	0.05	0.04118	97	70	130	0.08974	0.3	20	
Beryllium	0.0533	0.0010	0.05	0	107	70	130	0.05446	2.2	20	
Cadmium	0.0536	0.0010	0.05	0.006045	95	70	130	0.05348	0.1	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: R184592

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230516C: 120	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050392-007BMSD				Method: E200.8		
Analysis Date: 05/16/23 21:47	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.0478	0.0050	0.05	0.0002739	95	70	130	0.0482	0.8	20	
Cobalt	0.0474	0.0050	0.05	0	95	70	130	0.04737	0.2	20	
Copper	0.0571	0.0050	0.05	0.01125	92	70	130	0.05815	1.9	20	
Iron	0.156	0.020	0.15	0.01265	96	70	130	0.1575	0.6	20	
Lead	0.0503	0.0010	0.05	0	101	70	130	0.05242	4.1	20	
Manganese	0.590	0.0010	0.05	0.557		70	130	0.5954	0.8	20	A
Molybdenum	0.0720	0.0010	0.05	0.02402	96	70	130	0.07154	0.6	20	
Nickel	0.0490	0.0050	0.05	0.002574	93	70	130	0.04925	0.4	20	
Selenium	0.0492	0.0010	0.05	0.001339	96	70	130	0.05324	7.8	20	
Silver	0.0133	0.0010	0.02	0	67	70	130	0.01295	2.8	20	S
Sodium	85.2	1.0	1	88.38		70	130	92.21	7.9	20	A
Strontium	0.786	0.010	0.05	0.7556		70	130	0.793	0.9	20	A
Thallium	0.0510	0.00050	0.05	0	102	70	130	0.05352	4.7	20	
Thorium	0.0463	0.0050	0.05	0	93	70	130	0.04731	2.1	20	
Tin	0.0457	0.050	0.05	0	91	70	130	0.04524		20	
Titanium	0.0480	0.0050	0.05	0	96	70	130	0.05032	4.8	20	
Uranium	0.0750	0.00030	0.05	0.02467	101	70	130	0.07817	4.1	20	
Vanadium	0.0517	0.010	0.05	0.004318	95	70	130	0.05212	0.8	20	
Zinc	2.39	0.010	0.05	2.401		70	130	2.429	1.5	20	A

Associated samples: H23050437-001B, H23050437-002B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICPMS205-H_230516C: 121	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/16/23 21:50	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0514	0.10	0.05	0	103	90	110				
Antimony	0.0490	0.050	0.05	0	98	90	110				
Arsenic	0.0486	0.0050	0.05	0	97	90	110				
Barium	0.0486	0.10	0.05	0	97	90	110				
Beryllium	0.0494	0.0010	0.05	0	99	90	110				
Cadmium	0.0497	0.0010	0.05	0	99	90	110				
Chromium	0.0490	0.010	0.05	0	98	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184592

**Date:** 31-May-23

Run ID :Run Order: ICPMS205-H_230516C: 121	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/16/23 21:50	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>25</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	0.0484	0.010	0.05	0	97	90	110				
Copper	0.0482	0.010	0.05	0	96	90	110				
Iron	1.27	0.020	1.3	0	98	90	110				
Lead	0.0494	0.010	0.05	0	99	90	110				
Manganese	0.0498	0.010	0.05	0	99	90	110				
Molybdenum	0.0494	0.0050	0.05	0	99	90	110				
Nickel	0.0488	0.010	0.05	0	98	90	110				
Selenium	0.0485	0.0050	0.05	0	97	90	110				
Silver	0.0196	0.0050	0.02	0	98	90	110				
Sodium	12.4	0.50	12.5	0	99	90	110				
Strontium	0.0502	0.10	0.05	0	100	90	110				
Thallium	0.0494	0.10	0.05	0	99	90	110				
Thorium	0.0489	0.0010	0.05	0	98	90	110				
Tin	0.0498	0.10	0.05	0	100	90	110				
Titanium	0.0452	0.010	0.05	0	90	90	110				
Uranium	0.0496	0.00030	0.05	0	99	90	110				
Vanadium	0.0479	0.10	0.05	0	96	90	110				
Zinc	0.0498	0.010	0.05	0	100	90	110				

Associated samples: H23050437-001B, H23050437-002B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICPMS205-H_230516C: 129	SampType: Sample Matrix Spike				Lab ID: H23050437-001BMS				Method: E200.8		
Analysis Date: 05/16/23 22:13	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>25</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0496	0.030	0.05	0	99	70	130				
Antimony	0.0453	0.0010	0.05	0	91	70	130				
Arsenic	0.0541	0.0010	0.05	0.004222	100	70	130				
Barium	0.0783	0.050	0.05	0.02966	97	70	130				
Beryllium	0.0522	0.0010	0.05	0	104	70	130				
Cadmium	0.0497	0.0010	0.05	0.0003974	99	70	130				
Chromium	0.0476	0.0050	0.05	0.0006463	94	70	130				
Cobalt	0.0483	0.0050	0.05	0	97	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184592

**Date:** 31-May-23

Run ID :Run Order: ICPMS205-H_230516C: 129	SampType: Sample Matrix Spike				Lab ID: H23050437-001BMS				Method: E200.8		
Analysis Date: 05/16/23 22:13	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>25</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0498	0.0050	0.05	0.001706	96	70	130				
Iron	0.151	0.020	0.15	0	101	70	130				
Lead	0.0494	0.0010	0.05	0	99	70	130				
Manganese	0.0489	0.0010	0.05	0	98	70	130				
Molybdenum	0.0657	0.0010	0.05	0.0186	94	70	130				
Nickel	0.0484	0.0050	0.05	0	97	70	130				
Selenium	0.0508	0.0010	0.05	0.0002728	101	70	130				
Silver	0.0192	0.0010	0.02	0	96	70	130				
Sodium	22.4	1.0	1	22.49		70	130				A
Strontium	0.235	0.010	0.05	0.1838	102	70	130				
Thallium	0.0501	0.00050	0.05	0	100	70	130				
Thorium	0.0472	0.0050	0.05	0	94	70	130				
Tin	0.0460	0.050	0.05	0	92	70	130				
Titanium	0.0471	0.0050	0.05	0	94	70	130				
Uranium	0.0527	0.00030	0.05	0.003664	98	70	130				
Vanadium	0.0536	0.010	0.05	0.005978	95	70	130				
Zinc	0.100	0.010	0.05	0.04807	104	70	130				

Associated samples: H23050437-001B, H23050437-002B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICPMS205-H_230516C: 130	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050437-001BMSD				Method: E200.8		
Analysis Date: 05/16/23 22:16	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>25</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0545	0.030	0.05	0	109	70	130	0.04958	9.4	20	
Antimony	0.0454	0.0010	0.05	0	91	70	130	0.04531	0.1	20	
Arsenic	0.0549	0.0010	0.05	0.004222	101	70	130	0.05408	1.5	20	
Barium	0.0783	0.050	0.05	0.02966	97	70	130	0.07831	0	20	
Beryllium	0.0525	0.0010	0.05	0	105	70	130	0.05216	0.6	20	
Cadmium	0.0494	0.0010	0.05	0.0003974	98	70	130	0.0497	0.5	20	
Chromium	0.0496	0.0050	0.05	0.0006463	98	70	130	0.04761	4.1	20	
Cobalt	0.0488	0.0050	0.05	0	98	70	130	0.04827	1.1	20	
Copper	0.0510	0.0050	0.05	0.001706	99	70	130	0.04981	2.3	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: R184592

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230516C: 130	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050437-001BMSD				Method: E200.8		
Analysis Date: 05/16/23 22:16	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.149	0.020	0.15	0	100	70	130	0.1508	0.9	20	
Lead	0.0499	0.0010	0.05	0	100	70	130	0.04942	1.0	20	
Manganese	0.0506	0.0010	0.05	0	101	70	130	0.04894	3.3	20	
Molybdenum	0.0659	0.0010	0.05	0.0186	95	70	130	0.06568	0.3	20	
Nickel	0.0484	0.0050	0.05	0	97	70	130	0.04839	0.1	20	
Selenium	0.0505	0.0010	0.05	0.0002728	100	70	130	0.05081	0.6	20	
Silver	0.0192	0.0010	0.02	0	96	70	130	0.01921	0.1	20	
Sodium	22.5	1.0	1	22.49		70	130	22.4	0.3	20	A
Strontium	0.239	0.010	0.05	0.1838	111	70	130	0.2349	1.9	20	
Thallium	0.0504	0.00050	0.05	0	101	70	130	0.05009	0.6	20	
Thorium	0.0473	0.0050	0.05	0	95	70	130	0.04725	0.1	20	
Tin	0.0464	0.050	0.05	0	93	70	130	0.04599		20	
Titanium	0.0496	0.0050	0.05	0	99	70	130	0.04709	5.1	20	
Uranium	0.0529	0.00030	0.05	0.003664	98	70	130	0.05269	0.4	20	
Vanadium	0.0545	0.010	0.05	0.005978	97	70	130	0.05357	1.8	20	
Zinc	0.101	0.010	0.05	0.04807	105	70	130	0.1003	0.3	20	

Associated samples: H23050437-001B, H23050437-002B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICPMS205-H_230516C: 131	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/16/23 22:19	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0514	0.050	0.05	0	103	90	110				
Arsenic	0.0499	0.0050	0.05	0	100	90	110				
Barium	0.0507	0.10	0.05	0	101	90	110				
Beryllium	0.0452	0.0010	0.05	0	90	90	110				
Cadmium	0.0509	0.0010	0.05	0	102	90	110				
Chromium	0.0494	0.010	0.05	0	99	90	110				
Cobalt	0.0493	0.010	0.05	0	99	90	110				
Copper	0.0492	0.010	0.05	0	98	90	110				
Iron	1.29	0.020	1.3	0	99	90	110				
Lead	0.0518	0.010	0.05	0	104	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: R184592

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230516C: 131	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/16/23 22:19	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.0505	0.010	0.05	0	101	90	110				
Molybdenum	0.0509	0.0050	0.05	0	102	90	110				
Nickel	0.0492	0.010	0.05	0	98	90	110				
Selenium	0.0461	0.0050	0.05	0	92	90	110				
Silver	0.0201	0.0050	0.02	0	101	90	110				
Sodium	13.3	0.50	12.5	0	106	90	110				
Strontium	0.0512	0.10	0.05	0	102	90	110				
Thallium	0.0518	0.10	0.05	0	104	90	110				
Thorium	0.0520	0.0010	0.05	0	104	90	110				
Tin	0.0515	0.10	0.05	0	103	90	110				
Titanium	0.0496	0.010	0.05	0	99	90	110				
Uranium	0.0519	0.00030	0.05	0	104	90	110				
Vanadium	0.0490	0.10	0.05	0	98	90	110				
Zinc	0.0506	0.010	0.05	0	101	90	110				

Associated samples: H23050437-001B, H23050437-002B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICPMS205-H_230516C: 146	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/16/23 23:03	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0491	0.10	0.05	0	98	90	110				
Antimony	0.0486	0.050	0.05	0	97	90	110				
Arsenic	0.0490	0.0050	0.05	0	98	90	110				
Barium	0.0496	0.10	0.05	0	99	90	110				
Beryllium	0.0478	0.0010	0.05	0	96	90	110				
Cadmium	0.0500	0.0010	0.05	0	100	90	110				
Chromium	0.0495	0.010	0.05	0	99	90	110				
Cobalt	0.0495	0.010	0.05	0	99	90	110				
Copper	0.0502	0.010	0.05	0	100	90	110				
Iron	1.30	0.020	1.3	0	100	90	110				
Lead	0.0497	0.010	0.05	0	99	90	110				
Molybdenum	0.0496	0.0050	0.05	0	99	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
 Page 110 of 161



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: R184592

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230516C: 146		SampType: Continuing Calibration Verification Standard			Lab ID: CCV			Method: E200.8			
Analysis Date: 05/16/23 23:03		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	0.0496	0.010	0.05	0	99	90	110				
Selenium	0.0499	0.0050	0.05	0	100	90	110				
Silver	0.0199	0.0050	0.02	0	100	90	110				
Sodium	12.5	0.50	12.5	0	100	90	110				
Strontium	0.0511	0.10	0.05	0	102	90	110				
Thallium	0.0499	0.10	0.05	0	100	90	110				
Thorium	0.0485	0.0010	0.05	0	97	90	110				
Tin	0.0492	0.10	0.05	0	98	90	110				
Titanium	0.0526	0.010	0.05	0	105	90	110				
Uranium	0.0500	0.00030	0.05	0	100	90	110				
Vanadium	0.0484	0.10	0.05	0	97	90	110				

Associated samples: H23050437-001B, H23050437-002B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICPMS205-H_230516C: 155		SampType: Sample Matrix Spike			Lab ID: H23050437-021BMS			Method: E200.8			
Analysis Date: 05/16/23 23:30		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.402	0.030	0.05	0.3484		70	130				A
Antimony	0.0442	0.0010	0.05	0	88	70	130				
Arsenic	0.0510	0.0010	0.05	0.0004837	101	70	130				
Barium	0.0558	0.050	0.05	0.006942	98	70	130				
Beryllium	0.0514	0.0010	0.05	0.0006241	102	70	130				
Cadmium	0.144	0.0010	0.05	0.09659	95	70	130				
Chromium	0.0489	0.0050	0.05	0	98	70	130				
Cobalt	0.373	0.0050	0.05	0.3256		70	130				A
Copper	0.202	0.0050	0.05	0.1551	94	70	130				
Iron	88.7	0.020	0.15	89.19		70	130				AE
Lead	0.0513	0.0010	0.05	0.0009845	101	70	130				
Manganese	89.4	0.0010	0.05	90.25		70	130				AE
Molybdenum	0.0512	0.0010	0.05	0.001274	100	70	130				
Nickel	0.240	0.0050	0.05	0.1919	95	70	130				
Selenium	0.0596	0.0010	0.05	0.0001041	119	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: R184592

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230516C: 155	SampType: Sample Matrix Spike				Lab ID: H23050437-021BMS				Method: E200.8		
Analysis Date: 05/16/23 23:30	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0192	0.0010	0.02	0	96	70	130				
Sodium	38.3	1.0	1	36.68		70	130				A
Strontium	2.10	0.010	0.05	2.044		70	130				A
Thallium	0.0526	0.00050	0.05	0.0005993	104	70	130				
Thorium	0.0587	0.0050	0.05	0	117	70	130				
Tin	0.0484	0.050	0.05	0	97	70	130				
Titanium	0.0455	0.0050	0.05	0	91	70	130				
Uranium	0.0528	0.00030	0.05	0.001044	104	70	130				
Vanadium	0.0489	0.010	0.05	0	98	70	130				
Zinc	35.8	0.010	0.05	35.86		70	130				AE

Associated samples: H23050437-001B, H23050437-002B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICPMS205-H_230516C: 156	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050437-021BMSD				Method: E200.8		
Analysis Date: 05/16/23 23:33	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.414	0.030	0.05	0.3484		70	130	0.4015	3.1	20	A
Antimony	0.0446	0.0010	0.05	0	89	70	130	0.04416	1.1	20	
Arsenic	0.0505	0.0010	0.05	0.0004837	100	70	130	0.05098	1.0	20	
Barium	0.0566	0.050	0.05	0.006942	99	70	130	0.05575	1.5	20	
Beryllium	0.0454	0.0010	0.05	0.0006241	89	70	130	0.05142	13	20	
Cadmium	0.143	0.0010	0.05	0.09659	93	70	130	0.144	0.6	20	
Chromium	0.0488	0.0050	0.05	0	98	70	130	0.04886	0.1	20	
Cobalt	0.376	0.0050	0.05	0.3256		70	130	0.3732	0.7	20	A
Copper	0.203	0.0050	0.05	0.1551	96	70	130	0.2019	0.6	20	
Iron	89.2	0.020	0.15	89.19		70	130	88.72	0.5	20	AE
Lead	0.0513	0.0010	0.05	0.0009845	101	70	130	0.05132	0.1	20	
Manganese	89.4	0.0010	0.05	90.25		70	130	89.36	0.0	20	AE
Molybdenum	0.0516	0.0010	0.05	0.001274	101	70	130	0.05115	0.8	20	
Nickel	0.240	0.0050	0.05	0.1919	97	70	130	0.2395	0.4	20	
Selenium	0.0479	0.0010	0.05	0.0001041	96	70	130	0.05964	22	20	R
Silver	0.0193	0.0010	0.02	0	97	70	130	0.0192	0.6	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: R184592

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230516C: 156	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050437-021BMSD				Method: E200.8		
Analysis Date: 05/16/23 23:33	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>25</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	38.4	1.0	1	36.68		70	130	38.34	0.3	20	A
Strontium	2.09	0.010	0.05	2.044		70	130	2.098	0.5	20	A
Thallium	0.0521	0.00050	0.05	0.0005993	103	70	130	0.05255	0.9	20	
Thorium	0.0587	0.0050	0.05	0	117	70	130	0.05868	0	20	
Tin	0.0488	0.050	0.05	0	97	70	130	0.04835		20	
Titanium	0.0507	0.0050	0.05	0	101	70	130	0.04546	11	20	
Uranium	0.0526	0.00030	0.05	0.001044	103	70	130	0.05285	0.5	20	
Vanadium	0.0492	0.010	0.05	0	98	70	130	0.04887	0.7	20	
Zinc	35.8	0.010	0.05	35.86		70	130	35.82	0.1	20	AE

Associated samples: H23050437-001B, H23050437-002B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICPMS205-H_230516C: 157	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/16/23 23:36	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>23</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0468	0.10	0.05	0	94	90	110				
Antimony	0.0490	0.050	0.05	0	98	90	110				
Arsenic	0.0481	0.0050	0.05	0	96	90	110				
Barium	0.0490	0.10	0.05	0	98	90	110				
Beryllium	0.0479	0.0010	0.05	0	96	90	110				
Cadmium	0.0501	0.0010	0.05	0	100	90	110				
Chromium	0.0489	0.010	0.05	0	98	90	110				
Cobalt	0.0492	0.010	0.05	0	98	90	110				
Copper	0.0504	0.010	0.05	0	101	90	110				
Iron	1.30	0.020	1.3	0	100	90	110				
Lead	0.0500	0.010	0.05	0	100	90	110				
Molybdenum	0.0510	0.0050	0.05	0	102	90	110				
Nickel	0.0499	0.010	0.05	0	100	90	110				
Selenium	0.0508	0.0050	0.05	0	102	90	110				
Silver	0.0205	0.0050	0.02	0	102	90	110				
Sodium	13.0	0.50	12.5	0	104	90	110				
Strontium	0.0495	0.10	0.05	0	99	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184592

**Date:** 31-May-23

Run ID :Run Order: ICPMS205-H_230516C: 157	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/16/23 23:36	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	0.0501	0.10	0.05	0	100	90	110				
Thorium	0.0512	0.0010	0.05	0	102	90	110				
Tin	0.0511	0.10	0.05	0	102	90	110				
Titanium	0.0482	0.010	0.05	0	96	90	110				
Uranium	0.0496	0.00030	0.05	0	99	90	110				
Vanadium	0.0485	0.10	0.05	0	97	90	110				

Associated samples: H23050437-001B, H23050437-002B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICPMS205-H_230516C: 165	SampType: Sample Matrix Spike				Lab ID: H23050437-011BMS				Method: E200.8		
Analysis Date: 05/16/23 23:59	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9.43	0.030	0.05	9.537		70	130				AE
Antimony	0.0439	0.0010	0.05	0	88	70	130				
Arsenic	0.0505	0.0010	0.05	0.001678	98	70	130				
Barium	0.0591	0.050	0.05	0.0106	97	70	130				
Beryllium	0.0561	0.0010	0.05	0.009524	93	70	130				
Cadmium	1.18	0.0010	0.05	1.142		70	130				A
Chromium	0.0481	0.0050	0.05	0	96	70	130				
Cobalt	0.366	0.0050	0.05	0.3237		70	130				A
Copper	81.2	0.0050	0.05	82.68		70	130				AE
Iron	0.412	0.020	0.15	0.2777	89	70	130				
Lead	0.0562	0.0010	0.05	0.005233	102	70	130				
Manganese	260	0.0010	0.05	265.4		70	130				AE
Molybdenum	0.0499	0.0010	0.05	0	100	70	130				
Nickel	0.567	0.0050	0.05	0.533		70	130				A
Selenium	0.0492	0.0010	0.05	0.0008346	97	70	130				
Silver	0.0283	0.0010	0.02	0.009696	93	70	130				
Sodium	71.4	1.0	1	71.7		70	130				A
Strontium	4.26	0.010	0.05	4.337		70	130				A
Thallium	0.0530	0.00050	0.05	0.0001736	106	70	130				
Thorium	0.0521	0.0050	0.05	0	104	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: R184592

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230516C: 165	SampType: Sample Matrix Spike				Lab ID: H23050437-011BMS				Method: E200.8		
Analysis Date: 05/16/23 23:59	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tin	0.0455	0.050	0.05	0	91	70	130				
Titanium	0.0475	0.0050	0.05	0	95	70	130				
Uranium	0.0854	0.00030	0.05	0.03325	104	70	130				
Vanadium	0.0486	0.010	0.05	0	97	70	130				
Zinc	176	0.010	0.05	179.9		70	130				AE

Associated samples: H23050437-001B, H23050437-002B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICPMS205-H_230516C: 167	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050437-011BMSD				Method: E200.8		
Analysis Date: 05/17/23 00:05	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9.51	0.030	0.05	9.537		70	130	9.434	0.8	20	AE
Antimony	0.0442	0.0010	0.05	0	88	70	130	0.04393	0.6	20	
Arsenic	0.0510	0.0010	0.05	0.001678	99	70	130	0.05047	1.0	20	
Barium	0.0590	0.050	0.05	0.0106	97	70	130	0.05913	0.2	20	
Beryllium	0.0570	0.0010	0.05	0.009524	95	70	130	0.05611	1.7	20	
Cadmium	1.17	0.0010	0.05	1.142		70	130	1.178	0.5	20	A
Chromium	0.0486	0.0050	0.05	0	97	70	130	0.04806	1.2	20	
Cobalt	0.368	0.0050	0.05	0.3237		70	130	0.3658	0.7	20	A
Copper	82.0	0.0050	0.05	82.68		70	130	81.23	0.9	20	AE
Iron	0.406	0.020	0.15	0.2777	86	70	130	0.4119	1.3	20	
Lead	0.0564	0.0010	0.05	0.005233	102	70	130	0.05621	0.4	20	
Manganese	261	0.0010	0.05	265.4		70	130	259.6	0.7	20	AE
Molybdenum	0.0500	0.0010	0.05	0	100	70	130	0.04993	0.1	20	
Nickel	0.574	0.0050	0.05	0.533		70	130	0.5669	1.2	20	A
Selenium	0.0497	0.0010	0.05	0.0008346	98	70	130	0.04917	1.0	20	
Silver	0.0284	0.0010	0.02	0.009696	93	70	130	0.02834	0.2	20	
Sodium	72.1	1.0	1	71.7		70	130	71.4	0.9	20	A
Strontium	4.27	0.010	0.05	4.337		70	130	4.265	0	20	A
Thallium	0.0529	0.00050	0.05	0.0001736	105	70	130	0.05297	0.2	20	
Thorium	0.0526	0.0050	0.05	0	105	70	130	0.0521	0.9	20	
Tin	0.0454	0.050	0.05	0	91	70	130	0.0455		20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184592

**Date:** 31-May-23

Run ID :Run Order: ICPMS205-H_230516C: 167	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050437-011BMSD				Method: E200.8		
Analysis Date: 05/17/23 00:05	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Titanium	0.0478	0.0050	0.05	0	96	70	130	0.0475	0.7	20	
Uranium	0.0852	0.00030	0.05	0.03325	104	70	130	0.0854	0.2	20	
Vanadium	0.0489	0.010	0.05	0	98	70	130	0.04864	0.6	20	
Zinc	176	0.010	0.05	179.9		70	130	176	0.1	20	AE

Associated samples: H23050437-001B, H23050437-002B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184601

**Date:** 31-May-23

Run ID :Run Order: <b>ICP2-HE_230516A: 7</b>		SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>			Method: <b>E200.7</b>		
Analysis Date: <b>05/16/23 11:50</b>		Units: <b>mg/L</b>		Prep Info:			Prep Date:		Prep Method:		
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	40.5	1.0	40	0	<b>101</b>	95	105				
Manganese	3.96	0.010	4	0	<b>99</b>	95	105				
Zinc	0.781	0.010	0.8	0	<b>98</b>	95	105				

Associated samples: **H23050437-003B, H23050437-011B, H23050437-016B, H23050437-022B**

Run ID :Run Order: <b>ICP2-HE_230516A: 8</b>		SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV-1</b>			Method: <b>E200.7</b>		
Analysis Date: <b>05/16/23 11:53</b>		Units: <b>mg/L</b>		Prep Info:			Prep Date:		Prep Method:		
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	26.4	1.0	25	0	<b>105</b>	95	105				
Manganese	2.51	0.010	2.5	0	<b>100</b>	95	105				
Zinc	2.57	0.010	2.5	0	<b>103</b>	95	105				

Associated samples: **H23050437-003B, H23050437-011B, H23050437-016B, H23050437-022B**

Run ID :Run Order: <b>ICP2-HE_230516A: 14</b>		SampType: <b>Method Blank</b>				Lab ID: <b>MB</b>			Method: <b>E200.7</b>		
Analysis Date: <b>05/16/23 12:26</b>		Units: <b>mg/L</b>		Prep Info:			Prep Date:		Prep Method:		
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.2									
Manganese	ND	0.001									
Zinc	ND	0.003									

Associated samples: **H23050437-003B, H23050437-011B, H23050437-016B, H23050437-022B**

Run ID :Run Order: <b>ICP2-HE_230516A: 15</b>		SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>			Method: <b>E200.7</b>		
Analysis Date: <b>05/16/23 12:30</b>		Units: <b>mg/L</b>		Prep Info:			Prep Date:		Prep Method:		
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	51.5	1.0	50	0	<b>103</b>	85	115				
Manganese	5.03	0.010	5	0	<b>101</b>	85	115				
Zinc	0.971	0.010	1	0	<b>97</b>	85	115				

Associated samples: **H23050437-003B, H23050437-011B, H23050437-016B, H23050437-022B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184601

**Date:** 31-May-23

Run ID :Run Order: <b>ICP2-HE_230516A: 20</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>E200.7</b>		
Analysis Date: <b>05/16/23 12:48</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	26.0	1.0	25	0	<b>104</b>	90	110				
Manganese	2.52	0.010	2.5	0	<b>101</b>	90	110				
Zinc	2.69	0.010	2.5	0	<b>108</b>	90	110				

Associated samples: **H23050437-003B, H23050437-011B, H23050437-016B, H23050437-022B**

Run ID :Run Order: <b>ICP2-HE_230516A: 24</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050437-002BMS2</b>				Method: <b>E200.7</b>		
Analysis Date: <b>05/16/23 13:03</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	362	1.0	100	270.3	<b>92</b>	70	130				
Manganese	75.1	0.0027	10	66.78		70	130				A
Zinc	31.6	0.010	2	32.31		70	130				A

Associated samples: **H23050437-003B, H23050437-011B, H23050437-016B, H23050437-022B**

Run ID :Run Order: <b>ICP2-HE_230516A: 25</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050437-002BMSD2</b>				Method: <b>E200.7</b>		
Analysis Date: <b>05/16/23 13:07</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	379	1.0	100	270.3	<b>109</b>	70	130	362.1	<b>4.5</b>	20	
Manganese	78.9	0.0027	10	66.78		70	130	75.06	<b>5.0</b>	20	A
Zinc	31.7	0.010	2	32.31		70	130	31.64	<b>0.3</b>	20	A

Associated samples: **H23050437-003B, H23050437-011B, H23050437-016B, H23050437-022B**

Run ID :Run Order: <b>ICP2-HE_230516A: 32</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>E200.7</b>		
Analysis Date: <b>05/16/23 13:32</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	25.5	1.0	25	0	<b>102</b>	90	110				
Manganese	2.43	0.010	2.5	0	<b>97</b>	90	110				
Zinc	2.36	0.010	2.5	0	<b>94</b>	90	110				

Associated samples: **H23050437-003B, H23050437-011B, H23050437-016B, H23050437-022B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184601

**Date:** 31-May-23

Run ID :Run Order: <b>ICP2-HE_230516A: 47</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050406-002FMS2</b>				Method: <b>E200.7</b>		
Analysis Date: <b>05/16/23 14:29</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	51.4	1.0	50	1.442	<b>100</b>	70	130				
Manganese	4.83	0.0014	5	0.00176	<b>97</b>	70	130				
Zinc	0.894	0.010	1	0	<b>89</b>	70	130				

Associated samples: **H23050437-003B, H23050437-011B, H23050437-016B, H23050437-022B**

Run ID :Run Order: <b>ICP2-HE_230516A: 48</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050406-002FMSD2</b>				Method: <b>E200.7</b>		
Analysis Date: <b>05/16/23 14:33</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	51.8	1.0	50	1.442	<b>101</b>	70	130	51.41	<b>0.7</b>	20	
Manganese	4.84	0.0014	5	0.00176	<b>97</b>	70	130	4.831	<b>0.2</b>	20	
Zinc	0.915	0.010	1	0	<b>91</b>	70	130	0.894	<b>2.3</b>	20	

Associated samples: **H23050437-003B, H23050437-011B, H23050437-016B, H23050437-022B**



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184602

**Date:** 31-May-23

Run ID :Run Order: **ICPMS205-H\_230517A: 22**

SampType: **Method Blank**

Lab ID: **LRB**

Method: **E200.8**

Analysis Date: **05/17/23 10:34**

Units: **mg/L**

Prep Info: Prep Date:

Prep Method:

Analytes <b>20</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	ND	0.0002									
Arsenic	ND	0.0002									
Barium	ND	0.0002									
Beryllium	ND	0.0002									
Cadmium	ND	0.00002									
Chromium	ND	0.0001									
Cobalt	ND	0.001									
Iron	ND	0.004									
Lead	ND	0.0001									
Magnesium	ND	0.01									
Molybdenum	ND	0.0003									
Nickel	ND	0.0002									
Potassium	ND	0.04									
Thallium	ND	0.00008									
Thorium	ND	0.0002									
Tin	ND	0.0002									
Titanium	ND	0.0005									
Uranium	ND	0.00002									
Vanadium	ND	0.0001									

Associated samples: **H23050437-002B, H23050437-003B, H23050437-005B, H23050437-006B, H23050437-008B, H23050437-010B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-021B, H23050437-022B**

Run ID :Run Order: **ICPMS205-H\_230517A: 23**

SampType: **Laboratory Fortified Blank**

Lab ID: **LFB**

Method: **E200.8**

Analysis Date: **05/17/23 10:37**

Units: **mg/L**

Prep Info: Prep Date:

Prep Method:

Analytes <b>20</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0536	0.10	0.05	0	<b>107</b>	85	115				
Antimony	0.0458	0.050	0.05	0	<b>92</b>	85	115				
Arsenic	0.0504	0.0050	0.05	0	<b>101</b>	85	115				
Barium	0.0494	0.10	0.05	0	<b>99</b>	85	115				
Beryllium	0.0504	0.0010	0.05	0	<b>101</b>	85	115				
Cadmium	0.0507	0.0010	0.05	0	<b>101</b>	85	115				
Chromium	0.0502	0.010	0.05	0	<b>100</b>	85	115				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: R184602

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230517A: 23		SampType: Laboratory Fortified Blank				Lab ID: LFB			Method: E200.8		
Analysis Date: 05/17/23 10:37		Units: mg/L				Prep Info: Prep Date:			Prep Method:		
Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	0.0508	0.010	0.05	0	102	85	115				
Iron	0.152	0.020	0.15	0	102	85	115				
Lead	0.0499	0.010	0.05	0	100	85	115				
Magnesium	1.03	0.50	1	0	103	85	115				
Molybdenum	0.0491	0.0050	0.05	0	98	85	115				
Nickel	0.0514	0.010	0.05	0	103	85	115				
Potassium	1.03	0.50	1	0	103	85	115				
Thallium	0.0507	0.10	0.05	0	101	85	115				
Thorium	0.0446	0.0010	0.05	0	89	85	115				
Tin	0.0476	0.10	0.05	0	95	85	115				
Titanium	0.0480	0.010	0.05	0	96	85	115				
Uranium	0.0484	0.00030	0.05	0	97	85	115				
Vanadium	0.0502	0.10	0.05	0	100	85	115				

Associated samples: H23050437-002B, H23050437-003B, H23050437-005B, H23050437-006B, H23050437-008B, H23050437-010B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICPMS205-H_230517A: 51		SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.8		
Analysis Date: 05/17/23 17:02		Units: mg/L				Prep Info: Prep Date:			Prep Method:		
Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.284	0.10	0.3	0	95	90	110				
Antimony	0.0567	0.050	0.06	0	94	90	110				
Arsenic	0.0570	0.0050	0.06	0	95	90	110				
Barium	0.0563	0.10	0.06	0	94	90	110				
Beryllium	0.0269	0.0010	0.03	0	90	90	110				
Cadmium	0.0288	0.0010	0.03	0	96	90	110				
Chromium	0.0574	0.010	0.06	0	96	90	110				
Cobalt	0.0576	0.010	0.06	0	96	90	110				
Iron	0.290	0.020	0.3	0	97	90	110				
Lead	0.0566	0.010	0.06	0	94	90	110				
Magnesium	2.88	0.50	3	0	96	90	110				
Molybdenum	0.0561	0.0050	0.06	0	93	90	110				
Nickel	0.0580	0.010	0.06	0	97	90	110				
Potassium	2.87	0.50	3	0	96	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184602

**Date:** 31-May-23

Run ID :Run Order: <b>ICPMS205-H_230517A: 51</b>		SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>			Method: <b>E200.8</b>		
Analysis Date: <b>05/17/23 17:02</b>		Units: <b>mg/L</b>		Prep Info:			Prep Date:		Prep Method:		
Analytes <b>20</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	0.0573	0.10	0.06	0	95	90	110				
Thorium	0.0616	0.0010	0.06	0	103	90	110				
Tin	0.0594	0.10	0.06	0	99	90	110				
Titanium	0.0570	0.010	0.06	0	95	90	110				
Uranium	0.0572	0.00030	0.06	0	95	90	110				
Vanadium	0.0567	0.10	0.06	0	95	90	110				

Associated samples: **H23050437-002B, H23050437-003B, H23050437-005B, H23050437-006B, H23050437-008B, H23050437-010B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-021B, H23050437-022B**

Run ID :Run Order: <b>ICPMS205-H_230517A: 108</b>		SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050474-001DMS</b>			Method: <b>E200.8</b>		
Analysis Date: <b>05/17/23 19:58</b>		Units: <b>mg/L</b>		Prep Info:			Prep Date:		Prep Method:		
Analytes <b>20</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.323	0.030	0.05	0.2933		70	130				A
Antimony	0.0502	0.0010	0.05	0.005359	90	70	130				
Arsenic	0.206	0.0010	0.05	0.1619	89	70	130				
Barium	0.0542	0.050	0.05	0.00461	99	70	130				
Beryllium	0.0522	0.0010	0.05	0.0009849	102	70	130				
Cadmium	0.0493	0.0010	0.05	0	99	70	130				
Chromium	0.0476	0.0050	0.05	0.0002567	95	70	130				
Cobalt	0.0472	0.0050	0.05	0	94	70	130				
Iron	0.314	0.020	0.15	0.1767	92	70	130				
Lead	0.0500	0.0010	0.05	0.0004296	99	70	130				
Magnesium	1.70	1.0	1	0.7046	100	70	130				
Molybdenum	0.0530	0.0010	0.05	0.00738	91	70	130				
Nickel	0.0480	0.0050	0.05	0.0001938	96	70	130				
Potassium	6.81	1.0	1	5.787		70	130				A
Thallium	0.0502	0.00050	0.05	0	100	70	130				
Thorium	0.0434	0.0050	0.05	0.0006337	86	70	130				
Tin	0.0464	0.050	0.05	0	93	70	130				
Titanium	0.0524	0.0050	0.05	0.004194	96	70	130				
Uranium	0.0486	0.00030	0.05	0.0005655	96	70	130				
Vanadium	0.0475	0.010	0.05	0.0003563	94	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: R184602

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230517A: 108	SampType: Sample Matrix Spike	Lab ID: H23050474-001DMS	Method: E200.8								
Analysis Date: 05/17/23 19:58	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23050437-002B, H23050437-003B, H23050437-005B, H23050437-006B, H23050437-008B, H23050437-010B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICPMS205-H_230517A: 109	SampType: Sample Matrix Spike Duplicate	Lab ID: H23050474-001DMSD	Method: E200.8								
Analysis Date: 05/17/23 20:01	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.324	0.030	0.05	0.2933		70	130	0.3234	0.1	20	A
Antimony	0.0501	0.0010	0.05	0.005359	90	70	130	0.05023	0.2	20	
Arsenic	0.208	0.0010	0.05	0.1619	91	70	130	0.2064	0.6	20	
Barium	0.0537	0.050	0.05	0.00461	98	70	130	0.05415	0.8	20	
Beryllium	0.0529	0.0010	0.05	0.0009849	104	70	130	0.05221	1.4	20	
Cadmium	0.0497	0.0010	0.05	0	99	70	130	0.04934	0.6	20	
Chromium	0.0471	0.0050	0.05	0.0002567	94	70	130	0.04762	1.2	20	
Cobalt	0.0474	0.0050	0.05	0	95	70	130	0.04715	0.5	20	
Iron	0.317	0.020	0.15	0.1767	93	70	130	0.3145	0.7	20	
Lead	0.0505	0.0010	0.05	0.0004296	100	70	130	0.05003	1.0	20	
Magnesium	1.70	1.0	1	0.7046	100	70	130	1.705	0.1	20	
Molybdenum	0.0538	0.0010	0.05	0.00738	93	70	130	0.05302	1.5	20	
Nickel	0.0476	0.0050	0.05	0.0001938	95	70	130	0.04797	0.9	20	
Potassium	6.75	1.0	1	5.787		70	130	6.814	0.9	20	A
Thallium	0.0509	0.00050	0.05	0	102	70	130	0.05023	1.3	20	
Thorium	0.0473	0.0050	0.05	0.0006337	93	70	130	0.04344	8.6	20	
Tin	0.0474	0.050	0.05	0	95	70	130	0.04643		20	
Titanium	0.0530	0.0050	0.05	0.004194	98	70	130	0.05244	1.0	20	
Uranium	0.0494	0.00030	0.05	0.0005655	98	70	130	0.04856	1.6	20	
Vanadium	0.0476	0.010	0.05	0.0003563	94	70	130	0.04746	0.2	20	

Associated samples: H23050437-002B, H23050437-003B, H23050437-005B, H23050437-006B, H23050437-008B, H23050437-010B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-021B, H23050437-022B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: R184602

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230517A: 110	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/17/23 20:04	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>20</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0501	0.10	0.05	0	100	90	110				
Antimony	0.0495	0.050	0.05	0	99	90	110				
Arsenic	0.0496	0.0050	0.05	0	99	90	110				
Barium	0.0497	0.10	0.05	0	99	90	110				
Beryllium	0.0511	0.0010	0.05	0	102	90	110				
Cadmium	0.0495	0.0010	0.05	0	99	90	110				
Chromium	0.0498	0.010	0.05	0	100	90	110				
Cobalt	0.0500	0.010	0.05	0	100	90	110				
Iron	1.30	0.020	1.3	0	100	90	110				
Lead	0.0497	0.010	0.05	0	99	90	110				
Magnesium	12.7	0.50	12.5	0	102	90	110				
Molybdenum	0.0497	0.0050	0.05	0	99	90	110				
Nickel	0.0498	0.010	0.05	0	100	90	110				
Potassium	12.7	0.50	12.5	0	101	90	110				
Thallium	0.0494	0.10	0.05	0	99	90	110				
Thorium	0.0492	0.0010	0.05	0	98	90	110				
Tin	0.0505	0.10	0.05	0	101	90	110				
Titanium	0.0484	0.010	0.05	0	97	90	110				
Uranium	0.0500	0.00030	0.05	0	100	90	110				
Vanadium	0.0506	0.10	0.05	0	101	90	110				

Associated samples: H23050437-002B, H23050437-003B, H23050437-005B, H23050437-006B, H23050437-008B, H23050437-010B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICPMS205-H_230517A: 128	SampType: Sample Matrix Spike				Lab ID: H23050553-001BMS				Method: E200.8		
Analysis Date: 05/17/23 20:57	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>20</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0499	0.030	0.05	0	100	70	130				
Antimony	0.0438	0.0010	0.05	0	88	70	130				
Arsenic	0.0506	0.0010	0.05	0	101	70	130				
Barium	0.0600	0.050	0.05	0.01112	98	70	130				
Beryllium	0.0478	0.0010	0.05	0	96	70	130				
Cadmium	0.0444	0.0010	0.05	0	89	70	130				
Chromium	0.0485	0.0050	0.05	0	97	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: R184602

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230517A: 128		SampType: Sample Matrix Spike			Lab ID: H23050553-001BMS				Method: E200.8		
Analysis Date: 05/17/23 20:57		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	0.0477	0.0050	0.05	0	95	70	130				
Iron	0.146	0.020	0.15	0	97	70	130				
Lead	0.0512	0.0010	0.05	0	102	70	130				
Magnesium	31.6	1.0	1	31.4		70	130				A
Molybdenum	0.0520	0.0010	0.05	0.003692	97	70	130				
Nickel	0.0462	0.0050	0.05	0.0005446	91	70	130				
Potassium	6.78	1.0	1	5.56		70	130				A
Thallium	0.0522	0.00050	0.05	0	104	70	130				
Thorium	0.0495	0.0050	0.05	0.0007628	97	70	130				
Tin	0.0454	0.050	0.05	0	91	70	130				
Titanium	0.0503	0.0050	0.05	0	101	70	130				
Uranium	0.0697	0.00030	0.05	0.01702	105	70	130				
Vanadium	0.0503	0.010	0.05	0.0001329	100	70	130				

Associated samples: H23050437-002B, H23050437-003B, H23050437-005B, H23050437-006B, H23050437-008B, H23050437-010B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICPMS205-H_230517A: 129		SampType: Sample Matrix Spike Duplicate			Lab ID: H23050553-001BMSD				Method: E200.8		
Analysis Date: 05/17/23 21:00		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0462	0.030	0.05	0	92	70	130	0.04993	7.7	20	
Antimony	0.0440	0.0010	0.05	0	88	70	130	0.04378	0.4	20	
Arsenic	0.0510	0.0010	0.05	0	102	70	130	0.05064	0.6	20	
Barium	0.0605	0.050	0.05	0.01112	99	70	130	0.05996	0.8	20	
Beryllium	0.0491	0.0010	0.05	0	98	70	130	0.04782	2.6	20	
Cadmium	0.0442	0.0010	0.05	0	88	70	130	0.0444	0.5	20	
Chromium	0.0496	0.0050	0.05	0	99	70	130	0.04852	2.1	20	
Cobalt	0.0481	0.0050	0.05	0	96	70	130	0.04774	0.7	20	
Iron	0.148	0.020	0.15	0	99	70	130	0.1461	1.4	20	
Lead	0.0515	0.0010	0.05	0	103	70	130	0.05122	0.5	20	
Magnesium	31.6	1.0	1	31.4		70	130	31.57	0.0	20	A
Molybdenum	0.0514	0.0010	0.05	0.003692	95	70	130	0.05203	1.2	20	
Nickel	0.0476	0.0050	0.05	0.0005446	94	70	130	0.04624	2.8	20	
Potassium	6.79	1.0	1	5.56		70	130	6.778	0.1	20	A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: R184602

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230517A: 129		SampType: Sample Matrix Spike Duplicate			Lab ID: H23050553-001BMSD				Method: E200.8		
Analysis Date: 05/17/23 21:00		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	0.0522	0.00050	0.05	0	104	70	130	0.05224	0.2	20	
Thorium	0.0524	0.0050	0.05	0.0007628	103	70	130	0.04949	5.7	20	
Tin	0.0457	0.050	0.05	0	91	70	130	0.04544		20	
Titanium	0.0474	0.0050	0.05	0	95	70	130	0.05029	5.9	20	
Uranium	0.0696	0.00030	0.05	0.01702	105	70	130	0.06972	0.1	20	
Vanadium	0.0508	0.010	0.05	0.0001329	101	70	130	0.05032	1.0	20	

Associated samples: H23050437-002B, H23050437-003B, H23050437-005B, H23050437-006B, H23050437-008B, H23050437-010B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICPMS205-H_230517A: 139		SampType: Continuing Calibration Verification Standard			Lab ID: CCV				Method: E200.8		
Analysis Date: 05/17/23 21:29		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0495	0.10	0.05	0	99	90	110				
Antimony	0.0491	0.050	0.05	0	98	90	110				
Arsenic	0.0499	0.0050	0.05	0	100	90	110				
Barium	0.0496	0.10	0.05	0	99	90	110				
Beryllium	0.0506	0.0010	0.05	0	101	90	110				
Cadmium	0.0491	0.0010	0.05	0	98	90	110				
Chromium	0.0496	0.010	0.05	0	99	90	110				
Cobalt	0.0490	0.010	0.05	0	98	90	110				
Iron	1.31	0.020	1.3	0	101	90	110				
Magnesium	12.6	0.50	12.5	0	101	90	110				
Molybdenum	0.0485	0.0050	0.05	0	97	90	110				
Nickel	0.0489	0.010	0.05	0	98	90	110				
Potassium	13.2	0.50	12.5	0	105	90	110				
Tin	0.0503	0.10	0.05	0	101	90	110				
Titanium	0.0485	0.010	0.05	0	97	90	110				
Vanadium	0.0501	0.10	0.05	0	100	90	110				

Associated samples: H23050437-002B, H23050437-003B, H23050437-005B, H23050437-006B, H23050437-008B, H23050437-010B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-021B, H23050437-022B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: R184602

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230517A: 154	SampType: Sample Matrix Spike				Lab ID: H23050392-005BMS				Method: E200.8		
Analysis Date: 05/17/23 22:13	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>20</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0843	0.030	0.05	0.03256	103	70	130				
Antimony	0.0444	0.0010	0.05	0	89	70	130				
Arsenic	0.0515	0.0010	0.05	0.001809	99	70	130				
Barium	0.0694	0.050	0.05	0.01908	101	70	130				
Beryllium	0.0507	0.0010	0.05	0.0004632	100	70	130				
Cadmium	0.128	0.0010	0.05	0.08038	95	70	130				
Chromium	0.0487	0.0050	0.05	0	97	70	130				
Cobalt	0.0832	0.0050	0.05	0.03574	95	70	130				
Iron	0.147	0.020	0.15	0	98	70	130				
Lead	0.0532	0.0010	0.05	0.004947	96	70	130				
Magnesium	119	1.0	1	120.3		70	130				A
Molybdenum	0.0481	0.0010	0.05	0.000726	95	70	130				
Nickel	0.167	0.0050	0.05	0.1204	93	70	130				
Potassium	17.7	1.0	1	17.36		70	130				A
Thallium	0.0496	0.00050	0.05	0.00008963	99	70	130				
Thorium	0.0459	0.0050	0.05	0.0009146	90	70	130				
Tin	0.0450	0.050	0.05	0	90	70	130				
Titanium	0.0469	0.0050	0.05	0	94	70	130				
Uranium	0.0500	0.00030	0.05	0.0007409	98	70	130				
Vanadium	0.0503	0.010	0.05	0.0005574	100	70	130				

Associated samples: H23050437-002B, H23050437-003B, H23050437-005B, H23050437-006B, H23050437-008B, H23050437-010B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICPMS205-H_230517A: 155	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050392-005BMSD				Method: E200.8		
Analysis Date: 05/17/23 22:16	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>20</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0768	0.030	0.05	0.03256	89	70	130	0.08429	9.2	20	
Antimony	0.0440	0.0010	0.05	0	88	70	130	0.04439	1.0	20	
Arsenic	0.0509	0.0010	0.05	0.001809	98	70	130	0.0515	1.2	20	
Barium	0.0672	0.050	0.05	0.01908	96	70	130	0.06943	3.3	20	
Beryllium	0.0510	0.0010	0.05	0.0004632	101	70	130	0.05068	0.5	20	
Cadmium	0.126	0.0010	0.05	0.08038	92	70	130	0.1277	1.2	20	
Chromium	0.0475	0.0050	0.05	0	95	70	130	0.0487	2.4	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184602

**Date:** 31-May-23

Run ID :Run Order: ICPMS205-H_230517A: 155	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050392-005BMSD				Method: E200.8		
Analysis Date: 05/17/23 22:16	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	0.0817	0.0050	0.05	0.03574	92	70	130	0.08316	1.8	20	
Iron	0.144	0.020	0.15	0	96	70	130	0.1473	2.3	20	
Lead	0.0531	0.0010	0.05	0.004947	96	70	130	0.05315	0	20	
Magnesium	118	1.0	1	120.3		70	130	119.3	0.9	20	A
Molybdenum	0.0483	0.0010	0.05	0.000726	95	70	130	0.04808	0.4	20	
Nickel	0.163	0.0050	0.05	0.1204	85	70	130	0.1669	2.5	20	
Potassium	17.4	1.0	1	17.36		70	130	17.71	1.8	20	A
Thallium	0.0499	0.00050	0.05	0.00008963	100	70	130	0.04955	0.6	20	
Thorium	0.0477	0.0050	0.05	0.0009146	94	70	130	0.04593	3.7	20	
Tin	0.0456	0.050	0.05	0	91	70	130	0.04505		20	
Titanium	0.0474	0.0050	0.05	0	95	70	130	0.04691	1.0	20	
Uranium	0.0502	0.00030	0.05	0.0007409	99	70	130	0.04998	0.4	20	
Vanadium	0.0493	0.010	0.05	0.0005574	97	70	130	0.05031	2.0	20	

Associated samples: H23050437-002B, H23050437-003B, H23050437-005B, H23050437-006B, H23050437-008B, H23050437-010B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICPMS205-H_230517A: 156	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/17/23 22:19	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0504	0.10	0.05	0	101	90	110				
Antimony	0.0490	0.050	0.05	0	98	90	110				
Arsenic	0.0484	0.0050	0.05	0	97	90	110				
Barium	0.0490	0.10	0.05	0	98	90	110				
Beryllium	0.0494	0.0010	0.05	0	99	90	110				
Cadmium	0.0494	0.0010	0.05	0	99	90	110				
Chromium	0.0490	0.010	0.05	0	98	90	110				
Cobalt	0.0486	0.010	0.05	0	97	90	110				
Iron	1.28	0.020	1.3	0	98	90	110				
Lead	0.0458	0.010	0.05	0	92	90	110				
Magnesium	12.6	0.50	12.5	0	101	90	110				
Molybdenum	0.0489	0.0050	0.05	0	98	90	110				
Nickel	0.0492	0.010	0.05	0	98	90	110				
Potassium	12.5	0.50	12.5	0	100	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184602

**Date:** 31-May-23

Run ID :Run Order: <b>ICPMS205-H_230517A: 156</b>		SampType: <b>Continuing Calibration Verification Standard</b>			Lab ID: <b>CCV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/17/23 22:19</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>20</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	0.0456	0.10	0.05	0	91	90	110				
Thorium	0.0454	0.0010	0.05	0	91	90	110				
Tin	0.0510	0.10	0.05	0	102	90	110				
Titanium	0.0503	0.010	0.05	0	101	90	110				
Uranium	0.0457	0.00030	0.05	0	91	90	110				
Vanadium	0.0487	0.10	0.05	0	97	90	110				

Associated samples: H23050437-002B, H23050437-003B, H23050437-005B, H23050437-006B, H23050437-008B, H23050437-010B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-021B, H23050437-022B

Run ID :Run Order: <b>ICPMS205-H_230517A: 170</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23050437-008BMS</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/17/23 23:00</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>20</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0962	0.030	0.05	0.0473	98	70	130				
Antimony	0.0454	0.0010	0.05	0	91	70	130				
Arsenic	0.0539	0.0010	0.05	0.00355	101	70	130				
Barium	0.0703	0.050	0.05	0.0196	101	70	130				
Beryllium	0.0498	0.0010	0.05	0.001134	97	70	130				
Cadmium	0.150	0.0010	0.05	0.1024	96	70	130				
Chromium	0.0480	0.0050	0.05	0	96	70	130				
Cobalt	0.0623	0.0050	0.05	0.01394	97	70	130				
Iron	0.153	0.020	0.15	0.006685	98	70	130				
Lead	0.0497	0.0010	0.05	0.0003583	99	70	130				
Magnesium	75.0	1.0	1	75.46		70	130				A
Molybdenum	0.0479	0.0010	0.05	0.0006858	94	70	130				
Nickel	0.177	0.0050	0.05	0.1296	95	70	130				
Potassium	17.5	1.0	1	16.57		70	130				A
Thallium	0.0506	0.00050	0.05	0	101	70	130				
Thorium	0.0463	0.0050	0.05	0	93	70	130				
Tin	0.0456	0.050	0.05	0	91	70	130				
Titanium	0.0510	0.0050	0.05	0	102	70	130				
Uranium	0.0516	0.00030	0.05	0.001405	100	70	130				
Vanadium	0.0499	0.010	0.05	0.0005873	99	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184602

**Date:** 31-May-23

Run ID :Run Order: **ICPMS205-H\_230517A: 170**      SampType: **Sample Matrix Spike**      Lab ID: **H23050437-008BMS**      Method: **E200.8**  
 Analysis Date: **05/17/23 23:00**      Units: **mg/L**      Prep Info: Prep Date:      Prep Method:  
 Analytes **20**      Result      PQL      SPK value      SPK Ref Val      %REC      LowLimit      HighLimit      RPD Ref Val      %RPD      RPDLimit      Qual

Associated samples: **H23050437-002B, H23050437-003B, H23050437-005B, H23050437-006B, H23050437-008B, H23050437-010B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-021B, H23050437-022B**

Run ID :Run Order: <b>ICPMS205-H_230517A: 171</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23050437-008BMSD</b>	Method: <b>E200.8</b>								
Analysis Date: <b>05/17/23 23:03</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>20</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0918	0.030	0.05	0.0473	<b>89</b>	70	130	0.09624	<b>4.7</b>	20	
Antimony	0.0441	0.0010	0.05	0	<b>88</b>	70	130	0.04544	<b>3.0</b>	20	
Arsenic	0.0533	0.0010	0.05	0.00355	<b>100</b>	70	130	0.05388	<b>1.1</b>	20	
Barium	0.0683	0.050	0.05	0.0196	<b>97</b>	70	130	0.07032	<b>2.9</b>	20	
Beryllium	0.0492	0.0010	0.05	0.001134	<b>96</b>	70	130	0.04981	<b>1.1</b>	20	
Cadmium	0.148	0.0010	0.05	0.1024	<b>91</b>	70	130	0.1504	<b>1.5</b>	20	
Chromium	0.0473	0.0050	0.05	0	<b>95</b>	70	130	0.04801	<b>1.5</b>	20	
Cobalt	0.0610	0.0050	0.05	0.01394	<b>94</b>	70	130	0.06226	<b>2.1</b>	20	
Iron	0.149	0.020	0.15	0.006685	<b>95</b>	70	130	0.1533	<b>2.8</b>	20	
Lead	0.0485	0.0010	0.05	0.0003583	<b>96</b>	70	130	0.04969	<b>2.3</b>	20	
Magnesium	73.7	1.0	1	75.46		70	130	75.03	<b>1.8</b>	20	A
Molybdenum	0.0475	0.0010	0.05	0.0006858	<b>94</b>	70	130	0.04792	<b>0.9</b>	20	
Nickel	0.175	0.0050	0.05	0.1296	<b>91</b>	70	130	0.177	<b>1.0</b>	20	
Potassium	17.2	1.0	1	16.57		70	130	17.49	<b>1.4</b>	20	A
Thallium	0.0496	0.00050	0.05	0	<b>99</b>	70	130	0.05061	<b>2.1</b>	20	
Thorium	0.0474	0.0050	0.05	0	<b>95</b>	70	130	0.04631	<b>2.3</b>	20	
Tin	0.0452	0.050	0.05	0	<b>90</b>	70	130	0.04555		20	
Titanium	0.0490	0.0050	0.05	0	<b>98</b>	70	130	0.05099	<b>4.0</b>	20	
Uranium	0.0505	0.00030	0.05	0.001405	<b>98</b>	70	130	0.05157	<b>2.0</b>	20	
Vanadium	0.0486	0.010	0.05	0.0005873	<b>96</b>	70	130	0.04993	<b>2.7</b>	20	

Associated samples: **H23050437-002B, H23050437-003B, H23050437-005B, H23050437-006B, H23050437-008B, H23050437-010B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-021B, H23050437-022B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: R184650

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230517D: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 05/17/23 11:59	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0597	0.010	0.06	0	99	90	110				
Gallium	0.0595	0.010	0.06	0	99	90	110				
Lanthanum	0.0599	0.010	0.06	0	100	90	110				
Neodymium	0.0597	0.0050	0.06	0	100	90	110				
Niobium	0.0626	0.0010	0.06	0	104	90	110				
Palladium	0.0600	0.010	0.06	0	100	90	110				
Praseodymium	0.0601	0.0010	0.06	0	100	90	110				
Rubidium	0.0604	0.010	0.06	0	101	90	110				
Tungsten	0.0568	0.10	0.06	0	95	90	110				
Zirconium	0.0614	0.0050	0.06	0	102	90	110				

Associated samples: H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICPMS205-H_230517D: 18	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/17/23 12:08	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0499	0.010	0.05	0	100	90	110				
Gallium	0.0493	0.010	0.05	0	99	90	110				
Lanthanum	0.0497	0.010	0.05	0	99	90	110				
Neodymium	0.0498	0.0050	0.05	0	100	90	110				
Niobium	0.0499	0.0010	0.05	0	100	90	110				
Palladium	0.0494	0.010	0.05	0	99	90	110				
Praseodymium	0.0500	0.0010	0.05	0	100	90	110				
Rubidium	0.0498	0.010	0.05	0	100	90	110				
Tungsten	0.0496	0.10	0.05	0	99	90	110				
Zirconium	0.0514	0.0050	0.05	0	103	90	110				

Associated samples: H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184650

**Date:** 31-May-23

Run ID :Run Order: ICPMS205-H_230517D: 22		SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 05/17/23 12:16		Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Cesium	ND	0.0002										
Gallium	ND	0.00009										
Lanthanum	ND	0.0001										
Neodymium	ND	0.00009										
Niobium	ND	0.0003										
Palladium	ND	0.0002										
Praseodymium	ND	0.0001										
Rubidium	ND	0.00007										
Tungsten	ND	0.0001										
Zirconium	ND	0.0003										

Associated samples: H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICPMS205-H_230517D: 24		SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.8		
Analysis Date: 05/17/23 12:24		Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Cesium	0.0502	0.010	0.05	0	100	85	115					
Gallium	0.0504	0.010	0.05	0	101	85	115					
Lanthanum	0.0498	0.010	0.05	0	100	85	115					
Neodymium	0.0503	0.0050	0.05	0	101	85	115					
Niobium	0.0502	0.0010	0.05	0	100	85	115					
Palladium	0.0497	0.010	0.05	0	99	85	115					
Praseodymium	0.0503	0.0010	0.05	0	101	85	115					
Rubidium	0.0502	0.010	0.05	0	100	85	115					
Tungsten	0.0450	0.10	0.05	0	90	85	115					
Zirconium	0.0509	0.0050	0.05	0	102	85	115					

Associated samples: H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: R184650

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230517D: 36		SampType: Sample Matrix Spike			Lab ID: H23050437-001BMS				Method: E200.8		
Analysis Date: 05/17/23 12:44		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0502	0.010	0.05	0	100	70	130				
Gallium	0.0506	0.010	0.05	0	101	70	130				
Lanthanum	0.0506	0.010	0.05	0	101	70	130				
Neodymium	0.0510	0.0050	0.05	0	102	70	130				
Niobium	0.0465	0.0010	0.05	0	93	70	130				
Palladium	0.0487	0.010	0.05	0	97	70	130				
Praseodymium	0.0511	0.0010	0.05	0	102	70	130				
Rubidium	0.0518	0.010	0.05	0.001146	101	70	130				
Tungsten	0.0521	0.10	0.05	0.01177	81	70	130				
Zirconium	0.0545	0.0050	0.05	0.001472	106	70	130				

Associated samples: H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICPMS205-H_230517D: 37		SampType: Sample Matrix Spike Duplicate			Lab ID: H23050437-001BMSD				Method: E200.8		
Analysis Date: 05/17/23 12:45		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0503	0.010	0.05	0	101	70	130	0.05025	0.1	20	
Gallium	0.0509	0.010	0.05	0	102	70	130	0.05056	0.7	20	
Lanthanum	0.0504	0.010	0.05	0	101	70	130	0.05059	0.4	20	
Neodymium	0.0513	0.0050	0.05	0	103	70	130	0.05096	0.7	20	
Niobium	0.0468	0.0010	0.05	0	94	70	130	0.04647			
Palladium	0.0492	0.010	0.05	0	98	70	130	0.04872	1.0	20	
Praseodymium	0.0512	0.0010	0.05	0	102	70	130	0.05108			
Rubidium	0.0520	0.010	0.05	0.001146	102	70	130	0.05175	0.4	20	
Tungsten	0.0528	0.10	0.05	0.01177	82	70	130	0.05209		20	
Zirconium	0.0565	0.0050	0.05	0.001472	110	70	130	0.05453	3.6	20	

Associated samples: H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184650

**Date:** 31-May-23

Run ID :Run Order: ICPMS205-H_230517D: 38	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/17/23 12:47	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0501	0.010	0.05	0	100	90	110				
Gallium	0.0492	0.010	0.05	0	98	90	110				
Lanthanum	0.0501	0.010	0.05	0	100	90	110				
Neodymium	0.0501	0.0050	0.05	0	100	90	110				
Niobium	0.0512	0.0010	0.05	0	102	90	110				
Palladium	0.0500	0.010	0.05	0	100	90	110				
Praseodymium	0.0504	0.0010	0.05	0	101	90	110				
Rubidium	0.0496	0.010	0.05	0	99	90	110				
Tungsten	0.0509	0.10	0.05	0	102	90	110				
Zirconium	0.0532	0.0050	0.05	0	106	90	110				

Associated samples: H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICPMS205-H_230517D: 50	SampType: Sample Matrix Spike				Lab ID: H23050437-011BMS				Method: E200.8		
Analysis Date: 05/17/23 13:07	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>9</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0513	0.010	0.05	0	103	70	130				
Gallium	0.0586	0.010	0.05	0.009865	98	70	130				
Lanthanum	0.147	0.010	0.05	0.09798	99	70	130				
Neodymium	0.113	0.0050	0.05	0.06266	101	70	130				
Niobium	0.0458	0.0010	0.05	0.000371	91	70	130				
Palladium	0.0467	0.010	0.05	0.0003002	93	70	130				
Praseodymium	0.0704	0.0010	0.05	0.0191	103	70	130				
Rubidium	0.0869	0.010	0.05	0.03732	99	70	130				
Tungsten	0.0402	0.10	0.05	0.0003731	80	70	130				

Associated samples: H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: R184650

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230517D: 51		SampType: Sample Matrix Spike Duplicate			Lab ID: H23050437-011BMSD				Method: E200.8		
Analysis Date: 05/17/23 13:08		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0508	0.010	0.05	0	102	70	130	0.0513	0.9	20	
Gallium	0.0593	0.010	0.05	0.009865	99	70	130	0.05864	1.2	20	
Lanthanum	0.147	0.010	0.05	0.09798	97	70	130	0.1473	0.5	20	
Neodymium	0.113	0.0050	0.05	0.06266	100	70	130	0.1131	0.3	20	
Niobium	0.0462	0.0010	0.05	0.000371	92	70	130	0.04581			
Palladium	0.0466	0.010	0.05	0.0003002	93	70	130	0.04673	0.3	20	
Praseodymium	0.0700	0.0010	0.05	0.0191	102	70	130	0.07038			
Rubidium	0.0869	0.010	0.05	0.03732	99	70	130	0.08688	0.0	20	
Tungsten	0.0402	0.10	0.05	0.0003731	80	70	130	0.04018		20	

Associated samples: H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICPMS205-H_230517D: 52		SampType: Continuing Calibration Verification Standard			Lab ID: CCV				Method: E200.8		
Analysis Date: 05/17/23 13:10		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0500	0.010	0.05	0	100	90	110				
Gallium	0.0506	0.010	0.05	0	101	90	110				
Lanthanum	0.0502	0.010	0.05	0	100	90	110				
Neodymium	0.0503	0.0050	0.05	0	101	90	110				
Niobium	0.0535	0.0010	0.05	0	107	90	110				
Palladium	0.0504	0.010	0.05	0	101	90	110				
Praseodymium	0.0505	0.0010	0.05	0	101	90	110				
Rubidium	0.0512	0.010	0.05	0	102	90	110				
Tungsten	0.0514	0.10	0.05	0	103	90	110				

Associated samples: H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: R184650

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230517D: 66		SampType: Sample Matrix Spike			Lab ID: H23050437-021BMS				Method: E200.8		
Analysis Date: 05/17/23 13:32		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0509	0.010	0.05	0	102	70	130				
Gallium	0.0506	0.010	0.05	0.0005503	100	70	130				
Lanthanum	0.0620	0.010	0.05	0.011	102	70	130				
Neodymium	0.0550	0.0050	0.05	0.002966	104	70	130				
Niobium	0.0485	0.0010	0.05	0.0004537	96	70	130				
Palladium	0.0462	0.010	0.05	0	92	70	130				
Praseodymium	0.0531	0.0010	0.05	0.0009116	104	70	130				
Rubidium	0.132	0.010	0.05	0.08441	96	70	130				
Tungsten	0.0421	0.10	0.05	0.000346	84	70	130				
Zirconium	0.0568	0.0050	0.05	0.0008357	112	70	130				

Associated samples: H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICPMS205-H_230517D: 67		SampType: Sample Matrix Spike Duplicate			Lab ID: H23050437-021BMSD				Method: E200.8		
Analysis Date: 05/17/23 13:34		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0511	0.010	0.05	0	102	70	130	0.05088	0.5	20	
Gallium	0.0495	0.010	0.05	0.0005503	98	70	130	0.05059	2.1	20	
Lanthanum	0.0625	0.010	0.05	0.011	103	70	130	0.06198	0.9	20	
Neodymium	0.0554	0.0050	0.05	0.002966	105	70	130	0.05502	0.8	20	
Niobium	0.0473	0.0010	0.05	0.0004537	94	70	130	0.04847			
Palladium	0.0461	0.010	0.05	0	92	70	130	0.04625	0.3	20	
Praseodymium	0.0530	0.0010	0.05	0.0009116	104	70	130	0.05308			
Rubidium	0.130	0.010	0.05	0.08441	90	70	130	0.1323	2.1	20	
Tungsten	0.0420	0.10	0.05	0.000346	83	70	130	0.0421		20	
Zirconium	0.0570	0.0050	0.05	0.0008357	112	70	130	0.05677	0.4	20	

Associated samples: H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: R184650

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230517D: 69		SampType: Continuing Calibration Verification Standard			Lab ID: CCV			Method: E200.8			
Analysis Date: 05/17/23 13:37		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0497	0.010	0.05	0	99	90	110				
Gallium	0.0488	0.010	0.05	0	98	90	110				
Lanthanum	0.0503	0.010	0.05	0	101	90	110				
Neodymium	0.0503	0.0050	0.05	0	101	90	110				
Niobium	0.0515	0.0010	0.05	0	103	90	110				
Palladium	0.0502	0.010	0.05	0	100	90	110				
Praseodymium	0.0500	0.0010	0.05	0	100	90	110				
Rubidium	0.0498	0.010	0.05	0	99	90	110				
Tungsten	0.0505	0.10	0.05	0	101	90	110				
Zirconium	0.0517	0.0050	0.05	0	103	90	110				

Associated samples: H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICPMS205-H_230517D: 86		SampType: Continuing Calibration Verification Standard			Lab ID: CCV			Method: E200.8			
Analysis Date: 05/17/23 14:37		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0509	0.010	0.05	0	102	90	110				
Gallium	0.0516	0.010	0.05	0	103	90	110				
Lanthanum	0.0505	0.010	0.05	0	101	90	110				
Neodymium	0.0505	0.0050	0.05	0	101	90	110				
Niobium	0.0523	0.0010	0.05	0	105	90	110				
Palladium	0.0504	0.010	0.05	0	101	90	110				
Praseodymium	0.0509	0.0010	0.05	0	102	90	110				
Rubidium	0.0511	0.010	0.05	0	102	90	110				
Tungsten	0.0502	0.10	0.05	0	100	90	110				
Zirconium	0.0544	0.0050	0.05	0	109	90	110				

Associated samples: H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184650

**Date:** 31-May-23

Run ID :Run Order: <b>ICPMS205-H_230517D: 89</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050437-011BMS</b>				Method: <b>E200.8</b>		
Analysis Date: <b>05/17/23 14:42</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
<b>Analytes 1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zirconium	0.0521	0.0050	0.05	0.0006572	<b>103</b>	70	130				

Associated samples: H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: <b>ICPMS205-H_230517D: 90</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050437-011BMSD</b>				Method: <b>E200.8</b>		
Analysis Date: <b>05/17/23 14:43</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
<b>Analytes 1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zirconium	0.0554	0.0050	0.05	0.0006572	<b>110</b>	70	130	0.0521	<b>6.2</b>	20	

Associated samples: H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: <b>ICPMS205-H_230517D: 102</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>E200.8</b>		
Analysis Date: <b>05/17/23 15:03</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
<b>Analytes 10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0508	0.010	0.05	0	<b>102</b>	90	110				
Gallium	0.0511	0.010	0.05	0	<b>102</b>	90	110				
Lanthanum	0.0510	0.010	0.05	0	<b>102</b>	90	110				
Neodymium	0.0508	0.0050	0.05	0	<b>102</b>	90	110				
Niobium	0.0517	0.0010	0.05	0	<b>103</b>	90	110				
Palladium	0.0509	0.010	0.05	0	<b>102</b>	90	110				
Praseodymium	0.0508	0.0010	0.05	0	<b>102</b>	90	110				
Rubidium	0.0507	0.010	0.05	0	<b>101</b>	90	110				
Tungsten	0.0502	0.10	0.05	0	<b>100</b>	90	110				
Zirconium	0.0513	0.0050	0.05	0	<b>103</b>	90	110				

Associated samples: H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: R184650

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230517D: 108		SampType: Sample Matrix Spike			Lab ID: H23050392-007BMS				Method: E200.8		
Analysis Date: 05/17/23 15:12		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0509	0.010	0.05	0	102	70	130				
Gallium	0.0495	0.010	0.05	0	99	70	130				
Lanthanum	0.0513	0.010	0.05	0	103	70	130				
Neodymium	0.0518	0.0050	0.05	0	104	70	130				
Niobium	0.0472	0.0010	0.05	0	94	70	130				
Palladium	0.0453	0.010	0.05	0	91	70	130				
Praseodymium	0.0518	0.0010	0.05	0	104	70	130				
Rubidium	0.0512	0.010	0.05	0.0005899	101	70	130				
Tungsten	0.0406	0.10	0.05	0	81	70	130				
Zirconium	0.0537	0.0050	0.05	0	107	70	130				

Associated samples: H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: ICPMS205-H_230517D: 109		SampType: Sample Matrix Spike Duplicate			Lab ID: H23050392-007BMSD				Method: E200.8		
Analysis Date: 05/17/23 15:14		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0508	0.010	0.05	0	102	70	130	0.05088	0.2	20	
Gallium	0.0488	0.010	0.05	0	98	70	130	0.0495	1.4	20	
Lanthanum	0.0515	0.010	0.05	0	103	70	130	0.05129	0.3	20	
Neodymium	0.0523	0.0050	0.05	0	105	70	130	0.05182	0.8	20	
Niobium	0.0464	0.0010	0.05	0	93	70	130	0.04715			
Palladium	0.0453	0.010	0.05	0	91	70	130	0.04529	0.1	20	
Praseodymium	0.0522	0.0010	0.05	0	104	70	130	0.05179			
Rubidium	0.0510	0.010	0.05	0.0005899	101	70	130	0.05121	0.5	20	
Tungsten	0.0411	0.10	0.05	0	82	70	130	0.04059			
Zirconium	0.0546	0.0050	0.05	0	109	70	130	0.05366	1.8	20	

Associated samples: H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184650

**Date:** 31-May-23

Run ID :Run Order: <b>ICPMS205-H_230517D: 134</b>		SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/17/23 11:59</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium		0.0555	0.0010	0.06	0	93	90	110				

Associated samples: H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: <b>ICPMS205-H_230517D: 140</b>		SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/17/23 12:08</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium		0.0493	0.0010	0.05	0	99	90	110				

Associated samples: H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: <b>ICPMS205-H_230517D: 146</b>		SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/17/23 12:24</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium		0.0442	0.0010	0.05	0	88	85	115				

Associated samples: H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

Run ID :Run Order: <b>ICPMS205-H_230517D: 158</b>		SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050437-001BMS</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/17/23 12:44</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium		0.0467	0.0050	0.05	0.0002431	93	70	130				

Associated samples: H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184650

**Date:** 31-May-23

Run ID :Run Order: <b>ICPMS205-H_230517D: 159</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23050437-001BMSD</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/17/23 12:45</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0470	0.0050	0.05	0.0002431	<b>93</b>	70	130	0.0467	<b>0.6</b>	20	

Associated samples: **H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B**

Run ID :Run Order: <b>ICPMS205-H_230517D: 160</b>		SampType: <b>Continuing Calibration Verification Standard</b>			Lab ID: <b>CCV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/17/23 12:47</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0521	0.0010	0.05	0	<b>104</b>	90	110				

Associated samples: **H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B**

Run ID :Run Order: <b>ICPMS205-H_230517D: 172</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23050437-011BMS</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/17/23 13:07</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0468	0.0050	0.05	0.0007217	<b>92</b>	70	130				

Associated samples: **H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B**

Run ID :Run Order: <b>ICPMS205-H_230517D: 173</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23050437-011BMSD</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/17/23 13:08</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0472	0.0050	0.05	0.0007217	<b>93</b>	70	130	0.04685	<b>0.7</b>	20	

Associated samples: **H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184650

**Date:** 31-May-23

Run ID :Run Order: <b>ICPMS205-H_230517D: 174</b>	SampType: <b>Continuing Calibration Verification Standard</b>	Lab ID: <b>CCV</b>	Method: <b>E200.8</b>								
Analysis Date: <b>05/17/23 13:10</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0525	0.0010	0.05	0	<b>105</b>	90	110				

Associated samples: **H23050437-001B, H23050437-002B, H23050437-003B, H23050437-004B, H23050437-005B, H23050437-006B, H23050437-007B, H23050437-008B, H23050437-009B, H23050437-010B, H23050437-011B, H23050437-012B, H23050437-013B, H23050437-014B, H23050437-015B, H23050437-016B, H23050437-017B, H23050437-018B, H23050437-019B, H23050437-020B, H23050437-021B, H23050437-022B**





## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184665

**Date:** 31-May-23

Run ID :Run Order: <b>FIA203-HE_230518A: 10</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>			Method: <b>E353.2</b>			
Analysis Date: <b>05/18/23 12:41</b>	Units: <b>mg/L</b>		Prep Info: Prep Date:			Prep Method:					
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.986	0.010	1	0	99	90	110				

Associated samples: H23050437-001C, H23050437-002C, H23050437-003C, H23050437-004C, H23050437-005C, H23050437-006C, H23050437-007C, H23050437-008C, H23050437-009C, H23050437-010C, H23050437-011C, H23050437-012C, H23050437-013C, H23050437-014C, H23050437-015C, H23050437-016C, H23050437-017C, H23050437-018C, H23050437-019C, H23050437-020C, H23050437-021C, H23050437-022C

Run ID :Run Order: <b>FIA203-HE_230518A: 11</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>			Method: <b>E353.2</b>			
Analysis Date: <b>05/18/23 12:42</b>	Units: <b>mg/L</b>		Prep Info: Prep Date:			Prep Method:					
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.008									

Associated samples: H23050437-001C, H23050437-002C, H23050437-003C, H23050437-004C, H23050437-005C, H23050437-006C, H23050437-007C, H23050437-008C, H23050437-009C, H23050437-010C, H23050437-011C, H23050437-012C, H23050437-013C, H23050437-014C, H23050437-015C, H23050437-016C, H23050437-017C, H23050437-018C, H23050437-019C, H23050437-020C, H23050437-021C, H23050437-022C

Run ID :Run Order: <b>FIA203-HE_230518A: 12</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>			Method: <b>E353.2</b>			
Analysis Date: <b>05/18/23 12:44</b>	Units: <b>mg/L</b>		Prep Info: Prep Date:			Prep Method:					
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.942	0.011	1	0	94	90	110				

Associated samples: H23050437-001C, H23050437-002C, H23050437-003C, H23050437-004C, H23050437-005C, H23050437-006C, H23050437-007C, H23050437-008C, H23050437-009C, H23050437-010C, H23050437-011C, H23050437-012C, H23050437-013C, H23050437-014C, H23050437-015C, H23050437-016C, H23050437-017C, H23050437-018C, H23050437-019C, H23050437-020C, H23050437-021C, H23050437-022C

Run ID :Run Order: <b>FIA203-HE_230518A: 56</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050392-011CMS</b>			Method: <b>E353.2</b>			
Analysis Date: <b>05/18/23 14:10</b>	Units: <b>mg/L</b>		Prep Info: Prep Date:			Prep Method:					
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.943	0.011	1	0	94	90	110				

Associated samples: H23050437-001C, H23050437-002C, H23050437-003C, H23050437-004C, H23050437-005C, H23050437-006C, H23050437-007C, H23050437-008C, H23050437-009C, H23050437-010C, H23050437-011C, H23050437-012C, H23050437-013C, H23050437-014C, H23050437-015C, H23050437-016C, H23050437-017C, H23050437-018C, H23050437-019C, H23050437-020C, H23050437-021C, H23050437-022C

<b>Qualifiers:</b> ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limit	N - Analyte concentration was not sufficiently high to calculate RPD
J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	A - Analyte concentration greater than four times the spike amount

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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: R184665

Date: 31-May-23

Run ID :Run Order: <b>FIA203-HE_230518A: 57</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050392-011CMSD</b>				Method: <b>E353.2</b>		
Analysis Date: <b>05/18/23 14:11</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.937	0.011	1	0	<b>94</b>	90	110	0.943	<b>0.7</b>	10	
Associated samples: <b>H23050437-001C, H23050437-002C, H23050437-003C, H23050437-004C, H23050437-005C, H23050437-006C, H23050437-007C, H23050437-008C, H23050437-009C, H23050437-010C, H23050437-011C, H23050437-012C, H23050437-013C, H23050437-014C, H23050437-015C, H23050437-016C, H23050437-017C, H23050437-018C, H23050437-019C, H23050437-020C, H23050437-021C, H23050437-022C</b>											

Run ID :Run Order: <b>FIA203-HE_230518A: 62</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>E353.2</b>		
Analysis Date: <b>05/18/23 14:17</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.473	0.010	0.5	0	<b>95</b>	90	110				
Associated samples: <b>H23050437-001C, H23050437-002C, H23050437-003C, H23050437-004C, H23050437-005C, H23050437-006C, H23050437-007C, H23050437-008C, H23050437-009C, H23050437-010C, H23050437-011C, H23050437-012C, H23050437-013C, H23050437-014C, H23050437-015C, H23050437-016C, H23050437-017C, H23050437-018C, H23050437-019C, H23050437-020C, H23050437-021C, H23050437-022C</b>											

Run ID :Run Order: <b>FIA203-HE_230518A: 65</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050392-016CMS</b>				Method: <b>E353.2</b>		
Analysis Date: <b>05/18/23 14:21</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.342	0.011	1	0	<b>34</b>	90	110				S
Associated samples: <b>H23050437-001C, H23050437-002C, H23050437-003C, H23050437-004C, H23050437-005C, H23050437-006C, H23050437-007C, H23050437-008C, H23050437-009C, H23050437-010C, H23050437-011C, H23050437-012C, H23050437-013C, H23050437-014C, H23050437-015C, H23050437-016C, H23050437-017C, H23050437-018C, H23050437-019C, H23050437-020C, H23050437-021C, H23050437-022C</b>											

Run ID :Run Order: <b>FIA203-HE_230518A: 66</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050392-016CMSD</b>				Method: <b>E353.2</b>		
Analysis Date: <b>05/18/23 14:22</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.348	0.011	1	0	<b>35</b>	90	110	0.3418	<b>1.7</b>	10	S
Associated samples: <b>H23050437-001C, H23050437-002C, H23050437-003C, H23050437-004C, H23050437-005C, H23050437-006C, H23050437-007C, H23050437-008C, H23050437-009C, H23050437-010C, H23050437-011C, H23050437-012C, H23050437-013C, H23050437-014C, H23050437-015C, H23050437-016C, H23050437-017C, H23050437-018C, H23050437-019C, H23050437-020C, H23050437-021C, H23050437-022C</b>											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184665

**Date:** 31-May-23

Run ID :Run Order: <b>FIA203-HE_230518A: 78</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>E353.2</b>		
Analysis Date: <b>05/18/23 14:36</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.458	0.010	0.5	0	<b>92</b>	90	110				

Associated samples: H23050437-001C, H23050437-002C, H23050437-003C, H23050437-004C, H23050437-005C, H23050437-006C, H23050437-007C, H23050437-008C, H23050437-009C, H23050437-010C, H23050437-011C, H23050437-012C, H23050437-013C, H23050437-014C, H23050437-015C, H23050437-016C, H23050437-017C, H23050437-018C, H23050437-019C, H23050437-020C, H23050437-021C, H23050437-022C

Run ID :Run Order: <b>FIA203-HE_230518A: 81</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050437-003CMS</b>				Method: <b>E353.2</b>		
Analysis Date: <b>05/18/23 14:40</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.639	0.011	1	0.0083	<b>63</b>	90	110				S

Associated samples: H23050437-001C, H23050437-002C, H23050437-003C, H23050437-004C, H23050437-005C, H23050437-006C, H23050437-007C, H23050437-008C, H23050437-009C, H23050437-010C, H23050437-011C, H23050437-012C, H23050437-013C, H23050437-014C, H23050437-015C, H23050437-016C, H23050437-017C, H23050437-018C, H23050437-019C, H23050437-020C, H23050437-021C, H23050437-022C

Run ID :Run Order: <b>FIA203-HE_230518A: 82</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050437-003CMSD</b>				Method: <b>E353.2</b>		
Analysis Date: <b>05/18/23 14:41</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.643	0.011	1	0.0083	<b>63</b>	90	110	0.6386	<b>0.7</b>	10	S

Associated samples: H23050437-001C, H23050437-002C, H23050437-003C, H23050437-004C, H23050437-005C, H23050437-006C, H23050437-007C, H23050437-008C, H23050437-009C, H23050437-010C, H23050437-011C, H23050437-012C, H23050437-013C, H23050437-014C, H23050437-015C, H23050437-016C, H23050437-017C, H23050437-018C, H23050437-019C, H23050437-020C, H23050437-021C, H23050437-022C

Run ID :Run Order: <b>FIA203-HE_230518A: 88</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050437-003CMS</b>				Method: <b>E353.2</b>		
Analysis Date: <b>05/18/23 14:48</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	3.87	0.055	5	0.0083	<b>77</b>	90	110				S

Associated samples: H23050437-001C, H23050437-002C, H23050437-003C, H23050437-004C, H23050437-005C, H23050437-006C, H23050437-007C, H23050437-008C, H23050437-009C, H23050437-010C, H23050437-011C, H23050437-012C, H23050437-013C, H23050437-014C, H23050437-015C, H23050437-016C, H23050437-017C, H23050437-018C, H23050437-019C, H23050437-020C, H23050437-021C, H23050437-022C

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: R184665

Date: 31-May-23

Run ID :Run Order: <b>FIA203-HE_230518A: 89</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050437-003CMSD</b>				Method: <b>E353.2</b>		
Analysis Date: <b>05/18/23 14:49</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	3.84	0.055	5	0.0083	<b>77</b>	90	110	3.866	<b>0.8</b>	10	S
Associated samples: <b>H23050437-001C, H23050437-002C, H23050437-003C, H23050437-004C, H23050437-005C, H23050437-006C, H23050437-007C, H23050437-008C, H23050437-009C, H23050437-010C, H23050437-011C, H23050437-012C, H23050437-013C, H23050437-014C, H23050437-015C, H23050437-016C, H23050437-017C, H23050437-018C, H23050437-019C, H23050437-020C, H23050437-021C, H23050437-022C</b>											

Run ID :Run Order: <b>FIA203-HE_230518A: 94</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>E353.2</b>		
Analysis Date: <b>05/18/23 14:55</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.460	0.010	0.5	0	<b>92</b>	90	110				
Associated samples: <b>H23050437-001C, H23050437-002C, H23050437-003C, H23050437-004C, H23050437-005C, H23050437-006C, H23050437-007C, H23050437-008C, H23050437-009C, H23050437-010C, H23050437-011C, H23050437-012C, H23050437-013C, H23050437-014C, H23050437-015C, H23050437-016C, H23050437-017C, H23050437-018C, H23050437-019C, H23050437-020C, H23050437-021C, H23050437-022C</b>											

Run ID :Run Order: <b>FIA203-HE_230518A: 191</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>				Method: <b>E353.2</b>		
Analysis Date: <b>05/18/23 15:33</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.01	0.010	1	0	<b>101</b>	90	110				
Associated samples: <b>H23050437-001C, H23050437-002C, H23050437-003C, H23050437-004C, H23050437-005C, H23050437-006C, H23050437-007C, H23050437-008C, H23050437-009C, H23050437-010C, H23050437-011C, H23050437-012C, H23050437-013C, H23050437-014C, H23050437-015C, H23050437-016C, H23050437-017C, H23050437-018C, H23050437-019C, H23050437-020C, H23050437-021C, H23050437-022C</b>											

Run ID :Run Order: <b>FIA203-HE_230518A: 193</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>				Method: <b>E353.2</b>		
Analysis Date: <b>05/18/23 15:36</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.963	0.011	1	0	<b>96</b>	90	110				
Associated samples: <b>H23050437-001C, H23050437-002C, H23050437-003C, H23050437-004C, H23050437-005C, H23050437-006C, H23050437-007C, H23050437-008C, H23050437-009C, H23050437-010C, H23050437-011C, H23050437-012C, H23050437-013C, H23050437-014C, H23050437-015C, H23050437-016C, H23050437-017C, H23050437-018C, H23050437-019C, H23050437-020C, H23050437-021C, H23050437-022C</b>											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184665

**Date:** 31-May-23

Run ID :Run Order: <b>FIA203-HE_230518A: 196</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050437-014CMS</b>				Method: <b>E353.2</b>		
Analysis Date: <b>05/18/23 15:39</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.01	0.011	1	0.0168	<b>99</b>	90	110				
Associated samples: <b>H23050437-001C, H23050437-002C, H23050437-003C, H23050437-004C, H23050437-005C, H23050437-006C, H23050437-007C, H23050437-008C, H23050437-009C, H23050437-010C, H23050437-011C, H23050437-012C, H23050437-013C, H23050437-014C, H23050437-015C, H23050437-016C, H23050437-017C, H23050437-018C, H23050437-019C, H23050437-020C, H23050437-021C, H23050437-022C</b>											

Run ID :Run Order: <b>FIA203-HE_230518A: 197</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050437-014CMSD</b>				Method: <b>E353.2</b>		
Analysis Date: <b>05/18/23 15:41</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.01	0.011	1	0.0168	<b>99</b>	90	110	1.009	<b>0.1</b>	10	
Associated samples: <b>H23050437-001C, H23050437-002C, H23050437-003C, H23050437-004C, H23050437-005C, H23050437-006C, H23050437-007C, H23050437-008C, H23050437-009C, H23050437-010C, H23050437-011C, H23050437-012C, H23050437-013C, H23050437-014C, H23050437-015C, H23050437-016C, H23050437-017C, H23050437-018C, H23050437-019C, H23050437-020C, H23050437-021C, H23050437-022C</b>											

Run ID :Run Order: <b>FIA203-HE_230518A: 209</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050484-001AMS</b>				Method: <b>E353.2</b>		
Analysis Date: <b>05/18/23 15:55</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.955	0.011	1	0.0204	<b>93</b>	90	110				
Associated samples: <b>H23050437-001C, H23050437-002C, H23050437-003C, H23050437-004C, H23050437-005C, H23050437-006C, H23050437-007C, H23050437-008C, H23050437-009C, H23050437-010C, H23050437-011C, H23050437-012C, H23050437-013C, H23050437-014C, H23050437-015C, H23050437-016C, H23050437-017C, H23050437-018C, H23050437-019C, H23050437-020C, H23050437-021C, H23050437-022C</b>											

Run ID :Run Order: <b>FIA203-HE_230518A: 210</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050484-001AMSD</b>				Method: <b>E353.2</b>		
Analysis Date: <b>05/18/23 15:56</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.996	0.011	1	0.0204	<b>98</b>	90	110	0.9552	<b>4.2</b>	10	
Associated samples: <b>H23050437-001C, H23050437-002C, H23050437-003C, H23050437-004C, H23050437-005C, H23050437-006C, H23050437-007C, H23050437-008C, H23050437-009C, H23050437-010C, H23050437-011C, H23050437-012C, H23050437-013C, H23050437-014C, H23050437-015C, H23050437-016C, H23050437-017C, H23050437-018C, H23050437-019C, H23050437-020C, H23050437-021C, H23050437-022C</b>											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184665

**Date:** 31-May-23

Run ID :Run Order: <b>FIA203-HE_230518A: 220</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>E353.2</b>		
Analysis Date: <b>05/18/23 16:08</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.507	0.010	0.5	0	<b>101</b>	90	110				

Associated samples: **H23050437-001C, H23050437-002C, H23050437-003C, H23050437-004C, H23050437-005C, H23050437-006C, H23050437-007C, H23050437-008C, H23050437-009C, H23050437-010C, H23050437-011C, H23050437-012C, H23050437-013C, H23050437-014C, H23050437-015C, H23050437-016C, H23050437-017C, H23050437-018C, H23050437-019C, H23050437-020C, H23050437-021C, H23050437-022C**

Run ID :Run Order: <b>FIA203-HE_230518A: 226</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050524-017CMS</b>				Method: <b>E353.2</b>		
Analysis Date: <b>05/18/23 16:15</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.10	0.011	1	0.046	<b>106</b>	90	110				

Associated samples: **H23050437-001C, H23050437-002C, H23050437-003C, H23050437-004C, H23050437-005C, H23050437-006C, H23050437-007C, H23050437-008C, H23050437-009C, H23050437-010C, H23050437-011C, H23050437-012C, H23050437-013C, H23050437-014C, H23050437-015C, H23050437-016C, H23050437-017C, H23050437-018C, H23050437-019C, H23050437-020C, H23050437-021C, H23050437-022C**

Run ID :Run Order: <b>FIA203-HE_230518A: 227</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050524-017CMSD</b>				Method: <b>E353.2</b>		
Analysis Date: <b>05/18/23 16:16</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.10	0.011	1	0.046	<b>106</b>	90	110	1.102	<b>0.1</b>	10	

Associated samples: **H23050437-001C, H23050437-002C, H23050437-003C, H23050437-004C, H23050437-005C, H23050437-006C, H23050437-007C, H23050437-008C, H23050437-009C, H23050437-010C, H23050437-011C, H23050437-012C, H23050437-013C, H23050437-014C, H23050437-015C, H23050437-016C, H23050437-017C, H23050437-018C, H23050437-019C, H23050437-020C, H23050437-021C, H23050437-022C**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184669

**Date:** 31-May-23

Run ID :Run Order: <b>ICPMS205-H_230518A: 12</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/18/23 17:30</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.304	0.020	0.3	0	<b>101</b>	90	110				
Selenium	0.0579	0.0050	0.06	0	<b>97</b>	90	110				
Silver	0.0301	0.0050	0.03	0	<b>100</b>	90	110				

Associated samples: **H23050437-003B, H23050437-016B**

Run ID :Run Order: <b>ICPMS205-H_230518A: 22</b>		SampType: <b>Method Blank</b>			Lab ID: <b>LRB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/18/23 17:59</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	0.004									
Selenium	ND	0.00007									
Silver	ND	0.00008									

Associated samples: **H23050437-003B, H23050437-016B**

Run ID :Run Order: <b>ICPMS205-H_230518A: 23</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/18/23 18:02</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.155	0.020	0.15	0	<b>103</b>	85	115				
Selenium	0.0513	0.0050	0.05	0	<b>103</b>	85	115				
Silver	0.0207	0.0050	0.02	0	<b>103</b>	85	115				

Associated samples: **H23050437-003B, H23050437-016B**

Run ID :Run Order: <b>ICPMS205-H_230518A: 71</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23050575-001DMS</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/18/23 20:23</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.174	0.020	0.15	0.02508	<b>99</b>	70	130				
Selenium	0.0548	0.0010	0.05	0.0003091	<b>109</b>	70	130				
Silver	0.0196	0.0010	0.02	0	<b>98</b>	70	130				

Associated samples: **H23050437-003B, H23050437-016B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184669

**Date:** 31-May-23

Run ID :Run Order: <b>ICPMS205-H_230518A: 72</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23050575-001DMSD</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/18/23 20:26</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.175	0.020	0.15	0.02508	<b>100</b>	70	130	0.1739	<b>0.5</b>	20	
Selenium	0.0625	0.0010	0.05	0.0003091	<b>124</b>	70	130	0.05479	<b>13</b>	20	
Silver	0.0205	0.0010	0.02	0	<b>102</b>	70	130	0.01964	<b>4.1</b>	20	

Associated samples: **H23050437-003B, H23050437-016B**

Run ID :Run Order: <b>ICPMS205-H_230518A: 83</b>		SampType: <b>Continuing Calibration Verification Standard</b>			Lab ID: <b>CCV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/18/23 20:58</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.35	0.020	1.3	0	<b>104</b>	90	110				
Selenium	0.0511	0.0050	0.05	0	<b>102</b>	90	110				
Silver	0.0206	0.0050	0.02	0	<b>103</b>	90	110				

Associated samples: **H23050437-003B, H23050437-016B**



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184723

**Date:** 31-May-23

Run ID :Run Order: <b>IC METROHM_230519A: 2</b>		SampType: <b>Method Blank</b>			Lab ID: <b>ICB</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/19/23 11:27</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.02									
Sulfate	ND	0.03									
Bromide	ND	0.001									
Fluoride	ND	0.01									

Associated samples: **H23050437-022A**

Run ID :Run Order: <b>IC METROHM_230519A: 3</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/19/23 11:42</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	101	1.0	100	0	<b>101</b>	90	110				
Sulfate	395	1.0	400	0	<b>99</b>	90	110				
Bromide	4.91	0.50	5	0	<b>98</b>	90	110				
Fluoride	5.13	0.10	5	0	<b>103</b>	90	110				

Associated samples: **H23050437-022A**

Run ID :Run Order: <b>IC METROHM_230519A: 4</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/19/23 11:56</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	25.0	1.0	25	0	<b>100</b>	90	110				
Sulfate	104	1.0	100	0	<b>104</b>	90	110				
Bromide	1.17	0.50	1.25	0	<b>93</b>	90	110				
Fluoride	1.30	0.10	1.25	0	<b>104</b>	90	110				

Associated samples: **H23050437-022A**

Run ID :Run Order: <b>IC METROHM_230519A: 6</b>		SampType: <b>Continuing Calibration Verification Standard</b>			Lab ID: <b>CCV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/19/23 12:25</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	52.0	1.0	50	0	<b>104</b>	90	110				
Sulfate	210	1.0	200	0	<b>105</b>	90	110				
Bromide	2.54	0.50	2.5	0	<b>102</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184723

**Date:** 31-May-23

Run ID :Run Order: <b>IC METROHM_230519A: 6</b>		SampType: <b>Continuing Calibration Verification Standard</b>			Lab ID: <b>CCV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/19/23 12:25</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.56	0.10	2.5	0	<b>103</b>	90	110				

Associated samples: **H23050437-022A**

Run ID :Run Order: <b>IC METROHM_230519A: 18</b>		SampType: <b>Sample Duplicate</b>			Lab ID: <b>H23050437-022ADUP</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/19/23 15:31</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	61.6	1.0		0				61.63	<b>0</b>	20	
Sulfate	3780	1.0		0				3744	<b>0.9</b>	20	
Bromide	ND	0.50		0				0		20	
Fluoride	6.06	0.12		0				6.01	<b>0.8</b>	20	

Associated samples: **H23050437-022A**

Run ID :Run Order: <b>IC METROHM_230519A: 20</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23050518-001AMS</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/19/23 16:00</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	37.4	1.0	25	11.99	<b>102</b>	90	110				
Sulfate	178	1.0	100	76.22	<b>101</b>	90	110				
Bromide	1.21	0.50	1.25	0.032	<b>94</b>	90	110				
Fluoride	8.24	0.10	1.25	6.865		90	110				A

Associated samples: **H23050437-022A**

Run ID :Run Order: <b>IC METROHM_230519A: 21</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23050518-001AMSD</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/19/23 16:15</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	37.2	1.0	25	11.99	<b>101</b>	90	110	37.38	<b>0.6</b>	20	
Sulfate	177	1.0	100	76.22	<b>101</b>	90	110	177.7	<b>0.3</b>	20	
Bromide	1.20	0.50	1.25	0.032	<b>93</b>	90	110	1.207	<b>0.9</b>	20	
Fluoride	8.22	0.10	1.25	6.865		90	110	8.241	<b>0.3</b>	20	A

Associated samples: **H23050437-022A**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184848

**Date:** 31-May-23

Run ID :Run Order: <b>IC METROHM_230524A: 2</b>		SampType: <b>Method Blank</b>				Lab ID: <b>ICB</b>			Method: <b>E300.0</b>		
Analysis Date: <b>05/24/23 11:41</b>		Units: <b>mg/L</b>		Prep Info: Prep Date:			Prep Method:				
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.02									
Sulfate	ND	0.03									
Bromide	ND	0.001									
Fluoride	ND	0.01									

Associated samples: H23050437-003A, H23050437-007A, H23050437-008A, H23050437-011A, H23050437-017A, H23050437-019A, H23050437-020A, H23050437-021A

Run ID :Run Order: <b>IC METROHM_230524A: 3</b>		SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>			Method: <b>E300.0</b>		
Analysis Date: <b>05/24/23 11:55</b>		Units: <b>mg/L</b>		Prep Info: Prep Date:			Prep Method:				
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	101	1.0	100	0	101	90	110				
Sulfate	390	1.0	400	0	98	90	110				
Bromide	4.80	0.50	5	0	96	90	110				
Fluoride	5.35	0.10	5	0	107	90	110				

Associated samples: H23050437-003A, H23050437-007A, H23050437-008A, H23050437-011A, H23050437-017A, H23050437-019A, H23050437-020A, H23050437-021A

Run ID :Run Order: <b>IC METROHM_230524A: 4</b>		SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>			Method: <b>E300.0</b>		
Analysis Date: <b>05/24/23 12:10</b>		Units: <b>mg/L</b>		Prep Info: Prep Date:			Prep Method:				
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	24.3	1.0	25	0	97	90	110				
Sulfate	101	1.0	100	0	101	90	110				
Bromide	1.25	0.50	1.25	0	100	90	110				
Fluoride	1.24	0.10	1.25	0	100	90	110				

Associated samples: H23050437-003A, H23050437-007A, H23050437-008A, H23050437-011A, H23050437-017A, H23050437-019A, H23050437-020A, H23050437-021A

Run ID :Run Order: <b>IC METROHM_230524A: 23</b>		SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>			Method: <b>E300.0</b>		
Analysis Date: <b>05/24/23 16:57</b>		Units: <b>mg/L</b>		Prep Info: Prep Date:			Prep Method:				
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	50.5	1.0	50	0	101	90	110				
Sulfate	202	1.0	200	0	101	90	110				
Bromide	2.38	0.50	2.5	0	95	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184848

**Date:** 31-May-23

Run ID :Run Order: <b>IC METROHM_230524A: 23</b>		SampType: <b>Continuing Calibration Verification Standard</b>			Lab ID: <b>CCV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/24/23 16:57</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.65	0.10	2.5	0	<b>106</b>	90	110				

Associated samples: **H23050437-003A, H23050437-007A, H23050437-008A, H23050437-011A, H23050437-017A, H23050437-019A, H23050437-020A, H23050437-021A**

Run ID :Run Order: <b>IC METROHM_230524A: 35</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23050437-008AMS</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/24/23 20:05</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	211	1.0	125	87.28	<b>99</b>	90	110				
Sulfate	1430	1.0	500	942.9	<b>98</b>	90	110				
Bromide	5.70	0.50	6.25	0.21	<b>88</b>	90	110				S
Fluoride	6.76	0.10	6.25	0.42	<b>101</b>	90	110				

Associated samples: **H23050437-003A, H23050437-007A, H23050437-008A, H23050437-011A, H23050437-017A, H23050437-019A, H23050437-020A, H23050437-021A**

Run ID :Run Order: <b>IC METROHM_230524A: 36</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23050437-008AMSD</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/24/23 20:19</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	211	1.0	125	87.28	<b>99</b>	90	110	211.5	<b>0.3</b>	20	
Sulfate	1430	1.0	500	942.9	<b>98</b>	90	110	1433	<b>0.1</b>	20	
Bromide	5.70	0.50	6.25	0.21	<b>88</b>	90	110	5.703	<b>0.0</b>	20	S
Fluoride	6.74	0.10	6.25	0.42	<b>101</b>	90	110	6.757	<b>0.3</b>	20	

Associated samples: **H23050437-003A, H23050437-007A, H23050437-008A, H23050437-011A, H23050437-017A, H23050437-019A, H23050437-020A, H23050437-021A**

Run ID :Run Order: <b>IC METROHM_230524A: 38</b>		SampType: <b>Continuing Calibration Verification Standard</b>			Lab ID: <b>CCV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/24/23 20:48</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	50.8	1.0	50	0	<b>102</b>	90	110				
Sulfate	206	1.0	200	0	<b>103</b>	90	110				
Bromide	2.40	0.50	2.5	0	<b>96</b>	90	110				
Fluoride	2.52	0.10	2.5	0	<b>101</b>	90	110				

Associated samples: **H23050437-003A, H23050437-007A, H23050437-008A, H23050437-011A, H23050437-017A, H23050437-019A, H23050437-020A, H23050437-021A**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** R184848

**Date:** 31-May-23

Run ID :Run Order: <b>IC METROHM_230524A: 50</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23050597-008AMS</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/24/23 23:55</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	167	1.0	50	118.4	98	90	110				
Sulfate	805	1.0	200	605	100	90	110				
Bromide	2.57	0.50	2.5	0.336	89	90	110				S
Fluoride	3.32	0.10	2.5	0.704	105	90	110				

Associated samples: H23050437-003A, H23050437-007A, H23050437-008A, H23050437-011A, H23050437-017A, H23050437-019A, H23050437-020A, H23050437-021A

Run ID :Run Order: <b>IC METROHM_230524A: 51</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23050597-008AMSD</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/25/23 00:09</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	166	1.0	50	118.4	95	90	110	167.1	0.7	20	
Sulfate	809	1.0	200	605	102	90	110	805.5	0.5	20	
Bromide	2.59	0.50	2.5	0.336	90	90	110	2.57	0.6	20	
Fluoride	3.33	0.10	2.5	0.704	105	90	110	3.323	0.3	20	

Associated samples: H23050437-003A, H23050437-007A, H23050437-008A, H23050437-011A, H23050437-017A, H23050437-019A, H23050437-020A, H23050437-021A

<b>Qualifiers:</b> ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limit R - RPD outside accepted recovery limits	N - Analyte concentration was not sufficiently high to calculate RPD A - Analyte concentration greater than four times the spike amount
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## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050437

**BatchID:** TDS230515A

**Date:** 31-May-23

Run ID :Run Order: <b>ACCU-124 (14410200)_230515A: 1</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MB-1_230515</b>	Method: <b>A2540 C</b>
Analysis Date: <b>05/15/23 14:02</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
		Qual	

Associated samples: **H23050437-001A, H23050437-003A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-008A, H23050437-009A, H23050437-010A, H23050437-011A, H23050437-012A, H23050437-013A, H23050437-014A**

Run ID :Run Order: <b>ACCU-124 (14410200)_230515A: 2</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS-2_230515</b>	Method: <b>A2540 C</b>
Analysis Date: <b>05/15/23 14:02</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
		Qual	

Associated samples: **H23050437-001A, H23050437-003A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-008A, H23050437-009A, H23050437-010A, H23050437-011A, H23050437-012A, H23050437-013A, H23050437-014A**

Run ID :Run Order: <b>ACCU-124 (14410200)_230515A: 4</b>	SampType: <b>Sample Duplicate</b>	Lab ID: <b>H23050295-001A DUP</b>	Method: <b>A2540 C</b>
Analysis Date: <b>05/15/23 14:03</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
		Qual	

Associated samples: **H23050437-001A, H23050437-003A, H23050437-004A, H23050437-005A, H23050437-006A, H23050437-007A, H23050437-008A, H23050437-009A, H23050437-010A, H23050437-011A, H23050437-012A, H23050437-013A, H23050437-014A**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050437

BatchID: TDS230516A

Date: 31-May-23

Run ID :Run Order: ACCU-124 (14410200)_230516B: 1	SampType: Method Blank	Lab ID: MB-1_230516	Method: A2540 C								
Analysis Date: 05/16/23 14:24	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	ND	7									

Associated samples: H23050437-002A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-018A, H23050437-019A, H23050437-020A, H23050437-021A, H23050437-022A

Run ID :Run Order: ACCU-124 (14410200)_230516B: 2	SampType: Laboratory Control Sample	Lab ID: LCS-2_230516	Method: A2540 C								
Analysis Date: 05/16/23 14:24	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	1990	50	2000	0	100	90	110				

Associated samples: H23050437-002A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-018A, H23050437-019A, H23050437-020A, H23050437-021A, H23050437-022A

Run ID :Run Order: ACCU-124 (14410200)_230516B: 4	SampType: Sample Duplicate	Lab ID: H23050437-002A DUP	Method: A2540 C								
Analysis Date: 05/16/23 14:24	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	1960	25		0				1966	0.4	10	

Associated samples: H23050437-002A, H23050437-015A, H23050437-016A, H23050437-017A, H23050437-018A, H23050437-019A, H23050437-020A, H23050437-021A, H23050437-022A



# Work Order Receipt Checklist

MT Dept of Justice

H23050437

Login completed by: Wanda Johnson

Date Received: 5/12/2023

Reviewed by: rtooke

Received by: tkj

Reviewed Date: 5/14/2023

Carrier name: Hand Deliver

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	1.3°C On Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

## Contact and Corrective Action Comments:

The temperature of the sample(s) for shipping container 1 was 1.3°C, shipping container 2 was -0.7°C, shipping container 3 was -0.8C, shipping container 4 was -1.6°C, shipping container 0.2C and shipping container 6 was 0.1°C.  
wj 5/12/2023



# Chain of Custody & Analytical Request Record

[www.energylab.com](http://www.energylab.com)

### Account Information (Billing information)

Company/Name	MT DOJ / Natural Resource Damage Program		
Contact	Jim Ford		
Phone	(406) 439-2108		
Mailing Address	1720 9th Avenue		
City, State, Zip	Helena, Montana 59620-1425		
Email	jford@mt.gov		
Receive Invoice	<input type="checkbox"/> Hard Copy	<input checked="" type="checkbox"/> Email	Receive Report
			<input type="checkbox"/> Hard Copy
			<input checked="" type="checkbox"/> Email
Purchase Order	Quote	Bottle Order	

### Report Information (if different than Account Information)

Company/Name	Water & Environmental Technologies		
Contact	Janelle Garza		
Phone	(406) 565-4291		
Mailing Address	480 East Park Street		
City, State, Zip	Butte, Montana 59701		
Email	jgarza@waterenvtech.com		
Receive Report	<input type="checkbox"/> Hard Copy	<input checked="" type="checkbox"/> Email	
Special Report/Formats	<input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC <input checked="" type="checkbox"/> EDD/EDT (contact laboratory) <input type="checkbox"/> Other		

### Comments

Please do not use any "EB" or "FB" samples for MS/MSD.

C1 1.3      C4 -1.6  
 C2 -0.7      C5 0.2  
 C3 -0.8      C6 0.1

### Project Information

Project Name, PWSID, Permit, etc.	NRDPM16 TO2 - Task 001		
Sampler Name	Janelle Garza	Sampler Phone	(406) 599-6770
Sample Origin State	Montana	EPA/State Compliance	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
URANIUM MINING CLIENTS MUST indicate sample type			
<input type="checkbox"/> Unprocessed Ore <input type="checkbox"/> Processed Ore (Ground or Refined) **CALL BEFORE SENDING <input type="checkbox"/> 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)			

### Matrix Codes

- A - Air
- W - Water
- S - Soils/Solids
- V - Vegetation
- B - Bioassay
- O - Oil
- DW - Drinking Water

### Analysis Requested

	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	pH & pH Meas. A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353.2	Dissolved Metals E200.718	See Attached	RUSH	TAT	ELI LAB ID	Laboratory Use Only		
1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
5	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
6	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
7	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
8	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
9	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				

All turnaround times are standard unless marked as RUSH.  
 Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page

Sample Identification (Name, Location, Interval, etc.)	Collection		Number of Containers	Matrix (See Codes Above)	pH & pH Meas. A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353.2	Dissolved Metals E200.718	See Attached	RUSH	TAT	ELI LAB ID Laboratory Use Only	
	Date	Time																
1 PMP-11B	05/11/2023	10:43 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		H23050437
2 PMP-05A	05/11/2023	10:49 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
3 PMP-05BR	05/11/2023	11:18 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
4 AMW-13A	05/11/2023	11:41 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
5 BPS07-11B	05/11/2023	11:46 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
6 BPS07-11A	05/11/2023	12:21 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
7 BPS11-18B	05/11/2023	1:08 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
8 BPS11-18C	05/11/2023	1:33 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
9 PMP-03A	05/11/2023	1:53 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this C.O.C.

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Janelle Garza	5-12-23/1500	[Signature]	Mike Worden	5-12-23/1500	[Signature]
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
	Mike Worden	5-12/23/1605	[Signature]	Taylor Jones	5/12/23 11:05	[Signature]
LABORATORY USE ONLY						
Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice
Hand	Y	Y N C B	Y N	Comments	Y N	Y N
Payment Type			Amount	Receipt Number (dash/check only)		
CC Cash Check			\$			

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.





# Chain of Custody & Analytical Request Record

www.energylab.com

### Account Information (Billing information)

Company/Name MT DOJ / Natural Resource Damage Program		
Contact Jim Ford		
Phone (406) 439-2108		
Mailing Address 1720 9th Avenue		
City, State, Zip Helena, Montana 59620-1425		
Email jford@mt.gov		
Receive Invoice <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	
Purchase Order	Quote	Bottle Order

### Report Information (if different than Account Information)

Company/Name Water & Environmental Technologies		
Contact Janelle Garza		
Phone (406) 565-4291		
Mailing Address 480 East Park Street		
City, State, Zip Butte, Montana 59701		
Email jgarza@waterenvttech.com		
Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email		
Special Report/Formats		
<input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC <input checked="" type="checkbox"/> EDD/EDT (contact laboratory) <input type="checkbox"/> Other		

### Comments

Please do not use any "EB" or "FB" samples for MS/MSD.

C1 1.3 C4-1.6  
 C2-0.7 C5 0.2  
 C3-0.8 C6 0.1

### Project Information

Project Name, PWSID, Permit, etc. NRDP16 TO2 - Task 001	
Sampler Name Janelle Garza	Sampler Phone (406) 599-6770
Sample Origin State Montana	EPA/State Compliance <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
URANIUM MINING CLIENTS MUST indicate sample type	
<input type="checkbox"/> Unprocessed Ore	
<input type="checkbox"/> Processed Ore (Ground or Refined) **CALL BEFORE SENDING	
<input type="checkbox"/> 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)	

### Matrix Codes

- A - Air
- W - Water
- S - Soils/Solids
- V - Vegetation
- B - Bioassay
- O - Oil
- DW - Drinking Water

### Analysis Requested

	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	pH & pH Meas. Temp A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353.2	Dissolved Metals E200.7/8	See Attached	RUSH	TAT	ELI LAB ID <small>Laboratory Use Only</small>			
1	✓	✓	✓	✓	✓	✓	✓	✓	✓				423050437			
2	✓	✓	✓	✓	✓	✓	✓	✓	✓							
3	✓	✓	✓	✓	✓	✓	✓	✓	✓							
4	✓	✓	✓	✓	✓	✓	✓	✓	✓							
5	✓	✓	✓	✓	✓	✓	✓	✓	✓							
6	✓	✓	✓	✓	✓	✓	✓	✓	✓							
7	✓	✓	✓	✓	✓	✓	✓	✓	✓							
8	✓	✓	✓	✓	✓	✓	✓	✓	✓							
9	✓	✓	✓	✓	✓	✓	✓	✓	✓							

All turnaround times are standard unless marked as RUSH.  
 Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page

C1  
C1  
C1  
C5  
C5  
C5  
C9  
C9  
C9

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print) Janelle Garza	Date/Time 5-12-23/1500	Signature <i>Janelle Garza</i>	Received by (print) Mike Worden	Date/Time 5-12-23/1500	Signature <i>Mike Worden</i>
	Relinquished by (print) Mike Worden	Date/Time 5-12-23/1605	Signature <i>Mike Worden</i>	Received by Laboratory (print) Taylor Jones	Date/Time 5/12/23 1605	Signature <i>Taylor Jones</i>
<b>LABORATORY USE ONLY</b>						
Shipped By Hand	Cooler ID(s) Y	Custody Seals Y N C B	Intact Y N	Receipt Temp comming	Temp Blank Y N	On Ice O N
Payment Type CC Cash Check			Amount \$	Receipt Number (cash/check only)		

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly noted on your analytical report.





# Chain of Custody & Analytical Request Record

www.energylab.com

### Account Information (Billing information)

Company/Name MT DOJ / Natural Resource Damage Program		
Contact	Jim Ford	
Phone	(406) 439-2108	
Mailing Address	1720 9th Avenue	
City, State, Zip	Helena, Montana 59620-1425	
Email	jford@mt.gov	
Receive Invoice	<input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email
Purchase Order	Quote	Bottle Order

### Report Information (if different than Account Information)

Company/Name Water & Environmental Technologies		
Contact	Janelle Garza	
Phone	(406) 565-4291	
Mailing Address	480 East Park Street	
City, State, Zip	Butte, Montana 59701	
Email	jgarza@waterenvtech.com	
Receive Report	<input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	
Special Report/Formats		
<input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC <input checked="" type="checkbox"/> EDD/EDT (contact laboratory) <input type="checkbox"/> Other		

### Comments

Please do not use any "EB" or "FB" samples for MS/MSD.

C1 1.3 C4 -1.6  
 C2 -0.7 C5 0.2  
 C3 -0.8 C6 0.1

### Project Information

Project Name, PWSID, Permit, etc. NRDPM16 TO2 - Task 001	
Sampler Name Janelle Garza	Sampler Phone (406) 599-6770
Sample Origin State Montana	EPA/State Compliance <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
URANIUM MINING CLIENTS MUST indicate sample type	
<input type="checkbox"/> Unprocessed Ore	
<input type="checkbox"/> Processed Ore (Ground or Refined) **CALL BEFORE SENDING	
<input type="checkbox"/> 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)	

### Matrix Codes

- A - Air
- W - Water
- S - Soils/ Solids
- V - Vegetation
- B - Bioassay
- O - Oil
- DW - Drinking Water

### Analysis Requested

+	+	+	+	+	+	+	+	+	+
pH & pH Meas. Temp A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353.2	Dissolved Metals E200.7/8	See Attached

All turnaround times are standard unless marked as RUSH.  
 Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page

Sample Identification (Name, Location, Interval, etc.)	Collection		Number of Containers	Matrix (See Codes Above)	Analysis Requested										See Attached	RUSH TAT	ELI LAB ID Laboratory Use Only
	Date	Time			pH & pH Meas. Temp A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353.2	Dissolved Metals E200.7/8				
1 PT14-1	05/11/2023	12:26 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			H29-0 H23050437
2 AMW-09	05/11/2023	1:13 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
3 GS-40R	05/12/2023	1:50 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
4 AMW-08	05/12/2023	1:52 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
5																	
6																	
7																	
8																	
9																	

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print) Janelle Garza	Date/Time 5-12-23/1500	Signature <i>Janelle Garza</i>	Received by (print) Mike Worden	Date/Time 5-12-23/1500	Signature <i>Mike Worden</i>			
	Relinquished by (print) Mike Worden	Date/Time 5-12-23/1605	Signature <i>Mike Worden</i>	Received by Laboratory (print) Travis Jones	Date/Time 5/12/23 1605	Signature <i>Travis Jones</i>			
LABORATORY USE ONLY									
Shipped By Hand	Cooler ID(s) Y	Custody Seals Y N C B	Intact Y N	Receipt Temp Comments	Temp Blank Y N	On Ice Y N	Payment Type CC Cash Check	Amount \$	Receipt Number (cash/check only)

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.



# ANALYTICAL SUMMARY REPORT

May 31, 2023

MT Dept of Justice  
Natural Resource Damage Program  
Helena, MT 59620-1425

Work Order: H23050596      Quote ID: H2187  
Project Name: NRDPM16 TO2-Task 001

Energy Laboratories Inc Helena MT received the following 11 samples for MT Dept of Justice on 5/17/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H23050596-001	AMW-20	05/15/23 11:50	05/17/23	Groundwater	Rare Earth Metals, Dissolved Metals by ICP/ICPMS, Dissolved Alkalinity to pH 4.5 Anion - Cation Balance Carbon, Dissolved Organic Conductivity Carbon, Total Organic Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Solids, Total Dissolved
H23050596-002	PMP-09B	05/16/23 11:41	05/17/23	Groundwater	Same As Above
H23050596-003	AMC-24B	05/16/23 12:42	05/17/23	Groundwater	Same As Above
H23050596-004	AMC-23B	05/16/23 13:46	05/17/23	Groundwater	Same As Above
H23050596-005	PMP-07B	05/16/23 14:15	05/17/23	Groundwater	Same As Above
H23050596-006	MSD-02A	05/16/23 14:46	05/17/23	Groundwater	Same As Above
H23050596-007	PMP-04B	05/16/23 15:49	05/17/23	Groundwater	Same As Above
H23050596-008	PMP-02B	05/16/23 16:38	05/17/23	Groundwater	Same As Above
H23050596-009	PMP-02A	05/16/23 17:00	05/17/23	Groundwater	Same As Above
H23050596-010	PMP-01A	05/16/23 17:10	05/17/23	Groundwater	Same As Above
H23050596-011	AMW-01A	05/17/23 10:45	05/17/23	Groundwater	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

Digitally signed by  
Taylor K. Jones  
Date: 2023.05.31 16:36:45 -06:00



**CLIENT:** MT Dept of Justice  
**Project:** NRDPM16 TO2-Task 001  
**Work Order:** H23050596

**Report Date:** 05/31/23

## **CASE NARRATIVE**

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Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002.





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-20  
**Lab ID:** H23050596-001  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/15/23 11:50 **Date Received:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.4	s.u.	H	0.1		A4500-H B	05/19/23 09:25 / ams		PHSC_101-H_230519A : 9		R184662
pH Measurement Temp	12.1	°C				A4500-H B	05/19/23 09:25 / ams		PHSC_101-H_230519A : 9		R184662
Conductivity @ 25 C	2200	umhos/cm		5		A2510 B	05/19/23 09:25 / ams		PHSC_101-H_230519A : 10		R184662
Solids, Total Dissolved TDS @ 180 C	1880	mg/L		50		A2540 C	05/21/23 08:23 / ams		124 (14410200)_230521A : 45		TDS230521A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	20	mg/L		4		A2320 B	05/23/23 15:34 / ljs		PHSC_101-H_230523A : 89		R184745
Bicarbonate as HCO3	23	mg/L		4		A2320 B	05/23/23 15:34 / ljs		PHSC_101-H_230523A : 89		R184745
Carbonate as CO3	ND	mg/L		4		A2320 B	05/23/23 15:34 / ljs		PHSC_101-H_230523A : 89		R184745
Chloride	40	mg/L		1		E300.0	05/20/23 03:31 / ljs		IC METROHM_230519A : 65		R184723
Sulfate	1220	mg/L		1		E300.0	05/20/23 03:31 / ljs		IC METROHM_230519A : 65		R184723
Bromide	ND	mg/L		0.5		E300.0	05/20/23 03:31 / ljs		IC METROHM_230519A : 65		R184723
Fluoride	1.2	mg/L		0.1		E300.0	05/20/23 03:31 / ljs		IC METROHM_230519A : 65		R184723
Hardness as CaCO3	1140	mg/L		1		A2340 B	05/19/23 13:05 / SR		CALC_230526A : 113		R184891
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.3	mg/L		0.5		A5310 C	05/22/23 23:46 / eli-c		SUB-C294880 : 23		C_R294880
Organic Carbon, Total (TOC)	2.0	mg/L		0.5		A5310 C	05/22/23 16:59 / eli-c		SUB-C294880 : 4		C_R294880
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	2.04	mg/L		0.01		E353.2	05/25/23 12:13 / SR		SEAL AA500_230525A : 22		R184881
<b>METALS, DISSOLVED</b>											
Aluminum	1.26	mg/L		0.009		E200.8	05/25/23 00:45 / dck		ICPMS205-H_230524C : 86		R184846
Antimony	ND	mg/L		0.0005		E200.8	05/25/23 00:45 / dck		ICPMS205-H_230524C : 86		R184846
Arsenic	ND	mg/L		0.001		E200.8	05/25/23 00:45 / dck		ICPMS205-H_230524C : 86		R184846
Barium	0.011	mg/L		0.003		E200.8	05/25/23 00:45 / dck		ICPMS205-H_230524C : 86		R184846
Beryllium	0.0012	mg/L		0.0008		E200.8	05/25/23 00:45 / dck		ICPMS205-H_230524C : 86		R184846
Boron	0.06	mg/L		0.05		E200.7	05/19/23 13:05 / slj		ICP2-HE_230519A : 36		R184684
Cadmium	0.0194	mg/L		0.00003		E200.8	05/25/23 00:45 / dck		ICPMS205-H_230524C : 86		R184846
Cesium	ND	mg/L		0.01		E200.8	05/25/23 08:40 / dck		ICPMS205-H_230524D : 31		R184870

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-20  
**Lab ID:** H23050596-001  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/15/23 11:50 **Date Received:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	434	mg/L		1		E200.7	05/19/23 13:05 / slj		ICP2-HE_230519A : 36		R184684
Chromium	ND	mg/L		0.005		E200.8	05/25/23 00:45 / dck		ICPMS205-H_230524C : 86		R184846
Cobalt	0.021	mg/L		0.005		E200.8	05/25/23 00:45 / dck		ICPMS205-H_230524C : 86		R184846
Copper	2.01	mg/L		0.01		E200.7	05/19/23 13:05 / slj		ICP2-HE_230519A : 36		R184684
Gallium	ND	mg/L		0.01		E200.8	05/25/23 08:40 / dck		ICPMS205-H_230524D : 31		R184870
Iron	0.40	mg/L		0.02		E200.8	05/25/23 00:45 / dck		ICPMS205-H_230524C : 86		R184846
Lead	ND	mg/L		0.0003		E200.8	05/25/23 00:45 / dck		ICPMS205-H_230524C : 86		R184846
Lanthanum	0.03	mg/L		0.01		E200.8	05/25/23 08:40 / dck		ICPMS205-H_230524D : 31		R184870
Lithium	ND	mg/L		0.1		E200.7	05/19/23 13:05 / slj		ICP2-HE_230519A : 36		R184684
Magnesium	14	mg/L		1		E200.7	05/19/23 13:05 / slj		ICP2-HE_230519A : 36		R184684
Neodymium	0.016	mg/L		0.005		E200.8	05/25/23 08:40 / dck		ICPMS205-H_230524D : 31		R184870
Niobium	ND	mg/L		0.01		E200.8	05/25/23 08:40 / dck		ICPMS205-H_230524D : 31		R184870
Manganese	2.08	mg/L		0.001		E200.7	05/19/23 13:05 / slj		ICP2-HE_230519A : 36		R184684
Molybdenum	0.023	mg/L		0.001		E200.8	05/25/23 00:45 / dck		ICPMS205-H_230524C : 86		R184846
Nickel	0.010	mg/L		0.002		E200.8	05/25/23 00:45 / dck		ICPMS205-H_230524C : 86		R184846
Palladium	ND	mg/L		0.01		E200.8	05/25/23 08:40 / dck		ICPMS205-H_230524D : 31		R184870
Praseodymium	ND	mg/L		0.01		E200.8	05/25/23 08:40 / dck		ICPMS205-H_230524D : 31		R184870
Rubidium	ND	mg/L		0.01		E200.8	05/25/23 08:40 / dck		ICPMS205-H_230524D : 31		R184870
Potassium	18	mg/L		1		E200.7	05/19/23 13:05 / slj		ICP2-HE_230519A : 36		R184684
Selenium	0.013	mg/L		0.001		E200.8	05/25/23 00:45 / dck		ICPMS205-H_230524C : 86		R184846
Silver	ND	mg/L		0.0002		E200.8	05/25/23 00:45 / dck		ICPMS205-H_230524C : 86		R184846
Sodium	42	mg/L		1		E200.7	05/19/23 13:05 / slj		ICP2-HE_230519A : 36		R184684
Strontium	1.53	mg/L		0.01		E200.7	05/19/23 13:05 / slj		ICP2-HE_230519A : 36		R184684
Thallium	ND	mg/L		0.0002		E200.8	05/25/23 00:45 / dck		ICPMS205-H_230524C : 86		R184846
Thorium	ND	mg/L		0.005		E200.8	05/25/23 00:45 / dck		ICPMS205-H_230524C : 86		R184846
Tin	ND	mg/L		0.05		E200.8	05/25/23 00:45 / dck		ICPMS205-H_230524C : 86		R184846
Titanium	ND	mg/L		0.005		E200.8	05/25/23 00:45 / dck		ICPMS205-H_230524C : 86		R184846
Tungsten	ND	mg/L		0.1		E200.8	05/25/23 08:40 / dck		ICPMS205-H_230524D : 31		R184870
Uranium	0.0036	mg/L		0.0002		E200.8	05/25/23 00:45 / dck		ICPMS205-H_230524C : 86		R184846
Vanadium	ND	mg/L		0.01		E200.8	05/25/23 00:45 / dck		ICPMS205-H_230524C : 86		R184846
Zinc	3.75	mg/L		0.008		E200.7	05/19/23 13:05 / slj		ICP2-HE_230519A : 36		R184684
Zirconium	ND	mg/L		0.005		E200.8	05/25/23 08:40 / dck		ICPMS205-H_230524D : 31		R184870

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-20  
**Lab ID:** H23050596-001  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/15/23 11:50      **Date Received:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-3.91	%				A1030 E	05/26/23 10:53 / SR		CALC_230526A : 111		R184891

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-09B  
**Lab ID:** H23050596-002  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/16/23 11:41 **Date Received:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.8	s.u.	H	0.1		A4500-H B	05/19/23 09:29 / ams		PHSC_101-H_230519A : 13		R184662
pH Measurement Temp	10.9	°C				A4500-H B	05/19/23 09:29 / ams		PHSC_101-H_230519A : 13		R184662
Conductivity @ 25 C	1430	umhos/cm		5		A2510 B	05/19/23 09:29 / ams		PHSC_101-H_230519A : 14		R184662
Solids, Total Dissolved TDS @ 180 C	1020	mg/L		20		A2540 C	05/21/23 07:36 / ams		-124 (14410200)_230521A : 5		TDS230521A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	100	mg/L		4		A2320 B	05/23/23 15:41 / ljs		PHSC_101-H_230523A : 91		R184745
Bicarbonate as HCO3	130	mg/L		4		A2320 B	05/23/23 15:41 / ljs		PHSC_101-H_230523A : 91		R184745
Carbonate as CO3	ND	mg/L		4		A2320 B	05/23/23 15:41 / ljs		PHSC_101-H_230523A : 91		R184745
Chloride	59	mg/L		1		E300.0	05/20/23 03:46 / ljs		IC METROHM_230519A : 66		R184723
Sulfate	537	mg/L		1		E300.0	05/20/23 03:46 / ljs		IC METROHM_230519A : 66		R184723
Bromide	ND	mg/L		0.5		E300.0	05/20/23 03:46 / ljs		IC METROHM_230519A : 66		R184723
Fluoride	0.8	mg/L		0.1		E300.0	05/20/23 03:46 / ljs		IC METROHM_230519A : 66		R184723
Hardness as CaCO3	578	mg/L		1		A2340 B	05/19/23 13:20 / SR		CALC_230526A : 124		R184891
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.0	mg/L		0.5		A5310 C	05/23/23 00:32 / eli-c		SUB-C294880 : 26		C_R294880
Organic Carbon, Total (TOC)	0.5	mg/L		0.5		A5310 C	05/22/23 17:46 / eli-c		SUB-C294880 : 7		C_R294880
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	4.05	mg/L		0.02		E353.2	05/25/23 12:14 / SR		SEAL AA500_230525A : 23		R184881
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/25/23 00:49 / dck		ICPMS205-H_230524C : 87		R184846
Antimony	ND	mg/L		0.0005		E200.8	05/25/23 00:49 / dck		ICPMS205-H_230524C : 87		R184846
Arsenic	0.012	mg/L		0.001		E200.8	05/25/23 00:49 / dck		ICPMS205-H_230524C : 87		R184846
Barium	0.033	mg/L		0.003		E200.8	05/25/23 00:49 / dck		ICPMS205-H_230524C : 87		R184846
Beryllium	ND	mg/L		0.0008		E200.8	05/25/23 00:49 / dck		ICPMS205-H_230524C : 87		R184846
Boron	0.10	mg/L		0.05		E200.7	05/19/23 13:20 / slj		ICP2-HE_230519A : 40		R184684
Cadmium	0.0152	mg/L		0.00003		E200.8	05/25/23 00:49 / dck		ICPMS205-H_230524C : 87		R184846
Cesium	ND	mg/L		0.01		E200.8	05/25/23 08:44 / dck		ICPMS205-H_230524D : 32		R184870

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-09B  
**Lab ID:** H23050596-002  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/16/23 11:41 **Date Received:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	173	mg/L		1		E200.7	05/19/23 13:20 / slj		ICP2-HE_230519A : 40		R184684
Chromium	ND	mg/L		0.005		E200.8	05/25/23 00:49 / dck		ICPMS205-H_230524C : 87		R184846
Cobalt	ND	mg/L		0.005		E200.8	05/25/23 00:49 / dck		ICPMS205-H_230524C : 87		R184846
Copper	0.003	mg/L		0.002		E200.8	05/25/23 00:49 / dck		ICPMS205-H_230524C : 87		R184846
Gallium	ND	mg/L		0.01		E200.8	05/25/23 08:44 / dck		ICPMS205-H_230524D : 32		R184870
Iron	ND	mg/L		0.02		E200.8	05/25/23 00:49 / dck		ICPMS205-H_230524C : 87		R184846
Lead	ND	mg/L		0.0003		E200.8	05/25/23 00:49 / dck		ICPMS205-H_230524C : 87		R184846
Lanthanum	ND	mg/L		0.01		E200.8	05/25/23 08:44 / dck		ICPMS205-H_230524D : 32		R184870
Lithium	0.3	mg/L		0.1		E200.7	05/19/23 13:20 / slj		ICP2-HE_230519A : 40		R184684
Magnesium	35	mg/L		1		E200.7	05/19/23 13:20 / slj		ICP2-HE_230519A : 40		R184684
Neodymium	ND	mg/L		0.005		E200.8	05/25/23 08:44 / dck		ICPMS205-H_230524D : 32		R184870
Niobium	ND	mg/L		0.01		E200.8	05/25/23 08:44 / dck		ICPMS205-H_230524D : 32		R184870
Manganese	0.091	mg/L		0.001		E200.8	05/25/23 00:49 / dck		ICPMS205-H_230524C : 87		R184846
Molybdenum	0.003	mg/L		0.001		E200.8	05/25/23 00:49 / dck		ICPMS205-H_230524C : 87		R184846
Nickel	0.007	mg/L		0.002		E200.8	05/25/23 00:49 / dck		ICPMS205-H_230524C : 87		R184846
Palladium	ND	mg/L		0.01		E200.8	05/25/23 08:44 / dck		ICPMS205-H_230524D : 32		R184870
Praseodymium	ND	mg/L		0.01		E200.8	05/25/23 08:44 / dck		ICPMS205-H_230524D : 32		R184870
Rubidium	0.02	mg/L		0.01		E200.8	05/25/23 08:44 / dck		ICPMS205-H_230524D : 32		R184870
Potassium	13	mg/L		1		E200.7	05/19/23 13:20 / slj		ICP2-HE_230519A : 40		R184684
Selenium	ND	mg/L		0.001		E200.8	05/25/23 00:49 / dck		ICPMS205-H_230524C : 87		R184846
Silver	ND	mg/L		0.0002		E200.8	05/25/23 00:49 / dck		ICPMS205-H_230524C : 87		R184846
Sodium	69	mg/L		1		E200.7	05/19/23 13:20 / slj		ICP2-HE_230519A : 40		R184684
Strontium	2.38	mg/L		0.01		E200.7	05/19/23 13:20 / slj		ICP2-HE_230519A : 40		R184684
Thallium	ND	mg/L		0.0002		E200.8	05/25/23 00:49 / dck		ICPMS205-H_230524C : 87		R184846
Thorium	ND	mg/L		0.005		E200.8	05/25/23 00:49 / dck		ICPMS205-H_230524C : 87		R184846
Tin	ND	mg/L		0.05		E200.8	05/25/23 00:49 / dck		ICPMS205-H_230524C : 87		R184846
Titanium	ND	mg/L		0.005		E200.8	05/25/23 00:49 / dck		ICPMS205-H_230524C : 87		R184846
Tungsten	ND	mg/L		0.1		E200.8	05/25/23 08:44 / dck		ICPMS205-H_230524D : 32		R184870
Uranium	0.0127	mg/L		0.0002		E200.8	05/25/23 00:49 / dck		ICPMS205-H_230524C : 87		R184846
Vanadium	ND	mg/L		0.01		E200.8	05/25/23 00:49 / dck		ICPMS205-H_230524C : 87		R184846
Zinc	1.72	mg/L		0.008		E200.7	05/19/23 13:20 / slj		ICP2-HE_230519A : 40		R184684
Zirconium	ND	mg/L		0.005		E200.8	05/25/23 08:44 / dck		ICPMS205-H_230524D : 32		R184870

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-09B  
**Lab ID:** H23050596-002  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/16/23 11:41      **DateReceived:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.38	%				A1030 E	05/26/23 10:54 / SR		CALC_230526A : 122		R184891

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-24B  
**Lab ID:** H23050596-003  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/16/23 12:42 **Date Received:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.6	s.u.	H	0.1		A4500-H B	05/19/23 09:31 / ams		PHSC_101-H_230519A : 15		R184662
pH Measurement Temp	11.2	°C				A4500-H B	05/19/23 09:31 / ams		PHSC_101-H_230519A : 15		R184662
Conductivity @ 25 C	1330	umhos/cm		5		A2510 B	05/19/23 09:31 / ams		PHSC_101-H_230519A : 16		R184662
Solids, Total Dissolved TDS @ 180 C	959	mg/L		20		A2540 C	05/21/23 07:36 / ams		-124 (14410200)_230521A : 6		TDS230521A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	56	mg/L		4		A2320 B	05/23/23 16:12 / ljs		PHSC_101-H_230523A : 95		R184745
Bicarbonate as HCO3	67	mg/L		4		A2320 B	05/23/23 16:12 / ljs		PHSC_101-H_230523A : 95		R184745
Carbonate as CO3	ND	mg/L		4		A2320 B	05/23/23 16:12 / ljs		PHSC_101-H_230523A : 95		R184745
Chloride	27	mg/L		1		E300.0	05/20/23 04:00 / ljs		IC METROHM_230519A : 67		R184723
Sulfate	588	mg/L		1		E300.0	05/20/23 04:00 / ljs		IC METROHM_230519A : 67		R184723
Bromide	ND	mg/L		0.5		E300.0	05/20/23 04:00 / ljs		IC METROHM_230519A : 67		R184723
Fluoride	0.6	mg/L		0.1		E300.0	05/20/23 04:00 / ljs		IC METROHM_230519A : 67		R184723
Hardness as CaCO3	504	mg/L		1		A2340 B	05/19/23 13:31 / SR		CALC_230526A : 135		R184891
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	05/23/23 00:47 / eli-c		SUB-C294880 : 27		C_R294880
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	05/22/23 18:06 / eli-c		SUB-C294880 : 8		C_R294880
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	1.73	mg/L		0.01		E353.2	05/25/23 12:15 / SR		SEAL AA500_230525A : 24		R184881
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/25/23 00:53 / dck		ICPMS205-H_230524C : 88		R184846
Antimony	ND	mg/L		0.0005		E200.8	05/25/23 00:53 / dck		ICPMS205-H_230524C : 88		R184846
Arsenic	0.004	mg/L		0.001		E200.8	05/25/23 00:53 / dck		ICPMS205-H_230524C : 88		R184846
Barium	0.017	mg/L		0.003		E200.8	05/25/23 00:53 / dck		ICPMS205-H_230524C : 88		R184846
Beryllium	ND	mg/L		0.0008		E200.8	05/25/23 00:53 / dck		ICPMS205-H_230524C : 88		R184846
Boron	0.09	mg/L		0.05		E200.7	05/19/23 13:31 / slj		ICP2-HE_230519A : 43		R184684
Cadmium	0.00551	mg/L		0.00003		E200.8	05/25/23 00:53 / dck		ICPMS205-H_230524C : 88		R184846
Cesium	ND	mg/L		0.01		E200.8	05/25/23 08:47 / dck		ICPMS205-H_230524D : 33		R184870

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-24B  
**Lab ID:** H23050596-003  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/16/23 12:42 **Date Received:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	145	mg/L		1		E200.7	05/19/23 13:31 / slj		ICP2-HE_230519A : 43		R184684
Chromium	ND	mg/L		0.005		E200.8	05/25/23 00:53 / dck		ICPMS205-H_230524C : 88		R184846
Cobalt	ND	mg/L		0.005		E200.8	05/25/23 00:53 / dck		ICPMS205-H_230524C : 88		R184846
Copper	0.122	mg/L		0.002		E200.8	05/25/23 00:53 / dck		ICPMS205-H_230524C : 88		R184846
Gallium	ND	mg/L		0.01		E200.8	05/25/23 08:47 / dck		ICPMS205-H_230524D : 33		R184870
Iron	ND	mg/L		0.02		E200.8	05/25/23 00:53 / dck		ICPMS205-H_230524C : 88		R184846
Lead	ND	mg/L		0.0003		E200.8	05/25/23 00:53 / dck		ICPMS205-H_230524C : 88		R184846
Lanthanum	ND	mg/L		0.01		E200.8	05/25/23 08:47 / dck		ICPMS205-H_230524D : 33		R184870
Lithium	0.2	mg/L		0.1		E200.7	05/19/23 13:31 / slj		ICP2-HE_230519A : 43		R184684
Magnesium	35	mg/L		1		E200.7	05/19/23 13:31 / slj		ICP2-HE_230519A : 43		R184684
Neodymium	ND	mg/L		0.005		E200.8	05/25/23 08:47 / dck		ICPMS205-H_230524D : 33		R184870
Niobium	ND	mg/L		0.01		E200.8	05/25/23 08:47 / dck		ICPMS205-H_230524D : 33		R184870
Manganese	ND	mg/L		0.001		E200.8	05/25/23 00:53 / dck		ICPMS205-H_230524C : 88		R184846
Molybdenum	0.002	mg/L		0.001		E200.8	05/25/23 00:53 / dck		ICPMS205-H_230524C : 88		R184846
Nickel	0.004	mg/L		0.002		E200.8	05/25/23 00:53 / dck		ICPMS205-H_230524C : 88		R184846
Palladium	ND	mg/L		0.01		E200.8	05/25/23 08:47 / dck		ICPMS205-H_230524D : 33		R184870
Praseodymium	ND	mg/L		0.01		E200.8	05/25/23 08:47 / dck		ICPMS205-H_230524D : 33		R184870
Rubidium	0.02	mg/L		0.01		E200.8	05/25/23 08:47 / dck		ICPMS205-H_230524D : 33		R184870
Potassium	13	mg/L		1		E200.7	05/19/23 13:31 / slj		ICP2-HE_230519A : 43		R184684
Selenium	ND	mg/L		0.001		E200.8	05/25/23 00:53 / dck		ICPMS205-H_230524C : 88		R184846
Silver	ND	mg/L		0.0002		E200.8	05/25/23 00:53 / dck		ICPMS205-H_230524C : 88		R184846
Sodium	79	mg/L		1		E200.7	05/19/23 13:31 / slj		ICP2-HE_230519A : 43		R184684
Strontium	1.73	mg/L		0.01		E200.7	05/19/23 13:31 / slj		ICP2-HE_230519A : 43		R184684
Thallium	ND	mg/L		0.0002		E200.8	05/25/23 00:53 / dck		ICPMS205-H_230524C : 88		R184846
Thorium	ND	mg/L		0.005		E200.8	05/25/23 00:53 / dck		ICPMS205-H_230524C : 88		R184846
Tin	ND	mg/L		0.05		E200.8	05/25/23 00:53 / dck		ICPMS205-H_230524C : 88		R184846
Titanium	ND	mg/L		0.005		E200.8	05/25/23 00:53 / dck		ICPMS205-H_230524C : 88		R184846
Tungsten	ND	mg/L		0.1		E200.8	05/25/23 08:47 / dck		ICPMS205-H_230524D : 33		R184870
Uranium	0.0014	mg/L		0.0002		E200.8	05/25/23 00:53 / dck		ICPMS205-H_230524C : 88		R184846
Vanadium	ND	mg/L		0.01		E200.8	05/25/23 00:53 / dck		ICPMS205-H_230524C : 88		R184846
Zinc	1.01	mg/L		0.008		E200.8	05/25/23 00:53 / dck		ICPMS205-H_230524C : 88		R184846
Zirconium	ND	mg/L		0.005		E200.8	05/25/23 08:47 / dck		ICPMS205-H_230524D : 33		R184870

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-24B  
**Lab ID:** H23050596-003  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/16/23 12:42      **DateReceived:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.57	%				A1030 E	05/26/23 10:54 / SR		CALC_230526A : 133		R184891

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-23B  
**Lab ID:** H23050596-004  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/16/23 13:46 **Date Received:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.8	s.u.	H	0.1		A4500-H B	05/19/23 09:33 / ams		PHSC_101-H_230519A : 17		R184662
pH Measurement Temp	11.4	°C				A4500-H B	05/19/23 09:33 / ams		PHSC_101-H_230519A : 17		R184662
Conductivity @ 25 C	1360	umhos/cm		5		A2510 B	05/19/23 09:33 / ams		PHSC_101-H_230519A : 18		R184662
Solids, Total Dissolved TDS @ 180 C	945	mg/L		20		A2540 C	05/21/23 07:36 / ams		-124 (14410200)_230521A : 7		TDS230521A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	100	mg/L		4		A2320 B	05/23/23 16:26 / ljs		PHSC_101-H_230523A : 99		R184745
Bicarbonate as HCO3	120	mg/L		4		A2320 B	05/23/23 16:26 / ljs		PHSC_101-H_230523A : 99		R184745
Carbonate as CO3	ND	mg/L		4		A2320 B	05/23/23 16:26 / ljs		PHSC_101-H_230523A : 99		R184745
Chloride	40	mg/L		1		E300.0	05/20/23 04:14 / ljs		IC METROHM_230519A : 68		R184723
Sulfate	533	mg/L		1		E300.0	05/20/23 04:14 / ljs		IC METROHM_230519A : 68		R184723
Bromide	ND	mg/L		0.5		E300.0	05/20/23 04:14 / ljs		IC METROHM_230519A : 68		R184723
Fluoride	1.1	mg/L		0.1		E300.0	05/20/23 04:14 / ljs		IC METROHM_230519A : 68		R184723
Hardness as CaCO3	470	mg/L		1		A2340 B	05/19/23 13:35 / SR		CALC_230526A : 146		R184891
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.6	mg/L		0.5		A5310 C	05/23/23 01:02 / eli-c		SUB-C294880 : 28		C_R294880
Organic Carbon, Total (TOC)	0.6	mg/L		0.5		A5310 C	05/22/23 18:25 / eli-c		SUB-C294880 : 9		C_R294880
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	3.12	mg/L		0.01		E353.2	05/25/23 12:16 / SR		SEAL AA500_230525A : 25		R184881
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/25/23 00:58 / dck		ICPMS205-H_230524C : 89		R184846
Antimony	ND	mg/L		0.0005		E200.8	05/25/23 00:58 / dck		ICPMS205-H_230524C : 89		R184846
Arsenic	0.009	mg/L		0.001		E200.8	05/25/23 00:58 / dck		ICPMS205-H_230524C : 89		R184846
Barium	0.022	mg/L		0.003		E200.8	05/25/23 00:58 / dck		ICPMS205-H_230524C : 89		R184846
Beryllium	ND	mg/L		0.0008		E200.8	05/25/23 00:58 / dck		ICPMS205-H_230524C : 89		R184846
Boron	0.14	mg/L		0.05		E200.7	05/19/23 13:35 / slj		ICP2-HE_230519A : 44		R184684
Cadmium	0.0105	mg/L		0.00003		E200.8	05/25/23 00:58 / dck		ICPMS205-H_230524C : 89		R184846
Cesium	ND	mg/L		0.01		E200.8	05/25/23 08:51 / dck		ICPMS205-H_230524D : 34		R184870

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-23B  
**Lab ID:** H23050596-004  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/16/23 13:46 **Date Received:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	140	mg/L		1		E200.7	05/19/23 13:35 / slj		ICP2-HE_230519A : 44		R184684
Chromium	ND	mg/L		0.005		E200.8	05/25/23 00:58 / dck		ICPMS205-H_230524C : 89		R184846
Cobalt	ND	mg/L		0.005		E200.8	05/25/23 00:58 / dck		ICPMS205-H_230524C : 89		R184846
Copper	ND	mg/L		0.002		E200.8	05/25/23 00:58 / dck		ICPMS205-H_230524C : 89		R184846
Gallium	ND	mg/L		0.01		E200.8	05/25/23 08:51 / dck		ICPMS205-H_230524D : 34		R184870
Iron	ND	mg/L		0.02		E200.8	05/25/23 00:58 / dck		ICPMS205-H_230524C : 89		R184846
Lead	ND	mg/L		0.0003		E200.8	05/25/23 00:58 / dck		ICPMS205-H_230524C : 89		R184846
Lanthanum	ND	mg/L		0.01		E200.8	05/25/23 08:51 / dck		ICPMS205-H_230524D : 34		R184870
Lithium	0.4	mg/L		0.1		E200.7	05/19/23 13:35 / slj		ICP2-HE_230519A : 44		R184684
Magnesium	29	mg/L		1		E200.7	05/19/23 13:35 / slj		ICP2-HE_230519A : 44		R184684
Neodymium	ND	mg/L		0.005		E200.8	05/25/23 08:51 / dck		ICPMS205-H_230524D : 34		R184870
Niobium	ND	mg/L		0.01		E200.8	05/25/23 08:51 / dck		ICPMS205-H_230524D : 34		R184870
Manganese	0.004	mg/L		0.001		E200.8	05/25/23 00:58 / dck		ICPMS205-H_230524C : 89		R184846
Molybdenum	0.002	mg/L		0.001		E200.8	05/25/23 00:58 / dck		ICPMS205-H_230524C : 89		R184846
Nickel	0.003	mg/L		0.002		E200.8	05/25/23 00:58 / dck		ICPMS205-H_230524C : 89		R184846
Palladium	ND	mg/L		0.01		E200.8	05/25/23 08:51 / dck		ICPMS205-H_230524D : 34		R184870
Praseodymium	ND	mg/L		0.01		E200.8	05/25/23 08:51 / dck		ICPMS205-H_230524D : 34		R184870
Rubidium	0.01	mg/L		0.01		E200.8	05/25/23 08:51 / dck		ICPMS205-H_230524D : 34		R184870
Potassium	13	mg/L		1		E200.7	05/19/23 13:35 / slj		ICP2-HE_230519A : 44		R184684
Selenium	ND	mg/L		0.001		E200.8	05/25/23 00:58 / dck		ICPMS205-H_230524C : 89		R184846
Silver	ND	mg/L		0.0002		E200.8	05/25/23 00:58 / dck		ICPMS205-H_230524C : 89		R184846
Sodium	97	mg/L		1		E200.7	05/19/23 13:35 / slj		ICP2-HE_230519A : 44		R184684
Strontium	2.07	mg/L		0.01		E200.7	05/19/23 13:35 / slj		ICP2-HE_230519A : 44		R184684
Thallium	ND	mg/L		0.0002		E200.8	05/25/23 00:58 / dck		ICPMS205-H_230524C : 89		R184846
Thorium	ND	mg/L		0.005		E200.8	05/25/23 00:58 / dck		ICPMS205-H_230524C : 89		R184846
Tin	ND	mg/L		0.05		E200.8	05/25/23 00:58 / dck		ICPMS205-H_230524C : 89		R184846
Titanium	ND	mg/L		0.005		E200.8	05/25/23 00:58 / dck		ICPMS205-H_230524C : 89		R184846
Tungsten	ND	mg/L		0.1		E200.8	05/25/23 08:51 / dck		ICPMS205-H_230524D : 34		R184870
Uranium	0.0052	mg/L		0.0002		E200.8	05/25/23 00:58 / dck		ICPMS205-H_230524C : 89		R184846
Vanadium	ND	mg/L		0.01		E200.8	05/25/23 00:58 / dck		ICPMS205-H_230524C : 89		R184846
Zinc	0.817	mg/L		0.008		E200.8	05/25/23 00:58 / dck		ICPMS205-H_230524C : 89		R184846
Zirconium	ND	mg/L		0.005		E200.8	05/25/23 08:51 / dck		ICPMS205-H_230524D : 34		R184870

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-23B  
**Lab ID:** H23050596-004  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/16/23 13:46      **DateReceived:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-2.23	%				A1030 E	05/26/23 10:54 / SR		CALC_230526A : 144		R184891

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-07B  
**Lab ID:** H23050596-005  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/16/23 14:15  
**Date Received:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.3	s.u.	H	0.1		A4500-H B	05/19/23 09:35 / ams		PHSC_101-H_230519A : 19		R184662
pH Measurement Temp	11.6	°C				A4500-H B	05/19/23 09:35 / ams		PHSC_101-H_230519A : 19		R184662
Conductivity @ 25 C	3270	umhos/cm		5		A2510 B	05/19/23 09:35 / ams		PHSC_101-H_230519A : 20		R184662
Solids, Total Dissolved TDS @ 180 C	2900	mg/L		50		A2540 C	05/21/23 07:36 / ams		-124 (14410200)_230521A : 8		TDS230521A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	54	mg/L		4		A2320 B	05/23/23 16:35 / ljs		PHSC_101-H_230523A : 101		R184745
Bicarbonate as HCO3	65	mg/L		4		A2320 B	05/23/23 16:35 / ljs		PHSC_101-H_230523A : 101		R184745
Carbonate as CO3	ND	mg/L		4		A2320 B	05/23/23 16:35 / ljs		PHSC_101-H_230523A : 101		R184745
Chloride	76	mg/L		1		E300.0	05/20/23 05:12 / ljs		IC METROHM_230519A : 71		R184723
Sulfate	1940	mg/L		1		E300.0	05/20/23 05:12 / ljs		IC METROHM_230519A : 71		R184723
Bromide	ND	mg/L		0.5		E300.0	05/20/23 05:12 / ljs		IC METROHM_230519A : 71		R184723
Fluoride	ND	mg/L		0.1		E300.0	05/20/23 05:12 / ljs		IC METROHM_230519A : 71		R184723
Hardness as CaCO3	1730	mg/L		1		A2340 B	05/19/23 13:39 / SR		CALC_230526A : 157		R184891
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.7	mg/L		0.5		A5310 C	05/23/23 01:19 / eli-c		SUB-C294880 : 29		C_R294880
Organic Carbon, Total (TOC)	1.2	mg/L		0.5		A5310 C	05/22/23 18:41 / eli-c		SUB-C294880 : 10		C_R294880
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.04	mg/L		0.01		E353.2	05/25/23 12:17 / SR		SEAL AA500_230525A : 26		R184881
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/25/23 04:11 / dck		ICPMS205-H_230524C : 134		R184846
Antimony	ND	mg/L		0.0005		E200.8	05/25/23 04:11 / dck		ICPMS205-H_230524C : 134		R184846
Arsenic	0.001	mg/L		0.001		E200.8	05/25/23 04:11 / dck		ICPMS205-H_230524C : 134		R184846
Barium	0.018	mg/L		0.003		E200.8	05/25/23 04:11 / dck		ICPMS205-H_230524C : 134		R184846
Beryllium	ND	mg/L		0.0008		E200.8	05/25/23 04:11 / dck		ICPMS205-H_230524C : 134		R184846
Boron	0.08	mg/L		0.05		E200.7	05/19/23 13:39 / slj		ICP2-HE_230519A : 45		R184684
Cadmium	0.0196	mg/L		0.00003		E200.8	05/25/23 04:11 / dck		ICPMS205-H_230524C : 134		R184846
Cesium	ND	mg/L		0.01		E200.8	05/25/23 08:54 / dck		ICPMS205-H_230524D : 35		R184870

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-07B  
**Lab ID:** H23050596-005  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/16/23 14:15 **Date Received:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	480	mg/L		1		E200.7	05/19/23 13:39 / slj		ICP2-HE_230519A : 45		R184684
Chromium	ND	mg/L		0.005		E200.8	05/25/23 04:11 / dck		ICPMS205-H_230524C : 134		R184846
Cobalt	0.020	mg/L		0.005		E200.8	05/25/23 04:11 / dck		ICPMS205-H_230524C : 134		R184846
Copper	ND	mg/L		0.002		E200.8	05/27/23 03:03 / dck		ICPMS205-H_230526B : 115		R184927
Gallium	ND	mg/L		0.01		E200.8	05/25/23 08:54 / dck		ICPMS205-H_230524D : 35		R184870
Iron	0.17	mg/L		0.02		E200.8	05/25/23 04:11 / dck		ICPMS205-H_230524C : 134		R184846
Lead	ND	mg/L		0.0003		E200.8	05/25/23 04:11 / dck		ICPMS205-H_230524C : 134		R184846
Lanthanum	ND	mg/L		0.01		E200.8	05/25/23 08:54 / dck		ICPMS205-H_230524D : 35		R184870
Lithium	0.2	mg/L		0.1		E200.7	05/19/23 13:39 / slj		ICP2-HE_230519A : 45		R184684
Magnesium	129	mg/L		1		E200.7	05/19/23 13:39 / slj		ICP2-HE_230519A : 45		R184684
Neodymium	ND	mg/L		0.005		E200.8	05/25/23 08:54 / dck		ICPMS205-H_230524D : 35		R184870
Niobium	ND	mg/L		0.01		E200.8	05/25/23 08:54 / dck		ICPMS205-H_230524D : 35		R184870
Manganese	19.0	mg/L		0.001		E200.7	05/19/23 13:39 / slj		ICP2-HE_230519A : 45		R184684
Molybdenum	0.003	mg/L		0.001		E200.8	05/25/23 04:11 / dck		ICPMS205-H_230524C : 134		R184846
Nickel	0.034	mg/L		0.002		E200.8	05/25/23 04:11 / dck		ICPMS205-H_230524C : 134		R184846
Palladium	ND	mg/L		0.01		E200.8	05/25/23 08:54 / dck		ICPMS205-H_230524D : 35		R184870
Praseodymium	ND	mg/L		0.01		E200.8	05/25/23 08:54 / dck		ICPMS205-H_230524D : 35		R184870
Rubidium	ND	mg/L		0.01		E200.8	05/25/23 08:54 / dck		ICPMS205-H_230524D : 35		R184870
Potassium	15	mg/L		1		E200.7	05/19/23 13:39 / slj		ICP2-HE_230519A : 45		R184684
Selenium	ND	mg/L		0.001		E200.8	05/25/23 04:11 / dck		ICPMS205-H_230524C : 134		R184846
Silver	ND	mg/L		0.0002		E200.8	05/31/23 00:03 / dck		ICPMS205-H_230530C : 128		R184956
Sodium	116	mg/L		1		E200.7	05/19/23 13:39 / slj		ICP2-HE_230519A : 45		R184684
Strontium	3.12	mg/L		0.01		E200.7	05/19/23 13:39 / slj		ICP2-HE_230519A : 45		R184684
Thallium	ND	mg/L		0.0002		E200.8	05/25/23 04:11 / dck		ICPMS205-H_230524C : 134		R184846
Thorium	ND	mg/L		0.005		E200.8	05/31/23 00:03 / dck		ICPMS205-H_230530C : 128		R184956
Tin	ND	mg/L		0.05		E200.8	05/25/23 04:11 / dck		ICPMS205-H_230524C : 134		R184846
Titanium	ND	mg/L		0.005		E200.8	05/25/23 04:11 / dck		ICPMS205-H_230524C : 134		R184846
Tungsten	ND	mg/L		0.1		E200.8	05/25/23 08:54 / dck		ICPMS205-H_230524D : 35		R184870
Uranium	0.0010	mg/L		0.0002		E200.8	05/25/23 04:11 / dck		ICPMS205-H_230524C : 134		R184846
Vanadium	ND	mg/L		0.01		E200.8	05/25/23 04:11 / dck		ICPMS205-H_230524C : 134		R184846
Zinc	1.51	mg/L		0.008		E200.8	05/25/23 04:11 / dck		ICPMS205-H_230524C : 134		R184846
Zirconium	ND	mg/L		0.005		E200.8	05/25/23 08:54 / dck		ICPMS205-H_230524D : 35		R184870

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-07B  
**Lab ID:** H23050596-005  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/16/23 14:15      **DateReceived:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-4.14	%				A1030 E	05/26/23 10:54 / SR		CALC_230526A : 155		R184891

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-02A  
**Lab ID:** H23050596-006  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/16/23 14:46  
**Date Received:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.3	s.u.	H	0.1		A4500-H B	05/19/23 09:37 / ams		PHSC_101-H_230519A : 21		R184662
pH Measurement Temp	12.1	°C				A4500-H B	05/19/23 09:37 / ams		PHSC_101-H_230519A : 21		R184662
Conductivity @ 25 C	848	umhos/cm		5		A2510 B	05/19/23 09:37 / ams		PHSC_101-H_230519A : 22		R184662
Solids, Total Dissolved TDS @ 180 C	556	mg/L		20		A2540 C	05/21/23 07:36 / ams		-124 (14410200)_230521A : 9		TDS230521A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	12	mg/L		4		A2320 B	05/23/23 16:42 / ljs		PHSC_101-H_230523A : 103		R184745
Bicarbonate as HCO3	14	mg/L		4		A2320 B	05/23/23 16:42 / ljs		PHSC_101-H_230523A : 103		R184745
Carbonate as CO3	ND	mg/L		4		A2320 B	05/23/23 16:42 / ljs		PHSC_101-H_230523A : 103		R184745
Chloride	95	mg/L		1		E300.0	05/20/23 05:55 / ljs		IC METROHM_230519A : 74		R184723
Sulfate	221	mg/L		1		E300.0	05/20/23 05:55 / ljs		IC METROHM_230519A : 74		R184723
Bromide	ND	mg/L		0.5		E300.0	05/20/23 05:55 / ljs		IC METROHM_230519A : 74		R184723
Fluoride	0.9	mg/L		0.1		E300.0	05/20/23 05:55 / ljs		IC METROHM_230519A : 74		R184723
Hardness as CaCO3	264	mg/L		1		A2340 B	05/19/23 13:42 / SR		CALC_230526A : 564		R184891
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.3	mg/L		0.5		A5310 C	05/23/23 01:35 / eli-c		SUB-C294880 : 30		C_R294880
Organic Carbon, Total (TOC)	1.2	mg/L		0.5		A5310 C	05/22/23 18:57 / eli-c		SUB-C294880 : 11		C_R294880
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	6.12	mg/L		0.02		E353.2	05/25/23 12:18 / SR		SEAL AA500_230525A : 27		R184881
<b>METALS, DISSOLVED</b>											
Aluminum	0.560	mg/L		0.009		E200.8	05/25/23 04:19 / dck		ICPMS205-H_230524C : 136		R184846
Antimony	ND	mg/L		0.0005		E200.8	05/25/23 04:19 / dck		ICPMS205-H_230524C : 136		R184846
Arsenic	0.002	mg/L		0.001		E200.8	05/25/23 04:19 / dck		ICPMS205-H_230524C : 136		R184846
Barium	0.030	mg/L		0.003		E200.8	05/25/23 04:19 / dck		ICPMS205-H_230524C : 136		R184846
Beryllium	ND	mg/L		0.0008		E200.8	05/25/23 04:19 / dck		ICPMS205-H_230524C : 136		R184846
Boron	0.23	mg/L		0.05		E200.7	05/19/23 13:42 / slj		ICP2-HE_230519A : 46		R184684
Cadmium	0.0580	mg/L		0.00003		E200.8	05/25/23 04:19 / dck		ICPMS205-H_230524C : 136		R184846
Cesium	ND	mg/L		0.01		E200.8	05/25/23 08:57 / dck		ICPMS205-H_230524D : 36		R184870

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-02A  
**Lab ID:** H23050596-006  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/16/23 14:46 **Date Received:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	75	mg/L		1		E200.7	05/19/23 13:42 / slj		ICP2-HE_230519A : 46		R184684
Chromium	ND	mg/L		0.005		E200.8	05/25/23 04:19 / dck		ICPMS205-H_230524C : 136		R184846
Cobalt	0.075	mg/L		0.005		E200.8	05/25/23 04:19 / dck		ICPMS205-H_230524C : 136		R184846
Copper	0.310	mg/L		0.002		E200.8	05/25/23 04:19 / dck		ICPMS205-H_230524C : 136		R184846
Gallium	ND	mg/L		0.01		E200.8	05/25/23 08:57 / dck		ICPMS205-H_230524D : 36		R184870
Iron	0.08	mg/L		0.02		E200.8	05/25/23 04:19 / dck		ICPMS205-H_230524C : 136		R184846
Lead	0.0011	mg/L		0.0003		E200.8	05/25/23 04:19 / dck		ICPMS205-H_230524C : 136		R184846
Lanthanum	ND	mg/L		0.01		E200.8	05/25/23 08:57 / dck		ICPMS205-H_230524D : 36		R184870
Lithium	ND	mg/L		0.1		E200.7	05/19/23 13:42 / slj		ICP2-HE_230519A : 46		R184684
Magnesium	19	mg/L		1		E200.7	05/19/23 13:42 / slj		ICP2-HE_230519A : 46		R184684
Neodymium	ND	mg/L		0.005		E200.8	05/25/23 08:57 / dck		ICPMS205-H_230524D : 36		R184870
Niobium	ND	mg/L		0.01		E200.8	05/25/23 08:57 / dck		ICPMS205-H_230524D : 36		R184870
Manganese	14.7	mg/L		0.001		E200.7	05/19/23 13:42 / slj		ICP2-HE_230519A : 46		R184684
Molybdenum	ND	mg/L		0.001		E200.8	05/25/23 04:19 / dck		ICPMS205-H_230524C : 136		R184846
Nickel	0.035	mg/L		0.002		E200.8	05/25/23 04:19 / dck		ICPMS205-H_230524C : 136		R184846
Palladium	ND	mg/L		0.01		E200.8	05/25/23 08:57 / dck		ICPMS205-H_230524D : 36		R184870
Praseodymium	ND	mg/L		0.01		E200.8	05/25/23 08:57 / dck		ICPMS205-H_230524D : 36		R184870
Rubidium	ND	mg/L		0.01		E200.8	05/25/23 08:57 / dck		ICPMS205-H_230524D : 36		R184870
Potassium	7	mg/L		1		E200.7	05/19/23 13:42 / slj		ICP2-HE_230519A : 46		R184684
Selenium	ND	mg/L		0.001		E200.8	05/25/23 04:19 / dck		ICPMS205-H_230524C : 136		R184846
Silver	ND	mg/L		0.0002		E200.8	05/31/23 00:08 / dck		ICPMS205-H_230530C : 129		R184956
Sodium	33	mg/L		1		E200.7	05/19/23 13:42 / slj		ICP2-HE_230519A : 46		R184684
Strontium	0.50	mg/L		0.01		E200.7	05/19/23 13:42 / slj		ICP2-HE_230519A : 46		R184684
Thallium	ND	mg/L		0.0002		E200.8	05/25/23 04:19 / dck		ICPMS205-H_230524C : 136		R184846
Thorium	ND	mg/L		0.005		E200.8	05/31/23 00:08 / dck		ICPMS205-H_230530C : 129		R184956
Tin	ND	mg/L		0.05		E200.8	05/25/23 04:19 / dck		ICPMS205-H_230524C : 136		R184846
Titanium	ND	mg/L		0.005		E200.8	05/25/23 04:19 / dck		ICPMS205-H_230524C : 136		R184846
Tungsten	ND	mg/L		0.1		E200.8	05/25/23 08:57 / dck		ICPMS205-H_230524D : 36		R184870
Uranium	0.0009	mg/L		0.0002		E200.8	05/25/23 04:19 / dck		ICPMS205-H_230524C : 136		R184846
Vanadium	ND	mg/L		0.01		E200.8	05/25/23 04:19 / dck		ICPMS205-H_230524C : 136		R184846
Zinc	9.28	mg/L		0.008		E200.7	05/19/23 13:42 / slj		ICP2-HE_230519A : 46		R184684
Zirconium	ND	mg/L		0.005		E200.8	05/25/23 08:57 / dck		ICPMS205-H_230524D : 36		R184870

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-02A  
**Lab ID:** H23050596-006  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/16/23 14:46      **DateReceived:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-3.47	%				A1030 E	05/26/23 11:36 / SR		CALC_230526A : 562		R184891

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-04B  
**Lab ID:** H23050596-007  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/16/23 15:49  
**Date Received:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.1	s.u.	H	0.1		A4500-H B	05/19/23 09:39 / ams		PHSC_101-H_230519A : 23		R184662
pH Measurement Temp	11.9	°C				A4500-H B	05/19/23 09:39 / ams		PHSC_101-H_230519A : 23		R184662
Conductivity @ 25 C	1710	umhos/cm		5		A2510 B	05/19/23 09:39 / ams		PHSC_101-H_230519A : 24		R184662
Solids, Total Dissolved TDS @ 180 C	1370	mg/L		20		A2540 C	05/21/23 07:36 / ams		124 (14410200)_230521A : 10		TDS230521A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	05/23/23 16:49 / ljs		PHSC_101-H_230523A : 105		R184745
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	05/23/23 16:49 / ljs		PHSC_101-H_230523A : 105		R184745
Carbonate as CO3	ND	mg/L		4		A2320 B	05/23/23 16:49 / ljs		PHSC_101-H_230523A : 105		R184745
Chloride	94	mg/L		1		E300.0	05/20/23 06:10 / ljs		IC METROHM_230519A : 75		R184723
Sulfate	811	mg/L		1		E300.0	05/20/23 06:10 / ljs		IC METROHM_230519A : 75		R184723
Bromide	ND	mg/L		0.5		E300.0	05/20/23 06:10 / ljs		IC METROHM_230519A : 75		R184723
Fluoride	ND	mg/L		0.1		E300.0	05/20/23 06:10 / ljs		IC METROHM_230519A : 75		R184723
Hardness as CaCO3	662	mg/L		1		A2340 B	05/19/23 13:46 / SR		CALC_230526A : 575		R184891
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.4	mg/L		0.5		A5310 C	05/23/23 01:51 / eli-c		SUB-C294880 : 31		C_R294880
Organic Carbon, Total (TOC)	1.3	mg/L		0.5		A5310 C	05/22/23 19:13 / eli-c		SUB-C294880 : 12		C_R294880
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	05/25/23 12:21 / SR		SEAL AA500_230525A : 30		R184881
<b>METALS, DISSOLVED</b>											
Aluminum	0.049	mg/L		0.009		E200.8	05/25/23 04:24 / dck		ICPMS205-H_230524C : 137		R184846
Antimony	ND	mg/L		0.0005		E200.8	05/25/23 04:24 / dck		ICPMS205-H_230524C : 137		R184846
Arsenic	0.001	mg/L		0.001		E200.8	05/25/23 04:24 / dck		ICPMS205-H_230524C : 137		R184846
Barium	0.015	mg/L		0.003		E200.8	05/25/23 04:24 / dck		ICPMS205-H_230524C : 137		R184846
Beryllium	ND	mg/L		0.0008		E200.8	05/25/23 04:24 / dck		ICPMS205-H_230524C : 137		R184846
Boron	0.09	mg/L		0.05		E200.7	05/19/23 13:46 / slj		ICP2-HE_230519A : 47		R184684
Cadmium	0.0959	mg/L		0.00003		E200.8	05/25/23 04:24 / dck		ICPMS205-H_230524C : 137		R184846
Cesium	ND	mg/L		0.01		E200.8	05/25/23 09:01 / dck		ICPMS205-H_230524D : 37		R184870

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-04B  
**Lab ID:** H23050596-007  
**Matrix:** Groundwater

**Project:** NRDP16 TO2-Task 001  
**Collection Date:** 05/16/23 15:49  
**Date Received:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	178	mg/L		1		E200.7	05/19/23 13:46 / slj		ICP2-HE_230519A : 47		R184684
Chromium	ND	mg/L		0.005		E200.8	05/25/23 04:24 / dck		ICPMS205-H_230524C : 137		R184846
Cobalt	0.407	mg/L		0.005		E200.8	05/25/23 04:24 / dck		ICPMS205-H_230524C : 137		R184846
Copper	0.351	mg/L		0.002		E200.8	05/25/23 04:24 / dck		ICPMS205-H_230524C : 137		R184846
Gallium	ND	mg/L		0.01		E200.8	05/25/23 09:01 / dck		ICPMS205-H_230524D : 37		R184870
Iron	31.0	mg/L		0.02		E200.7	05/19/23 13:46 / slj		ICP2-HE_230519A : 47		R184684
Lead	0.0031	mg/L		0.0003		E200.8	05/25/23 04:24 / dck		ICPMS205-H_230524C : 137		R184846
Lanthanum	ND	mg/L		0.01		E200.8	05/25/23 09:01 / dck		ICPMS205-H_230524D : 37		R184870
Lithium	0.3	mg/L		0.1		E200.7	05/19/23 13:46 / slj		ICP2-HE_230519A : 47		R184684
Magnesium	53	mg/L		1		E200.7	05/19/23 13:46 / slj		ICP2-HE_230519A : 47		R184684
Neodymium	ND	mg/L		0.005		E200.8	05/25/23 09:01 / dck		ICPMS205-H_230524D : 37		R184870
Niobium	ND	mg/L		0.01		E200.8	05/25/23 09:01 / dck		ICPMS205-H_230524D : 37		R184870
Manganese	39.4	mg/L		0.001		E200.7	05/19/23 13:46 / slj		ICP2-HE_230519A : 47		R184684
Molybdenum	ND	mg/L		0.001		E200.8	05/25/23 04:24 / dck		ICPMS205-H_230524C : 137		R184846
Nickel	0.109	mg/L		0.002		E200.8	05/25/23 04:24 / dck		ICPMS205-H_230524C : 137		R184846
Palladium	ND	mg/L		0.01		E200.8	05/25/23 09:01 / dck		ICPMS205-H_230524D : 37		R184870
Praseodymium	ND	mg/L		0.01		E200.8	05/25/23 09:01 / dck		ICPMS205-H_230524D : 37		R184870
Rubidium	ND	mg/L		0.01		E200.8	05/25/23 09:01 / dck		ICPMS205-H_230524D : 37		R184870
Potassium	12	mg/L		1		E200.7	05/19/23 13:46 / slj		ICP2-HE_230519A : 47		R184684
Selenium	ND	mg/L		0.001		E200.8	05/25/23 04:24 / dck		ICPMS205-H_230524C : 137		R184846
Silver	ND	mg/L		0.0002		E200.8	05/31/23 00:17 / dck		ICPMS205-H_230530C : 131		R184956
Sodium	42	mg/L		1		E200.7	05/19/23 13:46 / slj		ICP2-HE_230519A : 47		R184684
Strontium	1.10	mg/L		0.01		E200.7	05/19/23 13:46 / slj		ICP2-HE_230519A : 47		R184684
Thallium	ND	mg/L		0.0002		E200.8	05/25/23 04:24 / dck		ICPMS205-H_230524C : 137		R184846
Thorium	ND	mg/L		0.005		E200.8	05/31/23 00:17 / dck		ICPMS205-H_230530C : 131		R184956
Tin	ND	mg/L		0.05		E200.8	05/25/23 04:24 / dck		ICPMS205-H_230524C : 137		R184846
Titanium	ND	mg/L		0.005		E200.8	05/25/23 04:24 / dck		ICPMS205-H_230524C : 137		R184846
Tungsten	ND	mg/L		0.1		E200.8	05/25/23 09:01 / dck		ICPMS205-H_230524D : 37		R184870
Uranium	0.0006	mg/L		0.0002		E200.8	05/25/23 04:24 / dck		ICPMS205-H_230524C : 137		R184846
Vanadium	ND	mg/L		0.01		E200.8	05/25/23 04:24 / dck		ICPMS205-H_230524C : 137		R184846
Zinc	31.3	mg/L		0.008		E200.7	05/19/23 13:46 / slj		ICP2-HE_230519A : 47		R184684
Zirconium	ND	mg/L		0.005		E200.8	05/25/23 09:01 / dck		ICPMS205-H_230524D : 37		R184870

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-04B  
**Lab ID:** H23050596-007  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/16/23 15:49      **DateReceived:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-3.77	%				A1030 E	05/26/23 11:36 / SR		CALC_230526A : 573		R184891

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-02B  
**Lab ID:** H23050596-008  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/16/23 16:38 **Date Received:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.2	s.u.	H	0.1		A4500-H B	05/19/23 09:41 / ams		PHSC_101-H_230519A : 25		R184662
pH Measurement Temp	11.6	°C				A4500-H B	05/19/23 09:41 / ams		PHSC_101-H_230519A : 25		R184662
Conductivity @ 25 C	6520	umhos/cm		5		A2510 B	05/19/23 09:41 / ams		PHSC_101-H_230519A : 26		R184662
Solids, Total Dissolved TDS @ 180 C	6410	mg/L		200		A2540 C	05/21/23 07:37 / ams		124 (14410200)_230521A : 11		TDS230521A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	05/23/23 16:53 / ljs		PHSC_101-H_230523A : 107		R184745
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	05/23/23 16:53 / ljs		PHSC_101-H_230523A : 107		R184745
Carbonate as CO3	ND	mg/L		4		A2320 B	05/23/23 16:53 / ljs		PHSC_101-H_230523A : 107		R184745
Chloride	763	mg/L		1		E300.0	05/20/23 06:24 / ljs		IC METROHM_230519A : 76		R184723
Sulfate	3620	mg/L		1		E300.0	05/20/23 06:24 / ljs		IC METROHM_230519A : 76		R184723
Bromide	0.7	mg/L		0.5		E300.0	05/20/23 06:24 / ljs		IC METROHM_230519A : 76		R184723
Fluoride	14.4	mg/L	*	0.1		E300.0	05/20/23 06:24 / ljs		IC METROHM_230519A : 76		R184723
Hardness as CaCO3	2260	mg/L		1		A2340 B	05/19/23 13:50 / SR		CALC_230531A : 377		R184963
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.5	mg/L		0.5		A5310 C	05/23/23 02:09 / eli-c		SUB-C294880 : 32		C_R294880
Organic Carbon, Total (TOC)	1.6	mg/L		0.5		A5310 C	05/22/23 19:31 / eli-c		SUB-C294880 : 13		C_R294880
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.05	mg/L		0.01		E353.2	05/25/23 12:22 / SR		SEAL AA500_230525A : 31		R184881
<b>METALS, DISSOLVED</b>											
Aluminum	17.4	mg/L		0.1		E200.7	05/19/23 13:50 / slj		ICP2-HE_230519A : 48		R184684
Antimony	ND	mg/L		0.0005		E200.8	05/25/23 04:32 / dck		ICPMS205-H_230524C : 139		R184846
Arsenic	0.003	mg/L		0.001		E200.8	05/25/23 04:32 / dck		ICPMS205-H_230524C : 139		R184846
Barium	0.014	mg/L		0.003		E200.8	05/25/23 04:32 / dck		ICPMS205-H_230524C : 139		R184846
Beryllium	0.0193	mg/L		0.0008		E200.8	05/25/23 04:32 / dck		ICPMS205-H_230524C : 139		R184846
Boron	0.14	mg/L		0.05		E200.7	05/22/23 20:09 / kjb		ICP2-HE_230522A : 151		R184760
Cadmium	1.86	mg/L		0.01		E200.7	05/22/23 20:09 / kjb		ICP2-HE_230522A : 151		R184760
Cesium	ND	mg/L		0.01		E200.8	05/25/23 09:04 / dck		ICPMS205-H_230524D : 38		R184870

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** \* - The result exceeds the Maximum Contaminant Level (MCL)

H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-02B  
**Lab ID:** H23050596-008  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/16/23 16:38 **Date Received:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	559	mg/L		1		E200.7	05/19/23 13:50 / slj		ICP2-HE_230519A : 48		R184684
Chromium	ND	mg/L		0.005		E200.8	05/25/23 04:32 / dck		ICPMS205-H_230524C : 139		R184846
Cobalt	1.59	mg/L		0.05		E200.7	05/22/23 20:09 / kjb		ICP2-HE_230522A : 151		R184760
Copper	174	mg/L		0.06		E200.7	05/19/23 13:50 / slj		ICP2-HE_230519A : 48		R184684
Gallium	0.02	mg/L		0.01		E200.8	05/25/23 09:04 / dck		ICPMS205-H_230524D : 38		R184870
Iron	364	mg/L		0.04		E200.7	05/22/23 20:09 / kjb		ICP2-HE_230522A : 151		R184760
Lead	0.0065	mg/L		0.0003		E200.8	05/25/23 04:32 / dck		ICPMS205-H_230524C : 139		R184846
Lanthanum	0.27	mg/L		0.01		E200.8	05/25/23 09:04 / dck		ICPMS205-H_230524D : 38		R184870
Lithium	1.0	mg/L		0.1		E200.7	05/19/23 13:50 / slj		ICP2-HE_230519A : 48		R184684
Magnesium	210	mg/L		1		E200.7	05/19/23 13:50 / slj		ICP2-HE_230519A : 48		R184684
Neodymium	0.103	mg/L		0.005		E200.8	05/25/23 09:04 / dck		ICPMS205-H_230524D : 38		R184870
Niobium	ND	mg/L		0.01		E200.8	05/25/23 09:04 / dck		ICPMS205-H_230524D : 38		R184870
Manganese	284	mg/L		0.007		E200.7	05/19/23 13:50 / slj		ICP2-HE_230519A : 48		R184684
Molybdenum	ND	mg/L		0.001		E200.8	05/25/23 04:32 / dck		ICPMS205-H_230524C : 139		R184846
Nickel	0.67	mg/L		0.01		E200.7	05/22/23 20:09 / kjb		ICP2-HE_230522A : 151		R184760
Palladium	ND	mg/L		0.01		E200.8	05/25/23 09:04 / dck		ICPMS205-H_230524D : 38		R184870
Praseodymium	0.03	mg/L		0.01		E200.8	05/25/23 09:04 / dck		ICPMS205-H_230524D : 38		R184870
Rubidium	0.02	mg/L		0.01		E200.8	05/25/23 09:04 / dck		ICPMS205-H_230524D : 38		R184870
Potassium	25	mg/L		1		E200.7	05/19/23 13:50 / slj		ICP2-HE_230519A : 48		R184684
Selenium	ND	mg/L		0.001		E200.8	05/25/23 04:32 / dck		ICPMS205-H_230524C : 139		R184846
Silver	0.0238	mg/L		0.0002		E200.8	05/31/23 00:22 / dck		ICPMS205-H_230530C : 132		R184956
Sodium	179	mg/L		1		E200.7	05/19/23 13:50 / slj		ICP2-HE_230519A : 48		R184684
Strontium	4.30	mg/L		0.01		E200.7	05/19/23 13:50 / slj		ICP2-HE_230519A : 48		R184684
Thallium	ND	mg/L		0.0002		E200.8	05/25/23 04:32 / dck		ICPMS205-H_230524C : 139		R184846
Thorium	ND	mg/L		0.005		E200.8	05/31/23 00:22 / dck		ICPMS205-H_230530C : 132		R184956
Tin	ND	mg/L		0.05		E200.8	05/25/23 04:32 / dck		ICPMS205-H_230524C : 139		R184846
Titanium	ND	mg/L		0.005		E200.8	05/25/23 04:32 / dck		ICPMS205-H_230524C : 139		R184846
Tungsten	ND	mg/L		0.1		E200.8	05/25/23 09:04 / dck		ICPMS205-H_230524D : 38		R184870
Uranium	0.0370	mg/L		0.0002		E200.8	05/25/23 04:32 / dck		ICPMS205-H_230524C : 139		R184846
Vanadium	ND	mg/L		0.01		E200.8	05/25/23 04:32 / dck		ICPMS205-H_230524C : 139		R184846
Zinc	289	mg/L		0.02		E200.7	05/19/23 13:50 / slj		ICP2-HE_230519A : 48		R184684
Zirconium	ND	mg/L		0.005		E200.8	05/25/23 09:04 / dck		ICPMS205-H_230524D : 38		R184870

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-02B  
**Lab ID:** H23050596-008  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/16/23 16:38      **Date Received:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-8.62	%				A1030 E	05/31/23 11:56 / SR		CALC_230531A : 375		R184963

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-02A  
**Lab ID:** H23050596-009  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/16/23 17:00  
**Date Received:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.4	s.u.	H	0.1		A4500-H B	05/19/23 09:42 / ams		PHSC_101-H_230519A : 27		R184662
pH Measurement Temp	11.8	°C				A4500-H B	05/19/23 09:42 / ams		PHSC_101-H_230519A : 27		R184662
Conductivity @ 25 C	3110	umhos/cm		5		A2510 B	05/19/23 09:42 / ams		PHSC_101-H_230519A : 28		R184662
Solids, Total Dissolved TDS @ 180 C	2950	mg/L		50		A2540 C	05/21/23 07:37 / ams		124 (14410200)_230521A : 12		TDS230521A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	05/23/23 16:56 / ljs		PHSC_101-H_230523A : 109		R184745
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	05/23/23 16:56 / ljs		PHSC_101-H_230523A : 109		R184745
Carbonate as CO3	ND	mg/L		4		A2320 B	05/23/23 16:56 / ljs		PHSC_101-H_230523A : 109		R184745
Chloride	141	mg/L		1		E300.0	05/20/23 06:39 / ljs		IC METROHM_230519A : 77		R184723
Sulfate	1890	mg/L		1		E300.0	05/20/23 06:39 / ljs		IC METROHM_230519A : 77		R184723
Bromide	ND	mg/L		0.5		E300.0	05/20/23 06:39 / ljs		IC METROHM_230519A : 77		R184723
Fluoride	1.1	mg/L		0.1		E300.0	05/20/23 06:39 / ljs		IC METROHM_230519A : 77		R184723
Hardness as CaCO3	1080	mg/L		1		A2340 B	05/19/23 13:53 / SR		CALC_230526A : 586		R184891
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.0	mg/L		0.5		A5310 C	05/23/23 02:38 / eli-c		SUB-C294880 : 33		C_R294880
Organic Carbon, Total (TOC)	2.1	mg/L		0.5		A5310 C	05/22/23 20:00 / eli-c		SUB-C294880 : 14		C_R294880
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	05/25/23 12:23 / SR		SEAL AA500_230525A : 32		R184881
<b>METALS, DISSOLVED</b>											
Aluminum	13.3	mg/L		0.03		E200.7	05/19/23 13:53 / slj		ICP2-HE_230519A : 49		R184684
Antimony	ND	mg/L		0.0005		E200.8	05/25/23 04:37 / dck		ICPMS205-H_230524C : 140		R184846
Arsenic	0.017	mg/L		0.001		E200.8	05/25/23 04:37 / dck		ICPMS205-H_230524C : 140		R184846
Barium	0.013	mg/L		0.003		E200.8	05/25/23 04:37 / dck		ICPMS205-H_230524C : 140		R184846
Beryllium	0.0038	mg/L		0.0008		E200.8	05/25/23 04:37 / dck		ICPMS205-H_230524C : 140		R184846
Boron	0.08	mg/L		0.05		E200.7	05/22/23 20:12 / kjb		ICP2-HE_230522A : 152		R184760
Cadmium	0.412	mg/L		0.005		E200.7	05/22/23 20:12 / kjb		ICP2-HE_230522A : 152		R184760
Cesium	ND	mg/L		0.01		E200.8	05/25/23 09:07 / dck		ICPMS205-H_230524D : 39		R184870

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-02A  
**Lab ID:** H23050596-009  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/16/23 17:00 **Date Received:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	302	mg/L		1		E200.7	05/19/23 13:53 / slj		ICP2-HE_230519A : 49		R184684
Chromium	ND	mg/L		0.005		E200.8	05/25/23 04:37 / dck		ICPMS205-H_230524C : 140		R184846
Cobalt	0.60	mg/L		0.02		E200.7	05/22/23 20:12 / kjb		ICP2-HE_230522A : 152		R184760
Copper	25.6	mg/L		0.01		E200.7	05/19/23 13:53 / slj		ICP2-HE_230519A : 49		R184684
Gallium	ND	mg/L		0.01		E200.8	05/25/23 09:07 / dck		ICPMS205-H_230524D : 39		R184870
Iron	233	mg/L		0.02		E200.7	05/22/23 20:12 / kjb		ICP2-HE_230522A : 152		R184760
Lead	0.0917	mg/L		0.0003		E200.8	05/25/23 04:37 / dck		ICPMS205-H_230524C : 140		R184846
Lanthanum	0.09	mg/L		0.01		E200.8	05/25/23 09:07 / dck		ICPMS205-H_230524D : 39		R184870
Lithium	0.3	mg/L		0.1		E200.7	05/19/23 13:53 / slj		ICP2-HE_230519A : 49		R184684
Magnesium	79	mg/L		1		E200.7	05/19/23 13:53 / slj		ICP2-HE_230519A : 49		R184684
Neodymium	0.077	mg/L		0.005		E200.8	05/25/23 09:07 / dck		ICPMS205-H_230524D : 39		R184870
Niobium	ND	mg/L		0.01		E200.8	05/25/23 09:07 / dck		ICPMS205-H_230524D : 39		R184870
Manganese	59.3	mg/L		0.001		E200.7	05/19/23 13:53 / slj		ICP2-HE_230519A : 49		R184684
Molybdenum	ND	mg/L		0.001		E200.8	05/25/23 04:37 / dck		ICPMS205-H_230524C : 140		R184846
Nickel	0.201	mg/L		0.005		E200.7	05/22/23 20:12 / kjb		ICP2-HE_230522A : 152		R184760
Palladium	ND	mg/L		0.01		E200.8	05/25/23 09:07 / dck		ICPMS205-H_230524D : 39		R184870
Praseodymium	0.02	mg/L		0.01		E200.8	05/25/23 09:07 / dck		ICPMS205-H_230524D : 39		R184870
Rubidium	ND	mg/L		0.01		E200.8	05/25/23 09:07 / dck		ICPMS205-H_230524D : 39		R184870
Potassium	10	mg/L		1		E200.7	05/19/23 13:53 / slj		ICP2-HE_230519A : 49		R184684
Selenium	ND	mg/L		0.001		E200.8	05/25/23 04:37 / dck		ICPMS205-H_230524C : 140		R184846
Silver	ND	mg/L		0.0002		E200.8	05/31/23 00:32 / dck		ICPMS205-H_230530C : 134		R184956
Sodium	79	mg/L		1		E200.7	05/19/23 13:53 / slj		ICP2-HE_230519A : 49		R184684
Strontium	1.74	mg/L		0.01		E200.7	05/19/23 13:53 / slj		ICP2-HE_230519A : 49		R184684
Thallium	ND	mg/L		0.0002		E200.8	05/25/23 04:37 / dck		ICPMS205-H_230524C : 140		R184846
Thorium	ND	mg/L		0.005		E200.8	05/31/23 00:32 / dck		ICPMS205-H_230530C : 134		R184956
Tin	ND	mg/L		0.05		E200.8	05/25/23 04:37 / dck		ICPMS205-H_230524C : 140		R184846
Titanium	ND	mg/L		0.005		E200.8	05/25/23 04:37 / dck		ICPMS205-H_230524C : 140		R184846
Tungsten	ND	mg/L		0.1		E200.8	05/25/23 09:07 / dck		ICPMS205-H_230524D : 39		R184870
Uranium	0.0547	mg/L		0.0002		E200.8	05/25/23 04:37 / dck		ICPMS205-H_230524C : 140		R184846
Vanadium	0.02	mg/L		0.01		E200.8	05/25/23 04:37 / dck		ICPMS205-H_230524C : 140		R184846
Zinc	88.8	mg/L		0.008		E200.7	05/22/23 20:12 / kjb		ICP2-HE_230522A : 152		R184760
Zirconium	ND	mg/L		0.005		E200.8	05/25/23 09:07 / dck		ICPMS205-H_230524D : 39		R184870

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-02A  
**Lab ID:** H23050596-009  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/16/23 17:00      **DateReceived:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.85	%				A1030 E	05/26/23 11:38 / SR		CALC_230526A : 584		R184891

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-01A  
**Lab ID:** H23050596-010  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/16/23 17:10 **Date Received:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.9	s.u.	H	0.1		A4500-H B	05/19/23 09:44 / ams		PHSC_101-H_230519A : 29		R184662
pH Measurement Temp	11.8	°C				A4500-H B	05/19/23 09:44 / ams		PHSC_101-H_230519A : 29		R184662
Conductivity @ 25 C	1180	umhos/cm		5		A2510 B	05/19/23 09:44 / ams		PHSC_101-H_230519A : 30		R184662
Solids, Total Dissolved TDS @ 180 C	722	mg/L		20		A2540 C	05/21/23 07:37 / ams		124 (14410200)_230521A : 13		TDS230521A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	9	mg/L		4		A2320 B	05/23/23 17:00 / ljs		PHSC_101-H_230523A : 111		R184745
Bicarbonate as HCO3	11	mg/L		4		A2320 B	05/23/23 17:00 / ljs		PHSC_101-H_230523A : 111		R184745
Carbonate as CO3	ND	mg/L		4		A2320 B	05/23/23 17:00 / ljs		PHSC_101-H_230523A : 111		R184745
Chloride	213	mg/L		1		E300.0	05/20/23 06:53 / ljs		IC METROHM_230519A : 78		R184723
Sulfate	199	mg/L		1		E300.0	05/20/23 06:53 / ljs		IC METROHM_230519A : 78		R184723
Bromide	0.8	mg/L		0.5		E300.0	05/20/23 06:53 / ljs		IC METROHM_230519A : 78		R184723
Fluoride	1.0	mg/L		0.1		E300.0	05/20/23 06:53 / ljs		IC METROHM_230519A : 78		R184723
Hardness as CaCO3	192	mg/L		1		A2340 B	05/25/23 04:06 / SR		CALC_230526A : 597		R184891
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.5	mg/L		0.5		A5310 C	05/23/23 03:02 / eli-c		SUB-C294880 : 34		C_R294880
Organic Carbon, Total (TOC)	2.4	mg/L		0.5		A5310 C	05/22/23 20:24 / eli-c		SUB-C294880 : 15		C_R294880
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	4.98	mg/L		0.02		E353.2	05/25/23 12:24 / SR		SEAL AA500_230525A : 33		R184881
<b>METALS, DISSOLVED</b>											
Aluminum	1.21	mg/L		0.03		E200.7	05/19/23 13:57 / slj		ICP2-HE_230519A : 50		R184684
Antimony	ND	mg/L		0.0005		E200.8	05/25/23 04:06 / dck		ICPMS205-H_230524C : 133		R184846
Arsenic	ND	mg/L		0.001		E200.8	05/25/23 04:06 / dck		ICPMS205-H_230524C : 133		R184846
Barium	0.025	mg/L		0.003		E200.8	05/25/23 04:06 / dck		ICPMS205-H_230524C : 133		R184846
Beryllium	0.0054	mg/L		0.0008		E200.8	05/25/23 04:06 / dck		ICPMS205-H_230524C : 133		R184846
Boron	0.44	mg/L		0.05		E200.7	05/19/23 13:57 / slj		ICP2-HE_230519A : 50		R184684
Cadmium	0.0813	mg/L		0.00003		E200.8	05/25/23 04:06 / dck		ICPMS205-H_230524C : 133		R184846
Cesium	ND	mg/L		0.01		E200.8	05/25/23 09:11 / dck		ICPMS205-H_230524D : 40		R184870

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-01A  
**Lab ID:** H23050596-010  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/16/23 17:10 **Date Received:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	54	mg/L		1		E200.7	05/19/23 13:57 / slj		ICP2-HE_230519A : 50		R184684
Chromium	ND	mg/L		0.005		E200.8	05/25/23 04:06 / dck		ICPMS205-H_230524C : 133		R184846
Cobalt	0.054	mg/L		0.005		E200.8	05/25/23 04:06 / dck		ICPMS205-H_230524C : 133		R184846
Copper	5.48	mg/L		0.01		E200.7	05/19/23 13:57 / slj		ICP2-HE_230519A : 50		R184684
Gallium	ND	mg/L		0.01		E200.8	05/25/23 09:11 / dck		ICPMS205-H_230524D : 40		R184870
Iron	0.03	mg/L		0.02		E200.8	05/25/23 04:06 / dck		ICPMS205-H_230524C : 133		R184846
Lead	0.0176	mg/L		0.0003		E200.8	05/25/23 04:06 / dck		ICPMS205-H_230524C : 133		R184846
Lanthanum	ND	mg/L		0.01		E200.8	05/25/23 09:11 / dck		ICPMS205-H_230524D : 40		R184870
Lithium	0.1	mg/L		0.1		E200.7	05/19/23 13:57 / slj		ICP2-HE_230519A : 50		R184684
Magnesium	14	mg/L		1		E200.8	05/25/23 04:06 / dck		ICPMS205-H_230524C : 133		R184846
Neodymium	ND	mg/L		0.005		E200.8	05/25/23 09:11 / dck		ICPMS205-H_230524D : 40		R184870
Niobium	ND	mg/L		0.01		E200.8	05/25/23 09:11 / dck		ICPMS205-H_230524D : 40		R184870
Manganese	9.00	mg/L		0.001		E200.7	05/19/23 13:57 / slj		ICP2-HE_230519A : 50		R184684
Molybdenum	ND	mg/L		0.001		E200.8	05/25/23 04:06 / dck		ICPMS205-H_230524C : 133		R184846
Nickel	0.038	mg/L		0.002		E200.8	05/25/23 04:06 / dck		ICPMS205-H_230524C : 133		R184846
Palladium	ND	mg/L		0.01		E200.8	05/25/23 09:11 / dck		ICPMS205-H_230524D : 40		R184870
Praseodymium	ND	mg/L		0.01		E200.8	05/25/23 09:11 / dck		ICPMS205-H_230524D : 40		R184870
Rubidium	ND	mg/L		0.01		E200.8	05/25/23 09:11 / dck		ICPMS205-H_230524D : 40		R184870
Potassium	11	mg/L		1		E200.7	05/19/23 13:57 / slj		ICP2-HE_230519A : 50		R184684
Selenium	ND	mg/L		0.001		E200.8	05/25/23 04:06 / dck		ICPMS205-H_230524C : 133		R184846
Silver	0.0014	mg/L		0.0002		E200.8	05/31/23 00:37 / dck		ICPMS205-H_230530C : 135		R184956
Sodium	118	mg/L		1		E200.7	05/19/23 13:57 / slj		ICP2-HE_230519A : 50		R184684
Strontium	0.47	mg/L		0.01		E200.7	05/19/23 13:57 / slj		ICP2-HE_230519A : 50		R184684
Thallium	ND	mg/L		0.0002		E200.8	05/25/23 04:06 / dck		ICPMS205-H_230524C : 133		R184846
Thorium	ND	mg/L		0.005		E200.8	05/31/23 00:37 / dck		ICPMS205-H_230530C : 135		R184956
Tin	ND	mg/L		0.05		E200.8	05/25/23 04:06 / dck		ICPMS205-H_230524C : 133		R184846
Titanium	ND	mg/L		0.005		E200.8	05/25/23 04:06 / dck		ICPMS205-H_230524C : 133		R184846
Tungsten	ND	mg/L		0.1		E200.8	05/25/23 09:11 / dck		ICPMS205-H_230524D : 40		R184870
Uranium	0.0035	mg/L		0.0002		E200.8	05/25/23 04:06 / dck		ICPMS205-H_230524C : 133		R184846
Vanadium	ND	mg/L		0.01		E200.8	05/25/23 04:06 / dck		ICPMS205-H_230524C : 133		R184846
Zinc	13.9	mg/L		0.008		E200.7	05/19/23 13:57 / slj		ICP2-HE_230519A : 50		R184684
Zirconium	ND	mg/L		0.005		E200.8	05/25/23 09:11 / dck		ICPMS205-H_230524D : 40		R184870

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-01A  
**Lab ID:** H23050596-010  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/16/23 17:10      **DateReceived:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.93	%				A1030 E	05/26/23 11:39 / SR		CALC_230526A : 595		R184891

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01A  
**Lab ID:** H23050596-011  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/17/23 10:45 **Date Received:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.0	s.u.	H	0.1		A4500-H B	05/19/23 09:46 / ams		PHSC_101-H_230519A : 31		R184662
pH Measurement Temp	12.3	°C				A4500-H B	05/19/23 09:46 / ams		PHSC_101-H_230519A : 31		R184662
Conductivity @ 25 C	3590	umhos/cm		5		A2510 B	05/19/23 09:46 / ams		PHSC_101-H_230519A : 32		R184662
Solids, Total Dissolved TDS @ 180 C	2430	mg/L		100		A2540 C	05/21/23 07:38 / ams		124 (14410200)_230521A : 14		TDS230521A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	83	mg/L		4		A2320 B	05/23/23 17:07 / ljs		PHSC_101-H_230523A : 113		R184745
Bicarbonate as HCO3	100	mg/L		4		A2320 B	05/23/23 17:07 / ljs		PHSC_101-H_230523A : 113		R184745
Carbonate as CO3	ND	mg/L		4		A2320 B	05/23/23 17:07 / ljs		PHSC_101-H_230523A : 113		R184745
Chloride	894	mg/L		1		E300.0	05/20/23 07:07 / ljs		IC METROHM_230519A : 79		R184723
Sulfate	392	mg/L		1		E300.0	05/20/23 07:07 / ljs		IC METROHM_230519A : 79		R184723
Bromide	3.0	mg/L		0.5		E300.0	05/20/23 07:07 / ljs		IC METROHM_230519A : 79		R184723
Fluoride	0.8	mg/L		0.1		E300.0	05/20/23 07:07 / ljs		IC METROHM_230519A : 79		R184723
Hardness as CaCO3	1030	mg/L		1		A2340 B	05/19/23 14:49 / SR		CALC_230526A : 168		R184891
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	6.2	mg/L		0.5		A5310 C	05/23/23 03:56 / eli-c		SUB-C294880 : 36		C_R294880
Organic Carbon, Total (TOC)	6.6	mg/L		0.5		A5310 C	05/22/23 21:13 / eli-c		SUB-C294880 : 17		C_R294880
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.44	mg/L		0.01		E353.2	05/25/23 12:25 / SR		SEAL AA500_230525A : 34		R184881
<b>METALS, DISSOLVED</b>											
Aluminum	0.119	mg/L		0.009		E200.8	05/25/23 01:02 / dck		ICPMS205-H_230524C : 90		R184846
Antimony	0.0013	mg/L		0.0005		E200.8	05/25/23 01:02 / dck		ICPMS205-H_230524C : 90		R184846
Arsenic	0.006	mg/L		0.001		E200.8	05/25/23 01:02 / dck		ICPMS205-H_230524C : 90		R184846
Barium	0.206	mg/L		0.003		E200.8	05/25/23 01:02 / dck		ICPMS205-H_230524C : 90		R184846
Beryllium	ND	mg/L		0.0008		E200.8	05/25/23 01:02 / dck		ICPMS205-H_230524C : 90		R184846
Boron	1.08	mg/L		0.05		E200.7	05/19/23 14:49 / slj		ICP2-HE_230519A : 64		R184684
Cadmium	0.0974	mg/L		0.00003		E200.8	05/25/23 01:02 / dck		ICPMS205-H_230524C : 90		R184846
Cesium	ND	mg/L		0.01		E200.8	05/25/23 09:36 / dck		ICPMS205-H_230524D : 47		R184870

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01A  
**Lab ID:** H23050596-011  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/17/23 10:45  
**Date Received:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	215	mg/L		1		E200.7	05/19/23 14:49 / slj		ICP2-HE_230519A : 64		R184684
Chromium	ND	mg/L		0.005		E200.8	05/25/23 01:02 / dck		ICPMS205-H_230524C : 90		R184846
Cobalt	0.021	mg/L		0.005		E200.8	05/25/23 01:02 / dck		ICPMS205-H_230524C : 90		R184846
Copper	0.303	mg/L		0.002		E200.8	05/25/23 01:02 / dck		ICPMS205-H_230524C : 90		R184846
Gallium	ND	mg/L		0.01		E200.8	05/25/23 09:36 / dck		ICPMS205-H_230524D : 47		R184870
Iron	0.89	mg/L		0.02		E200.8	05/25/23 01:02 / dck		ICPMS205-H_230524C : 90		R184846
Lead	0.0015	mg/L		0.0003		E200.8	05/25/23 01:02 / dck		ICPMS205-H_230524C : 90		R184846
Lanthanum	ND	mg/L		0.01		E200.8	05/25/23 09:36 / dck		ICPMS205-H_230524D : 47		R184870
Lithium	0.9	mg/L		0.1		E200.7	05/19/23 14:49 / slj		ICP2-HE_230519A : 64		R184684
Magnesium	120	mg/L		1		E200.7	05/19/23 14:49 / slj		ICP2-HE_230519A : 64		R184684
Neodymium	ND	mg/L		0.005		E200.8	05/25/23 09:36 / dck		ICPMS205-H_230524D : 47		R184870
Niobium	ND	mg/L		0.01		E200.8	05/25/23 09:36 / dck		ICPMS205-H_230524D : 47		R184870
Manganese	3.53	mg/L		0.001		E200.7	05/19/23 14:49 / slj		ICP2-HE_230519A : 64		R184684
Molybdenum	0.004	mg/L		0.001		E200.8	05/25/23 01:02 / dck		ICPMS205-H_230524C : 90		R184846
Nickel	0.051	mg/L		0.002		E200.8	05/25/23 01:02 / dck		ICPMS205-H_230524C : 90		R184846
Palladium	ND	mg/L		0.01		E200.8	05/25/23 09:36 / dck		ICPMS205-H_230524D : 47		R184870
Praseodymium	ND	mg/L		0.01		E200.8	05/25/23 09:36 / dck		ICPMS205-H_230524D : 47		R184870
Rubidium	ND	mg/L		0.01		E200.8	05/25/23 09:36 / dck		ICPMS205-H_230524D : 47		R184870
Potassium	14	mg/L		1		E200.7	05/19/23 14:49 / slj		ICP2-HE_230519A : 64		R184684
Selenium	ND	mg/L		0.001		E200.8	05/25/23 01:02 / dck		ICPMS205-H_230524C : 90		R184846
Silver	ND	mg/L		0.0002		E200.8	05/25/23 01:02 / dck		ICPMS205-H_230524C : 90		R184846
Sodium	254	mg/L		1		E200.7	05/19/23 14:49 / slj		ICP2-HE_230519A : 64		R184684
Strontium	1.41	mg/L		0.01		E200.7	05/19/23 14:49 / slj		ICP2-HE_230519A : 64		R184684
Thallium	ND	mg/L		0.0002		E200.8	05/25/23 01:02 / dck		ICPMS205-H_230524C : 90		R184846
Thorium	ND	mg/L		0.005		E200.8	05/25/23 01:02 / dck		ICPMS205-H_230524C : 90		R184846
Tin	ND	mg/L		0.05		E200.8	05/25/23 01:02 / dck		ICPMS205-H_230524C : 90		R184846
Titanium	ND	mg/L		0.005		E200.8	05/25/23 01:02 / dck		ICPMS205-H_230524C : 90		R184846
Tungsten	ND	mg/L		0.1		E200.8	05/25/23 09:36 / dck		ICPMS205-H_230524D : 47		R184870
Uranium	0.0018	mg/L		0.0002		E200.8	05/25/23 01:02 / dck		ICPMS205-H_230524C : 90		R184846
Vanadium	ND	mg/L		0.01		E200.8	05/25/23 01:02 / dck		ICPMS205-H_230524C : 90		R184846
Zinc	8.83	mg/L		0.008		E200.7	05/19/23 14:49 / slj		ICP2-HE_230519A : 64		R184684
Zirconium	ND	mg/L		0.005		E200.8	05/25/23 09:36 / dck		ICPMS205-H_230524D : 47		R184870

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01A  
**Lab ID:** H23050596-011  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 05/17/23 10:45      **DateReceived:** 05/17/23  
**Report Date:** 05/31/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-4.73	%				A1030 E	05/26/23 10:55 / SR		CALC_230526A : 166		R184891

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050596

BatchID: C\_R294880

Date: 31-May-23

Run ID :Run Order: <b>SUB-C294880: 1</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/22/23 16:09</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	ND	0.1									
Associated samples: <b>H23050596-001D, H23050596-001E, H23050596-002D, H23050596-002E, H23050596-003D, H23050596-003E, H23050596-004D, H23050596-004E, H23050596-005D, H23050596-005E, H23050596-006D, H23050596-006E, H23050596-007D, H23050596-007E, H23050596-008D, H23050596-008E, H23050596-009D, H23050596-009E, H23050596-010D, H23050596-010E, H23050596-011D, H23050596-011E</b>											

Run ID :Run Order: <b>SUB-C294880: 2</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS-11923</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/22/23 16:29</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.07	0.50	5	0	<b>101</b>	90	111	0			
Associated samples: <b>H23050596-001D, H23050596-001E, H23050596-002D, H23050596-002E, H23050596-003D, H23050596-003E, H23050596-004D, H23050596-004E, H23050596-005D, H23050596-005E, H23050596-006D, H23050596-006E, H23050596-007D, H23050596-007E, H23050596-008D, H23050596-008E, H23050596-009D, H23050596-009E, H23050596-010D, H23050596-010E, H23050596-011D, H23050596-011E</b>											

Run ID :Run Order: <b>SUB-C294880: 3</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV-11940</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/22/23 16:44</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.24	0.50	5	0	<b>105</b>	90	110	0			
Associated samples: <b>H23050596-001D, H23050596-001E, H23050596-002D, H23050596-002E, H23050596-003D, H23050596-003E, H23050596-004D, H23050596-004E, H23050596-005D, H23050596-005E, H23050596-006D, H23050596-006E, H23050596-007D, H23050596-007E, H23050596-008D, H23050596-008E, H23050596-009D, H23050596-009E, H23050596-010D, H23050596-010E, H23050596-011D, H23050596-011E</b>											

Run ID :Run Order: <b>SUB-C294880: 5</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050596-001E</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/22/23 17:15</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	7.14	0.50	5	2.022	<b>102</b>	90	111	0			
Associated samples: <b>H23050596-001D, H23050596-001E, H23050596-002D, H23050596-002E, H23050596-003D, H23050596-003E, H23050596-004D, H23050596-004E, H23050596-005D, H23050596-005E, H23050596-006D, H23050596-006E, H23050596-007D, H23050596-007E, H23050596-008D, H23050596-008E, H23050596-009D, H23050596-009E, H23050596-010D, H23050596-010E, H23050596-011D, H23050596-011E</b>											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050596

BatchID: C\_R294880

Date: 31-May-23

Run ID :Run Order: <b>SUB-C294880: 6</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050596-001E</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/22/23 17:30</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	7.18	0.50	5	2.022	<b>103</b>	90	111	7.136	<b>0.7</b>	20	

Associated samples: H23050596-001D, H23050596-001E, H23050596-002D, H23050596-002E, H23050596-003D, H23050596-003E, H23050596-004D, H23050596-004E, H23050596-005D, H23050596-005E, H23050596-006D, H23050596-006E, H23050596-007D, H23050596-007E, H23050596-008D, H23050596-008E, H23050596-009D, H23050596-009E, H23050596-010D, H23050596-010E, H23050596-011D, H23050596-011E

Run ID :Run Order: <b>SUB-C294880: 16</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV-11940</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/22/23 20:40</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.37	0.50	5	0	<b>107</b>	90	110	0			

Associated samples: H23050596-001D, H23050596-001E, H23050596-002D, H23050596-002E, H23050596-003D, H23050596-003E, H23050596-004D, H23050596-004E, H23050596-005D, H23050596-005E, H23050596-006D, H23050596-006E, H23050596-007D, H23050596-007E, H23050596-008D, H23050596-008E, H23050596-009D, H23050596-009E, H23050596-010D, H23050596-010E, H23050596-011D, H23050596-011E

Run ID :Run Order: <b>SUB-C294880: 18</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050596-011E</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/22/23 21:42</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	11.5	0.50	5	6.606	<b>99</b>	90	111	0			

Associated samples: H23050596-001D, H23050596-001E, H23050596-002D, H23050596-002E, H23050596-003D, H23050596-003E, H23050596-004D, H23050596-004E, H23050596-005D, H23050596-005E, H23050596-006D, H23050596-006E, H23050596-007D, H23050596-007E, H23050596-008D, H23050596-008E, H23050596-009D, H23050596-009E, H23050596-010D, H23050596-010E, H23050596-011D, H23050596-011E

Run ID :Run Order: <b>SUB-C294880: 19</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050596-011E</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/22/23 22:04</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	11.5	0.50	5	6.606	<b>99</b>	90	111	11.54	<b>0.0</b>	20	

Associated samples: H23050596-001D, H23050596-001E, H23050596-002D, H23050596-002E, H23050596-003D, H23050596-003E, H23050596-004D, H23050596-004E, H23050596-005D, H23050596-005E, H23050596-006D, H23050596-006E, H23050596-007D, H23050596-007E, H23050596-008D, H23050596-008E, H23050596-009D, H23050596-009E, H23050596-010D, H23050596-010E, H23050596-011D, H23050596-011E

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050596

**BatchID:** C\_R294880

**Date:** 31-May-23

Run ID :Run Order: <b>SUB-C294880: 20</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MBLK</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>05/22/23 22:56</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	ND	0.1									

Associated samples: H23050596-001D, H23050596-001E, H23050596-002D, H23050596-002E, H23050596-003D, H23050596-003E, H23050596-004D, H23050596-004E, H23050596-005D, H23050596-005E, H23050596-006D, H23050596-006E, H23050596-007D, H23050596-007E, H23050596-008D, H23050596-008E, H23050596-009D, H23050596-009E, H23050596-010D, H23050596-010E, H23050596-011D, H23050596-011E

Run ID :Run Order: <b>SUB-C294880: 21</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS-11923</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>05/22/23 23:15</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.08	0.50	5	0	102	88	112	0			

Associated samples: H23050596-001D, H23050596-001E, H23050596-002D, H23050596-002E, H23050596-003D, H23050596-003E, H23050596-004D, H23050596-004E, H23050596-005D, H23050596-005E, H23050596-006D, H23050596-006E, H23050596-007D, H23050596-007E, H23050596-008D, H23050596-008E, H23050596-009D, H23050596-009E, H23050596-010D, H23050596-010E, H23050596-011D, H23050596-011E

Run ID :Run Order: <b>SUB-C294880: 22</b>	SampType: <b>Continuing Calibration Verification Standard</b>	Lab ID: <b>CCV-11940</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>05/22/23 23:31</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.22	0.50	5	0	104	90	110	0			

Associated samples: H23050596-001D, H23050596-001E, H23050596-002D, H23050596-002E, H23050596-003D, H23050596-003E, H23050596-004D, H23050596-004E, H23050596-005D, H23050596-005E, H23050596-006D, H23050596-006E, H23050596-007D, H23050596-007E, H23050596-008D, H23050596-008E, H23050596-009D, H23050596-009E, H23050596-010D, H23050596-010E, H23050596-011D, H23050596-011E

Run ID :Run Order: <b>SUB-C294880: 24</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23050596-001D</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>05/23/23 00:01</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	7.41	0.50	5	2.29	102	88	112	0			

Associated samples: H23050596-001D, H23050596-001E, H23050596-002D, H23050596-002E, H23050596-003D, H23050596-003E, H23050596-004D, H23050596-004E, H23050596-005D, H23050596-005E, H23050596-006D, H23050596-006E, H23050596-007D, H23050596-007E, H23050596-008D, H23050596-008E, H23050596-009D, H23050596-009E, H23050596-010D, H23050596-010E, H23050596-011D, H23050596-011E

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050596

BatchID: C\_R294880

Date: 31-May-23

Run ID :Run Order: <b>SUB-C294880: 25</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050596-001D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/23/23 00:17</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	7.52	0.50	5	2.29	<b>105</b>	88	112	7.407	<b>1.5</b>	20	
Associated samples: <b>H23050596-001D, H23050596-001E, H23050596-002D, H23050596-002E, H23050596-003D, H23050596-003E, H23050596-004D, H23050596-004E, H23050596-005D, H23050596-005E, H23050596-006D, H23050596-006E, H23050596-007D, H23050596-007E, H23050596-008D, H23050596-008E, H23050596-009D, H23050596-009E, H23050596-010D, H23050596-010E, H23050596-011D, H23050596-011E</b>											

Run ID :Run Order: <b>SUB-C294880: 35</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV-11940</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/23/23 03:23</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.29	0.50	5	0	<b>106</b>	90	110	0			
Associated samples: <b>H23050596-001D, H23050596-001E, H23050596-002D, H23050596-002E, H23050596-003D, H23050596-003E, H23050596-004D, H23050596-004E, H23050596-005D, H23050596-005E, H23050596-006D, H23050596-006E, H23050596-007D, H23050596-007E, H23050596-008D, H23050596-008E, H23050596-009D, H23050596-009E, H23050596-010D, H23050596-010E, H23050596-011D, H23050596-011E</b>											

Run ID :Run Order: <b>SUB-C294880: 37</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050596-011D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/23/23 04:18</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	11.2	0.50	5	6.172	<b>100</b>	88	112	0			
Associated samples: <b>H23050596-001D, H23050596-001E, H23050596-002D, H23050596-002E, H23050596-003D, H23050596-003E, H23050596-004D, H23050596-004E, H23050596-005D, H23050596-005E, H23050596-006D, H23050596-006E, H23050596-007D, H23050596-007E, H23050596-008D, H23050596-008E, H23050596-009D, H23050596-009E, H23050596-010D, H23050596-010E, H23050596-011D, H23050596-011E</b>											

Run ID :Run Order: <b>SUB-C294880: 38</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050596-011D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/23/23 04:39</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	11.3	0.50	5	6.172	<b>102</b>	88	112	11.17	<b>0.8</b>	20	
Associated samples: <b>H23050596-001D, H23050596-001E, H23050596-002D, H23050596-002E, H23050596-003D, H23050596-003E, H23050596-004D, H23050596-004E, H23050596-005D, H23050596-005E, H23050596-006D, H23050596-006E, H23050596-007D, H23050596-007E, H23050596-008D, H23050596-008E, H23050596-009D, H23050596-009E, H23050596-010D, H23050596-010E, H23050596-011D, H23050596-011E</b>											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050596

BatchID: R184662

Date: 31-May-23

Run ID :Run Order: PHSC_101-H_230519A: 2	SampType: Initial Calibration Verification Standard				Lab ID: SC 150			Method: A2510 B			
Analysis Date: 05/19/23 07:42	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	156	5.0	150	0	104	90	110				
Associated samples: H23050596-001A, H23050596-002A, H23050596-003A, H23050596-004A, H23050596-005A, H23050596-006A, H23050596-007A, H23050596-008A, H23050596-009A, H23050596-010A, H23050596-011A											

Run ID :Run Order: PHSC_101-H_230519A: 3	SampType: Initial Calibration Verification Standard				Lab ID: SC 20000			Method: A2510 B			
Analysis Date: 05/19/23 07:44	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	19900	5.0	20000	0	100	90	110				
Associated samples: H23050596-001A, H23050596-002A, H23050596-003A, H23050596-004A, H23050596-005A, H23050596-006A, H23050596-007A, H23050596-008A, H23050596-009A, H23050596-010A, H23050596-011A											

Run ID :Run Order: PHSC_101-H_230519A: 4	SampType: Initial Calibration Verification Standard				Lab ID: SC 5000			Method: A2510 B			
Analysis Date: 05/19/23 07:46	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	5060	5.0	5000	0	101	90	110				
Associated samples: H23050596-001A, H23050596-002A, H23050596-003A, H23050596-004A, H23050596-005A, H23050596-006A, H23050596-007A, H23050596-008A, H23050596-009A, H23050596-010A, H23050596-011A											

Run ID :Run Order: PHSC_101-H_230519A: 7	SampType: Laboratory Control Sample				Lab ID: SC 1000			Method: A2510 B			
Analysis Date: 05/19/23 09:17	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1020	5.0	1000	0	102	90	110				
Associated samples: H23050596-001A, H23050596-002A, H23050596-003A, H23050596-004A, H23050596-005A, H23050596-006A, H23050596-007A, H23050596-008A, H23050596-009A, H23050596-010A, H23050596-011A											

Run ID :Run Order: PHSC_101-H_230519A: 8	SampType: Method Blank				Lab ID: MBLK			Method: A2510 B			
Analysis Date: 05/19/23 09:23	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	ND	5									

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050596

**BatchID:** R184662

**Date:** 31-May-23

Run ID :Run Order: <b>PHSC_101-H_230519A: 8</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MBLK</b>	Method: <b>A2510 B</b>
Analysis Date: <b>05/19/23 09:23</b>	Units: <b>umhos/cm</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
			LowLimit
			HighLimit
			RPD Ref Val
			%RPD
			RPDLimit
			Qual

Associated samples: **H23050596-001A, H23050596-002A, H23050596-003A, H23050596-004A, H23050596-005A, H23050596-006A, H23050596-007A, H23050596-008A, H23050596-009A, H23050596-010A, H23050596-011A**

Run ID :Run Order: <b>PHSC_101-H_230519A: 12</b>	SampType: <b>Sample Duplicate</b>	Lab ID: <b>H23050596-001ADUP</b>	Method: <b>A2510 B</b>
Analysis Date: <b>05/19/23 09:27</b>	Units: <b>umhos/cm</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
			LowLimit
			HighLimit
			RPD Ref Val
			%RPD
			RPDLimit
			Qual

Associated samples: **H23050596-001A, H23050596-002A, H23050596-003A, H23050596-004A, H23050596-005A, H23050596-006A, H23050596-007A, H23050596-008A, H23050596-009A, H23050596-010A, H23050596-011A**

<b>Qualifiers:</b> ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limit	N - Analyte concentration was not sufficiently high to calculate RPD
J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050596

BatchID: R184662

Date: 31-May-23

Run ID :Run Order: PHSC_101-H_230519A: 1	SampType: Initial Calibration Verification Standard				Lab ID: pH 7				Method: A4500-H B		
Analysis Date: 05/19/23 07:37	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	20.1			0		0	0				

Associated samples: H23050596-001A, H23050596-002A, H23050596-003A, H23050596-004A, H23050596-005A, H23050596-006A, H23050596-007A, H23050596-008A, H23050596-009A, H23050596-010A, H23050596-011A

Run ID :Run Order: PHSC_101-H_230519A: 11	SampType: Sample Duplicate				Lab ID: H23050596-001ADUP				Method: A4500-H B		
Analysis Date: 05/19/23 09:27	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	5.5	0.1		0				5.45	0.5	3	H
pH Measurement Temp	11.1			0				12.1			

Associated samples: H23050596-001A, H23050596-002A, H23050596-003A, H23050596-004A, H23050596-005A, H23050596-006A, H23050596-007A, H23050596-008A, H23050596-009A, H23050596-010A, H23050596-011A



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050596

BatchID: R184684

Date: 31-May-23

Run ID :Run Order: ICP2-HE_230519A: 13	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.7			
Analysis Date: 05/19/23 10:17	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.08	0.10	4	0	102	95	105				
Boron	0.804	0.10	0.8	0	100	95	105				
Calcium	39.3	1.0	40	0	98	95	105				
Copper	0.799	0.012	0.8	0	100	95	105				
Iron	3.91	0.020	4	0	98	95	105				
Lithium	0.786	0.10	0.8	0	98	95	105				
Magnesium	39.2	1.0	40	0	98	95	105				
Manganese	3.96	0.010	4	0	99	95	105				
Potassium	39.0	1.0	40	0	97	95	105				
Sodium	38.9	1.0	40	0	97	95	105				
Strontium	0.792	0.10	0.8	0	99	95	105				
Zinc	0.808	0.010	0.8	0	101	95	105				

Associated samples: H23050596-001B, H23050596-002B, H23050596-003B, H23050596-004B, H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B, H23050596-011B

Run ID :Run Order: ICP2-HE_230519A: 20	SampType: Method Blank				Lab ID: MB			Method: E200.7			
Analysis Date: 05/19/23 10:46	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.03									
Boron	ND	0.004									
Calcium	ND	0.2									
Copper	ND	0.01									
Iron	ND	0.008									
Lithium	ND	0.002									
Magnesium	ND	0.05									
Manganese	ND	0.001									
Potassium	ND	0.06									
Sodium	ND	0.03									
Strontium	ND	0.0003									
Zinc	ND	0.003									

Associated samples: H23050596-001B, H23050596-002B, H23050596-003B, H23050596-004B, H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B, H23050596-011B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050596

**BatchID:** R184684

**Date:** 31-May-23

Run ID :Run Order: ICP2-HE_230519A: 21	SampType: Laboratory Fortified Blank				Lab ID: LFB			Method: E200.7			
Analysis Date: 05/19/23 10:50	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.27	0.10	5	0	105	85	115				
Boron	0.989	0.10	1	0	99	85	115				
Calcium	50.8	1.0	50	0	102	85	115				
Copper	1.03	0.012	1	0	103	85	115				
Iron	4.99	0.020	5	0	100	85	115				
Lithium	1.03	0.10	1	0	103	85	115				
Magnesium	50.5	1.0	50	0	101	85	115				
Manganese	5.09	0.010	5	0	102	85	115				
Potassium	51.1	1.0	50	0	102	85	115				
Sodium	51.1	1.0	50	0	102	85	115				
Strontium	1.02	0.10	1	0	102	85	115				
Zinc	0.989	0.010	1	0	99	85	115				

Associated samples: H23050596-001B, H23050596-002B, H23050596-003B, H23050596-004B, H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B, H23050596-011B

Run ID :Run Order: ICP2-HE_230519A: 33	SampType: Continuing Calibration Verification Standard				Lab ID: CCV			Method: E200.7			
Analysis Date: 05/19/23 12:39	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.67	0.10	2.5	0	107	90	110				
Boron	2.51	0.10	2.5	0	100	90	110				
Calcium	25.4	1.0	25	0	101	90	110				
Copper	2.62	0.012	2.5	0	105	90	110				
Iron	2.51	0.020	2.5	0	100	90	110				
Lithium	1.28	0.10	1.25	0	102	90	110				
Magnesium	25.5	1.0	25	0	102	90	110				
Manganese	2.51	0.010	2.5	0	101	90	110				
Potassium	24.7	1.0	25	0	99	90	110				
Sodium	25.0	1.0	25	0	100	90	110				
Strontium	2.61	0.10	2.5	0	104	90	110				
Zinc	2.47	0.010	2.5	0	99	90	110				

Associated samples: H23050596-001B, H23050596-002B, H23050596-003B, H23050596-004B, H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B, H23050596-011B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050596

**BatchID:** R184684

**Date:** 31-May-23

Run ID :Run Order: ICP2-HE_230519A: 38	SampType: Sample Matrix Spike				Lab ID: H23050596-001BMS2				Method: E200.7		
Analysis Date: 05/19/23 13:13	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	6.79	0.030	5	1.133	113	70	130				
Boron	1.11	0.050	1	0.05544	106	70	130				
Calcium	486	1.0	50	434.2		70	130				A
Copper	3.10	0.012	1	2.013	109	70	130				
Iron	5.38	0.020	5	0.4037	100	70	130				
Lithium	1.13	0.10	1	0.0543	107	70	130				
Magnesium	64.9	1.0	50	13.81	102	70	130				
Manganese	7.10	0.0014	5	2.082	100	70	130				
Potassium	69.7	1.0	50	18	103	70	130				
Sodium	95.4	1.0	50	42.44	106	70	130				
Strontium	2.59	0.010	1	1.534	105	70	130				
Zinc	4.85	0.010	1	3.752	110	70	130				

Associated samples: H23050596-001B, H23050596-002B, H23050596-003B, H23050596-004B, H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B, H23050596-011B

Run ID :Run Order: ICP2-HE_230519A: 39	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050596-001BMSD2				Method: E200.7		
Analysis Date: 05/19/23 13:16	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	6.77	0.030	5	1.133	113	70	130	6.79	0.2	20	
Boron	1.08	0.050	1	0.05544	102	70	130	1.113	3.1	20	
Calcium	477	1.0	50	434.2		70	130	486.2	1.9	20	A
Copper	3.10	0.012	1	2.013	109	70	130	3.103	0.1	20	
Iron	5.35	0.020	5	0.4037	99	70	130	5.38	0.5	20	
Lithium	1.14	0.10	1	0.0543	108	70	130	1.129	0.6	20	
Magnesium	64.9	1.0	50	13.81	102	70	130	64.87	0.1	20	
Manganese	7.11	0.0014	5	2.082	101	70	130	7.104	0	20	
Potassium	70.5	1.0	50	18	105	70	130	69.75	1.1	20	
Sodium	96.4	1.0	50	42.44	108	70	130	95.4	1.0	20	
Strontium	2.59	0.010	1	1.534	106	70	130	2.586	0.3	20	
Zinc	4.69	0.010	1	3.752	94	70	130	4.852	3.4	20	

Associated samples: H23050596-001B, H23050596-002B, H23050596-003B, H23050596-004B, H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B, H23050596-011B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050596

**BatchID:** R184684

**Date:** 31-May-23

Run ID :Run Order: ICP2-HE_230519A: 41	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.7		
Analysis Date: 05/19/23 13:24	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.69	0.10	2.5	0	107	90	110				
Boron	2.63	0.10	2.5	0	105	90	110				
Calcium	26.1	1.0	25	0	104	90	110				
Copper	2.64	0.012	2.5	0	106	90	110				
Iron	2.57	0.020	2.5	0	103	90	110				
Lithium	1.28	0.10	1.25	0	102	90	110				
Magnesium	26.1	1.0	25	0	104	90	110				
Manganese	2.57	0.010	2.5	0	103	90	110				
Potassium	25.0	1.0	25	0	100	90	110				
Sodium	25.3	1.0	25	0	101	90	110				
Strontium	2.64	0.10	2.5	0	105	90	110				
Zinc	2.60	0.010	2.5	0	104	90	110				

Associated samples: H23050596-001B, H23050596-002B, H23050596-003B, H23050596-004B, H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B, H23050596-011B

Run ID :Run Order: ICP2-HE_230519A: 52	SampType: Sample Matrix Spike				Lab ID: H23050596-010BMS2				Method: E200.7		
Analysis Date: 05/19/23 14:04	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	6.68	0.030	5	1.21	109	70	130				
Boron	1.48	0.050	1	0.4449	103	70	130				
Calcium	104	1.0	50	54.36	98	70	130				
Copper	6.38	0.012	1	5.477		70	130				A
Iron	5.10	0.020	5	0.04155	101	70	130				
Lithium	1.19	0.10	1	0.1338	106	70	130				
Magnesium	63.7	1.0	50	13.41	101	70	130				
Manganese	13.8	0.0014	5	8.996	96	70	130				
Potassium	63.1	1.0	50	11.26	104	70	130				
Sodium	167	1.0	50	118.2	98	70	130				
Strontium	1.49	0.010	1	0.4682	102	70	130				
Zinc	15.0	0.010	1	13.95		70	130				A

Associated samples: H23050596-001B, H23050596-002B, H23050596-003B, H23050596-004B, H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B, H23050596-011B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050596

**BatchID:** R184684

**Date:** 31-May-23

Run ID :Run Order: ICP2-HE_230519A: 60	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.7		
Analysis Date: 05/19/23 14:34	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.56	0.10	2.5	0	103	90	110				
Boron	2.44	0.10	2.5	0	98	90	110				
Calcium	25.3	1.0	25	0	101	90	110				
Copper	2.55	0.012	2.5	0	102	90	110				
Iron	2.53	0.020	2.5	0	101	90	110				
Lithium	1.29	0.10	1.25	0	104	90	110				
Magnesium	25.9	1.0	25	0	104	90	110				
Manganese	2.51	0.010	2.5	0	100	90	110				
Potassium	25.6	1.0	25	0	103	90	110				
Sodium	25.7	1.0	25	0	103	90	110				
Strontium	2.56	0.10	2.5	0	103	90	110				
Zinc	2.46	0.010	2.5	0	98	90	110				

Associated samples: H23050596-001B, H23050596-002B, H23050596-003B, H23050596-004B, H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B, H23050596-011B

Run ID :Run Order: ICP2-HE_230519A: 63	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050596-010BMSD2				Method: E200.7		
Analysis Date: 05/19/23 14:46	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	6.49	0.030	5	1.21	106	70	130	6.679	2.8	20	
Boron	1.44	0.050	1	0.4449	99	70	130	1.476	2.7	20	
Calcium	102	1.0	50	54.36	94	70	130	103.5	1.9	20	
Copper	6.27	0.012	1	5.477		70	130	6.381	1.8	20	A
Iron	4.97	0.020	5	0.04155	99	70	130	5.104	2.7	20	
Lithium	1.19	0.10	1	0.1338	106	70	130	1.19	0	20	
Magnesium	63.2	1.0	50	13.41	100	70	130	63.71	0.8	20	
Manganese	13.5	0.0014	5	8.996	90	70	130	13.81	2.3	20	
Potassium	62.7	1.0	50	11.26	103	70	130	63.08	0.6	20	
Sodium	167	1.0	50	118.2	97	70	130	167.3	0.2	20	
Strontium	1.47	0.010	1	0.4682	101	70	130	1.486	0.8	20	
Zinc	13.1	0.010	1	13.95		70	130	15.05	14	20	A

Associated samples: H23050596-001B, H23050596-002B, H23050596-003B, H23050596-004B, H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B, H23050596-011B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050596

**BatchID:** R184723

**Date:** 31-May-23

Run ID :Run Order: <b>IC METROHM_230519A: 2</b>		SampType: <b>Method Blank</b>			Lab ID: <b>ICB</b>			Method: <b>E300.0</b>				
Analysis Date: <b>05/19/23 11:27</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>4</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		ND	0.02									
Sulfate		ND	0.03									
Bromide		ND	0.001									
Fluoride		ND	0.01									

Associated samples: **H23050596-001A, H23050596-002A, H23050596-003A, H23050596-004A, H23050596-005A, H23050596-006A, H23050596-007A, H23050596-008A, H23050596-009A, H23050596-010A, H23050596-011A**

Run ID :Run Order: <b>IC METROHM_230519A: 3</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E300.0</b>				
Analysis Date: <b>05/19/23 11:42</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>4</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		101	1.0	100	0	<b>101</b>	90	110				
Sulfate		395	1.0	400	0	<b>99</b>	90	110				
Bromide		4.91	0.50	5	0	<b>98</b>	90	110				
Fluoride		5.13	0.10	5	0	<b>103</b>	90	110				

Associated samples: **H23050596-001A, H23050596-002A, H23050596-003A, H23050596-004A, H23050596-005A, H23050596-006A, H23050596-007A, H23050596-008A, H23050596-009A, H23050596-010A, H23050596-011A**

Run ID :Run Order: <b>IC METROHM_230519A: 4</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E300.0</b>				
Analysis Date: <b>05/19/23 11:56</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>4</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		25.0	1.0	25	0	<b>100</b>	90	110				
Sulfate		104	1.0	100	0	<b>104</b>	90	110				
Bromide		1.17	0.50	1.25	0	<b>93</b>	90	110				
Fluoride		1.30	0.10	1.25	0	<b>104</b>	90	110				

Associated samples: **H23050596-001A, H23050596-002A, H23050596-003A, H23050596-004A, H23050596-005A, H23050596-006A, H23050596-007A, H23050596-008A, H23050596-009A, H23050596-010A, H23050596-011A**

Run ID :Run Order: <b>IC METROHM_230519A: 55</b>		SampType: <b>Continuing Calibration Verification Standard</b>			Lab ID: <b>CCV</b>			Method: <b>E300.0</b>				
Analysis Date: <b>05/20/23 00:53</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>4</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		52.3	1.0	50	0	<b>105</b>	90	110				

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 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050596

BatchID: R184723

Date: 31-May-23

Run ID :Run Order: IC METROHM_230519A: 55	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E300.0		
Analysis Date: 05/20/23 00:53	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	205	1.0	200	0	103	90	110				
Bromide	2.52	0.50	2.5	0	101	90	110				
Fluoride	2.66	0.10	2.5	0	107	90	110				

Associated samples: H23050596-001A, H23050596-002A, H23050596-003A, H23050596-004A, H23050596-005A, H23050596-006A, H23050596-007A, H23050596-008A, H23050596-009A, H23050596-010A, H23050596-011A

Run ID :Run Order: IC METROHM_230519A: 58	SampType: Sample Matrix Spike				Lab ID: H23050592-005AMS				Method: E300.0		
Analysis Date: 05/20/23 01:51	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	102	1.0	25	76.88	102	90	110				
Sulfate	102	1.0	100	1.172	101	90	110				
Bromide	1.17	0.50	1.25	0.017	92	90	110				
Fluoride	1.29	0.10	1.25	0.032	100	90	110				

Associated samples: H23050596-001A, H23050596-002A, H23050596-003A, H23050596-004A, H23050596-005A, H23050596-006A, H23050596-007A, H23050596-008A, H23050596-009A, H23050596-010A, H23050596-011A

Run ID :Run Order: IC METROHM_230519A: 59	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050592-005AMSD				Method: E300.0		
Analysis Date: 05/20/23 02:05	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	100	1.0	25	76.88	94	90	110	102.4	2.1	20	
Sulfate	101	1.0	100	1.172	100	90	110	101.8	0.6	20	
Bromide	1.14	0.50	1.25	0.017	90	90	110	1.166	1.9	20	
Fluoride	1.26	0.10	1.25	0.032	98	90	110	1.286	1.9	20	

Associated samples: H23050596-001A, H23050596-002A, H23050596-003A, H23050596-004A, H23050596-005A, H23050596-006A, H23050596-007A, H23050596-008A, H23050596-009A, H23050596-010A, H23050596-011A

Run ID :Run Order: IC METROHM_230519A: 69	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E300.0		
Analysis Date: 05/20/23 04:29	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	52.2	1.0	50	0	104	90	110				
Sulfate	212	1.0	200	0	106	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050596

**BatchID:** R184723

**Date:** 31-May-23

Run ID :Run Order: <b>IC METROHM_230519A: 69</b>		SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>			Method: <b>E300.0</b>		
Analysis Date: <b>05/20/23 04:29</b>		Units: <b>mg/L</b>		Prep Info: Prep Date:			Prep Method:				
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.53	0.50	2.5	0	<b>101</b>	90	110				
Fluoride	2.69	0.10	2.5	0	<b>108</b>	90	110				

Associated samples: **H23050596-001A, H23050596-002A, H23050596-003A, H23050596-004A, H23050596-005A, H23050596-006A, H23050596-007A, H23050596-008A, H23050596-009A, H23050596-010A, H23050596-011A**

Run ID :Run Order: <b>IC METROHM_230519A: 72</b>		SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050596-005AMS</b>			Method: <b>E300.0</b>		
Analysis Date: <b>05/20/23 05:26</b>		Units: <b>mg/L</b>		Prep Info: Prep Date:			Prep Method:				
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	328	1.0	250	75.92	<b>101</b>	90	110				
Sulfate	2940	1.1	1000	1936	<b>101</b>	90	110				
Bromide	11.5	0.54	12.5	0	<b>92</b>	90	110				
Fluoride	12.6	0.13	12.5	0.11	<b>100</b>	90	110				

Associated samples: **H23050596-001A, H23050596-002A, H23050596-003A, H23050596-004A, H23050596-005A, H23050596-006A, H23050596-007A, H23050596-008A, H23050596-009A, H23050596-010A, H23050596-011A**

Run ID :Run Order: <b>IC METROHM_230519A: 73</b>		SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050596-005AMSD</b>			Method: <b>E300.0</b>		
Analysis Date: <b>05/20/23 05:41</b>		Units: <b>mg/L</b>		Prep Info: Prep Date:			Prep Method:				
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	322	1.0	250	75.92	<b>98</b>	90	110	328.1	<b>2.0</b>	20	
Sulfate	2930	1.1	1000	1936	<b>99</b>	90	110	2944	<b>0.5</b>	20	
Bromide	11.2	0.54	12.5	0	<b>90</b>	90	110	11.49	<b>2.4</b>	20	
Fluoride	12.7	0.13	12.5	0.11	<b>101</b>	90	110	12.65	<b>0.3</b>	20	

Associated samples: **H23050596-001A, H23050596-002A, H23050596-003A, H23050596-004A, H23050596-005A, H23050596-006A, H23050596-007A, H23050596-008A, H23050596-009A, H23050596-010A, H23050596-011A**

Run ID :Run Order: <b>IC METROHM_230519A: 86</b>		SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050597-004AMS</b>			Method: <b>E300.0</b>		
Analysis Date: <b>05/20/23 09:03</b>		Units: <b>mg/L</b>		Prep Info: Prep Date:			Prep Method:				
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	153	1.0	125	24.17	<b>103</b>	90	110				
Sulfate	2230	1.0	500	1691	<b>108</b>	90	110				
Bromide	5.94	0.50	6.25	0.135	<b>93</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050596

**BatchID:** R184723

**Date:** 31-May-23

Run ID :Run Order: <b>IC METROHM_230519A: 86</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23050597-004AMS</b>			Method: <b>E300.0</b>				
Analysis Date: <b>05/20/23 09:03</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>4</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride		7.84	0.10	6.25	1.405	<b>103</b>	90	110				

Associated samples: **H23050596-001A, H23050596-002A, H23050596-003A, H23050596-004A, H23050596-005A, H23050596-006A, H23050596-007A, H23050596-008A, H23050596-009A, H23050596-010A, H23050596-011A**

Run ID :Run Order: <b>IC METROHM_230519A: 87</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23050597-004AMSD</b>			Method: <b>E300.0</b>				
Analysis Date: <b>05/20/23 09:17</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>4</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		152	1.0	125	24.17	<b>102</b>	90	110	153	<b>0.8</b>	20	
Sulfate		2240	1.0	500	1691	<b>110</b>	90	110	2232	<b>0.3</b>	20	
Bromide		5.90	0.50	6.25	0.135	<b>92</b>	90	110	5.944	<b>0.8</b>	20	
Fluoride		7.78	0.10	6.25	1.405	<b>102</b>	90	110	7.838	<b>0.8</b>	20	

Associated samples: **H23050596-001A, H23050596-002A, H23050596-003A, H23050596-004A, H23050596-005A, H23050596-006A, H23050596-007A, H23050596-008A, H23050596-009A, H23050596-010A, H23050596-011A**

<b>Qualifiers:</b> ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limit	N - Analyte concentration was not sufficiently high to calculate RPD
J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050596

BatchID: R184745

Date: 31-May-23

Run ID :Run Order: <b>PHSC_101-H_230523A: 47</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A2320 B</b>		
Analysis Date: <b>05/23/23 11:16</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									
Associated samples: <b>H23050596-001A, H23050596-002A, H23050596-003A, H23050596-004A, H23050596-005A, H23050596-006A, H23050596-007A, H23050596-008A, H23050596-009A, H23050596-010A, H23050596-011A</b>											

Run ID :Run Order: <b>PHSC_101-H_230523A: 48</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS</b>				Method: <b>A2320 B</b>		
Analysis Date: <b>05/23/23 11:22</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	600	4.0	600	0	<b>100</b>	90	110				
Associated samples: <b>H23050596-001A, H23050596-002A, H23050596-003A, H23050596-004A, H23050596-005A, H23050596-006A, H23050596-007A, H23050596-008A, H23050596-009A, H23050596-010A, H23050596-011A</b>											

Run ID :Run Order: <b>PHSC_101-H_230523A: 97</b>	SampType: <b>Sample Duplicate</b>				Lab ID: <b>H23050596-003ADUP</b>				Method: <b>A2320 B</b>		
Analysis Date: <b>05/23/23 16:19</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	60	4.0		0				55.5	<b>7.9</b>	10	
Bicarbonate as HCO3	73	4.0		0				67.1	<b>7.9</b>	10	
Carbonate as CO3	ND	4.0		0				0		10	
Associated samples: <b>H23050596-001A, H23050596-002A, H23050596-003A, H23050596-004A, H23050596-005A, H23050596-006A, H23050596-007A, H23050596-008A, H23050596-009A, H23050596-010A, H23050596-011A</b>											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050596

**BatchID:** R184760

**Date:** 31-May-23

Run ID :Run Order: ICP2-HE_230522A: 13	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.7		
Analysis Date: 05/22/23 11:19	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <span style="color: red;">6</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.771	0.10	0.8	0	96	95	105				
Cadmium	0.399	0.0027	0.4	0	100	95	105				
Cobalt	0.815	0.010	0.8	0	102	95	105				
Iron	4.01	0.020	4	0	100	95	105				
Nickel	0.769	0.010	0.8	0	96	95	105				
Zinc	0.794	0.010	0.8	0	99	95	105				

Associated samples: H23050596-008B, H23050596-009B

Run ID :Run Order: ICP2-HE_230522A: 14	SampType: Continuing Calibration Verification Standard				Lab ID: CCV-1				Method: E200.7		
Analysis Date: 05/22/23 11:23	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <span style="color: red;">6</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.46	0.10	2.5	0	98	95	105				
Cadmium	2.55	0.0027	2.5	0	102	95	105				
Cobalt	2.54	0.010	2.5	0	102	95	105				
Iron	2.56	0.020	2.5	0	102	95	105				
Nickel	2.46	0.010	2.5	0	98	95	105				
Zinc	2.53	0.010	2.5	0	101	95	105				

Associated samples: H23050596-008B, H23050596-009B

Run ID :Run Order: ICP2-HE_230522A: 20	SampType: Method Blank				Lab ID: MB				Method: E200.7		
Analysis Date: 05/22/23 11:46	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <span style="color: red;">6</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.004									
Cadmium	ND	0.003									
Cobalt	0.01	0.01									
Iron	ND	0.008									
Nickel	ND	0.002									
Zinc	ND	0.003									

Associated samples: H23050596-008B, H23050596-009B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050596

**BatchID:** R184760

**Date:** 31-May-23

Run ID :Run Order: ICP2-HE_230522A: 21		SampType: Laboratory Fortified Blank				Lab ID: LFB			Method: E200.7		
Analysis Date: 05/22/23 11:50		Units: mg/L				Prep Info: Prep Date:			Prep Method:		
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.906	0.10	1	0	91	85	115				
Cadmium	0.479	0.0028	0.5	0	96	85	115				
Cobalt	1.08	0.010	1	0	108	85	115				
Iron	5.21	0.020	5	0	104	85	115				
Nickel	0.914	0.010	1	0	91	85	115				
Zinc	0.953	0.010	1	0	95	85	115				

Associated samples: H23050596-008B, H23050596-009B

Run ID :Run Order: ICP2-HE_230522A: 143		SampType: Continuing Calibration Verification Standard				Lab ID: CCV			Method: E200.7		
Analysis Date: 05/22/23 19:39		Units: mg/L				Prep Info: Prep Date:			Prep Method:		
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.57	0.10	2.5	0	103	90	110				
Cadmium	2.54	0.0027	2.5	0	101	90	110				
Cobalt	2.53	0.010	2.5	0	101	90	110				
Iron	2.63	0.020	2.5	0	105	90	110				
Nickel	2.46	0.010	2.5	0	98	90	110				
Zinc	2.57	0.010	2.5	0	103	90	110				

Associated samples: H23050596-008B, H23050596-009B

Run ID :Run Order: ICP2-HE_230522A: 149		SampType: Sample Matrix Spike				Lab ID: H23050635-002BMS2			Method: E200.7		
Analysis Date: 05/22/23 20:02		Units: mg/L				Prep Info: Prep Date:			Prep Method:		
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.08	0.050	2	0.01538	103	70	130				
Cadmium	0.994	0.0055	1	0	99	70	130				
Cobalt	4.06	0.020	2	2.213	92	70	130				
Iron	439	0.020	10	430.3		70	130				A
Nickel	2.97	0.0051	2	0.992	99	70	130				
Zinc	2.21	0.010	2	0.1373	104	70	130				

Associated samples: H23050596-008B, H23050596-009B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050596

BatchID: R184760

Date: 31-May-23

Run ID :Run Order: ICP2-HE_230522A: 150	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050635-002BMSD2				Method: E200.7		
Analysis Date: 05/22/23 20:05	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.98	0.050	2	0.01538	98	70	130	2.081	5.0	20	
Cadmium	0.945	0.0055	1	0	94	70	130	0.9941	5.1	20	
Cobalt	4.05	0.020	2	2.213	92	70	130	4.063	0.3	20	
Iron	442	0.020	10	430.3		70	130	439	0.8	20	A
Nickel	2.83	0.0051	2	0.992	92	70	130	2.975	5.1	20	
Zinc	2.10	0.010	2	0.1373	98	70	130	2.212	5.1	20	

Associated samples: H23050596-008B, H23050596-009B

Qualifiers: ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050596

**BatchID:** R184846

**Date:** 31-May-23

Run ID :Run Order: ICPMS205-H_230524C: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 05/24/23 19:28	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.293	0.10	0.3	0	98	90	110				
Antimony	0.0594	0.050	0.06	0	99	90	110				
Arsenic	0.0589	0.0050	0.06	0	98	90	110				
Barium	0.0596	0.10	0.06	0	99	90	110				
Beryllium	0.0304	0.0010	0.03	0	101	90	110				
Cadmium	0.0303	0.0010	0.03	0	101	90	110				
Chromium	0.0597	0.010	0.06	0	100	90	110				
Cobalt	0.0602	0.010	0.06	0	100	90	110				
Copper	0.0602	0.010	0.06	0	100	90	110				
Iron	0.306	0.020	0.3	0	102	90	110				
Lead	0.0593	0.010	0.06	0	99	90	110				
Magnesium	3.10	0.50	3	0	103	90	110				
Manganese	0.296	0.010	0.3	0	99	90	110				
Molybdenum	0.0569	0.0050	0.06	0	95	90	110				
Nickel	0.0604	0.010	0.06	0	101	90	110				
Selenium	0.0615	0.0050	0.06	0	102	90	110				
Silver	0.0294	0.0050	0.03	0	98	90	110				
Thallium	0.0591	0.10	0.06	0	98	90	110				
Thorium	0.0611	0.0010	0.06	0	102	90	110				
Tin	0.0602	0.10	0.06	0	100	90	110				
Titanium	0.0624	0.010	0.06	0	104	90	110				
Uranium	0.0590	0.00030	0.06	0	98	90	110				
Vanadium	0.0589	0.10	0.06	0	98	90	110				
Zinc	0.0612	0.010	0.06	0	102	90	110				

Associated samples: H23050596-001B, H23050596-002B, H23050596-003B, H23050596-004B, H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B, H23050596-011B

Run ID :Run Order: ICPMS205-H_230524C: 24	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 05/24/23 20:19	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	ND	0.0002									
Arsenic	ND	0.0002									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050596

**BatchID:** R184846

**Date:** 31-May-23

Run ID :Run Order: <b>ICPMS205-H_230524C: 24</b>		SampType: <b>Method Blank</b>			Lab ID: <b>LRB</b>				Method: <b>E200.8</b>		
Analysis Date: <b>05/24/23 20:19</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:				Prep Method:		
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	0.0002									
Beryllium	ND	0.0002									
Cadmium	ND	0.00002									
Chromium	ND	0.0001									
Cobalt	ND	0.001									
Copper	ND	0.0001									
Iron	ND	0.004									
Lead	ND	0.0001									
Magnesium	ND	0.01									
Manganese	ND	0.0003									
Molybdenum	ND	0.0003									
Nickel	ND	0.0002									
Selenium	ND	0.00007									
Silver	ND	0.00008									
Thallium	ND	0.00008									
Thorium	ND	0.0002									
Tin	ND	0.0002									
Titanium	ND	0.0005									
Uranium	ND	0.00002									
Vanadium	ND	0.0001									
Zinc	ND	0.001									

Associated samples: **H23050596-001B, H23050596-002B, H23050596-003B, H23050596-004B, H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B, H23050596-011B**

Run ID :Run Order: <b>ICPMS205-H_230524C: 25</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>				Method: <b>E200.8</b>		
Analysis Date: <b>05/24/23 20:23</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:				Prep Method:		
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0497	0.10	0.05	0	99	85	115				
Antimony	0.0468	0.050	0.05	0	94	85	115				
Arsenic	0.0496	0.0050	0.05	0	99	85	115				
Barium	0.0496	0.10	0.05	0	99	85	115				
Beryllium	0.0507	0.0010	0.05	0	101	85	115				
Cadmium	0.0505	0.0010	0.05	0	101	85	115				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050596

**BatchID:** R184846

**Date:** 31-May-23

Run ID :Run Order: <b>ICPMS205-H_230524C: 25</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/24/23 20:23</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.0495	0.010	0.05	0	99	85	115				
Cobalt	0.0505	0.010	0.05	0	101	85	115				
Copper	0.0500	0.010	0.05	0	100	85	115				
Iron	0.154	0.020	0.15	0	103	85	115				
Lead	0.0502	0.010	0.05	0	100	85	115				
Magnesium	1.04	0.50	1	0	104	85	115				
Manganese	0.0498	0.010	0.05	0	100	85	115				
Molybdenum	0.0491	0.0050	0.05	0	98	85	115				
Nickel	0.0504	0.010	0.05	0	101	85	115				
Selenium	0.0510	0.0050	0.05	0	102	85	115				
Silver	0.0200	0.0050	0.02	0	100	85	115				
Thallium	0.0504	0.10	0.05	0	101	85	115				
Thorium	0.0461	0.0010	0.05	0	92	85	115				
Tin	0.0474	0.10	0.05	0	95	85	115				
Titanium	0.0482	0.010	0.05	0	96	85	115				
Uranium	0.0488	0.00030	0.05	0	98	85	115				
Vanadium	0.0490	0.10	0.05	0	98	85	115				
Zinc	0.0530	0.010	0.05	0	106	85	115				

Associated samples: **H23050596-001B, H23050596-002B, H23050596-003B, H23050596-004B, H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B, H23050596-011B**

Run ID :Run Order: <b>ICPMS205-H_230524C: 81</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23050553-004BMS</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/25/23 00:23</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>23</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0524	0.030	0.05	0	105	70	130				
Antimony	0.0456	0.0010	0.05	0	91	70	130				
Arsenic	0.0516	0.0010	0.05	0.0003007	103	70	130				
Barium	0.0654	0.050	0.05	0.01553	100	70	130				
Beryllium	0.0515	0.0010	0.05	0	103	70	130				
Cadmium	0.0449	0.0010	0.05	0.00006059	90	70	130				
Chromium	0.0478	0.0050	0.05	0	96	70	130				
Cobalt	0.0482	0.0050	0.05	0	96	70	130				
Copper	0.0465	0.0050	0.05	0.001487	90	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050596

BatchID: R184846

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230524C: 81		SampType: Sample Matrix Spike			Lab ID: H23050553-004BMS				Method: E200.8		
Analysis Date: 05/25/23 00:23		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.148	0.020	0.15	0	99	70	130				
Lead	0.0545	0.0010	0.05	0	109	70	130				
Magnesium	77.1	1.0	1	79.97		70	130				A
Manganese	1.62	0.0010	0.05	1.575		70	130				A
Molybdenum	0.0492	0.0010	0.05	0.002388	94	70	130				
Nickel	0.0507	0.0050	0.05	0.004804	92	70	130				
Selenium	0.0530	0.0010	0.05	0.0003173	105	70	130				
Thallium	0.0552	0.00050	0.05	0.0001037	110	70	130				
Thorium	0.0528	0.0050	0.05	0.0002588	105	70	130				
Tin	0.0447	0.050	0.05	0	89	70	130				
Titanium	0.0498	0.0050	0.05	0	100	70	130				
Uranium	0.0837	0.00030	0.05	0.02911	109	70	130				
Vanadium	0.0496	0.010	0.05	0.0003121	99	70	130				
Zinc	0.0473	0.010	0.05	0.001957	91	70	130				

Associated samples: H23050596-001B, H23050596-002B, H23050596-003B, H23050596-004B, H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B, H23050596-011B

Run ID :Run Order: ICPMS205-H_230524C: 82		SampType: Sample Matrix Spike Duplicate			Lab ID: H23050553-004BMSD				Method: E200.8		
Analysis Date: 05/25/23 00:28		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0513	0.030	0.05	0	103	70	130	0.05241	2.2	20	
Antimony	0.0461	0.0010	0.05	0	92	70	130	0.04558	1.1	20	
Arsenic	0.0511	0.0010	0.05	0.0003007	102	70	130	0.05156	0.9	20	
Barium	0.0660	0.050	0.05	0.01553	101	70	130	0.06543	0.9	20	
Beryllium	0.0510	0.0010	0.05	0	102	70	130	0.05151	1.0	20	
Cadmium	0.0448	0.0010	0.05	0.00006059	90	70	130	0.04487	0.1	20	
Chromium	0.0479	0.0050	0.05	0	96	70	130	0.0478	0.1	20	
Cobalt	0.0480	0.0050	0.05	0	96	70	130	0.0482	0.4	20	
Copper	0.0462	0.0050	0.05	0.001487	89	70	130	0.0465	0.7	20	
Iron	0.148	0.020	0.15	0	99	70	130	0.1479	0.1	20	
Lead	0.0544	0.0010	0.05	0	109	70	130	0.05452	0.3	20	
Magnesium	76.8	1.0	1	79.97		70	130	77.14	0.4	20	A
Manganese	1.61	0.0010	0.05	1.575		70	130	1.622	0.7	20	A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050596

BatchID: R184846

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230524C: 82		SampType: Sample Matrix Spike Duplicate			Lab ID: H23050553-004BMSD				Method: E200.8		
Analysis Date: 05/25/23 00:28		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.0500	0.0010	0.05	0.002388	95	70	130	0.04915	1.8	20	
Nickel	0.0502	0.0050	0.05	0.004804	91	70	130	0.05068	1.0	20	
Selenium	0.0537	0.0010	0.05	0.0003173	107	70	130	0.053	1.2	20	
Thallium	0.0550	0.00050	0.05	0.0001037	110	70	130	0.05522	0.4	20	
Thorium	0.0557	0.0050	0.05	0.0002588	111	70	130	0.05284	5.3	20	
Tin	0.0453	0.050	0.05	0	91	70	130	0.04469		20	
Titanium	0.0528	0.0050	0.05	0	105	70	130	0.04981	5.7	20	
Uranium	0.0843	0.00030	0.05	0.02911	110	70	130	0.08367	0.8	20	
Vanadium	0.0497	0.010	0.05	0.0003121	99	70	130	0.04959	0.2	20	
Zinc	0.0466	0.010	0.05	0.001957	89	70	130	0.0473	1.4	20	

Associated samples: H23050596-001B, H23050596-002B, H23050596-003B, H23050596-004B, H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B, H23050596-011B

Run ID :Run Order: ICPMS205-H_230524C: 83		SampType: Continuing Calibration Verification Standard			Lab ID: CCV				Method: E200.8		
Analysis Date: 05/25/23 00:32		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0532	0.10	0.05	0	106	90	110				
Antimony	0.0494	0.050	0.05	0	99	90	110				
Arsenic	0.0494	0.0050	0.05	0	99	90	110				
Barium	0.0499	0.10	0.05	0	100	90	110				
Beryllium	0.0493	0.0010	0.05	0	99	90	110				
Cadmium	0.0499	0.0010	0.05	0	100	90	110				
Chromium	0.0494	0.010	0.05	0	99	90	110				
Cobalt	0.0496	0.010	0.05	0	99	90	110				
Copper	0.0490	0.010	0.05	0	98	90	110				
Iron	1.31	0.020	1.3	0	101	90	110				
Lead	0.0500	0.010	0.05	0	100	90	110				
Magnesium	12.6	0.50	12.5	0	101	90	110				
Manganese	0.0515	0.010	0.05	0	103	90	110				
Molybdenum	0.0486	0.0050	0.05	0	97	90	110				
Nickel	0.0494	0.010	0.05	0	99	90	110				
Selenium	0.0516	0.0050	0.05	0	103	90	110				
Silver	0.0191	0.0050	0.02	0	96	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050596

**BatchID:** R184846

**Date:** 31-May-23

Run ID :Run Order: <b>ICPMS205-H_230524C: 83</b>		SampType: <b>Continuing Calibration Verification Standard</b>			Lab ID: <b>CCV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/25/23 00:32</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	0.0500	0.10	0.05	0	100	90	110				
Thorium	0.0509	0.0010	0.05	0	102	90	110				
Tin	0.0505	0.10	0.05	0	101	90	110				
Titanium	0.0514	0.010	0.05	0	103	90	110				
Uranium	0.0498	0.00030	0.05	0	100	90	110				
Vanadium	0.0499	0.10	0.05	0	100	90	110				
Zinc	0.0518	0.010	0.05	0	104	90	110				

Associated samples: **H23050596-001B, H23050596-002B, H23050596-003B, H23050596-004B, H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B, H23050596-011B**

Run ID :Run Order: <b>ICPMS205-H_230524C: 131</b>		SampType: <b>Continuing Calibration Verification Standard</b>			Lab ID: <b>CCV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/25/23 03:58</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>22</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0519	0.10	0.05	0	104	90	110				
Antimony	0.0499	0.050	0.05	0	100	90	110				
Arsenic	0.0490	0.0050	0.05	0	98	90	110				
Barium	0.0514	0.10	0.05	0	103	90	110				
Beryllium	0.0493	0.0010	0.05	0	99	90	110				
Cadmium	0.0503	0.0010	0.05	0	101	90	110				
Chromium	0.0490	0.010	0.05	0	98	90	110				
Cobalt	0.0491	0.010	0.05	0	98	90	110				
Copper	0.0488	0.010	0.05	0	98	90	110				
Iron	1.30	0.020	1.3	0	100	90	110				
Lead	0.0468	0.010	0.05	0	94	90	110				
Magnesium	12.2	0.50	12.5	0	98	90	110				
Manganese	0.0512	0.010	0.05	0	102	90	110				
Molybdenum	0.0478	0.0050	0.05	0	96	90	110				
Nickel	0.0487	0.010	0.05	0	97	90	110				
Selenium	0.0519	0.0050	0.05	0	104	90	110				
Thallium	0.0466	0.10	0.05	0	93	90	110				
Tin	0.0503	0.10	0.05	0	101	90	110				
Titanium	0.0505	0.010	0.05	0	101	90	110				
Uranium	0.0466	0.00030	0.05	0	93	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050596

**BatchID:** R184846

**Date:** 31-May-23

Run ID :Run Order: <b>ICPMS205-H_230524C: 131</b>	SampType: <b>Continuing Calibration Verification Standard</b>	Lab ID: <b>CCV</b>	Method: <b>E200.8</b>								
Analysis Date: <b>05/25/23 03:58</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>22</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	0.0493	0.10	0.05	0	<b>99</b>	90	110				
Zinc	0.0521	0.010	0.05	0	<b>104</b>	90	110				

Associated samples: **H23050596-001B, H23050596-002B, H23050596-003B, H23050596-004B, H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B, H23050596-011B**

Run ID :Run Order: <b>ICPMS205-H_230524C: 142</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23050596-010BMS</b>	Method: <b>E200.8</b>								
Analysis Date: <b>05/25/23 04:45</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	1.26	0.030	0.05	1.311		70	130				A
Antimony	0.0472	0.0010	0.05	0	<b>94</b>	70	130				
Arsenic	0.0502	0.0010	0.05	0.0006143	<b>99</b>	70	130				
Barium	0.0769	0.050	0.05	0.02503	<b>104</b>	70	130				
Beryllium	0.0550	0.0010	0.05	0.005415	<b>99</b>	70	130				
Cadmium	0.132	0.0010	0.05	0.08131	<b>100</b>	70	130				
Chromium	0.0476	0.0050	0.05	0	<b>95</b>	70	130				
Cobalt	0.102	0.0050	0.05	0.05381	<b>96</b>	70	130				
Copper	5.04	0.0050	0.05	5		70	130				A
Iron	0.184	0.020	0.15	0.03137	<b>102</b>	70	130				
Lead	0.0677	0.0010	0.05	0.01762	<b>100</b>	70	130				
Magnesium	14.1	1.0	1	13.67		70	130				A
Manganese	8.58	0.0010	0.05	8.953		70	130				A
Molybdenum	0.0477	0.0010	0.05	0	<b>95</b>	70	130				
Nickel	0.0860	0.0050	0.05	0.03828	<b>95</b>	70	130				
Selenium	0.0519	0.0010	0.05	0.0003787	<b>103</b>	70	130				
Silver	0.0169	0.0010	0.02	0.0008792	<b>80</b>	70	130				
Thallium	0.0519	0.00050	0.05	0	<b>104</b>	70	130				
Thorium	0.0486	0.0050	0.05	0	<b>97</b>	70	130				
Tin	0.0474	0.050	0.05	0	<b>95</b>	70	130				
Titanium	0.0461	0.0050	0.05	0	<b>92</b>	70	130				
Uranium	0.0549	0.00030	0.05	0.003518	<b>103</b>	70	130				
Vanadium	0.0475	0.010	0.05	0.00009984	<b>95</b>	70	130				
Zinc	13.9	0.010	0.05	14.04		70	130				AE

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050596

BatchID: R184846

Date: 31-May-23

Run ID :Run Order: <b>ICPMS205-H_230524C: 142</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23050596-010BMS</b>	Method: <b>E200.8</b>								
Analysis Date: <b>05/25/23 04:45</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23050596-001B, H23050596-002B, H23050596-003B, H23050596-004B, H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B, H23050596-011B

Run ID :Run Order: <b>ICPMS205-H_230524C: 143</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23050596-010BMSD</b>	Method: <b>E200.8</b>								
Analysis Date: <b>05/25/23 04:49</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	1.25	0.030	0.05	1.311		70	130	1.263	0.7	20	A
Antimony	0.0471	0.0010	0.05	0	94	70	130	0.04722	0.3	20	
Arsenic	0.0496	0.0010	0.05	0.0006143	98	70	130	0.05016	1.2	20	
Barium	0.0769	0.050	0.05	0.02503	104	70	130	0.07688	0	20	
Beryllium	0.0554	0.0010	0.05	0.005415	100	70	130	0.055	0.7	20	
Cadmium	0.131	0.0010	0.05	0.08131	100	70	130	0.1315	0.2	20	
Chromium	0.0467	0.0050	0.05	0	93	70	130	0.04758	1.8	20	
Cobalt	0.101	0.0050	0.05	0.05381	94	70	130	0.1017	0.9	20	
Copper	5.04	0.0050	0.05	5		70	130	5.045	0.1	20	A
Iron	0.178	0.020	0.15	0.03137	98	70	130	0.1845	3.4	20	
Lead	0.0675	0.0010	0.05	0.01762	100	70	130	0.06768	0.3	20	
Magnesium	14.2	1.0	1	13.67		70	130	14.14	0.1	20	A
Manganese	8.54	0.0010	0.05	8.953		70	130	8.585	0.5	20	A
Molybdenum	0.0479	0.0010	0.05	0	96	70	130	0.04769	0.4	20	
Nickel	0.0844	0.0050	0.05	0.03828	92	70	130	0.08596	1.8	20	
Selenium	0.0516	0.0010	0.05	0.0003787	103	70	130	0.05188	0.5	20	
Silver	0.0174	0.0010	0.02	0.0008792	83	70	130	0.01693	2.6	20	
Thallium	0.0513	0.00050	0.05	0	103	70	130	0.05188	1.1	20	
Thorium	0.0496	0.0050	0.05	0	99	70	130	0.04863	1.9	20	
Tin	0.0464	0.050	0.05	0	93	70	130	0.0474		20	
Titanium	0.0493	0.0050	0.05	0	99	70	130	0.04611	6.6	20	
Uranium	0.0545	0.00030	0.05	0.003518	102	70	130	0.05493	0.7	20	
Vanadium	0.0465	0.010	0.05	0.00009984	93	70	130	0.04752	2.1	20	
Zinc	13.9	0.010	0.05	14.04		70	130	13.9	0.1	20	AE

Associated samples: H23050596-001B, H23050596-002B, H23050596-003B, H23050596-004B, H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B, H23050596-011B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050596

**BatchID:** R184846

**Date:** 31-May-23

Run ID :Run Order: ICPMS205-H_230524C: 171	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.8			
Analysis Date: 05/25/23 17:48	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.279	0.10	0.3	0	93	90	110				
Antimony	0.0577	0.050	0.06	0	96	90	110				
Arsenic	0.0571	0.0050	0.06	0	95	90	110				
Barium	0.0579	0.10	0.06	0	96	90	110				
Beryllium	0.0287	0.0010	0.03	0	96	90	110				
Cadmium	0.0290	0.0010	0.03	0	97	90	110				
Chromium	0.0576	0.010	0.06	0	96	90	110				
Cobalt	0.0583	0.010	0.06	0	97	90	110				
Copper	0.0584	0.010	0.06	0	97	90	110				
Iron	0.290	0.020	0.3	0	96	90	110				
Lead	0.0575	0.010	0.06	0	96	90	110				
Magnesium	3.00	0.50	3	0	100	90	110				
Manganese	0.288	0.010	0.3	0	96	90	110				
Molybdenum	0.0550	0.0050	0.06	0	92	90	110				
Nickel	0.0582	0.010	0.06	0	97	90	110				
Selenium	0.0596	0.0050	0.06	0	99	90	110				
Silver	0.0283	0.0050	0.03	0	94	90	110				
Thallium	0.0572	0.10	0.06	0	95	90	110				
Thorium	0.0590	0.0010	0.06	0	98	90	110				
Tin	0.0579	0.10	0.06	0	97	90	110				
Titanium	0.0572	0.010	0.06	0	95	90	110				
Uranium	0.0565	0.00030	0.06	0	94	90	110				
Vanadium	0.0568	0.10	0.06	0	95	90	110				
Zinc	0.0594	0.010	0.06	0	99	90	110				

Associated samples: H23050596-001B, H23050596-002B, H23050596-003B, H23050596-004B, H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B, H23050596-011B



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050596

**BatchID:** R184870

**Date:** 31-May-23

Run ID :Run Order: ICPMS205-H_230524D: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 05/24/23 17:40	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0605	0.010	0.06	0	101	90	110				
Gallium	0.0627	0.010	0.06	0	104	90	110				
Lanthanum	0.0611	0.010	0.06	0	102	90	110				
Neodymium	0.0613	0.0050	0.06	0	102	90	110				
Niobium	0.0650	0.0010	0.06	0	108	90	110				
Palladium	0.0600	0.010	0.06	0	100	90	110				
Praseodymium	0.0610	0.0010	0.06	0	102	90	110				
Rubidium	0.0620	0.010	0.06	0	103	90	110				
Tungsten	0.0574	0.10	0.06	0	96	90	110				
Zirconium	0.0589	0.0050	0.06	0	98	90	110				

Associated samples: H23050596-001B, H23050596-002B, H23050596-003B, H23050596-004B, H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B, H23050596-011B

Run ID :Run Order: ICPMS205-H_230524D: 24	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/25/23 08:16	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0505	0.010	0.05	0	101	90	110				
Gallium	0.0521	0.010	0.05	0	104	90	110				
Lanthanum	0.0521	0.010	0.05	0	104	90	110				
Neodymium	0.0536	0.0050	0.05	0	107	90	110				
Niobium	0.0551	0.0010	0.05	0	110	90	110				
Palladium	0.0492	0.010	0.05	0	98	90	110				
Praseodymium	0.0534	0.0010	0.05	0	107	90	110				
Rubidium	0.0525	0.010	0.05	0	105	90	110				
Tungsten	0.0494	0.10	0.05	0	99	90	110				
Zirconium	0.0544	0.0050	0.05	0	109	90	110				

Associated samples: H23050596-001B, H23050596-002B, H23050596-003B, H23050596-004B, H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B, H23050596-011B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050596

**BatchID:** R184870

**Date:** 31-May-23

Run ID :Run Order: <b>ICPMS205-H_230524D: 26</b>		SampType: <b>Method Blank</b>			Lab ID: <b>LRB</b>				Method: <b>E200.8</b>		
Analysis Date: <b>05/25/23 08:22</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	ND	0.0002									
Gallium	ND	0.00009									
Lanthanum	ND	0.0001									
Neodymium	ND	0.00009									
Niobium	ND	0.0003									
Palladium	ND	0.0002									
Praseodymium	ND	0.0001									
Rubidium	ND	0.00007									
Tungsten	ND	0.0001									
Zirconium	ND	0.0003									

Associated samples: **H23050596-001B, H23050596-002B, H23050596-003B, H23050596-004B, H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B, H23050596-011B**

Run ID :Run Order: <b>ICPMS205-H_230524D: 29</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>				Method: <b>E200.8</b>		
Analysis Date: <b>05/25/23 08:34</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0502	0.010	0.05	0	<b>100</b>	85	115				
Gallium	0.0506	0.010	0.05	0	<b>101</b>	85	115				
Lanthanum	0.0517	0.010	0.05	0	<b>103</b>	85	115				
Neodymium	0.0538	0.0050	0.05	0	<b>108</b>	85	115				
Niobium	0.0540	0.0010	0.05	0	<b>108</b>	85	115				
Palladium	0.0493	0.010	0.05	0	<b>99</b>	85	115				
Praseodymium	0.0534	0.0010	0.05	0	<b>107</b>	85	115				
Rubidium	0.0512	0.010	0.05	0	<b>102</b>	85	115				
Tungsten	0.0449	0.10	0.05	0	<b>90</b>	85	115				
Zirconium	0.0515	0.0050	0.05	0	<b>103</b>	85	115				

Associated samples: **H23050596-001B, H23050596-002B, H23050596-003B, H23050596-004B, H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B, H23050596-011B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050596

BatchID: R184870

Date: 31-May-23

Run ID :Run Order: ICPMS205-H_230524D: 41		SampType: Sample Matrix Spike			Lab ID: H23050596-010BMS				Method: E200.8		
Analysis Date: 05/25/23 09:14		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0508	0.010	0.05	0	102	70	130				
Gallium	0.0505	0.010	0.05	0.0002317	101	70	130				
Lanthanum	0.0563	0.010	0.05	0.002635	107	70	130				
Neodymium	0.0578	0.0050	0.05	0.002144	111	70	130				
Niobium	0.0496	0.0010	0.05	0	99	70	130				
Palladium	0.0478	0.010	0.05	0	96	70	130				
Praseodymium	0.0554	0.0010	0.05	0.0005653	110	70	130				
Rubidium	0.0534	0.010	0.05	0.001995	103	70	130				
Tungsten	0.0383	0.10	0.05	0	77	70	130				
Zirconium	0.0506	0.0050	0.05	0	101	70	130				

Associated samples: H23050596-001B, H23050596-002B, H23050596-003B, H23050596-004B, H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B, H23050596-011B

Run ID :Run Order: ICPMS205-H_230524D: 42		SampType: Sample Matrix Spike Duplicate			Lab ID: H23050596-010BMSD				Method: E200.8		
Analysis Date: 05/25/23 09:18		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0513	0.010	0.05	0	103	70	130	0.05084	0.9	20	
Gallium	0.0510	0.010	0.05	0.0002317	102	70	130	0.05053	0.9	20	
Lanthanum	0.0563	0.010	0.05	0.002635	107	70	130	0.05628	0	20	
Neodymium	0.0584	0.0050	0.05	0.002144	113	70	130	0.05783	1.0	20	
Niobium	0.0496	0.0010	0.05	0	99	70	130	0.0496			
Palladium	0.0483	0.010	0.05	0	97	70	130	0.04784	0.9	20	
Praseodymium	0.0561	0.0010	0.05	0.0005653	111	70	130	0.05544			
Rubidium	0.0536	0.010	0.05	0.001995	103	70	130	0.05345	0.4	20	
Tungsten	0.0388	0.10	0.05	0	78	70	130	0.0383		20	
Zirconium	0.0520	0.0050	0.05	0	104	70	130	0.05061	2.6	20	

Associated samples: H23050596-001B, H23050596-002B, H23050596-003B, H23050596-004B, H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B, H23050596-011B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050596

**BatchID:** R184870

**Date:** 31-May-23

Run ID :Run Order: ICPMS205-H_230524D: 45	SampType: Continuing Calibration Verification Standard				Lab ID: CCV			Method: E200.8			
Analysis Date: 05/25/23 09:30	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0504	0.010	0.05	0	101	90	110				
Gallium	0.0521	0.010	0.05	0	104	90	110				
Lanthanum	0.0530	0.010	0.05	0	106	90	110				
Neodymium	0.0536	0.0050	0.05	0	107	90	110				
Niobium	0.0550	0.0010	0.05	0	110	90	110				
Palladium	0.0503	0.010	0.05	0	101	90	110				
Praseodymium	0.0536	0.0010	0.05	0	107	90	110				
Rubidium	0.0518	0.010	0.05	0	104	90	110				
Tungsten	0.0494	0.10	0.05	0	99	90	110				
Zirconium	0.0540	0.0050	0.05	0	108	90	110				

Associated samples: H23050596-001B, H23050596-002B, H23050596-003B, H23050596-004B, H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B, H23050596-011B



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050596

BatchID: R184881

Date: 31-May-23

Run ID :Run Order: <b>SEAL AA500_230525A: 12</b>	SampType: <b>Method Blank</b>				Lab ID: <b>ICB</b>				Method: <b>E353.2</b>		
Analysis Date: <b>05/25/23 12:03</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.01									
Associated samples: <b>H23050596-001C, H23050596-002C, H23050596-003C, H23050596-004C, H23050596-005C, H23050596-006C, H23050596-007C, H23050596-008C, H23050596-009C, H23050596-010C, H23050596-011C</b>											

Run ID :Run Order: <b>SEAL AA500_230525A: 14</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>				Method: <b>E353.2</b>		
Analysis Date: <b>05/25/23 12:05</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.09	0.010	1	0	<b>109</b>	90	110				
Associated samples: <b>H23050596-001C, H23050596-002C, H23050596-003C, H23050596-004C, H23050596-005C, H23050596-006C, H23050596-007C, H23050596-008C, H23050596-009C, H23050596-010C, H23050596-011C</b>											

Run ID :Run Order: <b>SEAL AA500_230525A: 15</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>				Method: <b>E353.2</b>		
Analysis Date: <b>05/25/23 12:06</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.03	0.011	1	0	<b>103</b>	90	110				
Associated samples: <b>H23050596-001C, H23050596-002C, H23050596-003C, H23050596-004C, H23050596-005C, H23050596-006C, H23050596-007C, H23050596-008C, H23050596-009C, H23050596-010C, H23050596-011C</b>											

Run ID :Run Order: <b>SEAL AA500_230525A: 18</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050591-001EMS</b>				Method: <b>E353.2</b>		
Analysis Date: <b>05/25/23 12:09</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.29	0.011	1	0.2356	<b>106</b>	90	110				
Associated samples: <b>H23050596-001C, H23050596-002C, H23050596-003C, H23050596-004C, H23050596-005C, H23050596-006C, H23050596-007C, H23050596-008C, H23050596-009C, H23050596-010C, H23050596-011C</b>											

Run ID :Run Order: <b>SEAL AA500_230525A: 19</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050591-001EMSD</b>				Method: <b>E353.2</b>		
Analysis Date: <b>05/25/23 12:10</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.27	0.011	1	0.2356	<b>104</b>	90	110	1.294	<b>1.6</b>	10	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050596

**BatchID:** R184881

**Date:** 31-May-23

Run ID :Run Order: <b>SEAL AA500_230525A: 19</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23050591-001EMSD</b>	Method: <b>E353.2</b>
Analysis Date: <b>05/25/23 12:10</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
		Qual	

Associated samples: **H23050596-001C, H23050596-002C, H23050596-003C, H23050596-004C, H23050596-005C, H23050596-006C, H23050596-007C, H23050596-008C, H23050596-009C, H23050596-010C, H23050596-011C**

Run ID :Run Order: <b>SEAL AA500_230525A: 28</b>	SampType: <b>Continuing Calibration Verification Standard</b>	Lab ID: <b>CCV</b>	Method: <b>E353.2</b>
Analysis Date: <b>05/25/23 12:19</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
		Qual	

Associated samples: **H23050596-001C, H23050596-002C, H23050596-003C, H23050596-004C, H23050596-005C, H23050596-006C, H23050596-007C, H23050596-008C, H23050596-009C, H23050596-010C, H23050596-011C**

Run ID :Run Order: <b>SEAL AA500_230525A: 38</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23050597-003CMS</b>	Method: <b>E353.2</b>
Analysis Date: <b>05/25/23 12:29</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
		Qual	

Associated samples: **H23050596-001C, H23050596-002C, H23050596-003C, H23050596-004C, H23050596-005C, H23050596-006C, H23050596-007C, H23050596-008C, H23050596-009C, H23050596-010C, H23050596-011C**

Run ID :Run Order: <b>SEAL AA500_230525A: 39</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23050597-003CMSD</b>	Method: <b>E353.2</b>
Analysis Date: <b>05/25/23 12:30</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
		Qual	

Associated samples: **H23050596-001C, H23050596-002C, H23050596-003C, H23050596-004C, H23050596-005C, H23050596-006C, H23050596-007C, H23050596-008C, H23050596-009C, H23050596-010C, H23050596-011C**

<b>Qualifiers:</b> ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limit	N - Analyte concentration was not sufficiently high to calculate RPD
J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050596

**BatchID:** R184927

**Date:** 31-May-23

Run ID :Run Order: <b>ICPMS205-H_230526B: 12</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E200.8</b>				
Analysis Date: <b>05/26/23 18:40</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper		0.0610	0.010	0.06	0	<b>102</b>	90	110				

Associated samples: **H23050596-005B**

Run ID :Run Order: <b>ICPMS205-H_230526B: 22</b>		SampType: <b>Method Blank</b>			Lab ID: <b>LRB</b>			Method: <b>E200.8</b>				
Analysis Date: <b>05/26/23 19:29</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper		ND	0.0001									

Associated samples: **H23050596-005B**

Run ID :Run Order: <b>ICPMS205-H_230526B: 23</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E200.8</b>				
Analysis Date: <b>05/26/23 19:34</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper		0.0514	0.010	0.05	0	<b>103</b>	85	115				

Associated samples: **H23050596-005B**

Run ID :Run Order: <b>ICPMS205-H_230526B: 101</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23050641-001BMS</b>			Method: <b>E200.8</b>				
Analysis Date: <b>05/27/23 01:54</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper		0.0487	0.0050	0.05	0.0007352	<b>96</b>	70	130				

Associated samples: **H23050596-005B**

Run ID :Run Order: <b>ICPMS205-H_230526B: 102</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23050641-001BMSD</b>			Method: <b>E200.8</b>				
Analysis Date: <b>05/27/23 01:59</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper		0.0487	0.0050	0.05	0.0007352	<b>96</b>	70	130	0.04874	<b>0.1</b>	20	

Associated samples: **H23050596-005B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050596

**BatchID:** R184927

**Date:** 31-May-23

Run ID :Run Order: <b>ICPMS205-H_230526B: 113</b>		SampType: <b>Continuing Calibration Verification Standard</b>			Lab ID: <b>CCV</b>			Method: <b>E200.8</b>				
Analysis Date: <b>05/27/23 02:53</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper		0.0510	0.010	0.05	0	<b>102</b>	90	110				

Associated samples: **H23050596-005B**

Run ID :Run Order: <b>ICPMS205-H_230526B: 134</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23050597-009BMS</b>			Method: <b>E200.8</b>				
Analysis Date: <b>05/27/23 04:36</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper		12.6	0.0050	0.5	12.45		70	130				A

Associated samples: **H23050596-005B**

Run ID :Run Order: <b>ICPMS205-H_230526B: 135</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23050597-009BMSD</b>			Method: <b>E200.8</b>				
Analysis Date: <b>05/27/23 04:41</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper		13.4	0.0050	0.5	12.45		70	130	12.58	<b>6.1</b>	20	A

Associated samples: **H23050596-005B**





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050596

BatchID: R184956

Date: 31-May-23

Run ID :Run Order: <b>ICPMS205-H_230530C: 12</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/30/23 12:10</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0295	0.0050	0.03	0	<b>98</b>	90	110				
Thorium	0.0602	0.0010	0.06	0	<b>100</b>	90	110				

Associated samples: **H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B**

Run ID :Run Order: <b>ICPMS205-H_230530C: 22</b>	SampType: <b>Method Blank</b>				Lab ID: <b>LRB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/30/23 15:40</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	ND	0.00008									
Thorium	ND	0.0002									

Associated samples: **H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B**

Run ID :Run Order: <b>ICPMS205-H_230530C: 23</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/30/23 15:43</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0205	0.0050	0.02	0	<b>103</b>	85	115				
Thorium	0.0445	0.0010	0.05	0	<b>89</b>	85	115				

Associated samples: **H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B**

Run ID :Run Order: <b>ICPMS205-H_230530C: 126</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/30/23 23:53</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0210	0.0050	0.02	0	<b>105</b>	90	110				
Thorium	0.0474	0.0010	0.05	0	<b>95</b>	90	110				

Associated samples: **H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B**

Run ID :Run Order: <b>ICPMS205-H_230530C: 137</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050596-006BMS</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/31/23 00:47</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0515	0.0010	0.05	0	<b>103</b>	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050596

BatchID: R184956

Date: 31-May-23

Run ID :Run Order: <b>ICPMS205-H_230530C: 137</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050596-006BMS</b>				Method: <b>E200.8</b>		
Analysis Date: <b>05/31/23 00:47</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.108	0.0050	0.125	0	<b>86</b>	70	130				

Associated samples: H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B

Run ID :Run Order: <b>ICPMS205-H_230530C: 138</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050596-006BMSD</b>				Method: <b>E200.8</b>		
Analysis Date: <b>05/31/23 00:51</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0516	0.0010	0.05	0	<b>103</b>	70	130	0.0515	<b>0.1</b>	20	
Thorium	0.111	0.0050	0.125	0	<b>89</b>	70	130	0.1081	<b>2.5</b>	20	

Associated samples: H23050596-005B, H23050596-006B, H23050596-007B, H23050596-008B, H23050596-009B, H23050596-010B



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050596

BatchID: TDS230521A

Date: 31-May-23

Run ID :Run Order: ACCU-124 (14410200)_230521A: 1	SampType: Method Blank	Lab ID: MB-1_230521	Method: A2540 C								
Analysis Date: 05/21/23 07:35	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	ND	7									
Associated samples: H23050596-001A, H23050596-002A, H23050596-003A, H23050596-004A, H23050596-005A, H23050596-006A, H23050596-007A, H23050596-008A, H23050596-009A, H23050596-010A, H23050596-011A											

Run ID :Run Order: ACCU-124 (14410200)_230521A: 2	SampType: Laboratory Control Sample	Lab ID: LCS-2_230521	Method: A2540 C								
Analysis Date: 05/21/23 07:35	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	1950	50	2000	0	98	90	110				
Associated samples: H23050596-001A, H23050596-002A, H23050596-003A, H23050596-004A, H23050596-005A, H23050596-006A, H23050596-007A, H23050596-008A, H23050596-009A, H23050596-010A, H23050596-011A											

Run ID :Run Order: ACCU-124 (14410200)_230521A: 4	SampType: Sample Duplicate	Lab ID: H23050524-014A DUP	Method: A2540 C								
Analysis Date: 05/21/23 07:35	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	104	25		0				100	3.9	10	
Associated samples: H23050596-001A, H23050596-002A, H23050596-003A, H23050596-004A, H23050596-005A, H23050596-006A, H23050596-007A, H23050596-008A, H23050596-009A, H23050596-010A, H23050596-011A											



# Work Order Receipt Checklist

MT Dept of Justice

H23050596

Login completed by: Taylor K. Jones

Date Received: 5/17/2023

Reviewed by: rtooke

Received by: rrs

Reviewed Date: 5/22/2023

Carrier name: Hand Deliver

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	2.7°C On Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

## Contact and Corrective Action Comments:

The Temperature Blank temperature for shipping container 1 was 1.3°C, shipping container 2 was 2.7°C, and shipping container 3 was 1.1°C.

tj 5/18/23





Trust our People. Trust our Data.

# Chain of Custody & Analytical Request Record

www.energylab.com

### Account Information (Billing information)

Company/Name	MT DOJ / Natural Resource Damage Program		
Contact	Jim Ford		
Phone	(406) 439-2108		
Mailing Address	1720 9th Avenue		
City, State, Zip	Helena, Montana 59620-1425		
Email	jford@mt.gov		
Receive Invoice	<input type="checkbox"/> Hard Copy	<input checked="" type="checkbox"/> Email	Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email
Purchase Order	Quote	Bottle Order	

### Report Information (if different than Account Information)

Company/Name	Water & Environmental Technologies		
Contact	Janelle Garza		
Phone	(406) 565-4291		
Mailing Address	480 East Park Street		
City, State, Zip	Butte, Montana 59701		
Email	jgarza@waterenvtech.com		
Receive Report	<input type="checkbox"/> Hard Copy	<input checked="" type="checkbox"/> Email	
Special Report/Formats	<input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC <input checked="" type="checkbox"/> EDD/EDT (contact laboratory) <input type="checkbox"/> Other		

### Comments

Please do not use any "EB" or "FB" samples for MS/MSD.  
Containers for MSD-02A were pre-labeled as MSD-2A. Please use MSD-02A for the ID.

C1-1.3  
C2-2.7  
C3-1.1

### Project Information

Project Name, PWSID, Permit, etc.	NRDPM16 TO2 - Task 001		
Sampler Name	Janelle Garza	Sampler Phone	(406) 599-6770
Sample Origin State	Montana	EPA/State Compliance	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
URANIUM MINING CLIENTS MUST indicate sample type <input type="checkbox"/> Unprocessed Ore <input type="checkbox"/> Processed Ore (Ground or Refined) **CALL BEFORE SENDING <input type="checkbox"/> 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)			

### Matrix Codes

- A - Air
- W - Water
- S - Soils/ Soils
- V - Vegetation
- B - Bioassay
- O - Oil
- DW - Drinking Water

### Analysis Requested

	+	+	+	+	+	+	+	+	+	+	+	+	+	+
pH & pH Meas. Temp	+	+	+	+	+	+	+	+	+	+	+	+	+	+
A4500-H B	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Conductivity	+	+	+	+	+	+	+	+	+	+	+	+	+	+
A25510 B	+	+	+	+	+	+	+	+	+	+	+	+	+	+
TDS	+	+	+	+	+	+	+	+	+	+	+	+	+	+
A2540 C	+	+	+	+	+	+	+	+	+	+	+	+	+	+
CaCO3, HCO3, CO3	+	+	+	+	+	+	+	+	+	+	+	+	+	+
A2320 B	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Cl(-), SO4(2-), Br(-), F(-)	+	+	+	+	+	+	+	+	+	+	+	+	+	+
E300.0	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Hardness	+	+	+	+	+	+	+	+	+	+	+	+	+	+
A2340 B	+	+	+	+	+	+	+	+	+	+	+	+	+	+
DOC & TOC	+	+	+	+	+	+	+	+	+	+	+	+	+	+
A5310 C	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Nitrate+Nitrite	+	+	+	+	+	+	+	+	+	+	+	+	+	+
E353.2	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Dissolved Metals	+	+	+	+	+	+	+	+	+	+	+	+	+	+
E200.7/8	+	+	+	+	+	+	+	+	+	+	+	+	+	+
See Attached														

All turnaround times are standard unless marked as RUSH.  
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page

C1  
C1  
C1  
C1  
C2  
C2  
C2  
C2  
C3

Sample Identification (Name, Location, interval, etc.)	Collection		Number of Containers	Matrix (See Codes Above)	pH & pH Meas. Temp	Conductivity	TDS	CaCO3, HCO3, CO3	Cl(-), SO4(2-), Br(-), F(-)	Hardness	DOC & TOC	Nitrate+Nitrite	Dissolved Metals	See Attached
	Date	Time												
1 AMW-20	05/15/2023	11:50 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2 PMP-09B	05/16/2023	11:41 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3 AMC-24B	05/16/2023	12:42 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4 AMC-23B	05/16/2023	1:46 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5 PMP-07B	05/16/2023	2:15 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6 MSD-02A	05/16/2023	2:46 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7 PMP-04B	05/16/2023	3:49 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
8 PMP-02B	05/16/2023	4:38 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
9 PMP-02A	05/16/2023	5:00 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

RUSH TAT	ELI LAB ID Laboratory Use Only
	H23050596

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print) Janelle Garza	Date/Time 5-17-23/1530	Signature <i>Janelle Garza</i>	Received by (print) Mike Worden	Date/Time 5-17-23/1530	Signature <i>Mike Worden</i>			
	Relinquished by (print) Mike Worden	Date/Time 5-17-23/1615	Signature <i>Mike Worden</i>	Received by Laboratory (print) R SPONHOLZ	Date/Time 0517231615	Signature <i>R Sponholz</i>			
LABORATORY USE ONLY									
Shipped By HAND	Cooler ID(s) Y	Custody Seals Y <input checked="" type="checkbox"/> N <input type="checkbox"/> C <input type="checkbox"/> B <input type="checkbox"/>	Intact Y <input type="checkbox"/> N <input type="checkbox"/>	Receipt Temp TOP °C	Temp Blank Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	On Ice Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	Payment Type CC Cash Check	Amount \$	Receipt Number (cash/check only)

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly noted on your analytical report.





# Chain of Custody & Analytical Request Record

www.energylab.com

### Account Information (Billing Information)

Company/Name	MT DOJ / Natural Resource Damage Program		
Contact	Jim Ford		
Phone	(406) 439-2108		
Mailing Address	1720 9th Avenue		
City, State, Zip	Helena, Montana 59620-1425		
Email	jford@mt.gov		
Receive Invoice	<input type="checkbox"/> Hard Copy	<input checked="" type="checkbox"/> Email	Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email
Purchase Order	Quote	Bottle Order	

### Report Information (if different than Account Information)

Company/Name	Water & Environmental Technologies		
Contact	Janelle Garza		
Phone	(406) 565-4291		
Mailing Address	480 East Park Street		
City, State, Zip	Butte, Montana 59701		
Email	jgarza@waterenvtech.com		
Receive Report	<input type="checkbox"/> Hard Copy	<input checked="" type="checkbox"/> Email	
Special Report/Formats	<input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC <input checked="" type="checkbox"/> EDD/EDT (contact laboratory) <input type="checkbox"/> Other		

### Comments

Please do not use any "EB" or "FB" samples for MS/MSD.

C1-1.3  
C2-2.7  
C3-1.1

### Project Information

Project Name, PWSID, Permit, etc.	NRDPM16 TO2 - Task 001		
Sampler Name	Janelle Garza	Sampler Phone	(406) 599-6770
Sample Origin State	Montana	EPA/State Compliance	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>URANIUM MINING CLIENTS MUST indicate sample type</b> <input type="checkbox"/> Unprocessed Ore <input type="checkbox"/> Processed Ore (Ground or Refined) **CALL BEFORE SENDING <input type="checkbox"/> 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)			

### Matrix Codes

- A - Air
- W - Water
- S - Soils/ Solids
- V - Vegetation
- B - Bioassay
- O - Oil
- DW - Drinking Water

### Analysis Requested

	+	+	+	+	+	+	+	+	+	+	+	+	+	+
pH & pH Meas.														
A4500-H B														
Conductivity														
A25510 B														
TDS														
A2540 C														
CaCO3, HCO3, CO3														
A2320 B														
Cl(-), SO4(2-), Br(-), F(-)														
E300.0														
Hardness														
A2340 B														
DOC & TOC														
A5310 C														
Nitrate+Nitrite														
E353.2														
Dissolved Metals														
E200.7/8														
See Attached														

All turnaround times are standard unless marked as RUSH.  
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page

C3  
C3

	Sample Identification (Name, Location, Interval, etc.)	Collection		Number of Containers	Matrix (See Codes Above)	Analysis Requested													RUSH TAT	ELI LAB ID Laboratory Use Only
		Date	Time			pH & pH Meas.	Conductivity	TDS	CaCO3, HCO3, CO3	Cl(-), SO4(2-), Br(-), F(-)	Hardness	DOC & TOC	Nitrate+Nitrite	Dissolved Metals	See Attached					
1	PMP-01A	05/16/2023	5:10 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		H23050596	
2	AMW-01A	05/17/2023	10:45 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
3																				
4																				
5																				
6																				
7																				
8																				
9																				

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature			
	Janelle Garza	5-17-23/1530	[Signature]	Mike Worden	5-17-23/1530	[Signature]			
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature			
	Mike Worden	5-17-23/1615	[Signature]	RESPONHOLZ	051723 1615	[Signature]			
<b>LABORATORY USE ONLY</b>									
Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number (copy/check only)
HAND	Y	Y (N) C B	Y N	TOP °C	(Y) N	(Y) N	CC Cash Check	\$	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.



# ANALYTICAL SUMMARY REPORT

June 06, 2023

MT Dept of Justice  
Natural Resource Damage Program  
Helena, MT 59620-1425

Work Order: H23050597      Quote ID: H2187  
Project Name: NRDPM16 TO2/001

Energy Laboratories Inc Helena MT received the following 10 samples for MT Dept of Justice on 5/17/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H23050597-001	SS-04	05/15/23 13:15	05/17/23	Surface Water	Rare Earth Metals, Dissolved Rare Earth Metals, Total Recoverable Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity to pH 4.5 Anion - Cation Balance Carbon, Dissolved Organic Conductivity Carbon, Total Organic Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Metals Digestion by E200.2 Rare Metals Digestion by E200.2 Solids, Total Dissolved
H23050597-002	DUP-5	05/15/23 13:16	05/17/23	Surface Water	Same As Above
H23050597-003	FB-5	05/15/23 13:30	05/17/23	Surface Water	Same As Above
H23050597-004	PMP-12	05/15/23 13:40	05/17/23	Surface Water	Same As Above
H23050597-005	MSDSG-02	05/15/23 14:05	05/17/23	Surface Water	Same As Above
H23050597-006	MSDSG-05	05/15/23 14:20	05/17/23	Surface Water	Same As Above
H23050597-007	MSDSG-03	05/15/23 14:40	05/17/23	Surface Water	Same As Above
H23050597-008	MH-MSD108	05/16/23 9:10	05/17/23	Surface Water	Same As Above
H23050597-009	MH-MSD113	05/16/23 10:30	05/17/23	Surface Water	Same As Above
H23050597-010	MH-MSD116	05/16/23 11:14	05/17/23	Surface Water	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

Digitally signed by  
Jessica C. Smith  
Date: 2023.06.06 17:12:05 -06:00





**CLIENT:** MT Dept of Justice  
**Project:** NRDPM16 TO2/001  
**Work Order:** H23050597

**Report Date:** 06/06/23

## **CASE NARRATIVE**

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Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002.



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** SS-04  
**Lab ID:** H23050597-001  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/15/23 13:15  
**Date Received:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.6	s.u.	H	0.1		A4500-H B	05/19/23 09:48 / ams		PHSC_101-H_230519A : 33		R184662
pH Measurement Temp	12.0	°C				A4500-H B	05/19/23 09:48 / ams		PHSC_101-H_230519A : 33		R184662
Conductivity @ 25 C	223	umhos/cm		5		A2510 B	05/19/23 09:48 / ams		PHSC_101-H_230519A : 34		R184662
Solids, Total Dissolved TDS @ 180 C	150	mg/L		20		A2540 C	05/21/23 07:38 / ams		I24 (14410200)_230521A : 15		TDS230521A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	51	mg/L		4		A2320 B	05/23/23 17:14 / ljs		PHSC_101-H_230523A : 115		R184745
Bicarbonate as HCO3	61	mg/L		4		A2320 B	05/23/23 17:14 / ljs		PHSC_101-H_230523A : 115		R184745
Carbonate as CO3	ND	mg/L		4		A2320 B	05/23/23 17:14 / ljs		PHSC_101-H_230523A : 115		R184745
Chloride	14	mg/L		1		E300.0	05/20/23 07:22 / ljs		IC METROHM_230519A : 80		R184723
Sulfate	25	mg/L		1		E300.0	05/20/23 07:22 / ljs		IC METROHM_230519A : 80		R184723
Bromide	ND	mg/L		0.5		E300.0	05/20/23 07:22 / ljs		IC METROHM_230519A : 80		R184723
Fluoride	0.2	mg/L		0.1		E300.0	05/20/23 07:22 / ljs		IC METROHM_230519A : 80		R184723
Hardness as CaCO3	78	mg/L		1		A2340 B	05/19/23 14:53 / SR		CALC_230526A : 179		R184891
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	10.5	mg/L		0.5		A5310 C	05/26/23 11:27 / eli-c		SUB-C294928 : 21		C_R294928
Organic Carbon, Total (TOC)	10.6	mg/L		0.5		A5310 C	05/24/23 14:52 / eli-c		SUB-C294928 : 4		C_R294928
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.21	mg/L		0.01		E353.2	05/25/23 12:26 / SR		SEAL AA500_230525A : 35		R184881
<b>METALS, DISSOLVED</b>											
Aluminum	0.152	mg/L		0.009		E200.8	05/25/23 01:10 / dck		ICPMS205-H_230524C : 92		R184846
Antimony	0.0005	mg/L		0.0005		E200.8	05/25/23 01:10 / dck		ICPMS205-H_230524C : 92		R184846
Arsenic	0.006	mg/L		0.001		E200.8	05/25/23 01:10 / dck		ICPMS205-H_230524C : 92		R184846
Barium	0.030	mg/L		0.003		E200.8	05/25/23 01:10 / dck		ICPMS205-H_230524C : 92		R184846
Beryllium	ND	mg/L		0.0008		E200.8	05/25/23 01:10 / dck		ICPMS205-H_230524C : 92		R184846
Boron	ND	mg/L		0.05		E200.7	05/19/23 14:53 / slj		ICP2-HE_230519A : 65		R184684
Cadmium	ND	mg/L		0.00003		E200.8	05/25/23 01:10 / dck		ICPMS205-H_230524C : 92		R184846
Cesium	ND	mg/L		0.01		E200.8	05/25/23 09:40 / dck		ICPMS205-H_230524D : 48		R184870

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** SS-04  
**Lab ID:** H23050597-001  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/15/23 13:15  
**Date Received:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	22	mg/L		1		E200.7	05/19/23 14:53 / slj		ICP2-HE_230519A : 65		R184684
Chromium	ND	mg/L		0.005		E200.8	05/25/23 01:10 / dck		ICPMS205-H_230524C : 92		R184846
Cobalt	ND	mg/L		0.005		E200.8	05/25/23 01:10 / dck		ICPMS205-H_230524C : 92		R184846
Copper	0.012	mg/L		0.002		E200.8	05/25/23 01:10 / dck		ICPMS205-H_230524C : 92		R184846
Gallium	ND	mg/L		0.01		E200.8	05/25/23 09:40 / dck		ICPMS205-H_230524D : 48		R184870
Iron	0.27	mg/L		0.02		E200.8	05/25/23 01:10 / dck		ICPMS205-H_230524C : 92		R184846
Lead	0.0004	mg/L		0.0003		E200.8	05/25/23 01:10 / dck		ICPMS205-H_230524C : 92		R184846
Lanthanum	ND	mg/L		0.01		E200.8	05/25/23 09:40 / dck		ICPMS205-H_230524D : 48		R184870
Lithium	ND	mg/L		0.1		E200.7	05/19/23 14:53 / slj		ICP2-HE_230519A : 65		R184684
Magnesium	6	mg/L		1		E200.7	05/19/23 14:53 / slj		ICP2-HE_230519A : 65		R184684
Neodymium	ND	mg/L		0.005		E200.8	05/25/23 09:40 / dck		ICPMS205-H_230524D : 48		R184870
Niobium	ND	mg/L		0.01		E200.8	05/25/23 09:40 / dck		ICPMS205-H_230524D : 48		R184870
Manganese	0.044	mg/L		0.001		E200.8	05/25/23 01:10 / dck		ICPMS205-H_230524C : 92		R184846
Molybdenum	0.005	mg/L		0.001		E200.8	05/25/23 01:10 / dck		ICPMS205-H_230524C : 92		R184846
Nickel	ND	mg/L		0.002		E200.8	05/25/23 01:10 / dck		ICPMS205-H_230524C : 92		R184846
Palladium	ND	mg/L		0.01		E200.8	05/25/23 09:40 / dck		ICPMS205-H_230524D : 48		R184870
Praseodymium	ND	mg/L		0.01		E200.8	05/25/23 09:40 / dck		ICPMS205-H_230524D : 48		R184870
Rubidium	ND	mg/L		0.01		E200.8	05/25/23 09:40 / dck		ICPMS205-H_230524D : 48		R184870
Potassium	3	mg/L		1		E200.7	05/19/23 14:53 / slj		ICP2-HE_230519A : 65		R184684
Selenium	ND	mg/L		0.001		E200.8	05/25/23 01:10 / dck		ICPMS205-H_230524C : 92		R184846
Silver	ND	mg/L		0.0002		E200.8	05/25/23 01:10 / dck		ICPMS205-H_230524C : 92		R184846
Sodium	10	mg/L		1		E200.7	05/19/23 14:53 / slj		ICP2-HE_230519A : 65		R184684
Strontium	0.14	mg/L		0.01		E200.8	05/25/23 01:10 / dck		ICPMS205-H_230524C : 92		R184846
Thallium	ND	mg/L		0.0002		E200.8	05/25/23 01:10 / dck		ICPMS205-H_230524C : 92		R184846
Thorium	ND	mg/L		0.005		E200.8	05/25/23 01:10 / dck		ICPMS205-H_230524C : 92		R184846
Tin	ND	mg/L		0.05		E200.8	05/25/23 01:10 / dck		ICPMS205-H_230524C : 92		R184846
Titanium	ND	mg/L		0.005		E200.8	05/25/23 01:10 / dck		ICPMS205-H_230524C : 92		R184846
Tungsten	ND	mg/L		0.1		E200.8	05/25/23 09:40 / dck		ICPMS205-H_230524D : 48		R184870
Uranium	0.0017	mg/L		0.0002		E200.8	05/25/23 01:10 / dck		ICPMS205-H_230524C : 92		R184846
Vanadium	ND	mg/L		0.01		E200.8	05/25/23 01:10 / dck		ICPMS205-H_230524C : 92		R184846
Zinc	ND	mg/L		0.008		E200.8	05/25/23 01:10 / dck		ICPMS205-H_230524C : 92		R184846
Zirconium	ND	mg/L		0.005		E200.8	05/25/23 09:40 / dck		ICPMS205-H_230524D : 48		R184870

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



**LABORATORY ANALYTICAL REPORT**

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** SS-04  
**Lab ID:** H23050597-001  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/15/23 13:15 **DateReceived:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	0.434	mg/L		0.009		E200.8	05/25/23 01:15 / dck	05/19/23 09:45	ICPMS205-H_230524C : 93		66521
Antimony	0.0005	mg/L		0.0005		E200.8	05/25/23 01:15 / dck	05/19/23 09:45	ICPMS205-H_230524C : 93		66521
Arsenic	0.007	mg/L		0.001		E200.8	05/25/23 01:15 / dck	05/19/23 09:45	ICPMS205-H_230524C : 93		66521
Barium	0.033	mg/L		0.003		E200.8	05/25/23 01:15 / dck	05/19/23 09:45	ICPMS205-H_230524C : 93		66521
Beryllium	ND	mg/L		0.0008		E200.8	05/25/23 01:15 / dck	05/19/23 09:45	ICPMS205-H_230524C : 93		66521
Cesium	ND	mg/L		0.01		E200.8	05/25/23 09:43 / dck	05/19/23 09:51	ICPMS205-H_230524D : 49		66522
Cadmium	0.00005	mg/L		0.00003		E200.8	05/25/23 01:15 / dck	05/19/23 09:45	ICPMS205-H_230524C : 93		66521
Chromium	ND	mg/L		0.005		E200.8	05/25/23 01:15 / dck	05/19/23 09:45	ICPMS205-H_230524C : 93		66521
Cobalt	ND	mg/L		0.005		E200.8	05/25/23 01:15 / dck	05/19/23 09:45	ICPMS205-H_230524C : 93		66521
Copper	0.016	mg/L		0.002		E200.8	05/25/23 01:15 / dck	05/19/23 09:45	ICPMS205-H_230524C : 93		66521
Gallium	ND	mg/L		0.01		E200.8	05/25/23 09:43 / dck	05/19/23 09:51	ICPMS205-H_230524D : 49		66522
Iron	0.73	mg/L		0.02		E200.8	05/25/23 01:15 / dck	05/19/23 09:45	ICPMS205-H_230524C : 93		66521
Lead	0.0014	mg/L		0.0003		E200.8	05/25/23 01:15 / dck	05/19/23 09:45	ICPMS205-H_230524C : 93		66521
Lanthanum	ND	mg/L		0.1		E200.8	05/25/23 09:43 / dck	05/19/23 09:51	ICPMS205-H_230524D : 49		66522
Lithium	ND	mg/L		0.1		E200.8	05/25/23 01:15 / dck	05/19/23 09:45	ICPMS205-H_230524C : 93		66521
Neodymium	ND	mg/L		0.01		E200.8	05/25/23 09:43 / dck	05/19/23 09:51	ICPMS205-H_230524D : 49		66522
Niobium	ND	mg/L		0.01		E200.8	05/25/23 09:43 / dck	05/19/23 09:51	ICPMS205-H_230524D : 49		66522
Manganese	0.057	mg/L		0.001		E200.8	05/25/23 01:15 / dck	05/19/23 09:45	ICPMS205-H_230524C : 93		66521
Molybdenum	0.006	mg/L		0.001		E200.8	05/25/23 01:15 / dck	05/19/23 09:45	ICPMS205-H_230524C : 93		66521
Nickel	ND	mg/L		0.002		E200.8	05/25/23 01:15 / dck	05/19/23 09:45	ICPMS205-H_230524C : 93		66521
Palladium	ND	mg/L		0.01		E200.8	05/25/23 09:43 / dck	05/19/23 09:51	ICPMS205-H_230524D : 49		66522
Praseodymium	ND	mg/L		0.01		E200.8	05/25/23 09:43 / dck	05/19/23 09:51	ICPMS205-H_230524D : 49		66522
Rubidium	ND	mg/L		0.01		E200.8	05/25/23 09:43 / dck	05/19/23 09:51	ICPMS205-H_230524D : 49		66522
Selenium	ND	mg/L		0.001		E200.8	05/25/23 01:15 / dck	05/19/23 09:45	ICPMS205-H_230524C : 93		66521
Silver	ND	mg/L		0.0002		E200.8	05/25/23 01:15 / dck	05/19/23 09:45	ICPMS205-H_230524C : 93		66521
Strontium	0.14	mg/L		0.01		E200.8	05/25/23 01:15 / dck	05/19/23 09:45	ICPMS205-H_230524C : 93		66521
Thallium	ND	mg/L		0.0002		E200.8	05/25/23 01:15 / dck	05/19/23 09:45	ICPMS205-H_230524C : 93		66521
Tungsten	ND	mg/L		0.1		E200.8	05/25/23 09:43 / dck	05/19/23 09:51	ICPMS205-H_230524D : 49		66522
Tin	ND	mg/L		0.05		E200.8	05/25/23 01:15 / dck	05/19/23 09:45	ICPMS205-H_230524C : 93		66521
Titanium	0.016	mg/L		0.005		E200.8	05/25/23 01:15 / dck	05/19/23 09:45	ICPMS205-H_230524C : 93		66521
Thorium	ND	mg/L		0.005		E200.8	05/25/23 01:15 / dck	05/19/23 09:45	ICPMS205-H_230524C : 93		66521
Uranium	0.0018	mg/L		0.0003		E200.8	05/25/23 01:15 / dck	05/19/23 09:45	ICPMS205-H_230524C : 93		66521

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** SS-04  
**Lab ID:** H23050597-001  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/15/23 13:15    **DateReceived:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	05/25/23 01:15 / dck	05/19/23 09:45	ICPMS205-H_230524C : 93		66521
Zinc	0.011	mg/L		0.008		E200.8	05/25/23 01:15 / dck	05/19/23 09:45	ICPMS205-H_230524C : 93		66521
Zirconium	ND	mg/L		0.005		E200.8	05/25/23 09:43 / dck	05/19/23 09:51	ICPMS205-H_230524D : 49		66522
<b>DATA QUALITY</b>											
A/C Balance	2.86	%				A1030 E	05/26/23 10:55 / SR		CALC_230526A : 177		R184891
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-5  
**Lab ID:** H23050597-002  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/15/23 13:16  
**Date Received:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.6	s.u.	H	0.1		A4500-H B	05/19/23 09:50 / ams		PHSC_101-H_230519A : 35		R184662
pH Measurement Temp	12.1	°C				A4500-H B	05/19/23 09:50 / ams		PHSC_101-H_230519A : 35		R184662
Conductivity @ 25 C	222	umhos/cm		5		A2510 B	05/19/23 09:50 / ams		PHSC_101-H_230519A : 36		R184662
Solids, Total Dissolved TDS @ 180 C	157	mg/L		20		A2540 C	05/21/23 07:38 / ams		I24 (14410200)_230521A : 16		TDS230521A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	49	mg/L		4		A2320 B	05/23/23 17:26 / ljs		PHSC_101-H_230523A : 119		R184745
Bicarbonate as HCO3	60	mg/L		4		A2320 B	05/23/23 17:26 / ljs		PHSC_101-H_230523A : 119		R184745
Carbonate as CO3	ND	mg/L		4		A2320 B	05/23/23 17:26 / ljs		PHSC_101-H_230523A : 119		R184745
Chloride	14	mg/L		1		E300.0	05/20/23 07:36 / ljs		IC METROHM_230519A : 81		R184723
Sulfate	25	mg/L		1		E300.0	05/20/23 07:36 / ljs		IC METROHM_230519A : 81		R184723
Bromide	ND	mg/L		0.5		E300.0	05/20/23 07:36 / ljs		IC METROHM_230519A : 81		R184723
Fluoride	0.2	mg/L		0.1		E300.0	05/20/23 07:36 / ljs		IC METROHM_230519A : 81		R184723
Hardness as CaCO3	78	mg/L		1		A2340 B	05/19/23 14:57 / SR		CALC_230526A : 190		R184891
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	10.7	mg/L		0.5		A5310 C	05/26/23 12:20 / eli-c		SUB-C294928 : 24		C_R294928
Organic Carbon, Total (TOC)	10.9	mg/L		0.5		A5310 C	05/24/23 15:47 / eli-c		SUB-C294928 : 7		C_R294928
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.21	mg/L		0.01		E353.2	05/25/23 12:27 / SR		SEAL AA500_230525A : 36		R184881
<b>METALS, DISSOLVED</b>											
Aluminum	0.117	mg/L		0.009		E200.8	05/25/23 01:19 / dck		ICPMS205-H_230524C : 94		R184846
Antimony	0.0005	mg/L		0.0005		E200.8	05/25/23 01:19 / dck		ICPMS205-H_230524C : 94		R184846
Arsenic	0.007	mg/L		0.001		E200.8	05/25/23 01:19 / dck		ICPMS205-H_230524C : 94		R184846
Barium	0.029	mg/L		0.003		E200.8	05/25/23 01:19 / dck		ICPMS205-H_230524C : 94		R184846
Beryllium	ND	mg/L		0.0008		E200.8	05/25/23 01:19 / dck		ICPMS205-H_230524C : 94		R184846
Boron	ND	mg/L		0.05		E200.7	05/19/23 14:57 / slj		ICP2-HE_230519A : 66		R184684
Cadmium	ND	mg/L		0.00003		E200.8	05/25/23 01:19 / dck		ICPMS205-H_230524C : 94		R184846
Cesium	ND	mg/L		0.01		E200.8	05/25/23 09:47 / dck		ICPMS205-H_230524D : 50		R184870

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-5  
**Lab ID:** H23050597-002  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/15/23 13:16  
**Date Received:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	22	mg/L		1		E200.7	05/19/23 14:57 / slj		ICP2-HE_230519A : 66		R184684
Chromium	ND	mg/L		0.005		E200.8	05/25/23 01:19 / dck		ICPMS205-H_230524C : 94		R184846
Cobalt	ND	mg/L		0.005		E200.8	05/25/23 01:19 / dck		ICPMS205-H_230524C : 94		R184846
Copper	0.011	mg/L		0.002		E200.8	05/25/23 01:19 / dck		ICPMS205-H_230524C : 94		R184846
Gallium	ND	mg/L		0.01		E200.8	05/25/23 09:47 / dck		ICPMS205-H_230524D : 50		R184870
Iron	0.25	mg/L		0.02		E200.8	05/25/23 01:19 / dck		ICPMS205-H_230524C : 94		R184846
Lead	0.0004	mg/L		0.0003		E200.8	05/25/23 01:19 / dck		ICPMS205-H_230524C : 94		R184846
Lanthanum	ND	mg/L		0.01		E200.8	05/25/23 09:47 / dck		ICPMS205-H_230524D : 50		R184870
Lithium	ND	mg/L		0.1		E200.7	05/19/23 14:57 / slj		ICP2-HE_230519A : 66		R184684
Magnesium	6	mg/L		1		E200.7	05/19/23 14:57 / slj		ICP2-HE_230519A : 66		R184684
Neodymium	ND	mg/L		0.005		E200.8	05/25/23 09:47 / dck		ICPMS205-H_230524D : 50		R184870
Niobium	ND	mg/L		0.01		E200.8	05/25/23 09:47 / dck		ICPMS205-H_230524D : 50		R184870
Manganese	0.043	mg/L		0.001		E200.8	05/25/23 01:19 / dck		ICPMS205-H_230524C : 94		R184846
Molybdenum	0.005	mg/L		0.001		E200.8	05/25/23 01:19 / dck		ICPMS205-H_230524C : 94		R184846
Nickel	ND	mg/L		0.002		E200.8	05/25/23 01:19 / dck		ICPMS205-H_230524C : 94		R184846
Palladium	ND	mg/L		0.01		E200.8	05/25/23 09:47 / dck		ICPMS205-H_230524D : 50		R184870
Praseodymium	ND	mg/L		0.01		E200.8	05/25/23 09:47 / dck		ICPMS205-H_230524D : 50		R184870
Rubidium	ND	mg/L		0.01		E200.8	05/25/23 09:47 / dck		ICPMS205-H_230524D : 50		R184870
Potassium	3	mg/L		1		E200.7	05/19/23 14:57 / slj		ICP2-HE_230519A : 66		R184684
Selenium	ND	mg/L		0.001		E200.8	05/25/23 01:19 / dck		ICPMS205-H_230524C : 94		R184846
Silver	ND	mg/L		0.0002		E200.8	05/25/23 01:19 / dck		ICPMS205-H_230524C : 94		R184846
Sodium	10	mg/L		1		E200.7	05/19/23 14:57 / slj		ICP2-HE_230519A : 66		R184684
Strontium	0.13	mg/L		0.01		E200.8	05/25/23 01:19 / dck		ICPMS205-H_230524C : 94		R184846
Thallium	ND	mg/L		0.0002		E200.8	05/25/23 01:19 / dck		ICPMS205-H_230524C : 94		R184846
Thorium	ND	mg/L		0.005		E200.8	05/25/23 01:19 / dck		ICPMS205-H_230524C : 94		R184846
Tin	ND	mg/L		0.05		E200.8	05/25/23 01:19 / dck		ICPMS205-H_230524C : 94		R184846
Titanium	ND	mg/L		0.005		E200.8	05/25/23 01:19 / dck		ICPMS205-H_230524C : 94		R184846
Tungsten	ND	mg/L		0.1		E200.8	05/25/23 09:47 / dck		ICPMS205-H_230524D : 50		R184870
Uranium	0.0016	mg/L		0.0002		E200.8	05/25/23 01:19 / dck		ICPMS205-H_230524C : 94		R184846
Vanadium	ND	mg/L		0.01		E200.8	05/25/23 01:19 / dck		ICPMS205-H_230524C : 94		R184846
Zinc	ND	mg/L		0.008		E200.8	05/25/23 01:19 / dck		ICPMS205-H_230524C : 94		R184846
Zirconium	ND	mg/L		0.005		E200.8	05/25/23 09:47 / dck		ICPMS205-H_230524D : 50		R184870

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-5  
**Lab ID:** H23050597-002  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/15/23 13:16 **DateReceived:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	0.411	mg/L		0.009		E200.8	05/25/23 01:23 / dck	05/19/23 09:45	ICPMS205-H_230524C : 95		66521
Antimony	0.0005	mg/L		0.0005		E200.8	05/25/23 01:23 / dck	05/19/23 09:45	ICPMS205-H_230524C : 95		66521
Arsenic	0.007	mg/L		0.001		E200.8	05/25/23 01:23 / dck	05/19/23 09:45	ICPMS205-H_230524C : 95		66521
Barium	0.033	mg/L		0.003		E200.8	05/25/23 01:23 / dck	05/19/23 09:45	ICPMS205-H_230524C : 95		66521
Beryllium	ND	mg/L		0.0008		E200.8	05/25/23 01:23 / dck	05/19/23 09:45	ICPMS205-H_230524C : 95		66521
Cesium	ND	mg/L		0.01		E200.8	05/25/23 09:50 / dck	05/19/23 09:52	ICPMS205-H_230524D : 51		66522
Cadmium	0.00006	mg/L		0.00003		E200.8	05/25/23 01:23 / dck	05/19/23 09:45	ICPMS205-H_230524C : 95		66521
Chromium	ND	mg/L		0.005		E200.8	05/25/23 01:23 / dck	05/19/23 09:45	ICPMS205-H_230524C : 95		66521
Cobalt	ND	mg/L		0.005		E200.8	05/25/23 01:23 / dck	05/19/23 09:45	ICPMS205-H_230524C : 95		66521
Copper	0.016	mg/L		0.002		E200.8	05/25/23 01:23 / dck	05/19/23 09:45	ICPMS205-H_230524C : 95		66521
Gallium	ND	mg/L		0.01		E200.8	05/25/23 09:50 / dck	05/19/23 09:52	ICPMS205-H_230524D : 51		66522
Iron	0.72	mg/L		0.02		E200.8	05/25/23 01:23 / dck	05/19/23 09:45	ICPMS205-H_230524C : 95		66521
Lead	0.0014	mg/L		0.0003		E200.8	05/25/23 01:23 / dck	05/19/23 09:45	ICPMS205-H_230524C : 95		66521
Lanthanum	ND	mg/L		0.1		E200.8	05/25/23 09:50 / dck	05/19/23 09:52	ICPMS205-H_230524D : 51		66522
Lithium	ND	mg/L		0.1		E200.8	05/25/23 01:23 / dck	05/19/23 09:45	ICPMS205-H_230524C : 95		66521
Neodymium	ND	mg/L		0.01		E200.8	05/25/23 09:50 / dck	05/19/23 09:52	ICPMS205-H_230524D : 51		66522
Niobium	ND	mg/L		0.01		E200.8	05/25/23 09:50 / dck	05/19/23 09:52	ICPMS205-H_230524D : 51		66522
Manganese	0.057	mg/L		0.001		E200.8	05/25/23 01:23 / dck	05/19/23 09:45	ICPMS205-H_230524C : 95		66521
Molybdenum	0.006	mg/L		0.001		E200.8	05/25/23 01:23 / dck	05/19/23 09:45	ICPMS205-H_230524C : 95		66521
Nickel	ND	mg/L		0.002		E200.8	05/25/23 01:23 / dck	05/19/23 09:45	ICPMS205-H_230524C : 95		66521
Palladium	ND	mg/L		0.01		E200.8	05/25/23 09:50 / dck	05/19/23 09:52	ICPMS205-H_230524D : 51		66522
Praseodymium	ND	mg/L		0.01		E200.8	05/25/23 09:50 / dck	05/19/23 09:52	ICPMS205-H_230524D : 51		66522
Rubidium	ND	mg/L		0.01		E200.8	05/25/23 09:50 / dck	05/19/23 09:52	ICPMS205-H_230524D : 51		66522
Selenium	ND	mg/L		0.001		E200.8	05/25/23 01:23 / dck	05/19/23 09:45	ICPMS205-H_230524C : 95		66521
Silver	ND	mg/L		0.0002		E200.8	05/25/23 01:23 / dck	05/19/23 09:45	ICPMS205-H_230524C : 95		66521
Strontium	0.14	mg/L		0.01		E200.8	05/25/23 01:23 / dck	05/19/23 09:45	ICPMS205-H_230524C : 95		66521
Thallium	ND	mg/L		0.0002		E200.8	05/25/23 01:23 / dck	05/19/23 09:45	ICPMS205-H_230524C : 95		66521
Tungsten	ND	mg/L		0.1		E200.8	05/25/23 09:50 / dck	05/19/23 09:52	ICPMS205-H_230524D : 51		66522
Tin	ND	mg/L		0.05		E200.8	05/25/23 01:23 / dck	05/19/23 09:45	ICPMS205-H_230524C : 95		66521
Titanium	0.017	mg/L		0.005		E200.8	05/25/23 01:23 / dck	05/19/23 09:45	ICPMS205-H_230524C : 95		66521
Thorium	ND	mg/L		0.005		E200.8	05/25/23 01:23 / dck	05/19/23 09:45	ICPMS205-H_230524C : 95		66521
Uranium	0.0018	mg/L		0.0003		E200.8	05/25/23 01:23 / dck	05/19/23 09:45	ICPMS205-H_230524C : 95		66521

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-5  
**Lab ID:** H23050597-002  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/15/23 13:16    **DateReceived:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	05/25/23 01:23 / dck	05/19/23 09:45	ICPMS205-H_230524C : 95		66521
Zinc	0.012	mg/L		0.008		E200.8	05/25/23 01:23 / dck	05/19/23 09:45	ICPMS205-H_230524C : 95		66521
Zirconium	ND	mg/L		0.005		E200.8	05/25/23 09:50 / dck	05/19/23 09:52	ICPMS205-H_230524D : 51		66522
<b>DATA QUALITY</b>											
A/C Balance	3.78	%				A1030 E	05/26/23 10:56 / SR		CALC_230526A : 188		R184891
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-5  
**Lab ID:** H23050597-003  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/15/23 13:30 **DateReceived:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.5	s.u.	H	0.1		A4500-H B	05/19/23 09:52 / ams		PHSC_101-H_230519A : 37		R184662
pH Measurement Temp	12.4	°C				A4500-H B	05/19/23 09:52 / ams		PHSC_101-H_230519A : 37		R184662
Conductivity @ 25 C	7	umhos/cm		5		A2510 B	05/19/23 09:52 / ams		PHSC_101-H_230519A : 38		R184662
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	L	20		A2540 C	05/21/23 07:39 / ams		I24 (14410200)_230521A : 17		TDS230521A
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.											
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	05/23/23 17:32 / ljs		PHSC_101-H_230523A : 121		R184745
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	05/23/23 17:32 / ljs		PHSC_101-H_230523A : 121		R184745
Carbonate as CO3	ND	mg/L		4		A2320 B	05/23/23 17:32 / ljs		PHSC_101-H_230523A : 121		R184745
Chloride	ND	mg/L		1		E300.0	05/20/23 07:51 / ljs		IC METROHM_230519A : 82		R184723
Sulfate	ND	mg/L		1		E300.0	05/20/23 07:51 / ljs		IC METROHM_230519A : 82		R184723
Bromide	ND	mg/L		0.5		E300.0	05/20/23 07:51 / ljs		IC METROHM_230519A : 82		R184723
Fluoride	ND	mg/L		0.1		E300.0	05/20/23 07:51 / ljs		IC METROHM_230519A : 82		R184723
Hardness as CaCO3	ND	mg/L		1		A2340 B	05/19/23 15:01 / SR		CALC_230526A : 201		R184891
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	05/26/23 12:41 / eli-c		SUB-C294928 : 25		C_R294928
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	05/24/23 16:02 / eli-c		SUB-C294928 : 8		C_R294928
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	05/25/23 12:28 / SR		SEAL AA500_230525A : 37		R184881
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/25/23 01:36 / dck		ICPMS205-H_230524C : 98		R184846
Antimony	ND	mg/L		0.0005		E200.8	05/25/23 01:36 / dck		ICPMS205-H_230524C : 98		R184846
Arsenic	ND	mg/L		0.001		E200.8	05/25/23 01:36 / dck		ICPMS205-H_230524C : 98		R184846
Barium	ND	mg/L		0.003		E200.8	05/25/23 01:36 / dck		ICPMS205-H_230524C : 98		R184846
Beryllium	ND	mg/L		0.0008		E200.8	05/25/23 01:36 / dck		ICPMS205-H_230524C : 98		R184846
Boron	ND	mg/L		0.05		E200.7	05/19/23 15:01 / slj		ICP2-HE_230519A : 67		R184684
Cadmium	ND	mg/L		0.00003		E200.8	05/25/23 01:36 / dck		ICPMS205-H_230524C : 98		R184846
Cesium	ND	mg/L		0.01		E200.8	05/25/23 09:53 / dck		ICPMS205-H_230524D : 52		R184870

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level  
L - Lowest available reporting limit for the analytical method used

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-5  
**Lab ID:** H23050597-003  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/15/23 13:30 **DateReceived:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	ND	mg/L		1		E200.7	05/19/23 15:01 / slj		ICP2-HE_230519A : 67		R184684
Chromium	ND	mg/L		0.005		E200.8	05/25/23 01:36 / dck		ICPMS205-H_230524C : 98		R184846
Cobalt	ND	mg/L		0.005		E200.8	05/25/23 01:36 / dck		ICPMS205-H_230524C : 98		R184846
Copper	ND	mg/L		0.002		E200.8	05/25/23 01:36 / dck		ICPMS205-H_230524C : 98		R184846
Gallium	ND	mg/L		0.01		E200.8	05/25/23 09:53 / dck		ICPMS205-H_230524D : 52		R184870
Iron	ND	mg/L		0.02		E200.8	05/25/23 01:36 / dck		ICPMS205-H_230524C : 98		R184846
Lead	ND	mg/L		0.0003		E200.8	05/25/23 01:36 / dck		ICPMS205-H_230524C : 98		R184846
Lanthanum	ND	mg/L		0.01		E200.8	05/25/23 09:53 / dck		ICPMS205-H_230524D : 52		R184870
Lithium	ND	mg/L		0.1		E200.7	05/19/23 15:01 / slj		ICP2-HE_230519A : 67		R184684
Magnesium	ND	mg/L		1		E200.7	05/19/23 15:01 / slj		ICP2-HE_230519A : 67		R184684
Neodymium	ND	mg/L		0.005		E200.8	05/25/23 09:53 / dck		ICPMS205-H_230524D : 52		R184870
Niobium	ND	mg/L		0.01		E200.8	05/25/23 09:53 / dck		ICPMS205-H_230524D : 52		R184870
Manganese	ND	mg/L		0.001		E200.8	05/25/23 01:36 / dck		ICPMS205-H_230524C : 98		R184846
Molybdenum	0.004	mg/L		0.001		E200.8	05/25/23 01:36 / dck		ICPMS205-H_230524C : 98		R184846
Nickel	ND	mg/L		0.002		E200.8	05/25/23 01:36 / dck		ICPMS205-H_230524C : 98		R184846
Palladium	ND	mg/L		0.01		E200.8	05/25/23 09:53 / dck		ICPMS205-H_230524D : 52		R184870
Praseodymium	ND	mg/L		0.01		E200.8	05/25/23 09:53 / dck		ICPMS205-H_230524D : 52		R184870
Rubidium	ND	mg/L		0.01		E200.8	05/25/23 09:53 / dck		ICPMS205-H_230524D : 52		R184870
Potassium	ND	mg/L		1		E200.7	05/19/23 15:01 / slj		ICP2-HE_230519A : 67		R184684
Selenium	ND	mg/L		0.001		E200.8	05/25/23 01:36 / dck		ICPMS205-H_230524C : 98		R184846
Silver	ND	mg/L		0.0002		E200.8	05/25/23 01:36 / dck		ICPMS205-H_230524C : 98		R184846
Sodium	ND	mg/L		1		E200.7	05/19/23 15:01 / slj		ICP2-HE_230519A : 67		R184684
Strontium	ND	mg/L		0.01		E200.8	05/25/23 01:36 / dck		ICPMS205-H_230524C : 98		R184846
Thallium	ND	mg/L		0.0002		E200.8	05/25/23 01:36 / dck		ICPMS205-H_230524C : 98		R184846
Thorium	ND	mg/L		0.005		E200.8	05/25/23 01:36 / dck		ICPMS205-H_230524C : 98		R184846
Tin	ND	mg/L		0.05		E200.8	05/25/23 01:36 / dck		ICPMS205-H_230524C : 98		R184846
Titanium	ND	mg/L		0.005		E200.8	05/25/23 01:36 / dck		ICPMS205-H_230524C : 98		R184846
Tungsten	ND	mg/L		0.1		E200.8	05/25/23 09:53 / dck		ICPMS205-H_230524D : 52		R184870
Uranium	ND	mg/L		0.0002		E200.8	05/25/23 01:36 / dck		ICPMS205-H_230524C : 98		R184846
Vanadium	ND	mg/L		0.01		E200.8	05/25/23 01:36 / dck		ICPMS205-H_230524C : 98		R184846
Zinc	ND	mg/L		0.008		E200.8	05/25/23 01:36 / dck		ICPMS205-H_230524C : 98		R184846
Zirconium	ND	mg/L		0.005		E200.8	05/25/23 09:53 / dck		ICPMS205-H_230524D : 52		R184870

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-5  
**Lab ID:** H23050597-003  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/15/23 13:30 **DateReceived:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/25/23 01:40 / dck	05/19/23 09:45	ICPMS205-H_230524C : 99		66521
Antimony	ND	mg/L		0.0005		E200.8	05/25/23 01:40 / dck	05/19/23 09:45	ICPMS205-H_230524C : 99		66521
Arsenic	ND	mg/L		0.001		E200.8	05/25/23 01:40 / dck	05/19/23 09:45	ICPMS205-H_230524C : 99		66521
Barium	ND	mg/L		0.003		E200.8	05/25/23 01:40 / dck	05/19/23 09:45	ICPMS205-H_230524C : 99		66521
Beryllium	ND	mg/L		0.0008		E200.8	05/25/23 01:40 / dck	05/19/23 09:45	ICPMS205-H_230524C : 99		66521
Cesium	ND	mg/L		0.01		E200.8	05/25/23 09:57 / dck	05/19/23 09:52	ICPMS205-H_230524D : 53		66522
Cadmium	ND	mg/L		0.00003		E200.8	05/25/23 01:40 / dck	05/19/23 09:45	ICPMS205-H_230524C : 99		66521
Chromium	ND	mg/L		0.005		E200.8	05/25/23 01:40 / dck	05/19/23 09:45	ICPMS205-H_230524C : 99		66521
Cobalt	ND	mg/L		0.005		E200.8	05/25/23 01:40 / dck	05/19/23 09:45	ICPMS205-H_230524C : 99		66521
Copper	ND	mg/L		0.002		E200.8	05/25/23 01:40 / dck	05/19/23 09:45	ICPMS205-H_230524C : 99		66521
Gallium	ND	mg/L		0.01		E200.8	05/25/23 09:57 / dck	05/19/23 09:52	ICPMS205-H_230524D : 53		66522
Iron	ND	mg/L		0.02		E200.8	05/25/23 01:40 / dck	05/19/23 09:45	ICPMS205-H_230524C : 99		66521
Lead	ND	mg/L		0.0003		E200.8	05/25/23 01:40 / dck	05/19/23 09:45	ICPMS205-H_230524C : 99		66521
Lanthanum	ND	mg/L		0.1		E200.8	05/25/23 09:57 / dck	05/19/23 09:52	ICPMS205-H_230524D : 53		66522
Lithium	ND	mg/L		0.1		E200.8	05/25/23 01:40 / dck	05/19/23 09:45	ICPMS205-H_230524C : 99		66521
Neodymium	ND	mg/L		0.01		E200.8	05/25/23 09:57 / dck	05/19/23 09:52	ICPMS205-H_230524D : 53		66522
Niobium	ND	mg/L		0.01		E200.8	05/25/23 09:57 / dck	05/19/23 09:52	ICPMS205-H_230524D : 53		66522
Manganese	ND	mg/L		0.001		E200.8	05/25/23 01:40 / dck	05/19/23 09:45	ICPMS205-H_230524C : 99		66521
Molybdenum	ND	mg/L		0.001		E200.8	05/25/23 01:40 / dck	05/19/23 09:45	ICPMS205-H_230524C : 99		66521
Nickel	ND	mg/L		0.002		E200.8	05/25/23 01:40 / dck	05/19/23 09:45	ICPMS205-H_230524C : 99		66521
Palladium	ND	mg/L		0.01		E200.8	05/25/23 09:57 / dck	05/19/23 09:52	ICPMS205-H_230524D : 53		66522
Praseodymium	ND	mg/L		0.01		E200.8	05/25/23 09:57 / dck	05/19/23 09:52	ICPMS205-H_230524D : 53		66522
Rubidium	ND	mg/L		0.01		E200.8	05/25/23 09:57 / dck	05/19/23 09:52	ICPMS205-H_230524D : 53		66522
Selenium	ND	mg/L		0.001		E200.8	05/25/23 01:40 / dck	05/19/23 09:45	ICPMS205-H_230524C : 99		66521
Silver	ND	mg/L		0.0002		E200.8	05/25/23 01:40 / dck	05/19/23 09:45	ICPMS205-H_230524C : 99		66521
Strontium	ND	mg/L		0.01		E200.8	05/25/23 01:40 / dck	05/19/23 09:45	ICPMS205-H_230524C : 99		66521
Thallium	ND	mg/L		0.0002		E200.8	05/25/23 01:40 / dck	05/19/23 09:45	ICPMS205-H_230524C : 99		66521
Tungsten	ND	mg/L		0.1		E200.8	05/25/23 09:57 / dck	05/19/23 09:52	ICPMS205-H_230524D : 53		66522
Tin	ND	mg/L		0.05		E200.8	05/25/23 01:40 / dck	05/19/23 09:45	ICPMS205-H_230524C : 99		66521
Titanium	ND	mg/L		0.005		E200.8	05/25/23 01:40 / dck	05/19/23 09:45	ICPMS205-H_230524C : 99		66521
Thorium	ND	mg/L		0.005		E200.8	05/25/23 01:40 / dck	05/19/23 09:45	ICPMS205-H_230524C : 99		66521
Uranium	ND	mg/L		0.0003		E200.8	05/25/23 01:40 / dck	05/19/23 09:45	ICPMS205-H_230524C : 99		66521

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-5  
**Lab ID:** H23050597-003  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/15/23 13:30    **DateReceived:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	05/25/23 01:40 / dck	05/19/23 09:45	ICPMS205-H_230524C : 99		66521
Zinc	ND	mg/L		0.008		E200.8	05/25/23 01:40 / dck	05/19/23 09:45	ICPMS205-H_230524C : 99		66521
Zirconium	ND	mg/L		0.005		E200.8	05/25/23 09:57 / dck	05/19/23 09:52	ICPMS205-H_230524D : 53		66522
<b>DATA QUALITY</b>											
A/C Balance	-100	%				A1030 E	05/26/23 10:56 / SR		CALC_230526A : 199		R184891
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-12  
**Lab ID:** H23050597-004  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/15/23 13:40 **DateReceived:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.1	s.u.	H	0.1		A4500-H B	05/19/23 09:54 / ams		PHSC_101-H_230519A : 39		R184662
pH Measurement Temp	12.6	°C				A4500-H B	05/19/23 09:54 / ams		PHSC_101-H_230519A : 39		R184662
Conductivity @ 25 C	2860	umhos/cm		5		A2510 B	05/19/23 09:54 / ams		PHSC_101-H_230519A : 40		R184662
Solids, Total Dissolved TDS @ 180 C	2500	mg/L		50		A2540 C	05/21/23 07:39 / ams		I24 (14410200)_230521A : 18		TDS230521A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	56	mg/L		4		A2320 B	05/23/23 17:38 / ljs		PHSC_101-H_230523A : 123		R184745
Bicarbonate as HCO3	67	mg/L		4		A2320 B	05/23/23 17:38 / ljs		PHSC_101-H_230523A : 123		R184745
Carbonate as CO3	ND	mg/L		4		A2320 B	05/23/23 17:38 / ljs		PHSC_101-H_230523A : 123		R184745
Chloride	24	mg/L		1		E300.0	05/20/23 08:48 / ljs		IC METROHM_230519A : 85		R184723
Sulfate	1690	mg/L		1		E300.0	05/20/23 08:48 / ljs		IC METROHM_230519A : 85		R184723
Bromide	ND	mg/L		0.5		E300.0	05/20/23 08:48 / ljs		IC METROHM_230519A : 85		R184723
Fluoride	1.4	mg/L		0.1		E300.0	05/20/23 08:48 / ljs		IC METROHM_230519A : 85		R184723
Hardness as CaCO3	1420	mg/L		1		A2340 B	05/19/23 15:05 / SR		CALC_230526A : 212		R184891
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	3.5	mg/L		0.5		A5310 C	05/26/23 13:01 / eli-c		SUB-C294928 : 26		C_R294928
Organic Carbon, Total (TOC)	3.3	mg/L		0.5		A5310 C	05/24/23 16:22 / eli-c		SUB-C294928 : 9		C_R294928
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.14	mg/L		0.01		E353.2	05/25/23 12:31 / SR		SEAL AA500_230525A : 40		R184881
<b>METALS, DISSOLVED</b>											
Aluminum	0.018	mg/L		0.009		E200.8	05/25/23 01:45 / dck		ICPMS205-H_230524C : 100		R184846
Antimony	ND	mg/L		0.0005		E200.8	05/25/23 01:45 / dck		ICPMS205-H_230524C : 100		R184846
Arsenic	0.003	mg/L		0.001		E200.8	05/25/23 01:45 / dck		ICPMS205-H_230524C : 100		R184846
Barium	0.050	mg/L		0.003		E200.8	05/25/23 01:45 / dck		ICPMS205-H_230524C : 100		R184846
Beryllium	ND	mg/L		0.0008		E200.8	05/25/23 01:45 / dck		ICPMS205-H_230524C : 100		R184846
Boron	ND	mg/L		0.05		E200.7	05/19/23 15:05 / slj		ICP2-HE_230519A : 68		R184684
Cadmium	0.00031	mg/L		0.00003		E200.8	05/25/23 01:45 / dck		ICPMS205-H_230524C : 100		R184846
Cesium	ND	mg/L		0.01		E200.8	05/25/23 10:00 / dck		ICPMS205-H_230524D : 54		R184870

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-12  
**Lab ID:** H23050597-004  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/15/23 13:40 **DateReceived:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	554	mg/L		1		E200.7	05/19/23 15:05 / slj		ICP2-HE_230519A : 68		R184684
Chromium	ND	mg/L		0.005		E200.8	05/25/23 01:45 / dck		ICPMS205-H_230524C : 100		R184846
Cobalt	ND	mg/L		0.005		E200.8	05/25/23 01:45 / dck		ICPMS205-H_230524C : 100		R184846
Copper	0.004	mg/L		0.002		E200.8	05/25/23 01:45 / dck		ICPMS205-H_230524C : 100		R184846
Gallium	ND	mg/L		0.01		E200.8	05/25/23 10:00 / dck		ICPMS205-H_230524D : 54		R184870
Iron	0.08	mg/L		0.02		E200.8	05/25/23 01:45 / dck		ICPMS205-H_230524C : 100		R184846
Lead	ND	mg/L		0.0003		E200.8	05/25/23 01:45 / dck		ICPMS205-H_230524C : 100		R184846
Lanthanum	ND	mg/L		0.01		E200.8	05/25/23 10:00 / dck		ICPMS205-H_230524D : 54		R184870
Lithium	ND	mg/L		0.1		E200.7	05/19/23 15:05 / slj		ICP2-HE_230519A : 68		R184684
Magnesium	10	mg/L		1		E200.7	05/19/23 15:05 / slj		ICP2-HE_230519A : 68		R184684
Neodymium	ND	mg/L		0.005		E200.8	05/25/23 10:00 / dck		ICPMS205-H_230524D : 54		R184870
Niobium	ND	mg/L		0.01		E200.8	05/25/23 10:00 / dck		ICPMS205-H_230524D : 54		R184870
Manganese	0.317	mg/L		0.001		E200.8	05/25/23 01:45 / dck		ICPMS205-H_230524C : 100		R184846
Molybdenum	0.741	mg/L		0.001		E200.8	05/25/23 01:45 / dck		ICPMS205-H_230524C : 100		R184846
Nickel	ND	mg/L		0.002		E200.8	05/25/23 01:45 / dck		ICPMS205-H_230524C : 100		R184846
Palladium	ND	mg/L		0.01		E200.8	05/25/23 10:00 / dck		ICPMS205-H_230524D : 54		R184870
Praseodymium	ND	mg/L		0.01		E200.8	05/25/23 10:00 / dck		ICPMS205-H_230524D : 54		R184870
Rubidium	0.05	mg/L		0.01		E200.8	05/25/23 10:00 / dck		ICPMS205-H_230524D : 54		R184870
Potassium	34	mg/L		1		E200.7	05/19/23 15:05 / slj		ICP2-HE_230519A : 68		R184684
Selenium	0.003	mg/L		0.001		E200.8	05/25/23 01:45 / dck		ICPMS205-H_230524C : 100		R184846
Silver	ND	mg/L		0.0002		E200.8	05/25/23 01:45 / dck		ICPMS205-H_230524C : 100		R184846
Sodium	103	mg/L		1		E200.7	05/19/23 15:05 / slj		ICP2-HE_230519A : 68		R184684
Strontium	2.21	mg/L		0.01		E200.7	05/19/23 15:05 / slj		ICP2-HE_230519A : 68		R184684
Thallium	ND	mg/L		0.0002		E200.8	05/25/23 01:45 / dck		ICPMS205-H_230524C : 100		R184846
Thorium	ND	mg/L		0.005		E200.8	05/25/23 01:45 / dck		ICPMS205-H_230524C : 100		R184846
Tin	ND	mg/L		0.05		E200.8	05/25/23 01:45 / dck		ICPMS205-H_230524C : 100		R184846
Titanium	ND	mg/L		0.005		E200.8	05/25/23 01:45 / dck		ICPMS205-H_230524C : 100		R184846
Tungsten	ND	mg/L		0.1		E200.8	05/25/23 10:00 / dck		ICPMS205-H_230524D : 54		R184870
Uranium	0.0027	mg/L		0.0002		E200.8	05/25/23 01:45 / dck		ICPMS205-H_230524C : 100		R184846
Vanadium	ND	mg/L		0.01		E200.8	05/25/23 01:45 / dck		ICPMS205-H_230524C : 100		R184846
Zinc	0.066	mg/L		0.008		E200.8	05/25/23 01:45 / dck		ICPMS205-H_230524C : 100		R184846
Zirconium	ND	mg/L		0.005		E200.8	05/25/23 10:00 / dck		ICPMS205-H_230524D : 54		R184870

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-12  
**Lab ID:** H23050597-004  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/15/23 13:40 **DateReceived:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	0.072	mg/L		0.009		E200.8	05/25/23 01:49 / dck	05/19/23 09:45	ICPMS205-H_230524C : 101		66521
Antimony	ND	mg/L		0.0005		E200.8	05/25/23 01:49 / dck	05/19/23 09:45	ICPMS205-H_230524C : 101		66521
Arsenic	0.006	mg/L		0.001		E200.8	05/25/23 01:49 / dck	05/19/23 09:45	ICPMS205-H_230524C : 101		66521
Barium	0.049	mg/L		0.003		E200.8	05/25/23 01:49 / dck	05/19/23 09:45	ICPMS205-H_230524C : 101		66521
Beryllium	ND	mg/L		0.0008		E200.8	05/25/23 01:49 / dck	05/19/23 09:45	ICPMS205-H_230524C : 101		66521
Cesium	ND	mg/L		0.01		E200.8	05/25/23 10:03 / dck	05/19/23 09:52	ICPMS205-H_230524D : 55		66522
Cadmium	0.00035	mg/L		0.00003		E200.8	05/25/23 01:49 / dck	05/19/23 09:45	ICPMS205-H_230524C : 101		66521
Chromium	ND	mg/L		0.005		E200.8	05/25/23 01:49 / dck	05/19/23 09:45	ICPMS205-H_230524C : 101		66521
Cobalt	ND	mg/L		0.005		E200.8	05/25/23 01:49 / dck	05/19/23 09:45	ICPMS205-H_230524C : 101		66521
Copper	0.009	mg/L		0.002		E200.8	05/25/23 01:49 / dck	05/19/23 09:45	ICPMS205-H_230524C : 101		66521
Gallium	ND	mg/L		0.01		E200.8	05/25/23 10:03 / dck	05/19/23 09:52	ICPMS205-H_230524D : 55		66522
Iron	0.53	mg/L		0.02		E200.8	05/25/23 01:49 / dck	05/19/23 09:45	ICPMS205-H_230524C : 101		66521
Lead	0.0007	mg/L		0.0003		E200.8	05/25/23 01:49 / dck	05/19/23 09:45	ICPMS205-H_230524C : 101		66521
Lanthanum	ND	mg/L		0.1		E200.8	05/25/23 10:03 / dck	05/19/23 09:52	ICPMS205-H_230524D : 55		66522
Lithium	ND	mg/L		0.1		E200.8	05/25/23 01:49 / dck	05/19/23 09:45	ICPMS205-H_230524C : 101		66521
Neodymium	ND	mg/L		0.01		E200.8	05/25/23 10:03 / dck	05/19/23 09:52	ICPMS205-H_230524D : 55		66522
Niobium	ND	mg/L		0.01		E200.8	05/25/23 10:03 / dck	05/19/23 09:52	ICPMS205-H_230524D : 55		66522
Manganese	0.318	mg/L		0.001		E200.8	05/25/23 01:49 / dck	05/19/23 09:45	ICPMS205-H_230524C : 101		66521
Molybdenum	0.764	mg/L		0.001		E200.8	05/25/23 01:49 / dck	05/19/23 09:45	ICPMS205-H_230524C : 101		66521
Nickel	ND	mg/L		0.002		E200.8	05/25/23 01:49 / dck	05/19/23 09:45	ICPMS205-H_230524C : 101		66521
Palladium	ND	mg/L		0.01		E200.8	05/25/23 10:03 / dck	05/19/23 09:52	ICPMS205-H_230524D : 55		66522
Praseodymium	ND	mg/L		0.01		E200.8	05/25/23 10:03 / dck	05/19/23 09:52	ICPMS205-H_230524D : 55		66522
Rubidium	0.05	mg/L		0.01		E200.8	05/25/23 10:03 / dck	05/19/23 09:52	ICPMS205-H_230524D : 55		66522
Selenium	0.003	mg/L		0.001		E200.8	05/25/23 01:49 / dck	05/19/23 09:45	ICPMS205-H_230524C : 101		66521
Silver	ND	mg/L		0.0002		E200.8	05/25/23 01:49 / dck	05/19/23 09:45	ICPMS205-H_230524C : 101		66521
Strontium	2.27	mg/L		0.01		E200.8	05/25/23 01:49 / dck	05/19/23 09:45	ICPMS205-H_230524C : 101		66521
Thallium	ND	mg/L		0.0002		E200.8	05/25/23 01:49 / dck	05/19/23 09:45	ICPMS205-H_230524C : 101		66521
Tungsten	ND	mg/L		0.1		E200.8	05/25/23 10:03 / dck	05/19/23 09:52	ICPMS205-H_230524D : 55		66522
Tin	ND	mg/L		0.05		E200.8	05/25/23 01:49 / dck	05/19/23 09:45	ICPMS205-H_230524C : 101		66521
Titanium	ND	mg/L		0.005		E200.8	05/25/23 01:49 / dck	05/19/23 09:45	ICPMS205-H_230524C : 101		66521
Thorium	ND	mg/L		0.005		E200.8	05/25/23 01:49 / dck	05/19/23 09:45	ICPMS205-H_230524C : 101		66521
Uranium	0.0026	mg/L		0.0003		E200.8	05/25/23 01:49 / dck	05/19/23 09:45	ICPMS205-H_230524C : 101		66521

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-12  
**Lab ID:** H23050597-004  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/15/23 13:40    **DateReceived:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	05/25/23 01:49 / dck	05/19/23 09:45	ICPMS205-H_230524C : 101		66521
Zinc	0.072	mg/L		0.008		E200.8	05/25/23 01:49 / dck	05/19/23 09:45	ICPMS205-H_230524C : 101		66521
Zirconium	ND	mg/L		0.005		E200.8	05/25/23 10:03 / dck	05/19/23 09:52	ICPMS205-H_230524D : 55		66522
<b>DATA QUALITY</b>											
A/C Balance	-4.64	%				A1030 E	05/26/23 10:56 / SR		CALC_230526A : 210		R184891

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-02  
**Lab ID:** H23050597-005  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/15/23 14:05  
**Date Received:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	8.4	s.u.	H	0.1		A4500-H B	05/19/23 09:56 / ams		PHSC_101-H_230519A : 41		R184662
pH Measurement Temp	12.7	°C				A4500-H B	05/19/23 09:56 / ams		PHSC_101-H_230519A : 41		R184662
Conductivity @ 25 C	396	umhos/cm		5		A2510 B	05/19/23 09:56 / ams		PHSC_101-H_230519A : 42		R184662
Solids, Total Dissolved TDS @ 180 C	229	mg/L		20		A2540 C	05/21/23 07:39 / ams		I24 (14410200)_230521A : 19		TDS230521A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	130	mg/L		4		A2320 B	05/23/23 17:43 / ljs		PHSC_101-H_230523A : 125		R184745
Bicarbonate as HCO3	160	mg/L		4		A2320 B	05/23/23 17:43 / ljs		PHSC_101-H_230523A : 125		R184745
Carbonate as CO3	ND	mg/L		4		A2320 B	05/23/23 17:43 / ljs		PHSC_101-H_230523A : 125		R184745
Chloride	10	mg/L		1		E300.0	05/20/23 09:32 / ljs		IC METROHM_230519A : 88		R184723
Sulfate	44	mg/L		1		E300.0	05/20/23 09:32 / ljs		IC METROHM_230519A : 88		R184723
Bromide	ND	mg/L		0.5		E300.0	05/20/23 09:32 / ljs		IC METROHM_230519A : 88		R184723
Fluoride	0.6	mg/L		0.1		E300.0	05/20/23 09:32 / ljs		IC METROHM_230519A : 88		R184723
Hardness as CaCO3	144	mg/L		1		A2340 B	05/19/23 15:09 / SR		CALC_230526A : 223		R184891
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	3.9	mg/L		0.5		A5310 C	05/26/23 13:16 / eli-c		SUB-C294928 : 27		C_R294928
Organic Carbon, Total (TOC)	4.0	mg/L		0.5		A5310 C	05/24/23 16:37 / eli-c		SUB-C294928 : 10		C_R294928
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	05/25/23 12:32 / SR		SEAL AA500_230525A : 41		R184881
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/25/23 01:53 / dck		ICPMS205-H_230524C : 102		R184846
Antimony	ND	mg/L		0.0005		E200.8	05/25/23 01:53 / dck		ICPMS205-H_230524C : 102		R184846
Arsenic	0.006	mg/L		0.001		E200.8	05/25/23 01:53 / dck		ICPMS205-H_230524C : 102		R184846
Barium	0.030	mg/L		0.003		E200.8	05/25/23 01:53 / dck		ICPMS205-H_230524C : 102		R184846
Beryllium	ND	mg/L		0.0008		E200.8	05/25/23 01:53 / dck		ICPMS205-H_230524C : 102		R184846
Boron	ND	mg/L		0.05		E200.7	05/19/23 15:09 / slj		ICP2-HE_230519A : 69		R184684
Cadmium	ND	mg/L		0.00003		E200.8	05/25/23 01:53 / dck		ICPMS205-H_230524C : 102		R184846
Cesium	ND	mg/L		0.01		E200.8	05/25/23 10:29 / dck		ICPMS205-H_230524D : 62		R184870

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



**LABORATORY ANALYTICAL REPORT**

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-02  
**Lab ID:** H23050597-005  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/15/23 14:05  
**Date Received:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	41	mg/L		1		E200.7	05/19/23 15:09 / slj		ICP2-HE_230519A : 69		R184684
Chromium	ND	mg/L		0.005		E200.8	05/25/23 01:53 / dck		ICPMS205-H_230524C : 102		R184846
Cobalt	ND	mg/L		0.005		E200.8	05/25/23 01:53 / dck		ICPMS205-H_230524C : 102		R184846
Copper	ND	mg/L		0.002		E200.8	05/25/23 01:53 / dck		ICPMS205-H_230524C : 102		R184846
Gallium	ND	mg/L		0.01		E200.8	05/25/23 10:29 / dck		ICPMS205-H_230524D : 62		R184870
Iron	0.03	mg/L		0.02		E200.8	05/25/23 01:53 / dck		ICPMS205-H_230524C : 102		R184846
Lead	ND	mg/L		0.0003		E200.8	05/25/23 01:53 / dck		ICPMS205-H_230524C : 102		R184846
Lanthanum	ND	mg/L		0.01		E200.8	05/25/23 10:29 / dck		ICPMS205-H_230524D : 62		R184870
Lithium	ND	mg/L		0.1		E200.7	05/19/23 15:09 / slj		ICP2-HE_230519A : 69		R184684
Magnesium	10	mg/L		1		E200.7	05/19/23 15:09 / slj		ICP2-HE_230519A : 69		R184684
Neodymium	ND	mg/L		0.005		E200.8	05/25/23 10:29 / dck		ICPMS205-H_230524D : 62		R184870
Niobium	ND	mg/L		0.01		E200.8	05/25/23 10:29 / dck		ICPMS205-H_230524D : 62		R184870
Manganese	0.083	mg/L		0.001		E200.8	05/25/23 01:53 / dck		ICPMS205-H_230524C : 102		R184846
Molybdenum	0.010	mg/L		0.001		E200.8	05/25/23 01:53 / dck		ICPMS205-H_230524C : 102		R184846
Nickel	ND	mg/L		0.002		E200.8	05/25/23 01:53 / dck		ICPMS205-H_230524C : 102		R184846
Palladium	ND	mg/L		0.01		E200.8	05/25/23 10:29 / dck		ICPMS205-H_230524D : 62		R184870
Praseodymium	ND	mg/L		0.01		E200.8	05/25/23 10:29 / dck		ICPMS205-H_230524D : 62		R184870
Rubidium	ND	mg/L		0.01		E200.8	05/25/23 10:29 / dck		ICPMS205-H_230524D : 62		R184870
Potassium	4	mg/L		1		E200.7	05/19/23 15:09 / slj		ICP2-HE_230519A : 69		R184684
Selenium	ND	mg/L		0.001		E200.8	05/25/23 01:53 / dck		ICPMS205-H_230524C : 102		R184846
Silver	ND	mg/L		0.0002		E200.8	05/25/23 01:53 / dck		ICPMS205-H_230524C : 102		R184846
Sodium	20	mg/L		1		E200.7	05/19/23 15:09 / slj		ICP2-HE_230519A : 69		R184684
Strontium	0.26	mg/L		0.01		E200.8	05/25/23 01:53 / dck		ICPMS205-H_230524C : 102		R184846
Thallium	ND	mg/L		0.0002		E200.8	05/25/23 01:53 / dck		ICPMS205-H_230524C : 102		R184846
Thorium	ND	mg/L		0.005		E200.8	05/25/23 01:53 / dck		ICPMS205-H_230524C : 102		R184846
Tin	ND	mg/L		0.05		E200.8	05/25/23 01:53 / dck		ICPMS205-H_230524C : 102		R184846
Titanium	ND	mg/L		0.005		E200.8	05/25/23 01:53 / dck		ICPMS205-H_230524C : 102		R184846
Tungsten	ND	mg/L		0.1		E200.8	05/25/23 10:29 / dck		ICPMS205-H_230524D : 62		R184870
Uranium	0.0019	mg/L		0.0002		E200.8	05/25/23 01:53 / dck		ICPMS205-H_230524C : 102		R184846
Vanadium	ND	mg/L		0.01		E200.8	05/25/23 01:53 / dck		ICPMS205-H_230524C : 102		R184846
Zinc	ND	mg/L		0.008		E200.8	05/25/23 01:53 / dck		ICPMS205-H_230524C : 102		R184846
Zirconium	ND	mg/L		0.005		E200.8	05/25/23 10:29 / dck		ICPMS205-H_230524D : 62		R184870

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-02  
**Lab ID:** H23050597-005  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/15/23 14:05 **DateReceived:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	0.014	mg/L		0.009		E200.8	05/25/23 01:58 / dck	05/19/23 09:45	ICPMS205-H_230524C : 103		66521
Antimony	ND	mg/L		0.0005		E200.8	05/25/23 01:58 / dck	05/19/23 09:45	ICPMS205-H_230524C : 103		66521
Arsenic	0.006	mg/L		0.001		E200.8	05/25/23 01:58 / dck	05/19/23 09:45	ICPMS205-H_230524C : 103		66521
Barium	0.032	mg/L		0.003		E200.8	05/25/23 01:58 / dck	05/19/23 09:45	ICPMS205-H_230524C : 103		66521
Beryllium	ND	mg/L		0.0008		E200.8	05/25/23 01:58 / dck	05/19/23 09:45	ICPMS205-H_230524C : 103		66521
Cesium	ND	mg/L		0.01		E200.8	05/25/23 10:32 / dck	05/19/23 09:52	ICPMS205-H_230524D : 63		66522
Cadmium	0.00003	mg/L		0.00003		E200.8	05/25/23 01:58 / dck	05/19/23 09:45	ICPMS205-H_230524C : 103		66521
Chromium	ND	mg/L		0.005		E200.8	05/25/23 01:58 / dck	05/19/23 09:45	ICPMS205-H_230524C : 103		66521
Cobalt	ND	mg/L		0.005		E200.8	05/25/23 01:58 / dck	05/19/23 09:45	ICPMS205-H_230524C : 103		66521
Copper	ND	mg/L		0.002		E200.8	05/25/23 01:58 / dck	05/19/23 09:45	ICPMS205-H_230524C : 103		66521
Gallium	ND	mg/L		0.01		E200.8	05/25/23 10:32 / dck	05/19/23 09:52	ICPMS205-H_230524D : 63		66522
Iron	0.15	mg/L		0.02		E200.8	05/25/23 01:58 / dck	05/19/23 09:45	ICPMS205-H_230524C : 103		66521
Lead	0.0004	mg/L		0.0003		E200.8	05/25/23 01:58 / dck	05/19/23 09:45	ICPMS205-H_230524C : 103		66521
Lanthanum	ND	mg/L		0.1		E200.8	05/25/23 10:32 / dck	05/19/23 09:52	ICPMS205-H_230524D : 63		66522
Lithium	ND	mg/L		0.1		E200.8	05/25/23 01:58 / dck	05/19/23 09:45	ICPMS205-H_230524C : 103		66521
Neodymium	ND	mg/L		0.01		E200.8	05/25/23 10:32 / dck	05/19/23 09:52	ICPMS205-H_230524D : 63		66522
Niobium	ND	mg/L		0.01		E200.8	05/25/23 10:32 / dck	05/19/23 09:52	ICPMS205-H_230524D : 63		66522
Manganese	0.100	mg/L		0.001		E200.8	05/25/23 01:58 / dck	05/19/23 09:45	ICPMS205-H_230524C : 103		66521
Molybdenum	0.010	mg/L		0.001		E200.8	05/25/23 01:58 / dck	05/19/23 09:45	ICPMS205-H_230524C : 103		66521
Nickel	ND	mg/L		0.002		E200.8	05/25/23 01:58 / dck	05/19/23 09:45	ICPMS205-H_230524C : 103		66521
Palladium	ND	mg/L		0.01		E200.8	05/25/23 10:32 / dck	05/19/23 09:52	ICPMS205-H_230524D : 63		66522
Praseodymium	ND	mg/L		0.01		E200.8	05/25/23 10:32 / dck	05/19/23 09:52	ICPMS205-H_230524D : 63		66522
Rubidium	ND	mg/L		0.01		E200.8	05/25/23 10:32 / dck	05/19/23 09:52	ICPMS205-H_230524D : 63		66522
Selenium	ND	mg/L		0.001		E200.8	05/25/23 01:58 / dck	05/19/23 09:45	ICPMS205-H_230524C : 103		66521
Silver	ND	mg/L		0.0002		E200.8	05/25/23 01:58 / dck	05/19/23 09:45	ICPMS205-H_230524C : 103		66521
Strontium	0.27	mg/L		0.01		E200.8	05/25/23 01:58 / dck	05/19/23 09:45	ICPMS205-H_230524C : 103		66521
Thallium	ND	mg/L		0.0002		E200.8	05/25/23 01:58 / dck	05/19/23 09:45	ICPMS205-H_230524C : 103		66521
Tungsten	ND	mg/L		0.1		E200.8	05/25/23 10:32 / dck	05/19/23 09:52	ICPMS205-H_230524D : 63		66522
Tin	ND	mg/L		0.05		E200.8	05/25/23 01:58 / dck	05/19/23 09:45	ICPMS205-H_230524C : 103		66521
Titanium	ND	mg/L		0.005		E200.8	05/25/23 01:58 / dck	05/19/23 09:45	ICPMS205-H_230524C : 103		66521
Thorium	ND	mg/L		0.005		E200.8	05/25/23 01:58 / dck	05/19/23 09:45	ICPMS205-H_230524C : 103		66521
Uranium	0.0019	mg/L		0.0003		E200.8	05/25/23 01:58 / dck	05/19/23 09:45	ICPMS205-H_230524C : 103		66521

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-02  
**Lab ID:** H23050597-005  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/15/23 14:05 **DateReceived:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	05/25/23 01:58 / dck	05/19/23 09:45	ICPMS205-H_230524C : 103		66521
Zinc	ND	mg/L		0.008		E200.8	05/25/23 01:58 / dck	05/19/23 09:45	ICPMS205-H_230524C : 103		66521
Zirconium	ND	mg/L		0.005		E200.8	05/25/23 10:32 / dck	05/19/23 09:52	ICPMS205-H_230524D : 63		66522
<b>DATA QUALITY</b>											
A/C Balance	0.05	%				A1030 E	05/26/23 10:56 / SR		CALC_230526A : 221		R184891

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-05  
**Lab ID:** H23050597-006  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/15/23 14:20  
**Date Received:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.6	s.u.	H	0.1		A4500-H B	05/19/23 09:58 / ams		PHSC_101-H_230519A : 43		R184662
pH Measurement Temp	12.6	°C				A4500-H B	05/19/23 09:58 / ams		PHSC_101-H_230519A : 43		R184662
Conductivity @ 25 C	215	umhos/cm		5		A2510 B	05/19/23 09:58 / ams		PHSC_101-H_230519A : 44		R184662
Solids, Total Dissolved TDS @ 180 C	151	mg/L		20		A2540 C	05/21/23 07:39 / ams		I24 (14410200)_230521A : 20		TDS230521A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	51	mg/L		4		A2320 B	05/23/23 17:50 / ljs		PHSC_101-H_230523A : 127		R184745
Bicarbonate as HCO3	62	mg/L		4		A2320 B	05/23/23 17:50 / ljs		PHSC_101-H_230523A : 127		R184745
Carbonate as CO3	ND	mg/L		4		A2320 B	05/23/23 17:50 / ljs		PHSC_101-H_230523A : 127		R184745
Chloride	14	mg/L		1		E300.0	05/20/23 09:46 / ljs		IC METROHM_230519A : 89		R184723
Sulfate	24	mg/L		1		E300.0	05/20/23 09:46 / ljs		IC METROHM_230519A : 89		R184723
Bromide	ND	mg/L		0.5		E300.0	05/20/23 09:46 / ljs		IC METROHM_230519A : 89		R184723
Fluoride	0.2	mg/L		0.1		E300.0	05/20/23 09:46 / ljs		IC METROHM_230519A : 89		R184723
Hardness as CaCO3	76	mg/L		1		A2340 B	05/19/23 15:12 / SR		CALC_230526A : 234		R184891
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	11.0	mg/L		0.5		A5310 C	05/26/23 13:33 / eli-c		SUB-C294928 : 28		C_R294928
Organic Carbon, Total (TOC)	10.7	mg/L		0.5		A5310 C	05/24/23 16:58 / eli-c		SUB-C294928 : 11		C_R294928
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.21	mg/L		0.01		E353.2	05/25/23 12:35 / SR		SEAL AA500_230525A : 44		R184881
<b>METALS, DISSOLVED</b>											
Aluminum	0.145	mg/L		0.009		E200.8	05/25/23 02:02 / dck		ICPMS205-H_230524C : 104		R184846
Antimony	ND	mg/L		0.0005		E200.8	05/25/23 02:02 / dck		ICPMS205-H_230524C : 104		R184846
Arsenic	0.006	mg/L		0.001		E200.8	05/25/23 02:02 / dck		ICPMS205-H_230524C : 104		R184846
Barium	0.028	mg/L		0.003		E200.8	05/25/23 02:02 / dck		ICPMS205-H_230524C : 104		R184846
Beryllium	ND	mg/L		0.0008		E200.8	05/25/23 02:02 / dck		ICPMS205-H_230524C : 104		R184846
Boron	ND	mg/L		0.05		E200.7	05/19/23 15:12 / slj		ICP2-HE_230519A : 70		R184684
Cadmium	ND	mg/L		0.00003		E200.8	05/25/23 02:02 / dck		ICPMS205-H_230524C : 104		R184846
Cesium	ND	mg/L		0.01		E200.8	05/25/23 10:36 / dck		ICPMS205-H_230524D : 64		R184870

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-05  
**Lab ID:** H23050597-006  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/15/23 14:20  
**Date Received:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	21	mg/L		1		E200.7	05/19/23 15:12 / slj		ICP2-HE_230519A : 70		R184684
Chromium	ND	mg/L		0.005		E200.8	05/25/23 02:02 / dck		ICPMS205-H_230524C : 104		R184846
Cobalt	ND	mg/L		0.005		E200.8	05/25/23 02:02 / dck		ICPMS205-H_230524C : 104		R184846
Copper	0.012	mg/L		0.002		E200.8	05/25/23 02:02 / dck		ICPMS205-H_230524C : 104		R184846
Gallium	ND	mg/L		0.01		E200.8	05/25/23 10:36 / dck		ICPMS205-H_230524D : 64		R184870
Iron	0.25	mg/L		0.02		E200.8	05/25/23 02:02 / dck		ICPMS205-H_230524C : 104		R184846
Lead	0.0004	mg/L		0.0003		E200.8	05/25/23 02:02 / dck		ICPMS205-H_230524C : 104		R184846
Lanthanum	ND	mg/L		0.01		E200.8	05/25/23 10:36 / dck		ICPMS205-H_230524D : 64		R184870
Lithium	ND	mg/L		0.1		E200.7	05/19/23 15:12 / slj		ICP2-HE_230519A : 70		R184684
Magnesium	5	mg/L		1		E200.7	05/19/23 15:12 / slj		ICP2-HE_230519A : 70		R184684
Neodymium	ND	mg/L		0.005		E200.8	05/25/23 10:36 / dck		ICPMS205-H_230524D : 64		R184870
Niobium	ND	mg/L		0.01		E200.8	05/25/23 10:36 / dck		ICPMS205-H_230524D : 64		R184870
Manganese	0.037	mg/L		0.001		E200.8	05/25/23 02:02 / dck		ICPMS205-H_230524C : 104		R184846
Molybdenum	0.006	mg/L		0.001		E200.8	05/25/23 02:02 / dck		ICPMS205-H_230524C : 104		R184846
Nickel	ND	mg/L		0.002		E200.8	05/25/23 02:02 / dck		ICPMS205-H_230524C : 104		R184846
Palladium	ND	mg/L		0.01		E200.8	05/25/23 10:36 / dck		ICPMS205-H_230524D : 64		R184870
Praseodymium	ND	mg/L		0.01		E200.8	05/25/23 10:36 / dck		ICPMS205-H_230524D : 64		R184870
Rubidium	ND	mg/L		0.01		E200.8	05/25/23 10:36 / dck		ICPMS205-H_230524D : 64		R184870
Potassium	2	mg/L		1		E200.7	05/19/23 15:12 / slj		ICP2-HE_230519A : 70		R184684
Selenium	ND	mg/L		0.001		E200.8	05/25/23 02:02 / dck		ICPMS205-H_230524C : 104		R184846
Silver	ND	mg/L		0.0002		E200.8	05/25/23 02:02 / dck		ICPMS205-H_230524C : 104		R184846
Sodium	10	mg/L		1		E200.7	05/19/23 15:12 / slj		ICP2-HE_230519A : 70		R184684
Strontium	0.13	mg/L		0.01		E200.8	05/25/23 02:02 / dck		ICPMS205-H_230524C : 104		R184846
Thallium	ND	mg/L		0.0002		E200.8	05/25/23 02:02 / dck		ICPMS205-H_230524C : 104		R184846
Thorium	ND	mg/L		0.005		E200.8	05/25/23 02:02 / dck		ICPMS205-H_230524C : 104		R184846
Tin	ND	mg/L		0.05		E200.8	05/25/23 02:02 / dck		ICPMS205-H_230524C : 104		R184846
Titanium	ND	mg/L		0.005		E200.8	05/25/23 02:02 / dck		ICPMS205-H_230524C : 104		R184846
Tungsten	ND	mg/L		0.1		E200.8	05/25/23 10:36 / dck		ICPMS205-H_230524D : 64		R184870
Uranium	0.0016	mg/L		0.0002		E200.8	05/25/23 02:02 / dck		ICPMS205-H_230524C : 104		R184846
Vanadium	ND	mg/L		0.01		E200.8	05/25/23 02:02 / dck		ICPMS205-H_230524C : 104		R184846
Zinc	ND	mg/L		0.008		E200.8	05/25/23 02:02 / dck		ICPMS205-H_230524C : 104		R184846
Zirconium	ND	mg/L		0.005		E200.8	05/25/23 10:36 / dck		ICPMS205-H_230524D : 64		R184870

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-05  
**Lab ID:** H23050597-006  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/15/23 14:20 **DateReceived:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	0.413	mg/L		0.009		E200.8	05/25/23 02:06 / dck	05/19/23 09:45	ICPMS205-H_230524C : 105		66521
Antimony	ND	mg/L		0.0005		E200.8	05/25/23 02:06 / dck	05/19/23 09:45	ICPMS205-H_230524C : 105		66521
Arsenic	0.007	mg/L		0.001		E200.8	05/25/23 02:06 / dck	05/19/23 09:45	ICPMS205-H_230524C : 105		66521
Barium	0.032	mg/L		0.003		E200.8	05/25/23 02:06 / dck	05/19/23 09:45	ICPMS205-H_230524C : 105		66521
Beryllium	ND	mg/L		0.0008		E200.8	05/25/23 02:06 / dck	05/19/23 09:45	ICPMS205-H_230524C : 105		66521
Cesium	ND	mg/L		0.01		E200.8	05/25/23 10:39 / dck	05/19/23 09:52	ICPMS205-H_230524D : 65		66522
Cadmium	0.00005	mg/L		0.00003		E200.8	05/25/23 02:06 / dck	05/19/23 09:45	ICPMS205-H_230524C : 105		66521
Chromium	ND	mg/L		0.005		E200.8	05/25/23 02:06 / dck	05/19/23 09:45	ICPMS205-H_230524C : 105		66521
Cobalt	ND	mg/L		0.005		E200.8	05/25/23 02:06 / dck	05/19/23 09:45	ICPMS205-H_230524C : 105		66521
Copper	0.015	mg/L		0.002		E200.8	05/25/23 02:06 / dck	05/19/23 09:45	ICPMS205-H_230524C : 105		66521
Gallium	ND	mg/L		0.01		E200.8	05/25/23 10:39 / dck	05/19/23 09:52	ICPMS205-H_230524D : 65		66522
Iron	0.67	mg/L		0.02		E200.8	05/25/23 02:06 / dck	05/19/23 09:45	ICPMS205-H_230524C : 105		66521
Lead	0.0011	mg/L		0.0003		E200.8	05/25/23 02:06 / dck	05/19/23 09:45	ICPMS205-H_230524C : 105		66521
Lanthanum	ND	mg/L		0.1		E200.8	05/25/23 10:39 / dck	05/19/23 09:52	ICPMS205-H_230524D : 65		66522
Lithium	ND	mg/L		0.1		E200.8	05/25/23 02:06 / dck	05/19/23 09:45	ICPMS205-H_230524C : 105		66521
Neodymium	ND	mg/L		0.01		E200.8	05/25/23 10:39 / dck	05/19/23 09:52	ICPMS205-H_230524D : 65		66522
Niobium	ND	mg/L		0.01		E200.8	05/25/23 10:39 / dck	05/19/23 09:52	ICPMS205-H_230524D : 65		66522
Manganese	0.046	mg/L		0.001		E200.8	05/25/23 02:06 / dck	05/19/23 09:45	ICPMS205-H_230524C : 105		66521
Molybdenum	0.006	mg/L		0.001		E200.8	05/25/23 02:06 / dck	05/19/23 09:45	ICPMS205-H_230524C : 105		66521
Nickel	ND	mg/L		0.002		E200.8	05/25/23 02:06 / dck	05/19/23 09:45	ICPMS205-H_230524C : 105		66521
Palladium	ND	mg/L		0.01		E200.8	05/25/23 10:39 / dck	05/19/23 09:52	ICPMS205-H_230524D : 65		66522
Praseodymium	ND	mg/L		0.01		E200.8	05/25/23 10:39 / dck	05/19/23 09:52	ICPMS205-H_230524D : 65		66522
Rubidium	ND	mg/L		0.01		E200.8	05/25/23 10:39 / dck	05/19/23 09:52	ICPMS205-H_230524D : 65		66522
Selenium	ND	mg/L		0.001		E200.8	05/25/23 02:06 / dck	05/19/23 09:45	ICPMS205-H_230524C : 105		66521
Silver	ND	mg/L		0.0002		E200.8	05/25/23 02:06 / dck	05/19/23 09:45	ICPMS205-H_230524C : 105		66521
Strontium	0.13	mg/L		0.01		E200.8	05/25/23 02:06 / dck	05/19/23 09:45	ICPMS205-H_230524C : 105		66521
Thallium	ND	mg/L		0.0002		E200.8	05/25/23 02:06 / dck	05/19/23 09:45	ICPMS205-H_230524C : 105		66521
Tungsten	ND	mg/L		0.1		E200.8	05/25/23 10:39 / dck	05/19/23 09:52	ICPMS205-H_230524D : 65		66522
Tin	ND	mg/L		0.05		E200.8	05/25/23 02:06 / dck	05/19/23 09:45	ICPMS205-H_230524C : 105		66521
Titanium	0.015	mg/L		0.005		E200.8	05/25/23 02:06 / dck	05/19/23 09:45	ICPMS205-H_230524C : 105		66521
Thorium	ND	mg/L		0.005		E200.8	05/25/23 02:06 / dck	05/19/23 09:45	ICPMS205-H_230524C : 105		66521
Uranium	0.0017	mg/L		0.0003		E200.8	05/25/23 02:06 / dck	05/19/23 09:45	ICPMS205-H_230524C : 105		66521

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



**LABORATORY ANALYTICAL REPORT**

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-05  
**Lab ID:** H23050597-006  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/15/23 14:20 **DateReceived:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	05/25/23 02:06 / dck	05/19/23 09:45	ICPMS205-H_230524C : 105		66521
Zinc	0.009	mg/L		0.008		E200.8	05/25/23 02:06 / dck	05/19/23 09:45	ICPMS205-H_230524C : 105		66521
Zirconium	ND	mg/L		0.005		E200.8	05/25/23 10:39 / dck	05/19/23 09:52	ICPMS205-H_230524D : 65		66522
<b>DATA QUALITY</b>											
A/C Balance	1.98	%				A1030 E	05/26/23 10:57 / SR		CALC_230526A : 232		R184891
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-03  
**Lab ID:** H23050597-007  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/15/23 14:40  
**Date Received:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.7	s.u.	H	0.1		A4500-H B	05/19/23 10:00 / ams		PHSC_101-H_230519A : 45		R184662
pH Measurement Temp	12.9	°C				A4500-H B	05/19/23 10:00 / ams		PHSC_101-H_230519A : 45		R184662
Conductivity @ 25 C	367	umhos/cm		5		A2510 B	05/19/23 10:00 / ams		PHSC_101-H_230519A : 46		R184662
Solids, Total Dissolved TDS @ 180 C	223	mg/L		20		A2540 C	05/21/23 07:39 / ams		I24 (14410200)_230521A : 21		TDS230521A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	95	mg/L		4		A2320 B	05/23/23 17:55 / ljs		PHSC_101-H_230523A : 129		R184745
Bicarbonate as HCO3	120	mg/L		4		A2320 B	05/23/23 17:55 / ljs		PHSC_101-H_230523A : 129		R184745
Carbonate as CO3	ND	mg/L		4		A2320 B	05/23/23 17:55 / ljs		PHSC_101-H_230523A : 129		R184745
Chloride	13	mg/L		1		E300.0	05/24/23 23:26 / SR		IC METROHM_230524A : 48		R184848
Sulfate	60	mg/L		1		E300.0	05/24/23 23:26 / SR		IC METROHM_230524A : 48		R184848
Bromide	ND	mg/L		0.5		E300.0	05/24/23 23:26 / SR		IC METROHM_230524A : 48		R184848
Fluoride	0.5	mg/L		0.1		E300.0	05/24/23 23:26 / SR		IC METROHM_230524A : 48		R184848
Hardness as CaCO3	132	mg/L		1		A2340 B	05/19/23 15:16 / SR		CALC_230526A : 245		R184891
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	4.1	mg/L		0.5		A5310 C	05/26/23 13:49 / eli-c		SUB-C294928 : 29		C_R294928
Organic Carbon, Total (TOC)	4.2	mg/L		0.5		A5310 C	05/24/23 17:15 / eli-c		SUB-C294928 : 12		C_R294928
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	05/25/23 12:36 / SR		SEAL AA500_230525A : 45		R184881
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	05/25/23 02:32 / dck		ICPMS205-H_230524C : 111		R184846
Antimony	ND	mg/L		0.0005		E200.8	05/25/23 02:32 / dck		ICPMS205-H_230524C : 111		R184846
Arsenic	0.006	mg/L		0.001		E200.8	05/25/23 02:32 / dck		ICPMS205-H_230524C : 111		R184846
Barium	0.030	mg/L		0.003		E200.8	05/25/23 02:32 / dck		ICPMS205-H_230524C : 111		R184846
Beryllium	ND	mg/L		0.0008		E200.8	05/25/23 02:32 / dck		ICPMS205-H_230524C : 111		R184846
Boron	ND	mg/L		0.05		E200.7	05/19/23 15:16 / slj		ICP2-HE_230519A : 71		R184684
Cadmium	0.00007	mg/L		0.00003		E200.8	05/25/23 02:32 / dck		ICPMS205-H_230524C : 111		R184846
Cesium	ND	mg/L		0.01		E200.8	05/25/23 10:43 / dck		ICPMS205-H_230524D : 66		R184870

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-03  
**Lab ID:** H23050597-007  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/15/23 14:40  
**Date Received:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	38	mg/L		1		E200.7	05/19/23 15:16 / slj		ICP2-HE_230519A : 71		R184684
Chromium	ND	mg/L		0.005		E200.8	05/25/23 02:32 / dck		ICPMS205-H_230524C : 111		R184846
Cobalt	ND	mg/L		0.005		E200.8	05/25/23 02:32 / dck		ICPMS205-H_230524C : 111		R184846
Copper	ND	mg/L		0.002		E200.8	05/25/23 02:32 / dck		ICPMS205-H_230524C : 111		R184846
Gallium	ND	mg/L		0.01		E200.8	05/25/23 10:43 / dck		ICPMS205-H_230524D : 66		R184870
Iron	0.16	mg/L		0.02		E200.8	05/25/23 02:32 / dck		ICPMS205-H_230524C : 111		R184846
Lead	ND	mg/L		0.0003		E200.8	05/25/23 02:32 / dck		ICPMS205-H_230524C : 111		R184846
Lanthanum	ND	mg/L		0.01		E200.8	05/25/23 10:43 / dck		ICPMS205-H_230524D : 66		R184870
Lithium	ND	mg/L		0.1		E200.7	05/19/23 15:16 / slj		ICP2-HE_230519A : 71		R184684
Magnesium	9	mg/L		1		E200.7	05/19/23 15:16 / slj		ICP2-HE_230519A : 71		R184684
Neodymium	ND	mg/L		0.005		E200.8	05/25/23 10:43 / dck		ICPMS205-H_230524D : 66		R184870
Niobium	ND	mg/L		0.01		E200.8	05/25/23 10:43 / dck		ICPMS205-H_230524D : 66		R184870
Manganese	0.216	mg/L		0.001		E200.8	05/25/23 02:32 / dck		ICPMS205-H_230524C : 111		R184846
Molybdenum	0.011	mg/L		0.001		E200.8	05/25/23 02:32 / dck		ICPMS205-H_230524C : 111		R184846
Nickel	ND	mg/L		0.002		E200.8	05/25/23 02:32 / dck		ICPMS205-H_230524C : 111		R184846
Palladium	ND	mg/L		0.01		E200.8	05/25/23 10:43 / dck		ICPMS205-H_230524D : 66		R184870
Praseodymium	ND	mg/L		0.01		E200.8	05/25/23 10:43 / dck		ICPMS205-H_230524D : 66		R184870
Rubidium	ND	mg/L		0.01		E200.8	05/25/23 10:43 / dck		ICPMS205-H_230524D : 66		R184870
Potassium	3	mg/L		1		E200.7	05/19/23 15:16 / slj		ICP2-HE_230519A : 71		R184684
Selenium	ND	mg/L		0.001		E200.8	05/25/23 02:32 / dck		ICPMS205-H_230524C : 111		R184846
Silver	ND	mg/L		0.0002		E200.8	05/25/23 02:32 / dck		ICPMS205-H_230524C : 111		R184846
Sodium	18	mg/L		1		E200.7	05/19/23 15:16 / slj		ICP2-HE_230519A : 71		R184684
Strontium	0.13	mg/L		0.01		E200.8	05/25/23 02:32 / dck		ICPMS205-H_230524C : 111		R184846
Thallium	ND	mg/L		0.0002		E200.8	05/25/23 02:32 / dck		ICPMS205-H_230524C : 111		R184846
Thorium	ND	mg/L		0.005		E200.8	05/25/23 02:32 / dck		ICPMS205-H_230524C : 111		R184846
Tin	ND	mg/L		0.05		E200.8	05/25/23 02:32 / dck		ICPMS205-H_230524C : 111		R184846
Titanium	ND	mg/L		0.005		E200.8	05/25/23 02:32 / dck		ICPMS205-H_230524C : 111		R184846
Tungsten	ND	mg/L		0.1		E200.8	05/25/23 10:43 / dck		ICPMS205-H_230524D : 66		R184870
Uranium	0.0029	mg/L		0.0002		E200.8	05/25/23 02:32 / dck		ICPMS205-H_230524C : 111		R184846
Vanadium	ND	mg/L		0.01		E200.8	05/25/23 02:32 / dck		ICPMS205-H_230524C : 111		R184846
Zinc	0.029	mg/L		0.008		E200.8	05/25/23 02:32 / dck		ICPMS205-H_230524C : 111		R184846
Zirconium	ND	mg/L		0.005		E200.8	05/25/23 10:43 / dck		ICPMS205-H_230524D : 66		R184870

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-03  
**Lab ID:** H23050597-007  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/15/23 14:40 **DateReceived:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	0.041	mg/L		0.009		E200.8	05/25/23 02:36 / dck	05/19/23 09:48	ICPMS205-H_230524C : 112		66521
Antimony	ND	mg/L		0.0005		E200.8	05/25/23 02:36 / dck	05/19/23 09:48	ICPMS205-H_230524C : 112		66521
Arsenic	0.007	mg/L		0.001		E200.8	05/25/23 02:36 / dck	05/19/23 09:48	ICPMS205-H_230524C : 112		66521
Barium	0.039	mg/L		0.003		E200.8	05/25/23 02:36 / dck	05/19/23 09:48	ICPMS205-H_230524C : 112		66521
Beryllium	ND	mg/L		0.0008		E200.8	05/25/23 02:36 / dck	05/19/23 09:48	ICPMS205-H_230524C : 112		66521
Cesium	ND	mg/L		0.01		E200.8	05/25/23 10:46 / dck	05/19/23 09:52	ICPMS205-H_230524D : 67		66522
Cadmium	0.00021	mg/L		0.00003		E200.8	05/25/23 02:36 / dck	05/19/23 09:48	ICPMS205-H_230524C : 112		66521
Chromium	ND	mg/L		0.005		E200.8	05/25/23 02:36 / dck	05/19/23 09:48	ICPMS205-H_230524C : 112		66521
Cobalt	ND	mg/L		0.005		E200.8	05/25/23 02:36 / dck	05/19/23 09:48	ICPMS205-H_230524C : 112		66521
Copper	0.002	mg/L		0.002		E200.8	05/25/23 02:36 / dck	05/19/23 09:48	ICPMS205-H_230524C : 112		66521
Gallium	ND	mg/L		0.01		E200.8	05/25/23 10:46 / dck	05/19/23 09:52	ICPMS205-H_230524D : 67		66522
Iron	0.41	mg/L		0.02		E200.8	05/25/23 02:36 / dck	05/19/23 09:48	ICPMS205-H_230524C : 112		66521
Lead	0.0008	mg/L		0.0003		E200.8	05/25/23 02:36 / dck	05/19/23 09:48	ICPMS205-H_230524C : 112		66521
Lanthanum	ND	mg/L		0.1		E200.8	05/25/23 10:46 / dck	05/19/23 09:52	ICPMS205-H_230524D : 67		66522
Lithium	ND	mg/L		0.1		E200.8	05/25/23 02:36 / dck	05/19/23 09:48	ICPMS205-H_230524C : 112		66521
Neodymium	ND	mg/L		0.01		E200.8	05/25/23 10:46 / dck	05/19/23 09:52	ICPMS205-H_230524D : 67		66522
Niobium	ND	mg/L		0.01		E200.8	05/25/23 10:46 / dck	05/19/23 09:52	ICPMS205-H_230524D : 67		66522
Manganese	0.221	mg/L		0.001		E200.8	05/25/23 02:36 / dck	05/19/23 09:48	ICPMS205-H_230524C : 112		66521
Molybdenum	0.011	mg/L		0.001		E200.8	05/25/23 02:36 / dck	05/19/23 09:48	ICPMS205-H_230524C : 112		66521
Nickel	ND	mg/L		0.002		E200.8	05/25/23 02:36 / dck	05/19/23 09:48	ICPMS205-H_230524C : 112		66521
Palladium	ND	mg/L		0.01		E200.8	05/25/23 10:46 / dck	05/19/23 09:52	ICPMS205-H_230524D : 67		66522
Praseodymium	ND	mg/L		0.01		E200.8	05/25/23 10:46 / dck	05/19/23 09:52	ICPMS205-H_230524D : 67		66522
Rubidium	ND	mg/L		0.01		E200.8	05/25/23 10:46 / dck	05/19/23 09:52	ICPMS205-H_230524D : 67		66522
Selenium	ND	mg/L		0.001		E200.8	05/25/23 02:36 / dck	05/19/23 09:48	ICPMS205-H_230524C : 112		66521
Silver	ND	mg/L		0.0002		E200.8	05/25/23 02:36 / dck	05/19/23 09:48	ICPMS205-H_230524C : 112		66521
Strontium	0.24	mg/L		0.01		E200.8	05/25/23 02:36 / dck	05/19/23 09:48	ICPMS205-H_230524C : 112		66521
Thallium	ND	mg/L		0.0002		E200.8	05/25/23 02:36 / dck	05/19/23 09:48	ICPMS205-H_230524C : 112		66521
Tungsten	ND	mg/L		0.1		E200.8	05/25/23 10:46 / dck	05/19/23 09:52	ICPMS205-H_230524D : 67		66522
Tin	ND	mg/L		0.05		E200.8	05/25/23 02:36 / dck	05/19/23 09:48	ICPMS205-H_230524C : 112		66521
Titanium	ND	mg/L		0.005		E200.8	05/25/23 02:36 / dck	05/19/23 09:48	ICPMS205-H_230524C : 112		66521
Thorium	ND	mg/L		0.005		E200.8	05/25/23 02:36 / dck	05/19/23 09:48	ICPMS205-H_230524C : 112		66521
Uranium	0.0028	mg/L		0.0003		E200.8	05/25/23 02:36 / dck	05/19/23 09:48	ICPMS205-H_230524C : 112		66521

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-03  
**Lab ID:** H23050597-007  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/15/23 14:40 **DateReceived:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	05/25/23 02:36 / dck	05/19/23 09:48	ICPMS205-H_230524C : 112		66521
Zinc	0.068	mg/L		0.008		E200.8	05/25/23 02:36 / dck	05/19/23 09:48	ICPMS205-H_230524C : 112		66521
Zirconium	ND	mg/L		0.005		E200.8	05/25/23 10:46 / dck	05/19/23 09:52	ICPMS205-H_230524D : 67		66522
<b>DATA QUALITY</b>											
A/C Balance	-0.01	%				A1030 E	05/26/23 10:57 / SR		CALC_230526A : 243		R184891

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD108  
**Lab ID:** H23050597-008  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/16/23 09:10  
**Date Received:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.0	s.u.	H	0.1		A4500-H B	05/19/23 10:02 / ams		PHSC_101-H_230519A : 47		R184662
pH Measurement Temp	13.5	°C				A4500-H B	05/19/23 10:02 / ams		PHSC_101-H_230519A : 47		R184662
Conductivity @ 25 C	1590	umhos/cm		5		A2510 B	05/19/23 10:02 / ams		PHSC_101-H_230519A : 48		R184662
Solids, Total Dissolved TDS @ 180 C	1150	mg/L		20		A2540 C	05/21/23 07:40 / ams		I24 (14410200)_230521A : 24		TDS230521A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	53	mg/L		4		A2320 B	05/23/23 18:01 / ljs		PHSC_101-H_230523A : 131		R184745
Bicarbonate as HCO3	64	mg/L		4		A2320 B	05/23/23 18:01 / ljs		PHSC_101-H_230523A : 131		R184745
Carbonate as CO3	ND	mg/L		4		A2320 B	05/23/23 18:01 / ljs		PHSC_101-H_230523A : 131		R184745
Chloride	118	mg/L		1		E300.0	05/24/23 23:41 / SR		IC METROHM_230524A : 49		R184848
Sulfate	605	mg/L		1		E300.0	05/24/23 23:41 / SR		IC METROHM_230524A : 49		R184848
Bromide	ND	mg/L		0.5		E300.0	05/24/23 23:41 / SR		IC METROHM_230524A : 49		R184848
Fluoride	0.7	mg/L		0.1		E300.0	05/24/23 23:41 / SR		IC METROHM_230524A : 49		R184848
Hardness as CaCO3	631	mg/L		1		A2340 B	05/19/23 15:27 / SR		CALC_230526A : 256		R184891
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.1	mg/L		0.5		A5310 C	05/26/23 14:05 / eli-c		SUB-C294928 : 30		C_R294928
Organic Carbon, Total (TOC)	2.3	mg/L		0.5		A5310 C	05/24/23 17:31 / eli-c		SUB-C294928 : 13		C_R294928
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	2.04	mg/L		0.01		E353.2	05/25/23 12:37 / SR		SEAL AA500_230525A : 46		R184881
<b>METALS, DISSOLVED</b>											
Aluminum	0.494	mg/L		0.009		E200.8	05/25/23 02:40 / dck		ICPMS205-H_230524C : 113		R184846
Antimony	ND	mg/L		0.0005		E200.8	05/25/23 02:40 / dck		ICPMS205-H_230524C : 113		R184846
Arsenic	0.008	mg/L		0.001		E200.8	05/25/23 02:40 / dck		ICPMS205-H_230524C : 113		R184846
Barium	0.028	mg/L		0.003		E200.8	05/25/23 02:40 / dck		ICPMS205-H_230524C : 113		R184846
Beryllium	ND	mg/L		0.0008		E200.8	05/25/23 02:40 / dck		ICPMS205-H_230524C : 113		R184846
Boron	0.37	mg/L		0.05		E200.7	05/19/23 15:27 / slj		ICP2-HE_230519A : 74		R184684
Cadmium	0.0556	mg/L		0.00003		E200.8	05/25/23 02:40 / dck		ICPMS205-H_230524C : 113		R184846
Cesium	ND	mg/L		0.01		E200.8	05/25/23 10:49 / dck		ICPMS205-H_230524D : 68		R184870

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



**LABORATORY ANALYTICAL REPORT**

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD108  
**Lab ID:** H23050597-008  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/16/23 09:10 **DateReceived:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	169	mg/L		1		E200.7	05/19/23 15:27 / slj		ICP2-HE_230519A : 74		R184684
Chromium	ND	mg/L		0.005		E200.8	05/25/23 02:40 / dck		ICPMS205-H_230524C : 113		R184846
Cobalt	0.056	mg/L		0.005		E200.8	05/25/23 02:40 / dck		ICPMS205-H_230524C : 113		R184846
Copper	4.64	mg/L		0.01		E200.7	05/19/23 15:27 / slj		ICP2-HE_230519A : 74		R184684
Gallium	ND	mg/L		0.01		E200.8	05/25/23 10:49 / dck		ICPMS205-H_230524D : 68		R184870
Iron	14.3	mg/L		0.02		E200.7	05/19/23 15:27 / slj		ICP2-HE_230519A : 74		R184684
Lead	0.0041	mg/L		0.0003		E200.8	05/25/23 02:40 / dck		ICPMS205-H_230524C : 113		R184846
Lanthanum	ND	mg/L		0.01		E200.8	05/25/23 10:49 / dck		ICPMS205-H_230524D : 68		R184870
Lithium	0.3	mg/L		0.1		E200.7	05/19/23 15:27 / slj		ICP2-HE_230519A : 74		R184684
Magnesium	51	mg/L		1		E200.7	05/19/23 15:27 / slj		ICP2-HE_230519A : 74		R184684
Neodymium	ND	mg/L		0.005		E200.8	05/25/23 10:49 / dck		ICPMS205-H_230524D : 68		R184870
Niobium	ND	mg/L		0.01		E200.8	05/25/23 10:49 / dck		ICPMS205-H_230524D : 68		R184870
Manganese	13.2	mg/L		0.001		E200.7	05/19/23 15:27 / slj		ICP2-HE_230519A : 74		R184684
Molybdenum	0.004	mg/L		0.001		E200.8	05/25/23 02:40 / dck		ICPMS205-H_230524C : 113		R184846
Nickel	0.029	mg/L		0.002		E200.8	05/25/23 02:40 / dck		ICPMS205-H_230524C : 113		R184846
Palladium	ND	mg/L		0.01		E200.8	05/25/23 10:49 / dck		ICPMS205-H_230524D : 68		R184870
Praseodymium	ND	mg/L		0.01		E200.8	05/25/23 10:49 / dck		ICPMS205-H_230524D : 68		R184870
Rubidium	ND	mg/L		0.01		E200.8	05/25/23 10:49 / dck		ICPMS205-H_230524D : 68		R184870
Potassium	9	mg/L		1		E200.7	05/19/23 15:27 / slj		ICP2-HE_230519A : 74		R184684
Selenium	ND	mg/L		0.001		E200.8	05/25/23 02:40 / dck		ICPMS205-H_230524C : 113		R184846
Silver	ND	mg/L		0.0002		E200.8	05/25/23 02:40 / dck		ICPMS205-H_230524C : 113		R184846
Sodium	65	mg/L		1		E200.7	05/19/23 15:27 / slj		ICP2-HE_230519A : 74		R184684
Strontium	1.29	mg/L		0.01		E200.7	05/19/23 15:27 / slj		ICP2-HE_230519A : 74		R184684
Thallium	ND	mg/L		0.0002		E200.8	05/25/23 02:40 / dck		ICPMS205-H_230524C : 113		R184846
Thorium	ND	mg/L		0.005		E200.8	05/25/23 02:40 / dck		ICPMS205-H_230524C : 113		R184846
Tin	ND	mg/L		0.05		E200.8	05/25/23 02:40 / dck		ICPMS205-H_230524C : 113		R184846
Titanium	ND	mg/L		0.005		E200.8	05/25/23 02:40 / dck		ICPMS205-H_230524C : 113		R184846
Tungsten	ND	mg/L		0.1		E200.8	05/25/23 10:49 / dck		ICPMS205-H_230524D : 68		R184870
Uranium	0.0102	mg/L		0.0002		E200.8	05/25/23 02:40 / dck		ICPMS205-H_230524C : 113		R184846
Vanadium	ND	mg/L		0.01		E200.8	05/25/23 02:40 / dck		ICPMS205-H_230524C : 113		R184846
Zinc	12.1	mg/L		0.008		E200.7	05/19/23 15:27 / slj		ICP2-HE_230519A : 74		R184684
Zirconium	ND	mg/L		0.005		E200.8	05/25/23 10:49 / dck		ICPMS205-H_230524D : 68		R184870

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD108  
**Lab ID:** H23050597-008  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/16/23 09:10 **DateReceived:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	0.842	mg/L		0.009		E200.8	05/25/23 02:45 / dck	05/19/23 09:48	ICPMS205-H_230524C : 114		66521
Antimony	ND	mg/L		0.0005		E200.8	05/25/23 02:45 / dck	05/19/23 09:48	ICPMS205-H_230524C : 114		66521
Arsenic	0.010	mg/L		0.001		E200.8	05/25/23 02:45 / dck	05/19/23 09:48	ICPMS205-H_230524C : 114		66521
Barium	0.028	mg/L		0.003		E200.8	05/25/23 02:45 / dck	05/19/23 09:48	ICPMS205-H_230524C : 114		66521
Beryllium	ND	mg/L		0.0008		E200.8	05/25/23 02:45 / dck	05/19/23 09:48	ICPMS205-H_230524C : 114		66521
Cesium	ND	mg/L		0.01		E200.8	05/25/23 10:53 / dck	05/19/23 09:52	ICPMS205-H_230524D : 69		66522
Cadmium	0.0563	mg/L		0.00003		E200.8	05/25/23 02:45 / dck	05/19/23 09:48	ICPMS205-H_230524C : 114		66521
Chromium	ND	mg/L		0.005		E200.8	05/25/23 02:45 / dck	05/19/23 09:48	ICPMS205-H_230524C : 114		66521
Cobalt	0.056	mg/L		0.005		E200.8	05/25/23 02:45 / dck	05/19/23 09:48	ICPMS205-H_230524C : 114		66521
Copper	4.50	mg/L		0.002		E200.8	05/25/23 02:45 / dck	05/19/23 09:48	ICPMS205-H_230524C : 114		66521
Gallium	ND	mg/L		0.01		E200.8	05/25/23 10:53 / dck	05/19/23 09:52	ICPMS205-H_230524D : 69		66522
Iron	14.9	mg/L		0.02		E200.8	05/25/23 02:45 / dck	05/19/23 09:48	ICPMS205-H_230524C : 114		66521
Lead	0.0108	mg/L		0.0003		E200.8	05/25/23 02:45 / dck	05/19/23 09:48	ICPMS205-H_230524C : 114		66521
Lanthanum	ND	mg/L		0.1		E200.8	05/25/23 10:53 / dck	05/19/23 09:52	ICPMS205-H_230524D : 69		66522
Lithium	0.2	mg/L		0.1		E200.8	05/25/23 02:45 / dck	05/19/23 09:48	ICPMS205-H_230524C : 114		66521
Neodymium	ND	mg/L		0.01		E200.8	05/25/23 10:53 / dck	05/19/23 09:52	ICPMS205-H_230524D : 69		66522
Niobium	ND	mg/L		0.01		E200.8	05/25/23 10:53 / dck	05/19/23 09:52	ICPMS205-H_230524D : 69		66522
Manganese	13.2	mg/L		0.003		E200.8	05/27/23 04:02 / dck	05/19/23 09:48	ICPMS205-H_230526B : 127		66521
Molybdenum	0.004	mg/L		0.001		E200.8	05/25/23 02:45 / dck	05/19/23 09:48	ICPMS205-H_230524C : 114		66521
Nickel	0.030	mg/L		0.002		E200.8	05/25/23 02:45 / dck	05/19/23 09:48	ICPMS205-H_230524C : 114		66521
Palladium	ND	mg/L		0.01		E200.8	05/25/23 10:53 / dck	05/19/23 09:52	ICPMS205-H_230524D : 69		66522
Praseodymium	ND	mg/L		0.01		E200.8	05/25/23 10:53 / dck	05/19/23 09:52	ICPMS205-H_230524D : 69		66522
Rubidium	ND	mg/L		0.01		E200.8	05/25/23 10:53 / dck	05/19/23 09:52	ICPMS205-H_230524D : 69		66522
Selenium	ND	mg/L		0.001		E200.8	05/25/23 02:45 / dck	05/19/23 09:48	ICPMS205-H_230524C : 114		66521
Silver	ND	mg/L		0.0002		E200.8	05/25/23 02:45 / dck	05/19/23 09:48	ICPMS205-H_230524C : 114		66521
Strontium	1.31	mg/L		0.01		E200.8	05/25/23 02:45 / dck	05/19/23 09:48	ICPMS205-H_230524C : 114		66521
Thallium	ND	mg/L		0.0002		E200.8	05/25/23 02:45 / dck	05/19/23 09:48	ICPMS205-H_230524C : 114		66521
Tungsten	ND	mg/L		0.1		E200.8	05/25/23 10:53 / dck	05/19/23 09:52	ICPMS205-H_230524D : 69		66522
Tin	ND	mg/L		0.05		E200.8	05/25/23 02:45 / dck	05/19/23 09:48	ICPMS205-H_230524C : 114		66521
Titanium	ND	mg/L		0.005		E200.8	05/25/23 02:45 / dck	05/19/23 09:48	ICPMS205-H_230524C : 114		66521
Thorium	ND	mg/L		0.005		E200.8	05/25/23 02:45 / dck	05/19/23 09:48	ICPMS205-H_230524C : 114		66521
Uranium	0.0107	mg/L		0.0003		E200.8	05/25/23 02:45 / dck	05/19/23 09:48	ICPMS205-H_230524C : 114		66521

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD108  
**Lab ID:** H23050597-008  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/16/23 09:10      **DateReceived:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	05/25/23 02:45 / dck	05/19/23 09:48	ICPMS205-H_230524C : 114		66521
Zinc	12.1	mg/L		0.01		E200.8	05/27/23 04:02 / dck	05/19/23 09:48	ICPMS205-H_230526B : 127		66521
Zirconium	ND	mg/L		0.005		E200.8	05/25/23 10:53 / dck	05/19/23 09:52	ICPMS205-H_230524D : 69		66522
<b>DATA QUALITY</b>											
A/C Balance	-4.53	%				A1030 E	05/26/23 10:57 / SR		CALC_230526A : 254		R184891

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD113  
**Lab ID:** H23050597-009  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/16/23 10:30  
**Date Received:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.2	s.u.	H	0.1		A4500-H B	05/19/23 10:04 / ams		PHSC_101-H_230519A : 49		R184662
pH Measurement Temp	14.1	°C				A4500-H B	05/19/23 10:04 / ams		PHSC_101-H_230519A : 49		R184662
Conductivity @ 25 C	2730	umhos/cm		5		A2510 B	05/19/23 10:04 / ams		PHSC_101-H_230519A : 50		R184662
Solids, Total Dissolved TDS @ 180 C	2050	mg/L		50		A2540 C	05/21/23 07:40 / ams		I24 (14410200)_230521A : 26		TDS230521A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	8	mg/L		4		A2320 B	05/23/23 18:08 / ljs		PHSC_101-H_230523A : 133		R184745
Bicarbonate as HCO3	9	mg/L		4		A2320 B	05/23/23 18:08 / ljs		PHSC_101-H_230523A : 133		R184745
Carbonate as CO3	ND	mg/L		4		A2320 B	05/23/23 18:08 / ljs		PHSC_101-H_230523A : 133		R184745
Chloride	367	mg/L		1		E300.0	05/25/23 01:07 / SR		IC METROHM_230524A : 54		R184848
Sulfate	945	mg/L		1		E300.0	05/25/23 01:07 / SR		IC METROHM_230524A : 54		R184848
Bromide	1.0	mg/L		0.5		E300.0	05/25/23 01:07 / SR		IC METROHM_230524A : 54		R184848
Fluoride	1.2	mg/L		0.1		E300.0	05/25/23 01:07 / SR		IC METROHM_230524A : 54		R184848
Hardness as CaCO3	915	mg/L		1		A2340 B	05/19/23 15:31 / SR		CALC_230526A : 608		R184891
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.7	mg/L		0.5		A5310 C	05/26/23 14:24 / eli-c		SUB-C294928 : 31		C_R294928
Organic Carbon, Total (TOC)	2.7	mg/L		0.5		A5310 C	05/24/23 17:51 / eli-c		SUB-C294928 : 14		C_R294928
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.44	mg/L		0.01		E353.2	05/25/23 12:38 / SR		SEAL AA500_230525A : 47		R184881
<b>METALS, DISSOLVED</b>											
Aluminum	1.93	mg/L		0.03		E200.7	05/19/23 15:31 / slj		ICP2-HE_230519A : 75		R184684
Antimony	ND	mg/L		0.0005		E200.8	05/25/23 05:07 / dck		ICPMS205-H_230524C : 147		R184846
Arsenic	0.018	mg/L		0.001		E200.8	05/25/23 05:07 / dck		ICPMS205-H_230524C : 147		R184846
Barium	0.033	mg/L		0.003		E200.8	05/25/23 05:07 / dck		ICPMS205-H_230524C : 147		R184846
Beryllium	0.0019	mg/L		0.0008		E200.8	05/25/23 05:07 / dck		ICPMS205-H_230524C : 147		R184846
Boron	0.54	mg/L		0.05		E200.7	05/19/23 15:31 / slj		ICP2-HE_230519A : 75		R184684
Cadmium	0.178	mg/L		0.00003		E200.8	05/25/23 05:07 / dck		ICPMS205-H_230524C : 147		R184846
Cesium	ND	mg/L		0.01		E200.8	05/25/23 11:00 / dck		ICPMS205-H_230524D : 71		R184870

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD113  
**Lab ID:** H23050597-009  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/16/23 10:30  
**Date Received:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	233	mg/L		1		E200.7	05/19/23 15:31 / slj		ICP2-HE_230519A : 75		R184684
Chromium	ND	mg/L		0.005		E200.8	05/25/23 05:07 / dck		ICPMS205-H_230524C : 147		R184846
Cobalt	0.242	mg/L		0.005		E200.8	05/25/23 05:07 / dck		ICPMS205-H_230524C : 147		R184846
Copper	12.3	mg/L		0.01		E200.7	05/19/23 15:31 / slj		ICP2-HE_230519A : 75		R184684
Gallium	ND	mg/L		0.01		E200.8	05/25/23 11:00 / dck		ICPMS205-H_230524D : 71		R184870
Iron	63.3	mg/L		0.02		E200.7	05/19/23 15:31 / slj		ICP2-HE_230519A : 75		R184684
Lead	0.0187	mg/L		0.0003		E200.8	05/25/23 05:07 / dck		ICPMS205-H_230524C : 147		R184846
Lanthanum	0.02	mg/L		0.01		E200.8	05/25/23 11:00 / dck		ICPMS205-H_230524D : 71		R184870
Lithium	0.5	mg/L		0.1		E200.8	05/25/23 05:07 / dck		ICPMS205-H_230524C : 147		R184846
Magnesium	81	mg/L		1		E200.7	05/19/23 15:31 / slj		ICP2-HE_230519A : 75		R184684
Neodymium	0.014	mg/L		0.005		E200.8	05/25/23 11:00 / dck		ICPMS205-H_230524D : 71		R184870
Niobium	ND	mg/L		0.01		E200.8	05/25/23 11:00 / dck		ICPMS205-H_230524D : 71		R184870
Manganese	42.9	mg/L		0.001		E200.7	05/19/23 15:31 / slj		ICP2-HE_230519A : 75		R184684
Molybdenum	0.005	mg/L		0.001		E200.8	05/25/23 05:07 / dck		ICPMS205-H_230524C : 147		R184846
Nickel	0.097	mg/L		0.002		E200.8	05/25/23 05:07 / dck		ICPMS205-H_230524C : 147		R184846
Palladium	ND	mg/L		0.01		E200.8	05/25/23 11:00 / dck		ICPMS205-H_230524D : 71		R184870
Praseodymium	ND	mg/L		0.01		E200.8	05/25/23 11:00 / dck		ICPMS205-H_230524D : 71		R184870
Rubidium	ND	mg/L		0.01		E200.8	05/25/23 11:00 / dck		ICPMS205-H_230524D : 71		R184870
Potassium	11	mg/L		1		E200.7	05/19/23 15:31 / slj		ICP2-HE_230519A : 75		R184684
Selenium	ND	mg/L		0.001		E200.8	05/25/23 05:07 / dck		ICPMS205-H_230524C : 147		R184846
Silver	0.0003	mg/L		0.0002		E200.8	05/31/23 01:11 / dck		ICPMS205-H_230530C : 142		R184956
Sodium	132	mg/L		1		E200.7	05/19/23 15:31 / slj		ICP2-HE_230519A : 75		R184684
Strontium	1.52	mg/L		0.01		E200.7	05/19/23 15:31 / slj		ICP2-HE_230519A : 75		R184684
Thallium	ND	mg/L		0.0002		E200.8	05/25/23 05:07 / dck		ICPMS205-H_230524C : 147		R184846
Thorium	ND	mg/L		0.005		E200.8	05/25/23 05:07 / dck		ICPMS205-H_230524C : 147		R184846
Tin	ND	mg/L		0.05		E200.8	05/25/23 05:07 / dck		ICPMS205-H_230524C : 147		R184846
Titanium	ND	mg/L		0.005		E200.8	05/27/23 04:06 / dck		ICPMS205-H_230526B : 128		R184927
Tungsten	ND	mg/L		0.1		E200.8	05/25/23 11:00 / dck		ICPMS205-H_230524D : 71		R184870
Uranium	0.0159	mg/L		0.0002		E200.8	05/25/23 05:07 / dck		ICPMS205-H_230524C : 147		R184846
Vanadium	ND	mg/L		0.01		E200.8	05/25/23 05:07 / dck		ICPMS205-H_230524C : 147		R184846
Zinc	33.9	mg/L		0.008		E200.7	05/19/23 15:31 / slj		ICP2-HE_230519A : 75		R184684
Zirconium	ND	mg/L		0.005		E200.8	05/25/23 11:00 / dck		ICPMS205-H_230524D : 71		R184870

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD113  
**Lab ID:** H23050597-009  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/16/23 10:30 **DateReceived:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	2.67	mg/L		0.009		E200.8	05/25/23 05:11 / dck	05/19/23 09:48	ICPMS205-H_230524C : 148		66521
Antimony	ND	mg/L		0.0005		E200.8	05/25/23 05:11 / dck	05/19/23 09:48	ICPMS205-H_230524C : 148		66521
Arsenic	0.019	mg/L		0.001		E200.8	05/25/23 05:11 / dck	05/19/23 09:48	ICPMS205-H_230524C : 148		66521
Barium	0.033	mg/L		0.003		E200.8	05/25/23 05:11 / dck	05/19/23 09:48	ICPMS205-H_230524C : 148		66521
Beryllium	0.0019	mg/L		0.0008		E200.8	05/25/23 05:11 / dck	05/19/23 09:48	ICPMS205-H_230524C : 148		66521
Cesium	ND	mg/L		0.01		E200.8	05/25/23 11:03 / dck	05/19/23 09:52	ICPMS205-H_230524D : 72		66522
Cadmium	0.180	mg/L		0.00003		E200.8	05/25/23 05:11 / dck	05/19/23 09:48	ICPMS205-H_230524C : 148		66521
Chromium	ND	mg/L		0.005		E200.8	05/25/23 05:11 / dck	05/19/23 09:48	ICPMS205-H_230524C : 148		66521
Cobalt	0.243	mg/L		0.005		E200.8	05/25/23 05:11 / dck	05/19/23 09:48	ICPMS205-H_230524C : 148		66521
Copper	13.2	mg/L		0.003		E200.8	05/27/23 04:11 / dck	05/19/23 09:48	ICPMS205-H_230526B : 129		66521
Gallium	ND	mg/L		0.01		E200.8	05/25/23 11:03 / dck	05/19/23 09:52	ICPMS205-H_230524D : 72		66522
Iron	71.1	mg/L		0.09		E200.8	05/27/23 04:11 / dck	05/19/23 09:48	ICPMS205-H_230526B : 129		66521
Lead	0.0209	mg/L		0.0003		E200.8	05/25/23 05:11 / dck	05/19/23 09:48	ICPMS205-H_230524C : 148		66521
Lanthanum	ND	mg/L		0.1		E200.8	05/25/23 11:03 / dck	05/19/23 09:52	ICPMS205-H_230524D : 72		66522
Lithium	0.5	mg/L		0.1		E200.8	05/25/23 05:11 / dck	05/19/23 09:48	ICPMS205-H_230524C : 148		66521
Neodymium	0.02	mg/L		0.01		E200.8	05/25/23 11:03 / dck	05/19/23 09:52	ICPMS205-H_230524D : 72		66522
Niobium	ND	mg/L		0.01		E200.8	05/25/23 11:03 / dck	05/19/23 09:52	ICPMS205-H_230524D : 72		66522
Manganese	47.8	mg/L		0.003		E200.8	05/27/23 04:11 / dck	05/19/23 09:48	ICPMS205-H_230526B : 129		66521
Molybdenum	0.005	mg/L		0.001		E200.8	05/25/23 05:11 / dck	05/19/23 09:48	ICPMS205-H_230524C : 148		66521
Nickel	0.097	mg/L		0.002		E200.8	05/25/23 05:11 / dck	05/19/23 09:48	ICPMS205-H_230524C : 148		66521
Palladium	ND	mg/L		0.01		E200.8	05/25/23 11:03 / dck	05/19/23 09:52	ICPMS205-H_230524D : 72		66522
Praseodymium	ND	mg/L		0.01		E200.8	05/25/23 11:03 / dck	05/19/23 09:52	ICPMS205-H_230524D : 72		66522
Rubidium	ND	mg/L		0.01		E200.8	05/25/23 11:03 / dck	05/19/23 09:52	ICPMS205-H_230524D : 72		66522
Selenium	ND	mg/L		0.001		E200.8	05/25/23 05:11 / dck	05/19/23 09:48	ICPMS205-H_230524C : 148		66521
Silver	0.0004	mg/L		0.0002		E200.8	05/31/23 01:16 / dck	05/19/23 09:48	ICPMS205-H_230530C : 143		66521
Strontium	1.52	mg/L		0.01		E200.8	05/25/23 05:11 / dck	05/19/23 09:48	ICPMS205-H_230524C : 148		66521
Thallium	ND	mg/L		0.0002		E200.8	05/25/23 05:11 / dck	05/19/23 09:48	ICPMS205-H_230524C : 148		66521
Tungsten	ND	mg/L		0.1		E200.8	05/25/23 11:03 / dck	05/19/23 09:52	ICPMS205-H_230524D : 72		66522
Tin	ND	mg/L		0.05		E200.8	05/25/23 05:11 / dck	05/19/23 09:48	ICPMS205-H_230524C : 148		66521
Titanium	ND	mg/L		0.005		E200.8	05/31/23 01:16 / dck	05/19/23 09:48	ICPMS205-H_230530C : 143		66521
Thorium	ND	mg/L		0.005		E200.8	05/25/23 05:11 / dck	05/19/23 09:48	ICPMS205-H_230524C : 148		66521
Uranium	0.0171	mg/L		0.0003		E200.8	05/25/23 05:11 / dck	05/19/23 09:48	ICPMS205-H_230524C : 148		66521

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD113  
**Lab ID:** H23050597-009  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/16/23 10:30      **DateReceived:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	05/25/23 05:11 / dck	05/19/23 09:48	ICPMS205-H_230524C : 148		66521
Zinc	38.6	mg/L		0.01		E200.8	05/27/23 04:11 / dck	05/19/23 09:48	ICPMS205-H_230526B : 129		66521
Zirconium	ND	mg/L		0.005		E200.8	05/25/23 11:03 / dck	05/19/23 09:52	ICPMS205-H_230524D : 72		66522
<b>DATA QUALITY</b>											
A/C Balance	-2.27	%				A1030 E	05/26/23 11:39 / SR		CALC_230526A : 606		R184891
Cation/Anion Balance includes selected metals											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD116  
**Lab ID:** H23050597-010  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/16/23 11:14  
**Date Received:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.2	s.u.	H	0.1		A4500-H B	05/19/23 10:34 / ams		PHSC_101-H_230519A : 67		R184662
pH Measurement Temp	12.9	°C				A4500-H B	05/19/23 10:34 / ams		PHSC_101-H_230519A : 67		R184662
Conductivity @ 25 C	4480	umhos/cm		5		A2510 B	05/19/23 10:34 / ams		PHSC_101-H_230519A : 68		R184662
Solids, Total Dissolved TDS @ 180 C	4450	mg/L		100		A2540 C	05/21/23 07:40 / ams		I24 (14410200)_230521A : 27		TDS230521A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	05/23/23 18:14 / ljs		PHSC_101-H_230523A : 135		R184745
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	05/23/23 18:14 / ljs		PHSC_101-H_230523A : 135		R184745
Carbonate as CO3	ND	mg/L		4		A2320 B	05/23/23 18:14 / ljs		PHSC_101-H_230523A : 135		R184745
Chloride	304	mg/L		1		E300.0	05/25/23 01:21 / SR		IC METROHM_230524A : 55		R184848
Sulfate	2650	mg/L		1		E300.0	05/25/23 01:21 / SR		IC METROHM_230524A : 55		R184848
Bromide	0.7	mg/L		0.5		E300.0	05/25/23 01:21 / SR		IC METROHM_230524A : 55		R184848
Fluoride	2.8	mg/L		0.1		E300.0	05/25/23 01:21 / SR		IC METROHM_230524A : 55		R184848
Hardness as CaCO3	1640	mg/L		1		A2340 B	05/27/23 04:21 / SR		CALC_230531A : 388		R184963
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.4	mg/L		0.5		A5310 C	05/26/23 14:45 / eli-c		SUB-C294928 : 32		C_R294928
Organic Carbon, Total (TOC)	2.6	mg/L		0.5		A5310 C	05/25/23 10:42 / eli-c		SUB-C294928 : 15		C_R294928
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.04	mg/L		0.01		E353.2	05/25/23 12:39 / SR		SEAL AA500_230525A : 48		R184881
<b>METALS, DISSOLVED</b>											
Aluminum	3.75	mg/L		0.06		E200.7	05/22/23 20:16 / kjb		ICP2-HE_230522A : 153		R184760
Antimony	ND	mg/L		0.0005		E200.8	05/25/23 05:19 / dck		ICPMS205-H_230524C : 150		R184846
Arsenic	0.021	mg/L		0.001		E200.8	05/25/23 05:19 / dck		ICPMS205-H_230524C : 150		R184846
Barium	0.014	mg/L		0.003		E200.8	05/25/23 05:19 / dck		ICPMS205-H_230524C : 150		R184846
Beryllium	0.0044	mg/L		0.0008		E200.8	05/25/23 05:19 / dck		ICPMS205-H_230524C : 150		R184846
Boron	0.23	mg/L		0.05		E200.7	05/19/23 15:46 / slj		ICP2-HE_230519A : 79		R184684
Cadmium	0.851	mg/L		0.005		E200.7	05/22/23 20:16 / kjb		ICP2-HE_230522A : 153		R184760
Cesium	ND	mg/L		0.01		E200.8	05/25/23 11:13 / dck		ICPMS205-H_230524D : 75		R184870

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD116  
**Lab ID:** H23050597-010  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/16/23 11:14  
**Date Received:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	438	mg/L		2		E200.8	05/27/23 04:21 / dck		ICPMS205-H_230526B : 131		R184927
Chromium	ND	mg/L		0.005		E200.8	05/25/23 05:19 / dck		ICPMS205-H_230524C : 150		R184846
Cobalt	0.96	mg/L		0.02		E200.7	05/22/23 20:16 / kjb		ICP2-HE_230522A : 153		R184760
Copper	44.5	mg/L		0.01		E200.7	05/19/23 15:46 / slj		ICP2-HE_230519A : 79		R184684
Gallium	ND	mg/L		0.01		E200.8	05/25/23 11:13 / dck		ICPMS205-H_230524D : 75		R184870
Iron	311	mg/L		0.02		E200.7	05/19/23 15:46 / slj		ICP2-HE_230519A : 79		R184684
Lead	0.0393	mg/L		0.0003		E200.8	05/25/23 05:19 / dck		ICPMS205-H_230524C : 150		R184846
Lanthanum	0.05	mg/L		0.01		E200.8	05/25/23 11:13 / dck		ICPMS205-H_230524D : 75		R184870
Lithium	0.7	mg/L		0.1		E200.7	05/19/23 15:46 / slj		ICP2-HE_230519A : 79		R184684
Magnesium	134	mg/L		1		E200.7	05/19/23 15:46 / slj		ICP2-HE_230519A : 79		R184684
Neodymium	0.024	mg/L		0.005		E200.8	05/25/23 11:13 / dck		ICPMS205-H_230524D : 75		R184870
Niobium	ND	mg/L		0.01		E200.8	05/25/23 11:13 / dck		ICPMS205-H_230524D : 75		R184870
Manganese	140	mg/L		0.001		E200.7	05/19/23 15:46 / slj		ICP2-HE_230519A : 79		R184684
Molybdenum	ND	mg/L		0.001		E200.8	05/25/23 05:19 / dck		ICPMS205-H_230524C : 150		R184846
Nickel	0.376	mg/L		0.005		E200.7	05/22/23 20:16 / kjb		ICP2-HE_230522A : 153		R184760
Palladium	ND	mg/L		0.01		E200.8	05/25/23 11:13 / dck		ICPMS205-H_230524D : 75		R184870
Praseodymium	ND	mg/L		0.01		E200.8	05/25/23 11:13 / dck		ICPMS205-H_230524D : 75		R184870
Rubidium	ND	mg/L		0.01		E200.8	05/25/23 11:13 / dck		ICPMS205-H_230524D : 75		R184870
Potassium	15	mg/L		1		E200.7	05/19/23 15:46 / slj		ICP2-HE_230519A : 79		R184684
Selenium	ND	mg/L		0.001		E200.8	05/25/23 05:19 / dck		ICPMS205-H_230524C : 150		R184846
Silver	0.0003	mg/L		0.0002		E200.8	05/31/23 01:26 / dck		ICPMS205-H_230530C : 145		R184956
Sodium	121	mg/L		1		E200.7	05/19/23 15:46 / slj		ICP2-HE_230519A : 79		R184684
Strontium	2.66	mg/L		0.01		E200.7	05/19/23 15:46 / slj		ICP2-HE_230519A : 79		R184684
Thallium	ND	mg/L		0.0002		E200.8	05/25/23 05:19 / dck		ICPMS205-H_230524C : 150		R184846
Thorium	ND	mg/L		0.005		E200.8	05/25/23 05:19 / dck		ICPMS205-H_230524C : 150		R184846
Tin	ND	mg/L		0.05		E200.8	05/25/23 05:19 / dck		ICPMS205-H_230524C : 150		R184846
Titanium	ND	mg/L		0.005		E200.8	05/27/23 04:21 / dck		ICPMS205-H_230526B : 131		R184927
Tungsten	ND	mg/L		0.1		E200.8	05/25/23 11:13 / dck		ICPMS205-H_230524D : 75		R184870
Uranium	0.0100	mg/L		0.0002		E200.8	05/25/23 05:19 / dck		ICPMS205-H_230524C : 150		R184846
Vanadium	ND	mg/L		0.01		E200.8	05/25/23 05:19 / dck		ICPMS205-H_230524C : 150		R184846
Zinc	144	mg/L		0.008		E200.7	05/19/23 15:46 / slj		ICP2-HE_230519A : 79		R184684
Zirconium	ND	mg/L		0.005		E200.8	05/25/23 11:13 / dck		ICPMS205-H_230524D : 75		R184870

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD116  
**Lab ID:** H23050597-010  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/16/23 11:14 **DateReceived:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	3.70	mg/L		0.009		E200.8	05/25/23 05:24 / dck	05/19/23 09:48	ICPMS205-H_230524C : 151		66521
Antimony	ND	mg/L		0.0005		E200.8	05/25/23 05:24 / dck	05/19/23 09:48	ICPMS205-H_230524C : 151		66521
Arsenic	0.022	mg/L		0.001		E200.8	05/25/23 05:24 / dck	05/19/23 09:48	ICPMS205-H_230524C : 151		66521
Barium	0.019	mg/L		0.003		E200.8	05/25/23 05:24 / dck	05/19/23 09:48	ICPMS205-H_230524C : 151		66521
Beryllium	0.0040	mg/L		0.0008		E200.8	05/25/23 05:24 / dck	05/19/23 09:48	ICPMS205-H_230524C : 151		66521
Cesium	ND	mg/L		0.01		E200.8	05/25/23 11:17 / dck	05/19/23 09:52	ICPMS205-H_230524D : 76		66522
Cadmium	0.873	mg/L		0.00003		E200.8	05/25/23 05:24 / dck	05/19/23 09:48	ICPMS205-H_230524C : 151		66521
Chromium	ND	mg/L		0.005		E200.8	05/25/23 05:24 / dck	05/19/23 09:48	ICPMS205-H_230524C : 151		66521
Cobalt	0.916	mg/L		0.005		E200.8	05/25/23 05:24 / dck	05/19/23 09:48	ICPMS205-H_230524C : 151		66521
Copper	49.4	mg/L		0.003		E200.8	05/27/23 04:26 / dck	05/19/23 09:48	ICPMS205-H_230526B : 132		66521
Gallium	ND	mg/L		0.01		E200.8	05/25/23 11:17 / dck	05/19/23 09:52	ICPMS205-H_230524D : 76		66522
Iron	354	mg/L		0.09		E200.8	05/27/23 04:26 / dck	05/19/23 09:48	ICPMS205-H_230526B : 132		66521
Lead	0.0386	mg/L		0.0003		E200.8	05/25/23 05:24 / dck	05/19/23 09:48	ICPMS205-H_230524C : 151		66521
Lanthanum	ND	mg/L		0.1		E200.8	05/25/23 11:17 / dck	05/19/23 09:52	ICPMS205-H_230524D : 76		66522
Lithium	0.6	mg/L		0.1		E200.8	05/25/23 05:24 / dck	05/19/23 09:48	ICPMS205-H_230524C : 151		66521
Neodymium	0.03	mg/L		0.01		E200.8	05/25/23 11:17 / dck	05/19/23 09:52	ICPMS205-H_230524D : 76		66522
Niobium	ND	mg/L		0.01		E200.8	05/25/23 11:17 / dck	05/19/23 09:52	ICPMS205-H_230524D : 76		66522
Manganese	152	mg/L		0.02		E200.7	06/02/23 18:28 / slj	05/19/23 09:48	ICP2-HE_230602A : 139		66521
Molybdenum	0.001	mg/L		0.001		E200.8	05/25/23 05:24 / dck	05/19/23 09:48	ICPMS205-H_230524C : 151		66521
Nickel	0.374	mg/L		0.002		E200.8	05/25/23 05:24 / dck	05/19/23 09:48	ICPMS205-H_230524C : 151		66521
Palladium	ND	mg/L		0.01		E200.8	05/25/23 11:17 / dck	05/19/23 09:52	ICPMS205-H_230524D : 76		66522
Praseodymium	ND	mg/L		0.01		E200.8	05/25/23 11:17 / dck	05/19/23 09:52	ICPMS205-H_230524D : 76		66522
Rubidium	ND	mg/L		0.01		E200.8	05/25/23 11:17 / dck	05/19/23 09:52	ICPMS205-H_230524D : 76		66522
Selenium	ND	mg/L		0.001		E200.8	05/25/23 05:24 / dck	05/19/23 09:48	ICPMS205-H_230524C : 151		66521
Silver	0.0004	mg/L		0.0002		E200.8	05/31/23 01:30 / dck	05/19/23 09:48	ICPMS205-H_230530C : 146		66521
Strontium	2.76	mg/L		0.01		E200.8	05/25/23 05:24 / dck	05/19/23 09:48	ICPMS205-H_230524C : 151		66521
Thallium	ND	mg/L		0.0002		E200.8	05/25/23 05:24 / dck	05/19/23 09:48	ICPMS205-H_230524C : 151		66521
Tungsten	ND	mg/L		0.1		E200.8	05/25/23 11:17 / dck	05/19/23 09:52	ICPMS205-H_230524D : 76		66522
Tin	ND	mg/L		0.05		E200.8	05/25/23 05:24 / dck	05/19/23 09:48	ICPMS205-H_230524C : 151		66521
Titanium	0.010	mg/L		0.005		E200.8	05/31/23 01:30 / dck	05/19/23 09:48	ICPMS205-H_230530C : 146		66521
Thorium	ND	mg/L		0.005		E200.8	05/25/23 05:24 / dck	05/19/23 09:48	ICPMS205-H_230524C : 151		66521
Uranium	0.0096	mg/L		0.0003		E200.8	05/25/23 05:24 / dck	05/19/23 09:48	ICPMS205-H_230524C : 151		66521

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



**LABORATORY ANALYTICAL REPORT**

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD116  
**Lab ID:** H23050597-010  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 05/16/23 11:14 **DateReceived:** 05/17/23  
**Report Date:** 06/06/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	05/25/23 05:24 / dck	05/19/23 09:48	ICPMS205-H_230524C : 151		66521
Zinc	175	mg/L		0.1		E200.8	06/02/23 20:30 / dck	05/19/23 09:48	ICPMS205-H_230602A : 34		66521
Zirconium	ND	mg/L		0.005		E200.8	05/25/23 11:17 / dck	05/19/23 09:52	ICPMS205-H_230524D : 76		66522
<b>DATA QUALITY</b>											
A/C Balance	-4.85	%				A1030 E	05/31/23 11:57 / SR		CALC_230531A : 386		R184963
Cation/Anion Balance includes selected metals											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** 66521

**Date:** 06-Jun-23

Run ID :Run Order: <b>ICP2-HE_230531B: 33</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MB-66521</b>	Method: <b>E200.7</b>								
Analysis Date: <b>05/31/23 12:40</b>	Units: <b>mg/L</b>	Prep Info: Prep Date: <b>5/19/2023</b>	Prep Method: <b>E200.2</b>								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.002									U

Associated samples: **H23050597-010F**

Run ID :Run Order: <b>ICP2-HE_230531B: 34</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS-66521</b>	Method: <b>E200.7</b>								
Analysis Date: <b>05/31/23 12:44</b>	Units: <b>mg/L</b>	Prep Info: Prep Date: <b>5/19/2023</b>	Prep Method: <b>E200.2</b>								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	2.47	0.0018	2.5	0	99	85	115				

Associated samples: **H23050597-010F**

Run ID :Run Order: <b>ICP2-HE_230531B: 38</b>	SampType: <b>Serial Dilution</b>	Lab ID: <b>H23050578-001ADIL</b>	Method: <b>E200.7</b>								
Analysis Date: <b>05/31/23 12:59</b>	Units: <b>mg/L</b>	Prep Info: Prep Date: <b>5/19/2023</b>	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.0184	0.0089		0		0	0	0.01806		10	N

Associated samples: **H23050597-010F**

Run ID :Run Order: <b>ICP2-HE_230531B: 39</b>	SampType: <b>Post Digestion/Distillation Spike</b>	Lab ID: <b>H23050578-001APDS</b>	Method: <b>E200.7</b>								
Analysis Date: <b>05/31/23 13:03</b>	Units: <b>mg/L</b>	Prep Info: Prep Date: <b>5/19/2023</b>	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	4.86	0.0018	5.15	0.01806	94	70	130				

Associated samples: **H23050597-010F**

Run ID :Run Order: <b>ICP2-HE_230602A: 138</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MB-66521</b>	Method: <b>E200.7</b>								
Analysis Date: <b>06/02/23 18:25</b>	Units: <b>mg/L</b>	Prep Info: Prep Date: <b>5/19/2023</b>	Prep Method: <b>E200.2</b>								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.002									

Associated samples: **H23050597-010F**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** 66521

**Date:** 06-Jun-23

Run ID :Run Order: ICPMS205-H_230524C: 85	SampType: Method Blank				Lab ID: MB-66521				Method: E200.8		
Analysis Date: 05/25/23 00:41	Units: mg/L			Prep Info: Prep Date: 5/19/2023				Prep Method: E200.2			
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.006									
Antimony	ND	0.0002									
Arsenic	ND	0.0001									
Barium	ND	0.0002									
Beryllium	ND	0.0002									
Cadmium	ND	0.00003									
Chromium	ND	0.0002									
Cobalt	ND	0.0003									
Copper	ND	0.0003									
Iron	ND	0.009									
Lead	ND	0.0001									
Lithium	ND	0.001									
Manganese	0.0003	0.0003									
Molybdenum	ND	0.0002									
Nickel	ND	0.0002									
Selenium	ND	0.0001									
Silver	ND	0.00006									
Strontium	0.0009	0.0002									
Thallium	ND	0.0001									
Tin	ND	0.0004									
Thorium	0.0004	0.0003									
Titanium	ND	0.002									
Uranium	ND	0.00003									
Vanadium	ND	0.0001									
Zinc	ND	0.001									

Associated samples: H23050597-001F, H23050597-002F, H23050597-003F, H23050597-004F, H23050597-005F, H23050597-006F, H23050597-007F, H23050597-008F, H23050597-009F, H23050597-010F

Run ID :Run Order: ICPMS205-H_230524C: 106	SampType: Sample Matrix Spike				Lab ID: H23050597-006FMS3				Method: E200.8		
Analysis Date: 05/25/23 02:10	Units: mg/L			Prep Info: Prep Date: 5/19/2023				Prep Method: E200.2			
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3.03	0.030	2.5	0.4129	105	70	130				
Antimony	0.502	0.0010	0.5	0.0004449	100	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** 66521

**Date:** 06-Jun-23

Run ID :Run Order: ICPMS205-H_230524C: 106	SampType: Sample Matrix Spike				Lab ID: H23050597-006FMS3				Method: E200.8		
Analysis Date: 05/25/23 02:10	Units: mg/L				Prep Info: Prep Date: 5/19/2023				Prep Method: E200.2		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.464	0.0010	0.5	0.006802	91	70	130				
Barium	0.541	0.050	0.5	0.03194	102	70	130				
Beryllium	0.222	0.0010	0.25	0	89	70	130				
Cadmium	0.247	0.0010	0.25	0.00005455	99	70	130				
Chromium	0.465	0.0050	0.5	0.0005986	93	70	130				
Cobalt	0.472	0.0050	0.5	0	95	70	130				
Copper	0.476	0.0050	0.5	0.01548	92	70	130				
Iron	3.11	0.020	2.5	0.6663	98	70	130				
Lead	0.505	0.0010	0.5	0.001123	101	70	130				
Lithium	0.455	0.10	0.5	0.007386	90	70	130				
Manganese	2.48	0.0010	2.5	0.04568	97	70	130				
Molybdenum	0.477	0.0010	0.5	0.006012	94	70	130				
Nickel	0.462	0.0050	0.5	0.0005701	92	70	130				
Selenium	0.488	0.0010	0.5	0.0001737	98	70	130				
Silver	0.0450	0.0010	0.05	0.0001175	90	70	130				
Strontium	0.637	0.010	0.5	0.1291	102	70	130				
Thallium	0.514	0.00050	0.5	0	103	70	130				
Tin	0.514	0.050	0.5	0	103	70	130				
Titanium	0.501	0.0050	0.5	0.01522	97	70	130				
Thorium	0.0583	0.0050	0.05	0	117	70	130				
Uranium	0.506	0.00030	0.5	0.001691	101	70	130				
Vanadium	0.469	0.010	0.5	0.002938	93	70	130				
Zinc	0.486	0.010	0.5	0.009486	95	70	130				

Associated samples: H23050597-001F, H23050597-002F, H23050597-003F, H23050597-004F, H23050597-005F, H23050597-006F, H23050597-007F, H23050597-008F, H23050597-009F, H23050597-010F

Run ID :Run Order: ICPMS205-H_230524C: 107	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050597-006FMSD3				Method: E200.8		
Analysis Date: 05/25/23 02:15	Units: mg/L				Prep Info: Prep Date: 5/19/2023				Prep Method: E200.2		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3.07	0.030	2.5	0.4129	106	70	130	3.029	1.3	20	
Antimony	0.509	0.0010	0.5	0.0004449	102	70	130	0.502	1.4	20	
Arsenic	0.479	0.0010	0.5	0.006802	94	70	130	0.4641	3.1	20	
Barium	0.549	0.050	0.5	0.03194	103	70	130	0.5409	1.4	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050597

BatchID: 66521

Date: 06-Jun-23

Run ID :Run Order: ICPMS205-H_230524C: 107	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050597-006FMSD3				Method: E200.8		
Analysis Date: 05/25/23 02:15	Units: mg/L				Prep Info: Prep Date: 5/19/2023				Prep Method: E200.2		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.230	0.0010	0.25	0	92	70	130	0.222	3.5	20	
Cadmium	0.251	0.0010	0.25	0.00005455	100	70	130	0.2471	1.6	20	
Chromium	0.476	0.0050	0.5	0.0005986	95	70	130	0.4648	2.5	20	
Cobalt	0.485	0.0050	0.5	0	97	70	130	0.4725	2.6	20	
Copper	0.492	0.0050	0.5	0.01548	95	70	130	0.4765	3.3	20	
Iron	3.20	0.020	2.5	0.6663	101	70	130	3.109	2.9	20	
Lead	0.514	0.0010	0.5	0.001123	102	70	130	0.5048	1.7	20	
Lithium	0.471	0.10	0.5	0.007386	93	70	130	0.4554	3.5	20	
Manganese	2.53	0.0010	2.5	0.04568	99	70	130	2.478	2.1	20	
Molybdenum	0.488	0.0010	0.5	0.006012	96	70	130	0.4766	2.4	20	
Nickel	0.474	0.0050	0.5	0.0005701	95	70	130	0.4622	2.5	20	
Selenium	0.497	0.0010	0.5	0.0001737	99	70	130	0.4884	1.7	20	
Silver	0.0461	0.0010	0.05	0.0001175	92	70	130	0.045	2.3	20	
Strontium	0.652	0.010	0.5	0.1291	105	70	130	0.6368	2.4	20	
Thallium	0.520	0.00050	0.5	0	104	70	130	0.514	1.1	20	
Tin	0.525	0.050	0.5	0	105	70	130	0.5141	2.1	20	
Titanium	0.515	0.0050	0.5	0.01522	100	70	130	0.5014	2.8	20	
Thorium	0.0606	0.0050	0.05	0	121	70	130	0.05828	4.0	20	
Uranium	0.512	0.00030	0.5	0.001691	102	70	130	0.5057	1.3	20	
Vanadium	0.480	0.010	0.5	0.002938	95	70	130	0.4687	2.4	20	
Zinc	0.500	0.010	0.5	0.009486	98	70	130	0.4864	2.8	20	

Associated samples: H23050597-001F, H23050597-002F, H23050597-003F, H23050597-004F, H23050597-005F, H23050597-006F, H23050597-007F, H23050597-008F, H23050597-009F, H23050597-010F

Run ID :Run Order: ICPMS205-H_230526B: 126	SampType: Method Blank				Lab ID: MB-66521				Method: E200.8		
Analysis Date: 05/27/23 03:56	Units: mg/L				Prep Info: Prep Date: 5/19/2023				Prep Method: E200.2		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.006									
Antimony	ND	0.0002									
Arsenic	ND	0.0001									
Barium	ND	0.0002									
Beryllium	ND	0.0002									
Cadmium	ND	0.00003									

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** 66521

**Date:** 06-Jun-23

Run ID :Run Order: <b>ICPMS205-H_230526B: 126</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MB-66521</b>				Method: <b>E200.8</b>		
Analysis Date: <b>05/27/23 03:56</b>	Units: <b>mg/L</b>				Prep Info: Prep Date: <b>5/19/2023</b>				Prep Method: <b>E200.2</b>		
Analytes <b>25</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	0.0002									
Cobalt	ND	0.0003									
Copper	ND	0.0003									
Iron	ND	0.009									
Lead	ND	0.0001									
Lithium	ND	0.001									
Manganese	ND	0.0003									
Molybdenum	ND	0.0002									
Nickel	ND	0.0002									
Selenium	ND	0.0001									
Silver	ND	0.00006									
Strontium	ND	0.0002									
Thallium	ND	0.0001									
Tin	ND	0.0004									
Thorium	0.0004	0.0003									
Titanium	ND	0.002									
Uranium	ND	0.00003									
Vanadium	ND	0.0001									
Zinc	ND	0.001									

Associated samples: **H23050597-001F, H23050597-002F, H23050597-003F, H23050597-004F, H23050597-005F, H23050597-006F, H23050597-007F, H23050597-008F, H23050597-009F, H23050597-010F**

Run ID :Run Order: <b>ICPMS205-H_230530C: 141</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MB-66521</b>				Method: <b>E200.8</b>		
Analysis Date: <b>05/31/23 01:06</b>	Units: <b>mg/L</b>				Prep Info: Prep Date: <b>5/19/2023</b>				Prep Method: <b>E200.2</b>		
Analytes <b>25</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.006									
Antimony	ND	0.0002									
Arsenic	ND	0.0001									
Barium	ND	0.0002									
Beryllium	ND	0.0002									
Cadmium	ND	0.00003									
Chromium	ND	0.0002									
Cobalt	ND	0.0003									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID: 66521**

**Date:** 06-Jun-23

Run ID :Run Order: <b>ICPMS205-H_230530C: 141</b>		SampType: <b>Method Blank</b>			Lab ID: <b>MB-66521</b>				Method: <b>E200.8</b>		
Analysis Date: <b>05/31/23 01:06</b>		Units: <b>mg/L</b>			Prep Info: Prep Date: <b>5/19/2023</b>				Prep Method: <b>E200.2</b>		
Analytes <b>25</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	ND	0.0003									
Iron	ND	0.009									
Lead	ND	0.0001									
Lithium	ND	0.001									
Manganese	ND	0.0003									
Molybdenum	ND	0.0002									
Nickel	ND	0.0002									
Selenium	ND	0.0001									
Silver	ND	0.00006									
Strontium	ND	0.0002									
Thallium	ND	0.0001									
Tin	ND	0.0004									
Thorium	ND	0.0003									
Titanium	ND	0.002									
Uranium	ND	0.00003									
Vanadium	ND	0.0001									
Zinc	ND	0.001									

Associated samples: **H23050597-001F, H23050597-002F, H23050597-003F, H23050597-004F, H23050597-005F, H23050597-006F, H23050597-007F, H23050597-008F, H23050597-009F, H23050597-010F**

Run ID :Run Order: <b>ICPMS205-H_230602A: 26</b>		SampType: <b>Method Blank</b>			Lab ID: <b>MB-66521</b>				Method: <b>E200.8</b>		
Analysis Date: <b>06/02/23 20:03</b>		Units: <b>mg/L</b>			Prep Info: Prep Date: <b>5/19/2023</b>				Prep Method: <b>E200.2</b>		
Analytes <b>25</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.006									
Antimony	ND	0.0002									
Arsenic	ND	0.0001									
Barium	ND	0.0002									
Beryllium	ND	0.0002									
Cadmium	ND	0.00003									
Chromium	ND	0.0002									
Cobalt	ND	0.0003									
Copper	ND	0.0003									
Iron	ND	0.009									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** 66521

**Date:** 06-Jun-23

Run ID :Run Order: ICPMS205-H_230602A: 26	SampType: Method Blank				Lab ID: MB-66521				Method: E200.8		
Analysis Date: 06/02/23 20:03	Units: mg/L			Prep Info: Prep Date: 5/19/2023				Prep Method: E200.2			
Analytes <b>25</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.0001									
Lithium	ND	0.001									
Manganese	ND	0.0003									
Molybdenum	ND	0.0002									
Nickel	ND	0.0002									
Selenium	ND	0.0001									
Silver	ND	0.00006									
Strontium	ND	0.0002									
Thallium	ND	0.0001									
Tin	ND	0.0004									
Thorium	ND	0.0003									
Titanium	ND	0.002									
Uranium	ND	0.00003									
Vanadium	ND	0.0001									
Zinc	ND	0.001									

Associated samples: H23050597-001F, H23050597-002F, H23050597-003F, H23050597-004F, H23050597-005F, H23050597-006F, H23050597-007F, H23050597-008F, H23050597-009F, H23050597-010F



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** 66522

**Date:** 06-Jun-23

Run ID :Run Order: <b>ICPMS205-H_230524D: 46</b>		SampType: <b>Method Blank</b>			Lab ID: <b>MB-66522</b>				Method: <b>E200.8</b>			
Analysis Date: <b>05/25/23 09:33</b>		Units: <b>mg/L</b>			Prep Info: Prep Date: <b>5/19/2023</b>				Prep Method: <b>E200.2</b>			
Analytes <b>10</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	ND	0.0002										
Gallium	ND	0.0001										
Lanthanum	ND	0.00009										
Neodymium	ND	0.0001										
Niobium	ND	0.0004										
Palladium	ND	0.0001										
Praseodymium	ND	0.0001										
Rubidium	ND	0.00009										
Tungsten	0.0002	0.0001										
Zirconium	ND	0.0008										

Associated samples: **H23050597-001F, H23050597-002F, H23050597-003F, H23050597-004F, H23050597-005F, H23050597-006F, H23050597-007F, H23050597-008F, H23050597-009F, H23050597-010F**

Run ID :Run Order: <b>ICPMS205-H_230524D: 56</b>		SampType: <b>Laboratory Control Sample</b>			Lab ID: <b>LCS-66522</b>				Method: <b>E200.8</b>			
Analysis Date: <b>05/25/23 10:07</b>		Units: <b>mg/L</b>			Prep Info: Prep Date: <b>5/19/2023</b>				Prep Method: <b>E200.2</b>			
Analytes <b>10</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0522	0.010	0.05	0	<b>104</b>	85	115					
Gallium	0.0528	0.010	0.05	0	<b>106</b>	85	115					
Lanthanum	0.0546	0.10	0.05	0	<b>109</b>	85	115					
Neodymium	0.0562	0.0010	0.05	0	<b>112</b>	85	115					
Niobium	0.0571	0.0010	0.05	0	<b>114</b>	85	115					
Palladium	0.0523	0.010	0.05	0	<b>105</b>	85	115					
Praseodymium	0.0559	0.0010	0.05	0	<b>112</b>	85	115					
Rubidium	0.0526	0.010	0.05	0	<b>105</b>	85	115					
Tungsten	0.0508	0.10	0.05	0	<b>102</b>	85	115					
Zirconium	0.0531	0.0050	0.05	0	<b>106</b>	85	115					

Associated samples: **H23050597-001F, H23050597-002F, H23050597-003F, H23050597-004F, H23050597-005F, H23050597-006F, H23050597-007F, H23050597-008F, H23050597-009F, H23050597-010F**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050597

BatchID: 66522

Date: 06-Jun-23

Run ID :Run Order: ICPMS205-H_230524D: 57	SampType: Sample Matrix Spike				Lab ID: H23050597-001FMS3				Method: E200.8		
Analysis Date: 05/25/23 10:10	Units: mg/L				Prep Info: Prep Date: 5/19/2023				Prep Method: E200.2		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0520	0.010	0.05	0	104	70	130				
Gallium	0.0524	0.010	0.05	0.0001333	104	70	130				
Lanthanum	0.0546	0.10	0.05	0.00047	108	70	130				
Neodymium	0.0571	0.0010	0.05	0.0003967	113	70	130				
Niobium	0.0593	0.0010	0.05	0	119	70	130				
Palladium	0.0489	0.010	0.05	0	98	70	130				
Praseodymium	0.0560	0.0010	0.05	0	112	70	130				
Rubidium	0.0544	0.010	0.05	0.001688	105	70	130				
Tungsten	0.0510	0.10	0.05	0.0002873	102	70	130				
Zirconium	0.0527	0.0050	0.05	0.000878	104	70	130				

Associated samples: H23050597-001F, H23050597-002F, H23050597-003F, H23050597-004F, H23050597-005F, H23050597-006F, H23050597-007F, H23050597-008F, H23050597-009F, H23050597-010F

Run ID :Run Order: ICPMS205-H_230524D: 58	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050597-001FMSD3				Method: E200.8		
Analysis Date: 05/25/23 10:14	Units: mg/L				Prep Info: Prep Date: 5/19/2023				Prep Method: E200.2		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0524	0.010	0.05	0	105	70	130	0.05203	0.7	20	
Gallium	0.0522	0.010	0.05	0.0001333	104	70	130	0.05238	0.3	20	
Lanthanum	0.0552	0.10	0.05	0.00047	109	70	130	0.05464		20	
Neodymium	0.0572	0.0010	0.05	0.0003967	114	70	130	0.05708	0.1	20	
Niobium	0.0585	0.0010	0.05	0	117	70	130	0.05928	1.4	20	
Palladium	0.0488	0.010	0.05	0	98	70	130	0.04889	0.2	20	
Praseodymium	0.0564	0.0010	0.05	0	113	70	130	0.05597	0.7	20	
Rubidium	0.0534	0.010	0.05	0.001688	103	70	130	0.0544	1.8	20	
Tungsten	0.0509	0.10	0.05	0.0002873	101	70	130	0.05104		20	
Zirconium	0.0518	0.0050	0.05	0.000878	102	70	130	0.05269	1.7	20	

Associated samples: H23050597-001F, H23050597-002F, H23050597-003F, H23050597-004F, H23050597-005F, H23050597-006F, H23050597-007F, H23050597-008F, H23050597-009F, H23050597-010F

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** C\_R294928

**Date:** 06-Jun-23

Run ID :Run Order: <b>SUB-C294928: 1</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/24/23 13:57</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	ND	0.1									
Associated samples: <b>H23050597-001D, H23050597-001E, H23050597-002D, H23050597-002E, H23050597-003D, H23050597-003E, H23050597-004D, H23050597-004E, H23050597-005D, H23050597-005E, H23050597-006D, H23050597-006E, H23050597-007D, H23050597-007E, H23050597-008D, H23050597-008E, H23050597-009D, H23050597-009E, H23050597-010D, H23050597-010E</b>											

Run ID :Run Order: <b>SUB-C294928: 2</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS-11923</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/24/23 14:17</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.05	0.50	5	0	<b>101</b>	90	111	0			
Associated samples: <b>H23050597-001D, H23050597-001E, H23050597-002D, H23050597-002E, H23050597-003D, H23050597-003E, H23050597-004D, H23050597-004E, H23050597-005D, H23050597-005E, H23050597-006D, H23050597-006E, H23050597-007D, H23050597-007E, H23050597-008D, H23050597-008E, H23050597-009D, H23050597-009E, H23050597-010D, H23050597-010E</b>											

Run ID :Run Order: <b>SUB-C294928: 3</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV-11940</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/24/23 14:31</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.29	0.50	5	0	<b>106</b>	90	110	0			
Associated samples: <b>H23050597-001D, H23050597-001E, H23050597-002D, H23050597-002E, H23050597-003D, H23050597-003E, H23050597-004D, H23050597-004E, H23050597-005D, H23050597-005E, H23050597-006D, H23050597-006E, H23050597-007D, H23050597-007E, H23050597-008D, H23050597-008E, H23050597-009D, H23050597-009E, H23050597-010D, H23050597-010E</b>											

Run ID :Run Order: <b>SUB-C294928: 5</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>C23050761-001EMS</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/24/23 15:08</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	16.3	0.50	5	10.63	<b>112</b>	90	111	0			S
Associated samples: <b>H23050597-001D, H23050597-001E, H23050597-002D, H23050597-002E, H23050597-003D, H23050597-003E, H23050597-004D, H23050597-004E, H23050597-005D, H23050597-005E, H23050597-006D, H23050597-006E, H23050597-007D, H23050597-007E, H23050597-008D, H23050597-008E, H23050597-009D, H23050597-009E, H23050597-010D, H23050597-010E</b>											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** C\_R294928

**Date:** 06-Jun-23

Run ID :Run Order: <b>SUB-C294928: 6</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>C23050761-001EMSD</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/24/23 15:30</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	16.2	0.50	5	10.63	<b>111</b>	90	111	16.25	<b>0.5</b>	20	
Associated samples: <b>H23050597-001D, H23050597-001E, H23050597-002D, H23050597-002E, H23050597-003D, H23050597-003E, H23050597-004D, H23050597-004E, H23050597-005D, H23050597-005E, H23050597-006D, H23050597-006E, H23050597-007D, H23050597-007E, H23050597-008D, H23050597-008E, H23050597-009D, H23050597-009E, H23050597-010D, H23050597-010E</b>											

Run ID :Run Order: <b>SUB-C294928: 16</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>C23050767-001BMS</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/25/23 12:36</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	10.5	0.50	5	5.255	<b>106</b>	90	111	0			
Associated samples: <b>H23050597-001D, H23050597-001E, H23050597-002D, H23050597-002E, H23050597-003D, H23050597-003E, H23050597-004D, H23050597-004E, H23050597-005D, H23050597-005E, H23050597-006D, H23050597-006E, H23050597-007D, H23050597-007E, H23050597-008D, H23050597-008E, H23050597-009D, H23050597-009E, H23050597-010D, H23050597-010E</b>											

Run ID :Run Order: <b>SUB-C294928: 17</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>C23050767-001BMSD</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/25/23 12:53</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	11.0	0.50	5	5.255	<b>114</b>	90	111	10.54	<b>3.8</b>	20	S
Associated samples: <b>H23050597-001D, H23050597-001E, H23050597-002D, H23050597-002E, H23050597-003D, H23050597-003E, H23050597-004D, H23050597-004E, H23050597-005D, H23050597-005E, H23050597-006D, H23050597-006E, H23050597-007D, H23050597-007E, H23050597-008D, H23050597-008E, H23050597-009D, H23050597-009E, H23050597-010D, H23050597-010E</b>											

Run ID :Run Order: <b>SUB-C294928: 18</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/25/23 14:08</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	ND	0.1									
Associated samples: <b>H23050597-001D, H23050597-001E, H23050597-002D, H23050597-002E, H23050597-003D, H23050597-003E, H23050597-004D, H23050597-004E, H23050597-005D, H23050597-005E, H23050597-006D, H23050597-006E, H23050597-007D, H23050597-007E, H23050597-008D, H23050597-008E, H23050597-009D, H23050597-009E, H23050597-010D, H23050597-010E</b>											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** C\_R294928

**Date:** 06-Jun-23

Run ID :Run Order: <b>SUB-C294928: 19</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS-11923</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/25/23 14:23</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.08	0.50	5	0	<b>102</b>	88	112	0			

Associated samples: H23050597-001D, H23050597-001E, H23050597-002D, H23050597-002E, H23050597-003D, H23050597-003E, H23050597-004D, H23050597-004E, H23050597-005D, H23050597-005E, H23050597-006D, H23050597-006E, H23050597-007D, H23050597-007E, H23050597-008D, H23050597-008E, H23050597-009D, H23050597-009E, H23050597-010D, H23050597-010E

Run ID :Run Order: <b>SUB-C294928: 20</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV-11940</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/26/23 11:11</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.06	0.50	5	0	<b>101</b>	90	110	0			

Associated samples: H23050597-001D, H23050597-001E, H23050597-002D, H23050597-002E, H23050597-003D, H23050597-003E, H23050597-004D, H23050597-004E, H23050597-005D, H23050597-005E, H23050597-006D, H23050597-006E, H23050597-007D, H23050597-007E, H23050597-008D, H23050597-008E, H23050597-009D, H23050597-009E, H23050597-010D, H23050597-010E

Run ID :Run Order: <b>SUB-C294928: 22</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050597-001D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/26/23 11:47</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	15.4	0.50	5	10.46	<b>100</b>	88	112	0			

Associated samples: H23050597-001D, H23050597-001E, H23050597-002D, H23050597-002E, H23050597-003D, H23050597-003E, H23050597-004D, H23050597-004E, H23050597-005D, H23050597-005E, H23050597-006D, H23050597-006E, H23050597-007D, H23050597-007E, H23050597-008D, H23050597-008E, H23050597-009D, H23050597-009E, H23050597-010D, H23050597-010E

Run ID :Run Order: <b>SUB-C294928: 23</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050597-001D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/26/23 12:03</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	15.7	0.50	5	10.46	<b>105</b>	88	112	15.44	<b>1.8</b>	20	

Associated samples: H23050597-001D, H23050597-001E, H23050597-002D, H23050597-002E, H23050597-003D, H23050597-003E, H23050597-004D, H23050597-004E, H23050597-005D, H23050597-005E, H23050597-006D, H23050597-006E, H23050597-007D, H23050597-007E, H23050597-008D, H23050597-008E, H23050597-009D, H23050597-009E, H23050597-010D, H23050597-010E

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** C\_R294928

**Date:** 06-Jun-23

Run ID :Run Order: <b>SUB-C294928: 33</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>C23050770-001FMS</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/26/23 15:53</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	6.97	0.50	5	1.982	<b>100</b>	88	112	0			

Associated samples: H23050597-001D, H23050597-001E, H23050597-002D, H23050597-002E, H23050597-003D, H23050597-003E, H23050597-004D, H23050597-004E, H23050597-005D, H23050597-005E, H23050597-006D, H23050597-006E, H23050597-007D, H23050597-007E, H23050597-008D, H23050597-008E, H23050597-009D, H23050597-009E, H23050597-010D, H23050597-010E

Run ID :Run Order: <b>SUB-C294928: 34</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>C23050770-001FMSD</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/26/23 16:09</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	7.04	0.50	5	1.982	<b>101</b>	88	112	6.975	<b>0.9</b>	20	

Associated samples: H23050597-001D, H23050597-001E, H23050597-002D, H23050597-002E, H23050597-003D, H23050597-003E, H23050597-004D, H23050597-004E, H23050597-005D, H23050597-005E, H23050597-006D, H23050597-006E, H23050597-007D, H23050597-007E, H23050597-008D, H23050597-008E, H23050597-009D, H23050597-009E, H23050597-010D, H23050597-010E

Run ID :Run Order: <b>SUB-C294928: 41</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>C23050819-019DMS</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/26/23 19:48</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	10.5	0.50	5	5.422	<b>102</b>	88	112	0			

Associated samples: H23050597-001D, H23050597-001E, H23050597-002D, H23050597-002E, H23050597-003D, H23050597-003E, H23050597-004D, H23050597-004E, H23050597-005D, H23050597-005E, H23050597-006D, H23050597-006E, H23050597-007D, H23050597-007E, H23050597-008D, H23050597-008E, H23050597-009D, H23050597-009E, H23050597-010D, H23050597-010E

Run ID :Run Order: <b>SUB-C294928: 42</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>C23050819-019DMSD</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>05/26/23 20:05</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	10.7	0.50	5	5.422	<b>105</b>	88	112	10.5	<b>1.8</b>	20	

Associated samples: H23050597-001D, H23050597-001E, H23050597-002D, H23050597-002E, H23050597-003D, H23050597-003E, H23050597-004D, H23050597-004E, H23050597-005D, H23050597-005E, H23050597-006D, H23050597-006E, H23050597-007D, H23050597-007E, H23050597-008D, H23050597-008E, H23050597-009D, H23050597-009E, H23050597-010D, H23050597-010E

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050597

BatchID: R184662

Date: 06-Jun-23

Run ID :Run Order: PHSC_101-H_230519A: 2	SampType: Initial Calibration Verification Standard				Lab ID: SC 150			Method: A2510 B			
Analysis Date: 05/19/23 07:42	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	156	5.0	150	0	104	90	110				

Associated samples: H23050597-001A, H23050597-002A, H23050597-003A, H23050597-004A, H23050597-005A, H23050597-006A, H23050597-007A, H23050597-008A, H23050597-009A, H23050597-010A

Run ID :Run Order: PHSC_101-H_230519A: 3	SampType: Initial Calibration Verification Standard				Lab ID: SC 20000			Method: A2510 B			
Analysis Date: 05/19/23 07:44	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	19900	5.0	20000	0	100	90	110				

Associated samples: H23050597-001A, H23050597-002A, H23050597-003A, H23050597-004A, H23050597-005A, H23050597-006A, H23050597-007A, H23050597-008A, H23050597-009A, H23050597-010A

Run ID :Run Order: PHSC_101-H_230519A: 4	SampType: Initial Calibration Verification Standard				Lab ID: SC 5000			Method: A2510 B			
Analysis Date: 05/19/23 07:46	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	5060	5.0	5000	0	101	90	110				

Associated samples: H23050597-001A, H23050597-002A, H23050597-003A, H23050597-004A, H23050597-005A, H23050597-006A, H23050597-007A, H23050597-008A, H23050597-009A, H23050597-010A

Run ID :Run Order: PHSC_101-H_230519A: 8	SampType: Method Blank				Lab ID: MBLK			Method: A2510 B			
Analysis Date: 05/19/23 09:23	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	ND	5									

Associated samples: H23050597-001A, H23050597-002A, H23050597-003A, H23050597-004A, H23050597-005A, H23050597-006A, H23050597-007A, H23050597-008A, H23050597-009A, H23050597-010A

Run ID :Run Order: PHSC_101-H_230519A: 52	SampType: Sample Duplicate				Lab ID: H23050597-009ADUP			Method: A2510 B			
Analysis Date: 05/19/23 10:06	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	2720	5.0		0				2732	0.3	10	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050597

BatchID: R184662

Date: 06-Jun-23

Run ID :Run Order: PHSC_101-H_230519A: 52	SampType: Sample Duplicate	Lab ID: H23050597-009ADUP	Method: A2510 B								
Analysis Date: 05/19/23 10:06	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23050597-001A, H23050597-002A, H23050597-003A, H23050597-004A, H23050597-005A, H23050597-006A, H23050597-007A, H23050597-008A, H23050597-009A, H23050597-010A

Run ID :Run Order: PHSC_101-H_230519A: 54	SampType: Continuing Calibration Verification Standar	Lab ID: CCV - SC 1413	Method: A2510 B								
Analysis Date: 05/19/23 10:10	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Conductivity @ 25 C 1440 5.0 1413 0 102 90 110

Associated samples: H23050597-001A, H23050597-002A, H23050597-003A, H23050597-004A, H23050597-005A, H23050597-006A, H23050597-007A, H23050597-008A, H23050597-009A, H23050597-010A

Run ID :Run Order: PHSC_101-H_230519A: 70	SampType: Sample Duplicate	Lab ID: H23050597-010ADUP	Method: A2510 B								
Analysis Date: 05/19/23 10:36	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Conductivity @ 25 C 4500 5.0 0 4484 0.5 10

Associated samples: H23050597-001A, H23050597-002A, H23050597-003A, H23050597-004A, H23050597-005A, H23050597-006A, H23050597-007A, H23050597-008A, H23050597-009A, H23050597-010A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050597

BatchID: R184662

Date: 06-Jun-23

Run ID :Run Order: PHSC_101-H_230519A: 1	SampType: Initial Calibration Verification Standard				Lab ID: pH 7				Method: A4500-H B		
Analysis Date: 05/19/23 07:37	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	20.1			0		0	0				

Associated samples: H23050597-001A, H23050597-002A, H23050597-003A, H23050597-004A, H23050597-005A, H23050597-006A, H23050597-007A, H23050597-008A, H23050597-009A, H23050597-010A

Run ID :Run Order: PHSC_101-H_230519A: 51	SampType: Sample Duplicate				Lab ID: H23050597-009ADUP				Method: A4500-H B		
Analysis Date: 05/19/23 10:06	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	5.2	0.1		0				5.21	0.4	3	H
pH Measurement Temp	14.2			0				14.1			

Associated samples: H23050597-001A, H23050597-002A, H23050597-003A, H23050597-004A, H23050597-005A, H23050597-006A, H23050597-007A, H23050597-008A, H23050597-009A, H23050597-010A

Run ID :Run Order: PHSC_101-H_230519A: 53	SampType: Continuing Calibration Verification Standar				Lab ID: CCV - pH 7				Method: A4500-H B		
Analysis Date: 05/19/23 10:08	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	19.1			0		0	0				

Associated samples: H23050597-001A, H23050597-002A, H23050597-003A, H23050597-004A, H23050597-005A, H23050597-006A, H23050597-007A, H23050597-008A, H23050597-009A, H23050597-010A

Run ID :Run Order: PHSC_101-H_230519A: 69	SampType: Sample Duplicate				Lab ID: H23050597-010ADUP				Method: A4500-H B		
Analysis Date: 05/19/23 10:36	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	4.2	0.1		0				4.2	0.2	3	H
pH Measurement Temp	12.2			0				12.9			

Associated samples: H23050597-001A, H23050597-002A, H23050597-003A, H23050597-004A, H23050597-005A, H23050597-006A, H23050597-007A, H23050597-008A, H23050597-009A, H23050597-010A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** R184684

**Date:** 06-Jun-23

Run ID :Run Order: ICP2-HE_230519A: 13	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.7			
Analysis Date: 05/19/23 10:17	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.08	0.10	4	0	102	95	105				
Boron	0.804	0.10	0.8	0	100	95	105				
Calcium	39.3	1.0	40	0	98	95	105				
Copper	0.799	0.012	0.8	0	100	95	105				
Iron	3.91	0.020	4	0	98	95	105				
Lithium	0.786	0.10	0.8	0	98	95	105				
Magnesium	39.2	1.0	40	0	98	95	105				
Manganese	3.96	0.010	4	0	99	95	105				
Potassium	39.0	1.0	40	0	97	95	105				
Sodium	38.9	1.0	40	0	97	95	105				
Strontium	0.792	0.10	0.8	0	99	95	105				
Zinc	0.808	0.010	0.8	0	101	95	105				

Associated samples: H23050597-001B, H23050597-002B, H23050597-003B, H23050597-004B, H23050597-005B, H23050597-006B, H23050597-007B, H23050597-008B, H23050597-009B, H23050597-010B

Run ID :Run Order: ICP2-HE_230519A: 20	SampType: Method Blank				Lab ID: MB			Method: E200.7			
Analysis Date: 05/19/23 10:46	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.03									
Boron	ND	0.004									
Calcium	ND	0.2									
Copper	ND	0.01									
Iron	ND	0.008									
Lithium	ND	0.002									
Magnesium	ND	0.05									
Manganese	ND	0.001									
Potassium	ND	0.06									
Sodium	ND	0.03									
Strontium	ND	0.0003									
Zinc	ND	0.003									

Associated samples: H23050597-001B, H23050597-002B, H23050597-003B, H23050597-004B, H23050597-005B, H23050597-006B, H23050597-007B, H23050597-008B, H23050597-009B, H23050597-010B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** R184684

**Date:** 06-Jun-23

Run ID :Run Order: ICP2-HE_230519A: 21	SampType: Laboratory Fortified Blank				Lab ID: LFB			Method: E200.7			
Analysis Date: 05/19/23 10:50	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.27	0.10	5	0	105	85	115				
Boron	0.989	0.10	1	0	99	85	115				
Calcium	50.8	1.0	50	0	102	85	115				
Copper	1.03	0.012	1	0	103	85	115				
Iron	4.99	0.020	5	0	100	85	115				
Lithium	1.03	0.10	1	0	103	85	115				
Magnesium	50.5	1.0	50	0	101	85	115				
Manganese	5.09	0.010	5	0	102	85	115				
Potassium	51.1	1.0	50	0	102	85	115				
Sodium	51.1	1.0	50	0	102	85	115				
Strontium	1.02	0.10	1	0	102	85	115				
Zinc	0.989	0.010	1	0	99	85	115				

Associated samples: H23050597-001B, H23050597-002B, H23050597-003B, H23050597-004B, H23050597-005B, H23050597-006B, H23050597-007B, H23050597-008B, H23050597-009B, H23050597-010B

Run ID :Run Order: ICP2-HE_230519A: 60	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.7			
Analysis Date: 05/19/23 14:34	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.56	0.10	2.5	0	103	90	110				
Boron	2.44	0.10	2.5	0	98	90	110				
Calcium	25.3	1.0	25	0	101	90	110				
Copper	2.55	0.012	2.5	0	102	90	110				
Iron	2.53	0.020	2.5	0	101	90	110				
Lithium	1.29	0.10	1.25	0	104	90	110				
Magnesium	25.9	1.0	25	0	104	90	110				
Manganese	2.51	0.010	2.5	0	100	90	110				
Potassium	25.6	1.0	25	0	103	90	110				
Sodium	25.7	1.0	25	0	103	90	110				
Strontium	2.56	0.10	2.5	0	103	90	110				
Zinc	2.46	0.010	2.5	0	98	90	110				

Associated samples: H23050597-001B, H23050597-002B, H23050597-003B, H23050597-004B, H23050597-005B, H23050597-006B, H23050597-007B, H23050597-008B, H23050597-009B, H23050597-010B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** R184684

**Date:** 06-Jun-23

Run ID :Run Order: ICP2-HE_230519A: 72	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 05/19/23 15:20	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.60	0.10	2.5	0	104	90	110				
Boron	2.50	0.10	2.5	0	100	90	110				
Calcium	25.4	1.0	25	0	101	90	110				
Copper	2.57	0.012	2.5	0	103	90	110				
Iron	2.54	0.020	2.5	0	102	90	110				
Lithium	1.31	0.10	1.25	0	105	90	110				
Magnesium	25.8	1.0	25	0	103	90	110				
Manganese	2.52	0.010	2.5	0	101	90	110				
Potassium	26.0	1.0	25	0	104	90	110				
Sodium	25.9	1.0	25	0	104	90	110				
Strontium	2.56	0.10	2.5	0	103	90	110				
Zinc	2.51	0.010	2.5	0	100	90	110				

Associated samples: H23050597-001B, H23050597-002B, H23050597-003B, H23050597-004B, H23050597-005B, H23050597-006B, H23050597-007B, H23050597-008B, H23050597-009B, H23050597-010B

Run ID :Run Order: ICP2-HE_230519A: 77	SampType: Sample Matrix Spike				Lab ID: H23050597-009BMS2				Method: E200.7		
Analysis Date: 05/19/23 15:38	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	7.60	0.030	5	1.932	113	70	130				
Boron	1.57	0.050	1	0.5425	102	70	130				
Calcium	286	1.0	50	233.2		70	130				A
Copper	13.3	0.012	1	12.32		70	130				A
Iron	69.2	0.020	5	63.33		70	130				A
Lithium	1.58	0.10	1	0.5576	102	70	130				
Magnesium	132	1.0	50	80.89	102	70	130				
Manganese	48.5	0.0014	5	42.95		70	130				A
Potassium	62.9	1.0	50	11.38	103	70	130				
Sodium	180	1.0	50	131.8	97	70	130				
Strontium	2.54	0.010	1	1.524	102	70	130				
Zinc	37.8	0.010	1	33.92		70	130				A

Associated samples: H23050597-001B, H23050597-002B, H23050597-003B, H23050597-004B, H23050597-005B, H23050597-006B, H23050597-007B, H23050597-008B, H23050597-009B, H23050597-010B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050597

BatchID: R184684

Date: 06-Jun-23

Run ID :Run Order: ICP2-HE_230519A: 78	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050597-009BMSD2				Method: E200.7		
Analysis Date: 05/19/23 15:42	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	7.59	0.030	5	1.932	113	70	130	7.596	0	20	
Boron	1.58	0.050	1	0.5425	103	70	130	1.567	0.6	20	
Calcium	285	1.0	50	233.2		70	130	285.9	0.3	20	A
Copper	13.2	0.012	1	12.32		70	130	13.26	0.3	20	A
Iron	69.1	0.020	5	63.33		70	130	69.24	0.1	20	A
Lithium	1.59	0.10	1	0.5576	104	70	130	1.581	0.8	20	
Magnesium	131	1.0	50	80.89	101	70	130	131.7	0.2	20	
Manganese	48.5	0.0014	5	42.95		70	130	48.45	0	20	A
Potassium	63.2	1.0	50	11.38	104	70	130	62.88	0.4	20	
Sodium	183	1.0	50	131.8	102	70	130	180.5	1.2	20	
Strontium	2.53	0.010	1	1.524	101	70	130	2.544	0.6	20	
Zinc	37.6	0.010	1	33.92		70	130	37.76	0.3	20	A

Associated samples: H23050597-001B, H23050597-002B, H23050597-003B, H23050597-004B, H23050597-005B, H23050597-006B, H23050597-007B, H23050597-008B, H23050597-009B, H23050597-010B



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** R184723

**Date:** 06-Jun-23

Run ID :Run Order: <b>IC METROHM_230519A: 2</b>		SampType: <b>Method Blank</b>			Lab ID: <b>ICB</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/19/23 11:27</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.02									
Sulfate	ND	0.03									
Bromide	ND	0.001									
Fluoride	ND	0.01									

Associated samples: **H23050597-001A, H23050597-002A, H23050597-003A, H23050597-004A, H23050597-005A, H23050597-006A**

Run ID :Run Order: <b>IC METROHM_230519A: 3</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/19/23 11:42</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	101	1.0	100	0	<b>101</b>	90	110				
Sulfate	395	1.0	400	0	<b>99</b>	90	110				
Bromide	4.91	0.50	5	0	<b>98</b>	90	110				
Fluoride	5.13	0.10	5	0	<b>103</b>	90	110				

Associated samples: **H23050597-001A, H23050597-002A, H23050597-003A, H23050597-004A, H23050597-005A, H23050597-006A**

Run ID :Run Order: <b>IC METROHM_230519A: 4</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/19/23 11:56</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	25.0	1.0	25	0	<b>100</b>	90	110				
Sulfate	104	1.0	100	0	<b>104</b>	90	110				
Bromide	1.17	0.50	1.25	0	<b>93</b>	90	110				
Fluoride	1.30	0.10	1.25	0	<b>104</b>	90	110				

Associated samples: **H23050597-001A, H23050597-002A, H23050597-003A, H23050597-004A, H23050597-005A, H23050597-006A**

Run ID :Run Order: <b>IC METROHM_230519A: 69</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/20/23 04:29</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	52.2	1.0	50	0	<b>104</b>	90	110				
Sulfate	212	1.0	200	0	<b>106</b>	90	110				
Bromide	2.53	0.50	2.5	0	<b>101</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** R184723

**Date:** 06-Jun-23

Run ID :Run Order: <b>IC METROHM_230519A: 69</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E300.0</b>				
Analysis Date: <b>05/20/23 04:29</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>4</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride		2.69	0.10	2.5	0	<b>108</b>	90	110				

Associated samples: **H23050597-001A, H23050597-002A, H23050597-003A, H23050597-004A, H23050597-005A, H23050597-006A**

Run ID :Run Order: <b>IC METROHM_230519A: 83</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E300.0</b>				
Analysis Date: <b>05/20/23 08:05</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>4</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		51.5	1.0	50	0	<b>103</b>	90	110				
Sulfate		203	1.0	200	0	<b>102</b>	90	110				
Bromide		2.48	0.50	2.5	0	<b>99</b>	90	110				
Fluoride		2.69	0.10	2.5	0	<b>108</b>	90	110				

Associated samples: **H23050597-001A, H23050597-002A, H23050597-003A, H23050597-004A, H23050597-005A, H23050597-006A**

Run ID :Run Order: <b>IC METROHM_230519A: 86</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23050597-004AMS</b>			Method: <b>E300.0</b>				
Analysis Date: <b>05/20/23 09:03</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>4</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		153	1.0	125	24.17	<b>103</b>	90	110				
Sulfate		2230	1.0	500	1691	<b>108</b>	90	110				
Bromide		5.94	0.50	6.25	0.135	<b>93</b>	90	110				
Fluoride		7.84	0.10	6.25	1.405	<b>103</b>	90	110				

Associated samples: **H23050597-001A, H23050597-002A, H23050597-003A, H23050597-004A, H23050597-005A, H23050597-006A**

Run ID :Run Order: <b>IC METROHM_230519A: 87</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23050597-004AMSD</b>			Method: <b>E300.0</b>				
Analysis Date: <b>05/20/23 09:17</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>4</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride		152	1.0	125	24.17	<b>102</b>	90	110	153	<b>0.8</b>	20	
Sulfate		2240	1.0	500	1691	<b>110</b>	90	110	2232	<b>0.3</b>	20	
Bromide		5.90	0.50	6.25	0.135	<b>92</b>	90	110	5.944	<b>0.8</b>	20	
Fluoride		7.78	0.10	6.25	1.405	<b>102</b>	90	110	7.838	<b>0.8</b>	20	

Associated samples: **H23050597-001A, H23050597-002A, H23050597-003A, H23050597-004A, H23050597-005A, H23050597-006A**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** R184745

**Date:** 06-Jun-23

Run ID :Run Order: <b>PHSC_101-H_230523A: 47</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A2320 B</b>		
Analysis Date: <b>05/23/23 11:16</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									

Associated samples: **H23050597-001A, H23050597-002A, H23050597-003A, H23050597-004A, H23050597-005A, H23050597-006A, H23050597-007A, H23050597-008A, H23050597-009A, H23050597-010A**

Run ID :Run Order: <b>PHSC_101-H_230523A: 48</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS</b>				Method: <b>A2320 B</b>		
Analysis Date: <b>05/23/23 11:22</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	600	4.0	600	0	<b>100</b>	90	110				

Associated samples: **H23050597-001A, H23050597-002A, H23050597-003A, H23050597-004A, H23050597-005A, H23050597-006A, H23050597-007A, H23050597-008A, H23050597-009A, H23050597-010A**

Run ID :Run Order: <b>PHSC_101-H_230523A: 117</b>	SampType: <b>Sample Duplicate</b>				Lab ID: <b>H23050597-001ADUP</b>				Method: <b>A2320 B</b>		
Analysis Date: <b>05/23/23 17:20</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	51	4.0		0				50.6	<b>0.1</b>	10	
Bicarbonate as HCO3	61	4.0		0				61.12	<b>0.1</b>	10	
Carbonate as CO3	ND	4.0		0				0		10	

Associated samples: **H23050597-001A, H23050597-002A, H23050597-003A, H23050597-004A, H23050597-005A, H23050597-006A, H23050597-007A, H23050597-008A, H23050597-009A, H23050597-010A**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** R184760

**Date:** 06-Jun-23

Run ID :Run Order: <b>ICP2-HE_230522A: 13</b>		SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>			Method: <b>E200.7</b>		
Analysis Date: <b>05/22/23 11:19</b>		Units: <b>mg/L</b>		Prep Info:			Prep Date:		Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3.96	0.10	4	0	99	95	105				
Cadmium	0.399	0.0027	0.4	0	100	95	105				
Cobalt	0.815	0.010	0.8	0	102	95	105				
Nickel	0.769	0.010	0.8	0	96	95	105				

Associated samples: **H23050597-010B**

Run ID :Run Order: <b>ICP2-HE_230522A: 14</b>		SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV-1</b>			Method: <b>E200.7</b>		
Analysis Date: <b>05/22/23 11:23</b>		Units: <b>mg/L</b>		Prep Info:			Prep Date:		Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.48	0.10	2.5	0	99	95	105				
Cadmium	2.55	0.0027	2.5	0	102	95	105				
Cobalt	2.54	0.010	2.5	0	102	95	105				
Nickel	2.46	0.010	2.5	0	98	95	105				

Associated samples: **H23050597-010B**

Run ID :Run Order: <b>ICP2-HE_230522A: 20</b>		SampType: <b>Method Blank</b>				Lab ID: <b>MB</b>			Method: <b>E200.7</b>		
Analysis Date: <b>05/22/23 11:46</b>		Units: <b>mg/L</b>		Prep Info:			Prep Date:		Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.03									
Cadmium	ND	0.003									
Cobalt	0.01	0.01									
Nickel	ND	0.002									

Associated samples: **H23050597-010B**

Run ID :Run Order: <b>ICP2-HE_230522A: 21</b>		SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>			Method: <b>E200.7</b>		
Analysis Date: <b>05/22/23 11:50</b>		Units: <b>mg/L</b>		Prep Info:			Prep Date:		Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.14	0.10	5	0	103	85	115				
Cadmium	0.479	0.0028	0.5	0	96	85	115				
Cobalt	1.08	0.010	1	0	108	85	115				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** R184760

**Date:** 06-Jun-23

Run ID :Run Order: <b>ICP2-HE_230522A: 21</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>				Method: <b>E200.7</b>		
Analysis Date: <b>05/22/23 11:50</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	0.914	0.010	1	0	91	85	115				

Associated samples: **H23050597-010B**

Run ID :Run Order: <b>ICP2-HE_230522A: 143</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>				Method: <b>E200.7</b>		
Analysis Date: <b>05/22/23 19:39</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.55	0.10	2.5	0	102	90	110				
Cadmium	2.54	0.0027	2.5	0	101	90	110				
Cobalt	2.53	0.010	2.5	0	101	90	110				
Nickel	2.46	0.010	2.5	0	98	90	110				

Associated samples: **H23050597-010B**

Run ID :Run Order: <b>ICP2-HE_230522A: 149</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050635-002BMS2</b>				Method: <b>E200.7</b>		
Analysis Date: <b>05/22/23 20:02</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	21.0	0.061	10	10.92	100	70	130				
Cadmium	0.994	0.0055	1	0	99	70	130				
Cobalt	4.06	0.020	2	2.213	92	70	130				
Nickel	2.97	0.0051	2	0.992	99	70	130				

Associated samples: **H23050597-010B**

Run ID :Run Order: <b>ICP2-HE_230522A: 150</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050635-002BMSD2</b>				Method: <b>E200.7</b>		
Analysis Date: <b>05/22/23 20:05</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	20.0	0.061	10	10.92	91	70	130	20.96	4.5	20	
Cadmium	0.945	0.0055	1	0	94	70	130	0.9941	5.1	20	
Cobalt	4.05	0.020	2	2.213	92	70	130	4.063	0.3	20	
Nickel	2.83	0.0051	2	0.992	92	70	130	2.975	5.1	20	

Associated samples: **H23050597-010B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050597

BatchID: R184846

Date: 06-Jun-23

Run ID :Run Order: ICPMS205-H_230524C: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 05/24/23 19:28	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.293	0.10	0.3	0	98	90	110				
Antimony	0.0594	0.050	0.06	0	99	90	110				
Arsenic	0.0589	0.0050	0.06	0	98	90	110				
Barium	0.0596	0.10	0.06	0	99	90	110				
Beryllium	0.0304	0.0010	0.03	0	101	90	110				
Cadmium	0.0303	0.0010	0.03	0	101	90	110				
Chromium	0.0597	0.010	0.06	0	100	90	110				
Cobalt	0.0602	0.010	0.06	0	100	90	110				
Copper	0.0602	0.010	0.06	0	100	90	110				
Iron	0.306	0.020	0.3	0	102	90	110				
Lead	0.0593	0.010	0.06	0	99	90	110				
Lithium	0.0626	0.10	0.06	0	104	90	110				
Manganese	0.296	0.010	0.3	0	99	90	110				
Molybdenum	0.0569	0.0050	0.06	0	95	90	110				
Nickel	0.0604	0.010	0.06	0	101	90	110				
Selenium	0.0615	0.0050	0.06	0	102	90	110				
Silver	0.0294	0.0050	0.03	0	98	90	110				
Strontium	0.0590	0.10	0.06	0	98	90	110				
Thallium	0.0591	0.10	0.06	0	98	90	110				
Thorium	0.0611	0.0010	0.06	0	102	90	110				
Tin	0.0602	0.10	0.06	0	100	90	110				
Titanium	0.0624	0.010	0.06	0	104	90	110				
Uranium	0.0590	0.00030	0.06	0	98	90	110				
Vanadium	0.0589	0.10	0.06	0	98	90	110				
Zinc	0.0612	0.010	0.06	0	102	90	110				

Associated samples: H23050597-001B, H23050597-001F, H23050597-002B, H23050597-002F, H23050597-003B, H23050597-003F, H23050597-004B, H23050597-004F, H23050597-005B, H23050597-005F, H23050597-006B, H23050597-006F, H23050597-007B, H23050597-007F, H23050597-008B, H23050597-008F, H23050597-009B, H23050597-009F, H23050597-010B, H23050597-010F

Run ID :Run Order: ICPMS205-H_230524C: 24	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 05/24/23 20:19	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** R184846

**Date:** 06-Jun-23

Run ID :Run Order: ICPMS205-H_230524C: 24		SampType: Method Blank			Lab ID: LRB				Method: E200.8		
Analysis Date: 05/24/23 20:19		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.0002									
Arsenic	ND	0.0002									
Barium	ND	0.0002									
Beryllium	ND	0.0002									
Cadmium	ND	0.00002									
Chromium	ND	0.0001									
Cobalt	ND	0.001									
Copper	ND	0.0001									
Iron	ND	0.004									
Lead	ND	0.0001									
Manganese	ND	0.0003									
Molybdenum	ND	0.0003									
Nickel	ND	0.0002									
Selenium	ND	0.00007									
Silver	ND	0.00008									
Strontium	ND	0.0001									
Thallium	ND	0.00008									
Thorium	ND	0.0002									
Tin	ND	0.0002									
Titanium	ND	0.0005									
Uranium	ND	0.00002									
Vanadium	ND	0.0001									
Zinc	ND	0.001									

Associated samples: H23050597-001B, H23050597-002B, H23050597-003B, H23050597-004B, H23050597-005B, H23050597-006B, H23050597-007B, H23050597-008B, H23050597-009B, H23050597-010B

Run ID :Run Order: ICPMS205-H_230524C: 25		SampType: Laboratory Fortified Blank			Lab ID: LFB				Method: E200.8		
Analysis Date: 05/24/23 20:23		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0497	0.10	0.05	0	99	85	115				
Antimony	0.0468	0.050	0.05	0	94	85	115				
Arsenic	0.0496	0.0050	0.05	0	99	85	115				
Barium	0.0496	0.10	0.05	0	99	85	115				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** R184846

**Date:** 06-Jun-23

Run ID :Run Order: ICPMS205-H_230524C: 25	SampType: Laboratory Fortified Blank				Lab ID: LFB			Method: E200.8			
Analysis Date: 05/24/23 20:23	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0507	0.0010	0.05	0	101	85	115				
Cadmium	0.0505	0.0010	0.05	0	101	85	115				
Chromium	0.0495	0.010	0.05	0	99	85	115				
Cobalt	0.0505	0.010	0.05	0	101	85	115				
Copper	0.0500	0.010	0.05	0	100	85	115				
Iron	0.154	0.020	0.15	0	103	85	115				
Lead	0.0502	0.010	0.05	0	100	85	115				
Manganese	0.0498	0.010	0.05	0	100	85	115				
Molybdenum	0.0491	0.0050	0.05	0	98	85	115				
Nickel	0.0504	0.010	0.05	0	101	85	115				
Selenium	0.0510	0.0050	0.05	0	102	85	115				
Silver	0.0200	0.0050	0.02	0	100	85	115				
Strontium	0.0492	0.10	0.05	0	98	85	115				
Thallium	0.0504	0.10	0.05	0	101	85	115				
Thorium	0.0461	0.0010	0.05	0	92	85	115				
Tin	0.0474	0.10	0.05	0	95	85	115				
Titanium	0.0482	0.010	0.05	0	96	85	115				
Uranium	0.0488	0.00030	0.05	0	98	85	115				
Vanadium	0.0490	0.10	0.05	0	98	85	115				
Zinc	0.0530	0.010	0.05	0	106	85	115				

Associated samples: H23050597-001B, H23050597-002B, H23050597-003B, H23050597-004B, H23050597-005B, H23050597-006B, H23050597-007B, H23050597-008B, H23050597-009B, H23050597-010B

Run ID :Run Order: ICPMS205-H_230524C: 81	SampType: Sample Matrix Spike				Lab ID: H23050553-004BMS			Method: E200.8			
Analysis Date: 05/25/23 00:23	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>23</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0524	0.030	0.05	0	105	70	130				
Antimony	0.0456	0.0010	0.05	0	91	70	130				
Arsenic	0.0516	0.0010	0.05	0.0003007	103	70	130				
Barium	0.0654	0.050	0.05	0.01553	100	70	130				
Beryllium	0.0515	0.0010	0.05	0	103	70	130				
Cadmium	0.0449	0.0010	0.05	0.00006059	90	70	130				
Chromium	0.0478	0.0050	0.05	0	96	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050597

BatchID: R184846

Date: 06-Jun-23

Run ID :Run Order: ICPMS205-H_230524C: 81	SampType: Sample Matrix Spike				Lab ID: H23050553-004BMS				Method: E200.8		
Analysis Date: 05/25/23 00:23	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	0.0482	0.0050	0.05	0	96	70	130				
Copper	0.0465	0.0050	0.05	0.001487	90	70	130				
Iron	0.148	0.020	0.15	0	99	70	130				
Lead	0.0545	0.0010	0.05	0	109	70	130				
Manganese	1.62	0.0010	0.05	1.575		70	130				A
Molybdenum	0.0492	0.0010	0.05	0.002388	94	70	130				
Nickel	0.0507	0.0050	0.05	0.004804	92	70	130				
Selenium	0.0530	0.0010	0.05	0.0003173	105	70	130				
Strontium	4.30	0.010	0.05	4.359		70	130				A
Thallium	0.0552	0.00050	0.05	0.0001037	110	70	130				
Thorium	0.0528	0.0050	0.05	0.0002588	105	70	130				
Tin	0.0447	0.050	0.05	0	89	70	130				
Titanium	0.0498	0.0050	0.05	0	100	70	130				
Uranium	0.0837	0.00030	0.05	0.02911	109	70	130				
Vanadium	0.0496	0.010	0.05	0.0003121	99	70	130				
Zinc	0.0473	0.010	0.05	0.001957	91	70	130				

Associated samples: H23050597-001B, H23050597-002B, H23050597-003B, H23050597-004B, H23050597-005B, H23050597-006B, H23050597-007B, H23050597-008B, H23050597-009B, H23050597-010B

Run ID :Run Order: ICPMS205-H_230524C: 82	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050553-004BMSD				Method: E200.8		
Analysis Date: 05/25/23 00:28	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0513	0.030	0.05	0	103	70	130	0.05241	2.2	20	
Antimony	0.0461	0.0010	0.05	0	92	70	130	0.04558	1.1	20	
Arsenic	0.0511	0.0010	0.05	0.0003007	102	70	130	0.05156	0.9	20	
Barium	0.0660	0.050	0.05	0.01553	101	70	130	0.06543	0.9	20	
Beryllium	0.0510	0.0010	0.05	0	102	70	130	0.05151	1.0	20	
Cadmium	0.0448	0.0010	0.05	0.00006059	90	70	130	0.04487	0.1	20	
Chromium	0.0479	0.0050	0.05	0	96	70	130	0.0478	0.1	20	
Cobalt	0.0480	0.0050	0.05	0	96	70	130	0.0482	0.4	20	
Copper	0.0462	0.0050	0.05	0.001487	89	70	130	0.0465	0.7	20	
Iron	0.148	0.020	0.15	0	99	70	130	0.1479	0.1	20	
Lead	0.0544	0.0010	0.05	0	109	70	130	0.05452	0.3	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** R184846

**Date:** 06-Jun-23

Run ID :Run Order: <b>ICPMS205-H_230524C: 82</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23050553-004BMSD</b>				Method: <b>E200.8</b>		
Analysis Date: <b>05/25/23 00:28</b>		Units: <b>mg/L</b>			Prep Info:		Prep Date:		Prep Method:		
Analytes <b>23</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	1.61	0.0010	0.05	1.575		70	130	1.622	<b>0.7</b>	20	A
Molybdenum	0.0500	0.0010	0.05	0.002388	<b>95</b>	70	130	0.04915	<b>1.8</b>	20	
Nickel	0.0502	0.0050	0.05	0.004804	<b>91</b>	70	130	0.05068	<b>1.0</b>	20	
Selenium	0.0537	0.0010	0.05	0.0003173	<b>107</b>	70	130	0.053	<b>1.2</b>	20	
Strontium	4.30	0.010	0.05	4.359		70	130	4.298	<b>0</b>	20	A
Thallium	0.0550	0.00050	0.05	0.0001037	<b>110</b>	70	130	0.05522	<b>0.4</b>	20	
Thorium	0.0557	0.0050	0.05	0.0002588	<b>111</b>	70	130	0.05284	<b>5.3</b>	20	
Tin	0.0453	0.050	0.05	0	<b>91</b>	70	130	0.04469		20	
Titanium	0.0528	0.0050	0.05	0	<b>105</b>	70	130	0.04981	<b>5.7</b>	20	
Uranium	0.0843	0.00030	0.05	0.02911	<b>110</b>	70	130	0.08367	<b>0.8</b>	20	
Vanadium	0.0497	0.010	0.05	0.0003121	<b>99</b>	70	130	0.04959	<b>0.2</b>	20	
Zinc	0.0466	0.010	0.05	0.001957	<b>89</b>	70	130	0.0473	<b>1.4</b>	20	

Associated samples: **H23050597-001B, H23050597-002B, H23050597-003B, H23050597-004B, H23050597-005B, H23050597-006B, H23050597-007B, H23050597-008B, H23050597-009B, H23050597-010B**

Run ID :Run Order: <b>ICPMS205-H_230524C: 83</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>				Method: <b>E200.8</b>		
Analysis Date: <b>05/25/23 00:32</b>		Units: <b>mg/L</b>			Prep Info:		Prep Date:		Prep Method:		
Analytes <b>25</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0532	0.10	0.05	0	<b>106</b>	90	110				
Antimony	0.0494	0.050	0.05	0	<b>99</b>	90	110				
Arsenic	0.0494	0.0050	0.05	0	<b>99</b>	90	110				
Barium	0.0499	0.10	0.05	0	<b>100</b>	90	110				
Beryllium	0.0493	0.0010	0.05	0	<b>99</b>	90	110				
Cadmium	0.0499	0.0010	0.05	0	<b>100</b>	90	110				
Chromium	0.0494	0.010	0.05	0	<b>99</b>	90	110				
Cobalt	0.0496	0.010	0.05	0	<b>99</b>	90	110				
Copper	0.0490	0.010	0.05	0	<b>98</b>	90	110				
Iron	1.31	0.020	1.3	0	<b>101</b>	90	110				
Lead	0.0500	0.010	0.05	0	<b>100</b>	90	110				
Lithium	0.613	0.10	0.625	0	<b>98</b>	90	110				
Manganese	0.0515	0.010	0.05	0	<b>103</b>	90	110				
Molybdenum	0.0486	0.0050	0.05	0	<b>97</b>	90	110				
Nickel	0.0494	0.010	0.05	0	<b>99</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** R184846

**Date:** 06-Jun-23

Run ID :Run Order: ICPMS205-H_230524C: 83	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 05/25/23 00:32	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.0516	0.0050	0.05	0	103	90	110				
Silver	0.0191	0.0050	0.02	0	96	90	110				
Strontium	0.0517	0.10	0.05	0	103	90	110				
Thallium	0.0500	0.10	0.05	0	100	90	110				
Thorium	0.0509	0.0010	0.05	0	102	90	110				
Tin	0.0505	0.10	0.05	0	101	90	110				
Titanium	0.0514	0.010	0.05	0	103	90	110				
Uranium	0.0498	0.00030	0.05	0	100	90	110				
Vanadium	0.0499	0.10	0.05	0	100	90	110				
Zinc	0.0518	0.010	0.05	0	104	90	110				

Associated samples: H23050597-001B, H23050597-001F, H23050597-002B, H23050597-002F, H23050597-003B, H23050597-003F, H23050597-004B, H23050597-004F, H23050597-005B, H23050597-005F, H23050597-006B, H23050597-006F, H23050597-007B, H23050597-007F, H23050597-008B, H23050597-008F, H23050597-009B, H23050597-009F, H23050597-010B, H23050597-010F

Run ID :Run Order: ICPMS205-H_230524C: 96	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 05/25/23 01:28	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0505	0.10	0.05	0	101	90	110				
Antimony	0.0501	0.050	0.05	0	100	90	110				
Arsenic	0.0492	0.0050	0.05	0	98	90	110				
Barium	0.0506	0.10	0.05	0	101	90	110				
Beryllium	0.0499	0.0010	0.05	0	100	90	110				
Cadmium	0.0504	0.0010	0.05	0	101	90	110				
Chromium	0.0490	0.010	0.05	0	98	90	110				
Cobalt	0.0498	0.010	0.05	0	100	90	110				
Copper	0.0495	0.010	0.05	0	99	90	110				
Iron	1.30	0.020	1.3	0	100	90	110				
Lead	0.0503	0.010	0.05	0	101	90	110				
Lithium	0.618	0.10	0.625	0	99	90	110				
Manganese	0.0514	0.010	0.05	0	103	90	110				
Molybdenum	0.0483	0.0050	0.05	0	97	90	110				
Nickel	0.0493	0.010	0.05	0	99	90	110				
Selenium	0.0520	0.0050	0.05	0	104	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** R184846

**Date:** 06-Jun-23

Run ID :Run Order: <b>ICPMS205-H_230524C: 96</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/25/23 01:28</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>25</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0196	0.0050	0.02	0	98	90	110				
Strontium	0.0524	0.10	0.05	0	105	90	110				
Thallium	0.0505	0.10	0.05	0	101	90	110				
Thorium	0.0480	0.0010	0.05	0	96	90	110				
Tin	0.0502	0.10	0.05	0	100	90	110				
Titanium	0.0505	0.010	0.05	0	101	90	110				
Uranium	0.0505	0.00030	0.05	0	101	90	110				
Vanadium	0.0496	0.10	0.05	0	99	90	110				
Zinc	0.0519	0.010	0.05	0	104	90	110				

Associated samples: **H23050597-001B, H23050597-001F, H23050597-002B, H23050597-002F, H23050597-003B, H23050597-003F, H23050597-004B, H23050597-004F, H23050597-005B, H23050597-005F, H23050597-006B, H23050597-006F, H23050597-007B, H23050597-007F, H23050597-008B, H23050597-008F, H23050597-009B, H23050597-009F, H23050597-010B, H23050597-010F**

Run ID :Run Order: <b>ICPMS205-H_230524C: 109</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/25/23 02:23</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>25</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0516	0.10	0.05	0	103	90	110				
Antimony	0.0499	0.050	0.05	0	100	90	110				
Arsenic	0.0491	0.0050	0.05	0	98	90	110				
Barium	0.0504	0.10	0.05	0	101	90	110				
Beryllium	0.0499	0.0010	0.05	0	100	90	110				
Cadmium	0.0505	0.0010	0.05	0	101	90	110				
Chromium	0.0492	0.010	0.05	0	98	90	110				
Cobalt	0.0500	0.010	0.05	0	100	90	110				
Copper	0.0493	0.010	0.05	0	99	90	110				
Iron	1.30	0.020	1.3	0	100	90	110				
Lead	0.0502	0.010	0.05	0	100	90	110				
Lithium	0.615	0.10	0.625	0	98	90	110				
Manganese	0.0514	0.010	0.05	0	103	90	110				
Molybdenum	0.0489	0.0050	0.05	0	98	90	110				
Nickel	0.0496	0.010	0.05	0	99	90	110				
Selenium	0.0520	0.0050	0.05	0	104	90	110				
Silver	0.0196	0.0050	0.02	0	98	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** R184846

**Date:** 06-Jun-23

Run ID :Run Order: ICPMS205-H_230524C: 109	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 05/25/23 02:23	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Strontium	0.0524	0.10	0.05	0	105	90	110				
Thallium	0.0503	0.10	0.05	0	101	90	110				
Thorium	0.0489	0.0010	0.05	0	98	90	110				
Tin	0.0511	0.10	0.05	0	102	90	110				
Titanium	0.0517	0.010	0.05	0	103	90	110				
Uranium	0.0505	0.00030	0.05	0	101	90	110				
Vanadium	0.0491	0.10	0.05	0	98	90	110				
Zinc	0.0509	0.010	0.05	0	102	90	110				

Associated samples: H23050597-001B, H23050597-001F, H23050597-002B, H23050597-002F, H23050597-003B, H23050597-003F, H23050597-004B, H23050597-004F, H23050597-005B, H23050597-005F, H23050597-006B, H23050597-006F, H23050597-007B, H23050597-007F, H23050597-008B, H23050597-008F, H23050597-009B, H23050597-009F, H23050597-010B, H23050597-010F

Run ID :Run Order: ICPMS205-H_230524C: 142	SampType: Sample Matrix Spike				Lab ID: H23050596-010BMS			Method: E200.8			
Analysis Date: 05/25/23 04:45	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	1.26	0.030	0.05	1.311		70	130				A
Antimony	0.0472	0.0010	0.05	0	94	70	130				
Arsenic	0.0502	0.0010	0.05	0.0006143	99	70	130				
Barium	0.0769	0.050	0.05	0.02503	104	70	130				
Beryllium	0.0550	0.0010	0.05	0.005415	99	70	130				
Cadmium	0.132	0.0010	0.05	0.08131	100	70	130				
Chromium	0.0476	0.0050	0.05	0	95	70	130				
Cobalt	0.102	0.0050	0.05	0.05381	96	70	130				
Copper	5.04	0.0050	0.05	5		70	130				A
Iron	0.184	0.020	0.15	0.03137	102	70	130				
Lead	0.0677	0.0010	0.05	0.01762	100	70	130				
Manganese	8.58	0.0010	0.05	8.953		70	130				A
Molybdenum	0.0477	0.0010	0.05	0	95	70	130				
Nickel	0.0860	0.0050	0.05	0.03828	95	70	130				
Selenium	0.0519	0.0010	0.05	0.0003787	103	70	130				
Silver	0.0169	0.0010	0.02	0.0008792	80	70	130				
Strontium	0.504	0.010	0.05	0.4674		70	130				A
Thallium	0.0519	0.00050	0.05	0	104	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount

## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** R184846

**Date:** 06-Jun-23

Run ID :Run Order: <b>ICPMS205-H_230524C: 142</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23050596-010BMS</b>				Method: <b>E200.8</b>		
Analysis Date: <b>05/25/23 04:45</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:		Prep Method:				
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0486	0.0050	0.05	0	97	70	130				
Tin	0.0474	0.050	0.05	0	95	70	130				
Titanium	0.0461	0.0050	0.05	0	92	70	130				
Uranium	0.0549	0.00030	0.05	0.003518	103	70	130				
Vanadium	0.0475	0.010	0.05	0.00009984	95	70	130				
Zinc	13.9	0.010	0.05	14.04		70	130				AE

Associated samples: **H23050597-001B, H23050597-002B, H23050597-003B, H23050597-004B, H23050597-005B, H23050597-006B, H23050597-007B, H23050597-008B, H23050597-009B, H23050597-010B**

Run ID :Run Order: <b>ICPMS205-H_230524C: 143</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23050596-010BMSD</b>				Method: <b>E200.8</b>		
Analysis Date: <b>05/25/23 04:49</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:		Prep Method:				
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	1.25	0.030	0.05	1.311		70	130	1.263	0.7	20	A
Antimony	0.0471	0.0010	0.05	0	94	70	130	0.04722	0.3	20	
Arsenic	0.0496	0.0010	0.05	0.0006143	98	70	130	0.05016	1.2	20	
Barium	0.0769	0.050	0.05	0.02503	104	70	130	0.07688	0	20	
Beryllium	0.0554	0.0010	0.05	0.005415	100	70	130	0.055	0.7	20	
Cadmium	0.131	0.0010	0.05	0.08131	100	70	130	0.1315	0.2	20	
Chromium	0.0467	0.0050	0.05	0	93	70	130	0.04758	1.8	20	
Cobalt	0.101	0.0050	0.05	0.05381	94	70	130	0.1017	0.9	20	
Copper	5.04	0.0050	0.05	5		70	130	5.045	0.1	20	A
Iron	0.178	0.020	0.15	0.03137	98	70	130	0.1845	3.4	20	
Lead	0.0675	0.0010	0.05	0.01762	100	70	130	0.06768	0.3	20	
Manganese	8.54	0.0010	0.05	8.953		70	130	8.585	0.5	20	A
Molybdenum	0.0479	0.0010	0.05	0	96	70	130	0.04769	0.4	20	
Nickel	0.0844	0.0050	0.05	0.03828	92	70	130	0.08596	1.8	20	
Selenium	0.0516	0.0010	0.05	0.0003787	103	70	130	0.05188	0.5	20	
Silver	0.0174	0.0010	0.02	0.0008792	83	70	130	0.01693	2.6	20	
Strontium	0.503	0.010	0.05	0.4674		70	130	0.5044	0.2	20	A
Thallium	0.0513	0.00050	0.05	0	103	70	130	0.05188	1.1	20	
Thorium	0.0496	0.0050	0.05	0	99	70	130	0.04863	1.9	20	
Tin	0.0464	0.050	0.05	0	93	70	130	0.0474		20	
Titanium	0.0493	0.0050	0.05	0	99	70	130	0.04611	6.6	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** R184846

**Date:** 06-Jun-23

Run ID :Run Order: <b>ICPMS205-H_230524C: 143</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23050596-010BMSD</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/25/23 04:49</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.0545	0.00030	0.05	0.003518	<b>102</b>	70	130	0.05493	<b>0.7</b>	20	
Vanadium	0.0465	0.010	0.05	0.00009984	<b>93</b>	70	130	0.04752	<b>2.1</b>	20	
Zinc	13.9	0.010	0.05	14.04		70	130	13.9	<b>0.1</b>	20	AE

Associated samples: **H23050597-001B, H23050597-002B, H23050597-003B, H23050597-004B, H23050597-005B, H23050597-006B, H23050597-007B, H23050597-008B, H23050597-009B, H23050597-010B**

Run ID :Run Order: <b>ICPMS205-H_230524C: 145</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/25/23 04:58</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>25</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0521	0.10	0.05	0	<b>104</b>	90	110				
Antimony	0.0511	0.050	0.05	0	<b>102</b>	90	110				
Arsenic	0.0496	0.0050	0.05	0	<b>99</b>	90	110				
Barium	0.0521	0.10	0.05	0	<b>104</b>	90	110				
Beryllium	0.0477	0.0010	0.05	0	<b>95</b>	90	110				
Cadmium	0.0519	0.0010	0.05	0	<b>104</b>	90	110				
Chromium	0.0490	0.010	0.05	0	<b>98</b>	90	110				
Cobalt	0.0498	0.010	0.05	0	<b>100</b>	90	110				
Copper	0.0506	0.010	0.05	0	<b>101</b>	90	110				
Iron	1.29	0.020	1.3	0	<b>99</b>	90	110				
Lead	0.0489	0.010	0.05	0	<b>98</b>	90	110				
Lithium	0.592	0.10	0.625	0	<b>95</b>	90	110				
Manganese	0.0509	0.010	0.05	0	<b>102</b>	90	110				
Molybdenum	0.0500	0.0050	0.05	0	<b>100</b>	90	110				
Nickel	0.0499	0.010	0.05	0	<b>100</b>	90	110				
Selenium	0.0523	0.0050	0.05	0	<b>105</b>	90	110				
Silver	0.0202	0.0050	0.02	0	<b>101</b>	90	110				
Strontium	0.0519	0.10	0.05	0	<b>104</b>	90	110				
Thallium	0.0490	0.10	0.05	0	<b>98</b>	90	110				
Thorium	0.0497	0.0010	0.05	0	<b>99</b>	90	110				
Tin	0.0517	0.10	0.05	0	<b>103</b>	90	110				
Titanium	0.0482	0.010	0.05	0	<b>96</b>	90	110				
Uranium	0.0493	0.00030	0.05	0	<b>99</b>	90	110				
Vanadium	0.0486	0.10	0.05	0	<b>97</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** R184846

**Date:** 06-Jun-23

Run ID :Run Order: <b>ICPMS205-H_230524C: 145</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E200.8</b>								
Analysis Date: <b>05/25/23 04:58</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>25</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.0535	0.010	0.05	0	<b>107</b>	90	110				

Associated samples: **H23050597-001B, H23050597-001F, H23050597-002B, H23050597-002F, H23050597-003B, H23050597-003F, H23050597-004B, H23050597-004F, H23050597-005B, H23050597-005F, H23050597-006B, H23050597-006F, H23050597-007B, H23050597-007F, H23050597-008B, H23050597-008F, H23050597-009B, H23050597-009F, H23050597-010B, H23050597-010F**

Run ID :Run Order: <b>ICPMS205-H_230524C: 153</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23050597-010BMS</b>	Method: <b>E200.8</b>								
Analysis Date: <b>05/25/23 05:32</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3.63	0.030	0.05	3.66		70	130				A
Antimony	0.0467	0.0010	0.05	0	<b>93</b>	70	130				
Arsenic	0.0671	0.0010	0.05	0.02065	<b>93</b>	70	130				
Barium	0.0654	0.050	0.05	0.01429	<b>102</b>	70	130				
Beryllium	0.0493	0.0010	0.05	0.004384	<b>90</b>	70	130				
Cadmium	0.877	0.0010	0.05	0.8379		70	130				A
Chromium	0.0476	0.0050	0.05	0.0002076	<b>95</b>	70	130				
Cobalt	0.936	0.0050	0.05	0.8923		70	130				A
Copper	41.6	0.0050	0.05	41.6		70	130				AE
Iron	326	0.020	0.15	327.8		70	130				AE
Lead	0.0895	0.0010	0.05	0.03929	<b>100</b>	70	130				
Manganese	150	0.0010	0.05	150.9		70	130				AE
Molybdenum	0.0498	0.0010	0.05	0.0009542	<b>98</b>	70	130				
Nickel	0.409	0.0050	0.05	0.359		70	130				A
Selenium	0.0505	0.0010	0.05	0.0003705	<b>100</b>	70	130				
Silver	0.0167	0.0010	0.02	0.0002158	<b>83</b>	70	130				
Strontium	2.75	0.010	0.05	2.739		70	130				A
Thallium	0.0527	0.00050	0.05	0	<b>105</b>	70	130				
Thorium	0.0651	0.0050	0.05	0.001044	<b>128</b>	70	130				
Tin	0.0486	0.050	0.05	0	<b>97</b>	70	130				
Titanium	0.0475	0.0050	0.05	0	<b>95</b>	70	130				
Uranium	0.0644	0.00030	0.05	0.01003	<b>109</b>	70	130				
Vanadium	0.0543	0.010	0.05	0.006469	<b>96</b>	70	130				
Zinc	146	0.010	0.05	147.7		70	130				AE

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** R184846

**Date:** 06-Jun-23

Run ID :Run Order: **ICPMS205-H\_230524C: 153**      SampType: **Sample Matrix Spike**      Lab ID: **H23050597-010BMS**      Method: **E200.8**  
 Analysis Date: **05/25/23 05:32**      Units: **mg/L**      Prep Info:    Prep Date:      Prep Method:  
 Analytes **24**      Result      PQL      SPK value    SPK Ref Val      %REC    LowLimit    HighLimit    RPD Ref Val      %RPD    RPDLimit    Qual

Associated samples: **H23050597-001B, H23050597-002B, H23050597-003B, H23050597-004B, H23050597-005B, H23050597-006B, H23050597-007B, H23050597-008B, H23050597-009B, H23050597-010B**

Run ID :Run Order: <b>ICPMS205-H_230524C: 154</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23050597-010BMSD</b>	Method: <b>E200.8</b>								
Analysis Date: <b>05/25/23 05:37</b>	Units: <b>mg/L</b>	Prep Info:    Prep Date:	Prep Method:								
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3.62	0.030	0.05	3.66		70	130	3.628	<b>0.2</b>	20	A
Antimony	0.0470	0.0010	0.05	0	<b>94</b>	70	130	0.04674	<b>0.6</b>	20	
Arsenic	0.0670	0.0010	0.05	0.02065	<b>93</b>	70	130	0.06711	<b>0.1</b>	20	
Barium	0.0658	0.050	0.05	0.01429	<b>103</b>	70	130	0.06536	<b>0.7</b>	20	
Beryllium	0.0486	0.0010	0.05	0.004384	<b>88</b>	70	130	0.04929	<b>1.5</b>	20	
Cadmium	0.884	0.0010	0.05	0.8379		70	130	0.8771	<b>0.8</b>	20	A
Chromium	0.0469	0.0050	0.05	0.0002076	<b>93</b>	70	130	0.04758	<b>1.5</b>	20	
Cobalt	0.931	0.0050	0.05	0.8923		70	130	0.9365	<b>0.6</b>	20	A
Copper	41.3	0.0050	0.05	41.6		70	130	41.61	<b>0.8</b>	20	AE
Iron	321	0.020	0.15	327.8		70	130	326.4	<b>1.5</b>	20	AE
Lead	0.0899	0.0010	0.05	0.03929	<b>101</b>	70	130	0.08951	<b>0.4</b>	20	
Manganese	148	0.0010	0.05	150.9		70	130	149.6	<b>1.3</b>	20	AE
Molybdenum	0.0504	0.0010	0.05	0.0009542	<b>99</b>	70	130	0.04978	<b>1.2</b>	20	
Nickel	0.403	0.0050	0.05	0.359		70	130	0.4088	<b>1.3</b>	20	A
Selenium	0.0506	0.0010	0.05	0.0003705	<b>100</b>	70	130	0.05048	<b>0.1</b>	20	
Silver	0.0171	0.0010	0.02	0.0002158	<b>84</b>	70	130	0.01674	<b>2.1</b>	20	
Strontium	2.70	0.010	0.05	2.739		70	130	2.748	<b>1.7</b>	20	A
Thallium	0.0529	0.00050	0.05	0	<b>106</b>	70	130	0.05272	<b>0.3</b>	20	
Thorium	0.0657	0.0050	0.05	0.001044	<b>129</b>	70	130	0.0651	<b>1.0</b>	20	
Tin	0.0486	0.050	0.05	0	<b>97</b>	70	130	0.04864		20	
Titanium	0.0473	0.0050	0.05	0	<b>95</b>	70	130	0.04748	<b>0.3</b>	20	
Uranium	0.0649	0.00030	0.05	0.01003	<b>110</b>	70	130	0.06443	<b>0.7</b>	20	
Vanadium	0.0533	0.010	0.05	0.006469	<b>94</b>	70	130	0.05431	<b>1.8</b>	20	
Zinc	145	0.010	0.05	147.7		70	130	146	<b>0.6</b>	20	AE

Associated samples: **H23050597-001B, H23050597-002B, H23050597-003B, H23050597-004B, H23050597-005B, H23050597-006B, H23050597-007B, H23050597-008B, H23050597-009B, H23050597-010B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050597

BatchID: R184846

Date: 06-Jun-23

Run ID :Run Order: ICPMS205-H_230524C: 171	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.8			
Analysis Date: 05/25/23 17:48	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.279	0.10	0.3	0	93	90	110				
Antimony	0.0577	0.050	0.06	0	96	90	110				
Arsenic	0.0571	0.0050	0.06	0	95	90	110				
Barium	0.0579	0.10	0.06	0	96	90	110				
Beryllium	0.0287	0.0010	0.03	0	96	90	110				
Cadmium	0.0290	0.0010	0.03	0	97	90	110				
Chromium	0.0576	0.010	0.06	0	96	90	110				
Cobalt	0.0583	0.010	0.06	0	97	90	110				
Copper	0.0584	0.010	0.06	0	97	90	110				
Iron	0.290	0.020	0.3	0	96	90	110				
Lead	0.0575	0.010	0.06	0	96	90	110				
Lithium	0.0590	0.10	0.06	0	98	90	110				
Manganese	0.288	0.010	0.3	0	96	90	110				
Molybdenum	0.0550	0.0050	0.06	0	92	90	110				
Nickel	0.0582	0.010	0.06	0	97	90	110				
Selenium	0.0596	0.0050	0.06	0	99	90	110				
Silver	0.0283	0.0050	0.03	0	94	90	110				
Strontium	0.0582	0.10	0.06	0	97	90	110				
Thallium	0.0572	0.10	0.06	0	95	90	110				
Thorium	0.0590	0.0010	0.06	0	98	90	110				
Tin	0.0579	0.10	0.06	0	97	90	110				
Titanium	0.0572	0.010	0.06	0	95	90	110				
Uranium	0.0565	0.00030	0.06	0	94	90	110				
Vanadium	0.0568	0.10	0.06	0	95	90	110				
Zinc	0.0594	0.010	0.06	0	99	90	110				

Associated samples: H23050597-001B, H23050597-001F, H23050597-002B, H23050597-002F, H23050597-003B, H23050597-003F, H23050597-004B, H23050597-004F, H23050597-005B, H23050597-005F, H23050597-006B, H23050597-006F, H23050597-007B, H23050597-007F, H23050597-008B, H23050597-008F, H23050597-009B, H23050597-009F, H23050597-010B, H23050597-010F

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** R184848

**Date:** 06-Jun-23

Run ID :Run Order: <b>IC METROHM_230524A: 2</b>		SampType: <b>Method Blank</b>			Lab ID: <b>ICB</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/24/23 11:41</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.02									
Sulfate	ND	0.03									
Bromide	ND	0.001									
Fluoride	ND	0.01									

Associated samples: **H23050597-007A, H23050597-008A, H23050597-009A, H23050597-010A**

Run ID :Run Order: <b>IC METROHM_230524A: 3</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/24/23 11:55</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	101	1.0	100	0	<b>101</b>	90	110				
Sulfate	390	1.0	400	0	<b>98</b>	90	110				
Bromide	4.80	0.50	5	0	<b>96</b>	90	110				
Fluoride	5.35	0.10	5	0	<b>107</b>	90	110				

Associated samples: **H23050597-007A, H23050597-008A, H23050597-009A, H23050597-010A**

Run ID :Run Order: <b>IC METROHM_230524A: 4</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/24/23 12:10</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	24.3	1.0	25	0	<b>97</b>	90	110				
Sulfate	101	1.0	100	0	<b>101</b>	90	110				
Bromide	1.25	0.50	1.25	0	<b>100</b>	90	110				
Fluoride	1.24	0.10	1.25	0	<b>100</b>	90	110				

Associated samples: **H23050597-007A, H23050597-008A, H23050597-009A, H23050597-010A**

Run ID :Run Order: <b>IC METROHM_230524A: 38</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/24/23 20:48</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	50.8	1.0	50	0	<b>102</b>	90	110				
Sulfate	206	1.0	200	0	<b>103</b>	90	110				
Bromide	2.40	0.50	2.5	0	<b>96</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** R184848

**Date:** 06-Jun-23

Run ID :Run Order: <b>IC METROHM_230524A: 38</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>	Method: <b>E300.0</b>					
Analysis Date: <b>05/24/23 20:48</b>	Units: <b>mg/L</b>				Prep Info:	Prep Date:			Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.52	0.10	2.5	0	<b>101</b>	90	110				

Associated samples: **H23050597-007A, H23050597-008A, H23050597-009A, H23050597-010A**

Run ID :Run Order: <b>IC METROHM_230524A: 50</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23050597-008AMS</b>	Method: <b>E300.0</b>					
Analysis Date: <b>05/24/23 23:55</b>	Units: <b>mg/L</b>				Prep Info:	Prep Date:			Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	167	1.0	50	118.4	<b>98</b>	90	110				
Sulfate	805	1.0	200	605	<b>100</b>	90	110				
Bromide	2.57	0.50	2.5	0.336	<b>89</b>	90	110				S
Fluoride	3.32	0.10	2.5	0.704	<b>105</b>	90	110				

Associated samples: **H23050597-007A, H23050597-008A, H23050597-009A, H23050597-010A**

Run ID :Run Order: <b>IC METROHM_230524A: 51</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050597-008AMSD</b>	Method: <b>E300.0</b>					
Analysis Date: <b>05/25/23 00:09</b>	Units: <b>mg/L</b>				Prep Info:	Prep Date:			Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	166	1.0	50	118.4	<b>95</b>	90	110	167.1	<b>0.7</b>	20	
Sulfate	809	1.0	200	605	<b>102</b>	90	110	805.5	<b>0.5</b>	20	
Bromide	2.59	0.50	2.5	0.336	<b>90</b>	90	110	2.57	<b>0.6</b>	20	
Fluoride	3.33	0.10	2.5	0.704	<b>105</b>	90	110	3.323	<b>0.3</b>	20	

Associated samples: **H23050597-007A, H23050597-008A, H23050597-009A, H23050597-010A**

Run ID :Run Order: <b>IC METROHM_230524A: 52</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>	Method: <b>E300.0</b>					
Analysis Date: <b>05/25/23 00:24</b>	Units: <b>mg/L</b>				Prep Info:	Prep Date:			Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	51.3	1.0	50	0	<b>103</b>	90	110				
Sulfate	209	1.0	200	0	<b>104</b>	90	110				
Bromide	2.43	0.50	2.5	0	<b>97</b>	90	110				
Fluoride	2.57	0.10	2.5	0	<b>103</b>	90	110				

Associated samples: **H23050597-007A, H23050597-008A, H23050597-009A, H23050597-010A**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** R184848

**Date:** 06-Jun-23

Run ID :Run Order: <b>IC METROHM_230524A: 255</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/27/23 05:11</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	52.1	1.0	50	0	<b>104</b>	90	110				
Sulfate	203	1.0	200	0	<b>102</b>	90	110				
Bromide	2.44	0.50	2.5	0	<b>98</b>	90	110				
Fluoride	2.64	0.10	2.5	0	<b>106</b>	90	110				

Associated samples: **H23050597-007A, H23050597-008A, H23050597-009A, H23050597-010A**

Run ID :Run Order: <b>IC METROHM_230524A: 270</b>		SampType: <b>Sample Duplicate</b>			Lab ID: <b>H23050597-010ADUP</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/27/23 09:01</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	296	1.0		0				305.7	<b>3.2</b>	20	
Sulfate	2600	1.0		0				2668	<b>2.7</b>	20	
Bromide	0.670	0.50		0				0.7	<b>4.4</b>	20	
Fluoride	2.80	0.12		0				2.9	<b>3.5</b>	20	

Associated samples: **H23050597-007A, H23050597-008A, H23050597-009A, H23050597-010A**

Run ID :Run Order: <b>IC METROHM_230524A: 274</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23050806-022AMS</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/27/23 09:59</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	26.3	1.0	25	0.215	<b>104</b>	90	110				
Sulfate	106	1.0	100	0.073	<b>106</b>	90	110				
Bromide	1.16	0.50	1.25	0	<b>92</b>	90	110				
Fluoride	1.36	0.10	1.25	0	<b>109</b>	90	110				

Associated samples: **H23050597-007A, H23050597-008A, H23050597-009A, H23050597-010A**

Run ID :Run Order: <b>IC METROHM_230524A: 275</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23050806-022AMSD</b>			Method: <b>E300.0</b>			
Analysis Date: <b>05/27/23 10:13</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	26.7	1.0	25	0.215	<b>106</b>	90	110	26.26	<b>1.6</b>	20	
Sulfate	107	1.0	100	0.073	<b>107</b>	90	110	106.5	<b>0.7</b>	20	
Bromide	1.17	0.50	1.25	0	<b>93</b>	90	110	1.156	<b>1.0</b>	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** R184848

**Date:** 06-Jun-23

Run ID :Run Order: <b>IC METROHM_230524A: 275</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23050806-022AMSD</b>				Method: <b>E300.0</b>		
Analysis Date: <b>05/27/23 10:13</b>	Units: <b>mg/L</b>			Prep Info: Prep Date:				Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	1.36	0.10	1.25	0	<b>109</b>	90	110	1.36	<b>0.2</b>	20	

Associated samples: **H23050597-007A, H23050597-008A, H23050597-009A, H23050597-010A**

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** R184870

**Date:** 06-Jun-23

Run ID :Run Order: ICPMS205-H_230524D: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 05/24/23 17:40	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0605	0.010	0.06	0	101	90	110				
Gallium	0.0627	0.010	0.06	0	104	90	110				
Lanthanum	0.0611	0.010	0.06	0	102	90	110				
Neodymium	0.0613	0.0050	0.06	0	102	90	110				
Niobium	0.0650	0.0010	0.06	0	108	90	110				
Palladium	0.0600	0.010	0.06	0	100	90	110				
Praseodymium	0.0610	0.0010	0.06	0	102	90	110				
Rubidium	0.0620	0.010	0.06	0	103	90	110				
Tungsten	0.0574	0.10	0.06	0	96	90	110				
Zirconium	0.0589	0.0050	0.06	0	98	90	110				

Associated samples: H23050597-001B, H23050597-001F, H23050597-002B, H23050597-002F, H23050597-003B, H23050597-003F, H23050597-004B, H23050597-004F, H23050597-005B, H23050597-005F, H23050597-006B, H23050597-006F, H23050597-007B, H23050597-007F, H23050597-008B, H23050597-008F, H23050597-009B, H23050597-009F, H23050597-010B, H23050597-010F

Run ID :Run Order: ICPMS205-H_230524D: 26	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 05/25/23 08:22	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	ND	0.0002									
Gallium	ND	0.00009									
Lanthanum	ND	0.0001									
Neodymium	ND	0.00009									
Niobium	ND	0.0003									
Palladium	ND	0.0002									
Praseodymium	ND	0.0001									
Rubidium	ND	0.00007									
Tungsten	ND	0.0001									
Zirconium	ND	0.0003									

Associated samples: H23050597-001B, H23050597-002B, H23050597-003B, H23050597-004B, H23050597-005B, H23050597-006B, H23050597-007B, H23050597-008B, H23050597-009B, H23050597-010B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050597

BatchID: R184870

Date: 06-Jun-23

Run ID :Run Order: ICPMS205-H_230524D: 29	SampType: Laboratory Fortified Blank				Lab ID: LFB			Method: E200.8			
Analysis Date: 05/25/23 08:34	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0502	0.010	0.05	0	100	85	115				
Gallium	0.0506	0.010	0.05	0	101	85	115				
Lanthanum	0.0517	0.010	0.05	0	103	85	115				
Neodymium	0.0538	0.0050	0.05	0	108	85	115				
Niobium	0.0540	0.0010	0.05	0	108	85	115				
Palladium	0.0493	0.010	0.05	0	99	85	115				
Praseodymium	0.0534	0.0010	0.05	0	107	85	115				
Rubidium	0.0512	0.010	0.05	0	102	85	115				
Tungsten	0.0449	0.10	0.05	0	90	85	115				
Zirconium	0.0515	0.0050	0.05	0	103	85	115				

Associated samples: H23050597-001B, H23050597-002B, H23050597-003B, H23050597-004B, H23050597-005B, H23050597-006B, H23050597-007B, H23050597-008B, H23050597-009B, H23050597-010B

Run ID :Run Order: ICPMS205-H_230524D: 41	SampType: Sample Matrix Spike				Lab ID: H23050596-010BMS			Method: E200.8			
Analysis Date: 05/25/23 09:14	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0508	0.010	0.05	0	102	70	130				
Gallium	0.0505	0.010	0.05	0.0002317	101	70	130				
Lanthanum	0.0563	0.010	0.05	0.002635	107	70	130				
Neodymium	0.0578	0.0050	0.05	0.002144	111	70	130				
Niobium	0.0496	0.0010	0.05	0	99	70	130				
Palladium	0.0478	0.010	0.05	0	96	70	130				
Praseodymium	0.0554	0.0010	0.05	0.0005653	110	70	130				
Rubidium	0.0534	0.010	0.05	0.001995	103	70	130				
Tungsten	0.0383	0.10	0.05	0	77	70	130				
Zirconium	0.0506	0.0050	0.05	0	101	70	130				

Associated samples: H23050597-001B, H23050597-002B, H23050597-003B, H23050597-004B, H23050597-005B, H23050597-006B, H23050597-007B, H23050597-008B, H23050597-009B, H23050597-010B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** R184870

**Date:** 06-Jun-23

Run ID :Run Order: ICPMS205-H_230524D: 42	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050596-010BMSD				Method: E200.8		
Analysis Date: 05/25/23 09:18	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0513	0.010	0.05	0	103	70	130	0.05084	0.9	20	
Gallium	0.0510	0.010	0.05	0.0002317	102	70	130	0.05053	0.9	20	
Lanthanum	0.0563	0.010	0.05	0.002635	107	70	130	0.05628	0	20	
Neodymium	0.0584	0.0050	0.05	0.002144	113	70	130	0.05783	1.0	20	
Niobium	0.0496	0.0010	0.05	0	99	70	130	0.0496			
Palladium	0.0483	0.010	0.05	0	97	70	130	0.04784	0.9	20	
Praseodymium	0.0561	0.0010	0.05	0.0005653	111	70	130	0.05544			
Rubidium	0.0536	0.010	0.05	0.001995	103	70	130	0.05345	0.4	20	
Tungsten	0.0388	0.10	0.05	0	78	70	130	0.0383		20	
Zirconium	0.0520	0.0050	0.05	0	104	70	130	0.05061	2.6	20	

Associated samples: H23050597-001B, H23050597-002B, H23050597-003B, H23050597-004B, H23050597-005B, H23050597-006B, H23050597-007B, H23050597-008B, H23050597-009B, H23050597-010B

Run ID :Run Order: ICPMS205-H_230524D: 45	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 05/25/23 09:30	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0504	0.010	0.05	0	101	90	110				
Gallium	0.0521	0.010	0.05	0	104	90	110				
Lanthanum	0.0530	0.010	0.05	0	106	90	110				
Neodymium	0.0536	0.0050	0.05	0	107	90	110				
Niobium	0.0550	0.0010	0.05	0	110	90	110				
Palladium	0.0503	0.010	0.05	0	101	90	110				
Praseodymium	0.0536	0.0010	0.05	0	107	90	110				
Rubidium	0.0518	0.010	0.05	0	104	90	110				
Tungsten	0.0494	0.10	0.05	0	99	90	110				
Zirconium	0.0540	0.0050	0.05	0	108	90	110				

Associated samples: H23050597-001B, H23050597-001F, H23050597-002B, H23050597-002F, H23050597-003B, H23050597-003F, H23050597-004B, H23050597-004F, H23050597-005B, H23050597-005F, H23050597-006B, H23050597-006F, H23050597-007B, H23050597-007F, H23050597-008B, H23050597-008F, H23050597-009B, H23050597-009F, H23050597-010B, H23050597-010F

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** R184870

**Date:** 06-Jun-23

Run ID :Run Order: ICPMS205-H_230524D: 60	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 05/25/23 10:22	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0496	0.010	0.05	0	99	90	110				
Gallium	0.0510	0.010	0.05	0	102	90	110				
Lanthanum	0.0512	0.010	0.05	0	102	90	110				
Neodymium	0.0528	0.0050	0.05	0	106	90	110				
Niobium	0.0542	0.0010	0.05	0	108	90	110				
Palladium	0.0490	0.010	0.05	0	98	90	110				
Praseodymium	0.0525	0.0010	0.05	0	105	90	110				
Rubidium	0.0506	0.010	0.05	0	101	90	110				
Tungsten	0.0484	0.10	0.05	0	97	90	110				
Zirconium	0.0538	0.0050	0.05	0	108	90	110				

Associated samples: H23050597-001B, H23050597-001F, H23050597-002B, H23050597-002F, H23050597-003B, H23050597-003F, H23050597-004B, H23050597-004F, H23050597-005B, H23050597-005F, H23050597-006B, H23050597-006F, H23050597-007B, H23050597-007F, H23050597-008B, H23050597-008F, H23050597-009B, H23050597-009F, H23050597-010B, H23050597-010F

Run ID :Run Order: ICPMS205-H_230524D: 73	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 05/25/23 11:07	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0495	0.010	0.05	0	99	90	110				
Gallium	0.0499	0.010	0.05	0	100	90	110				
Lanthanum	0.0516	0.010	0.05	0	103	90	110				
Neodymium	0.0528	0.0050	0.05	0	106	90	110				
Niobium	0.0544	0.0010	0.05	0	109	90	110				
Palladium	0.0495	0.010	0.05	0	99	90	110				
Praseodymium	0.0527	0.0010	0.05	0	105	90	110				
Rubidium	0.0502	0.010	0.05	0	100	90	110				
Tungsten	0.0490	0.10	0.05	0	98	90	110				
Zirconium	0.0500	0.0050	0.05	0	100	90	110				

Associated samples: H23050597-001B, H23050597-001F, H23050597-002B, H23050597-002F, H23050597-003B, H23050597-003F, H23050597-004B, H23050597-004F, H23050597-005B, H23050597-005F, H23050597-006B, H23050597-006F, H23050597-007B, H23050597-007F, H23050597-008B, H23050597-008F, H23050597-009B, H23050597-009F, H23050597-010B, H23050597-010F

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** R184870

**Date:** 06-Jun-23

Run ID :Run Order: ICPMS205-H_230524D: 78	SampType: Sample Matrix Spike				Lab ID: H23050597-010BMS				Method: E200.8		
Analysis Date: 05/25/23 11:23	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0510	0.010	0.05	0	102	70	130				
Gallium	0.0531	0.010	0.05	0.003967	98	70	130				
Lanthanum	0.107	0.010	0.05	0.05305	107	70	130				
Neodymium	0.0808	0.0050	0.05	0.02422	113	70	130				
Niobium	0.0502	0.0010	0.05	0	100	70	130				
Palladium	0.0445	0.010	0.05	0	89	70	130				
Praseodymium	0.0627	0.0010	0.05	0.007279	111	70	130				
Rubidium	0.0593	0.010	0.05	0.008134	102	70	130				
Tungsten	0.0396	0.10	0.05	0	79	70	130				
Zirconium	0.0551	0.0050	0.05	0.0009483	108	70	130				

Associated samples: H23050597-001B, H23050597-002B, H23050597-003B, H23050597-004B, H23050597-005B, H23050597-006B, H23050597-007B, H23050597-008B, H23050597-009B, H23050597-010B

Run ID :Run Order: ICPMS205-H_230524D: 79	SampType: Sample Matrix Spike Duplicate				Lab ID: H23050597-010BMSD				Method: E200.8		
Analysis Date: 05/25/23 11:27	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0515	0.010	0.05	0	103	70	130	0.051	1.0	20	
Gallium	0.0542	0.010	0.05	0.003967	101	70	130	0.05313	2.0	20	
Lanthanum	0.107	0.010	0.05	0.05305	108	70	130	0.1066	0.2	20	
Neodymium	0.0811	0.0050	0.05	0.02422	114	70	130	0.08078	0.3	20	
Niobium	0.0506	0.0010	0.05	0	101	70	130	0.05023			
Palladium	0.0450	0.010	0.05	0	90	70	130	0.04451	1.1	20	
Praseodymium	0.0631	0.0010	0.05	0.007279	112	70	130	0.06268			
Rubidium	0.0601	0.010	0.05	0.008134	104	70	130	0.05934	1.2	20	
Tungsten	0.0397	0.10	0.05	0	79	70	130	0.03965			
Zirconium	0.0571	0.0050	0.05	0.0009483	112	70	130	0.05514	3.4	20	

Associated samples: H23050597-001B, H23050597-002B, H23050597-003B, H23050597-004B, H23050597-005B, H23050597-006B, H23050597-007B, H23050597-008B, H23050597-009B, H23050597-010B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050597

BatchID: R184881

Date: 06-Jun-23

Run ID :Run Order: <b>SEAL AA500_230525A: 12</b>	SampType: <b>Method Blank</b>	Lab ID: <b>ICB</b>	Method: <b>E353.2</b>								
Analysis Date: <b>05/25/23 12:03</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.01									
Associated samples: <b>H23050597-001C, H23050597-002C, H23050597-003C, H23050597-004C, H23050597-005C, H23050597-006C, H23050597-007C, H23050597-008C, H23050597-009C, H23050597-010C</b>											

Run ID :Run Order: <b>SEAL AA500_230525A: 14</b>	SampType: <b>Initial Calibration Verification Standard</b>	Lab ID: <b>ICV</b>	Method: <b>E353.2</b>								
Analysis Date: <b>05/25/23 12:05</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.09	0.010	1	0	<b>109</b>	90	110				
Associated samples: <b>H23050597-001C, H23050597-002C, H23050597-003C, H23050597-004C, H23050597-005C, H23050597-006C, H23050597-007C, H23050597-008C, H23050597-009C, H23050597-010C</b>											

Run ID :Run Order: <b>SEAL AA500_230525A: 15</b>	SampType: <b>Laboratory Fortified Blank</b>	Lab ID: <b>LFB</b>	Method: <b>E353.2</b>								
Analysis Date: <b>05/25/23 12:06</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.03	0.011	1	0	<b>103</b>	90	110				
Associated samples: <b>H23050597-001C, H23050597-002C, H23050597-003C, H23050597-004C, H23050597-005C, H23050597-006C, H23050597-007C, H23050597-008C, H23050597-009C, H23050597-010C</b>											

Run ID :Run Order: <b>SEAL AA500_230525A: 28</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E353.2</b>								
Analysis Date: <b>05/25/23 12:19</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.02	0.010	1	0	<b>102</b>	90	110				
Associated samples: <b>H23050597-001C, H23050597-002C, H23050597-003C, H23050597-004C, H23050597-005C, H23050597-006C, H23050597-007C, H23050597-008C, H23050597-009C, H23050597-010C</b>											

Run ID :Run Order: <b>SEAL AA500_230525A: 38</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23050597-003CMS</b>	Method: <b>E353.2</b>								
Analysis Date: <b>05/25/23 12:29</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.09	0.011	1	0	<b>109</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050597

BatchID: R184881

Date: 06-Jun-23

Run ID :Run Order: <b>SEAL AA500_230525A: 38</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23050597-003CMS</b>	Method: <b>E353.2</b>								
Analysis Date: <b>05/25/23 12:29</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H23050597-001C, H23050597-002C, H23050597-003C, H23050597-004C, H23050597-005C, H23050597-006C, H23050597-007C, H23050597-008C, H23050597-009C, H23050597-010C**

Run ID :Run Order: <b>SEAL AA500_230525A: 39</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23050597-003CMSD</b>	Method: <b>E353.2</b>								
Analysis Date: <b>05/25/23 12:30</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrogen, Nitrate+Nitrite as N      1.10      0.011      1      0      **110**      90      110      1.09      **1.3**      10

Associated samples: **H23050597-001C, H23050597-002C, H23050597-003C, H23050597-004C, H23050597-005C, H23050597-006C, H23050597-007C, H23050597-008C, H23050597-009C, H23050597-010C**

Run ID :Run Order: <b>SEAL AA500_230525A: 42</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E353.2</b>								
Analysis Date: <b>05/25/23 12:33</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrogen, Nitrate+Nitrite as N      1.05      0.010      1      0      **105**      90      110

Associated samples: **H23050597-001C, H23050597-002C, H23050597-003C, H23050597-004C, H23050597-005C, H23050597-006C, H23050597-007C, H23050597-008C, H23050597-009C, H23050597-010C**

Run ID :Run Order: <b>SEAL AA500_230525A: 50</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23050598-001BMS</b>	Method: <b>E353.2</b>								
Analysis Date: <b>05/25/23 12:41</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrogen, Nitrate+Nitrite as N      1.19      0.011      1      0.0528      **114**      90      110      S

Associated samples: **H23050597-001C, H23050597-002C, H23050597-003C, H23050597-004C, H23050597-005C, H23050597-006C, H23050597-007C, H23050597-008C, H23050597-009C, H23050597-010C**

Run ID :Run Order: <b>SEAL AA500_230525A: 51</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23050598-001BMSD</b>	Method: <b>E353.2</b>								
Analysis Date: <b>05/25/23 12:42</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrogen, Nitrate+Nitrite as N      1.17      0.011      1      0.0528      **112**      90      110      1.189      **1.7**      10      S

Associated samples: **H23050597-001C, H23050597-002C, H23050597-003C, H23050597-004C, H23050597-005C, H23050597-006C, H23050597-007C, H23050597-008C, H23050597-009C, H23050597-010C**

**Qualifiers:**    ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
                       J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** R184927

**Date:** 06-Jun-23

Run ID :Run Order: <b>ICPMS205-H_230526B: 12</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/26/23 18:40</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>6</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	2.99	0.50	3	0	100	90	110				
Copper	0.0610	0.010	0.06	0	102	90	110				
Iron	0.304	0.020	0.3	0	101	90	110				
Manganese	0.298	0.010	0.3	0	99	90	110				
Titanium	0.0590	0.010	0.06	0	98	90	110				
Zinc	0.0618	0.010	0.06	0	103	90	110				

Associated samples: **H23050597-008F, H23050597-009B, H23050597-009F, H23050597-010B, H23050597-010F**

Run ID :Run Order: <b>ICPMS205-H_230526B: 22</b>		SampType: <b>Method Blank</b>			Lab ID: <b>LRB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/26/23 19:29</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.2									
Titanium	ND	0.0005									

Associated samples: **H23050597-009B, H23050597-010B**

Run ID :Run Order: <b>ICPMS205-H_230526B: 23</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/26/23 19:34</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	1.02	0.50	1	0	102	85	115				
Titanium	0.0499	0.010	0.05	0	100	85	115				

Associated samples: **H23050597-009B, H23050597-010B**

Run ID :Run Order: <b>ICPMS205-H_230526B: 124</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/27/23 03:47</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>6</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	13.1	0.50	12.5	0	105	90	110				
Copper	0.0505	0.010	0.05	0	101	90	110				
Iron	1.34	0.020	1.3	0	103	90	110				
Manganese	0.0505	0.010	0.05	0	101	90	110				
Titanium	0.0514	0.010	0.05	0	103	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** R184927

**Date:** 06-Jun-23

Run ID :Run Order: <b>ICPMS205-H_230526B: 124</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E200.8</b>		
Analysis Date: <b>05/27/23 03:47</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:		
Analytes <b>6</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Zinc		0.0506	0.010	0.05	0	101	90	110		

Associated samples: **H23050597-008F, H23050597-009B, H23050597-009F, H23050597-010B, H23050597-010F**

Run ID :Run Order: <b>ICPMS205-H_230526B: 134</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23050597-009BMS</b>			Method: <b>E200.8</b>		
Analysis Date: <b>05/27/23 04:36</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:		
Analytes <b>2</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Calcium		254	1.8	10	254.5		70	130		A
Titanium		0.474	0.0053	0.5	0	95	70	130		

Associated samples: **H23050597-009B, H23050597-010B**

Run ID :Run Order: <b>ICPMS205-H_230526B: 135</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23050597-009BMSD</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/27/23 04:41</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual	
Calcium		258	1.8	10	254.5		70	130	254.4	1.5	20 A
Titanium		0.519	0.0053	0.5	0	104	70	130	0.4742	9.0	20

Associated samples: **H23050597-009B, H23050597-010B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** R184956

**Date:** 06-Jun-23

Run ID :Run Order: <b>ICPMS205-H_230530C: 12</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/30/23 12:10</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0295	0.0050	0.03	0	98	90	110				
Titanium	0.0571	0.010	0.06	0	95	90	110				

Associated samples: **H23050597-009B, H23050597-009F, H23050597-010B, H23050597-010F**

Run ID :Run Order: <b>ICPMS205-H_230530C: 22</b>		SampType: <b>Method Blank</b>			Lab ID: <b>LRB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/30/23 15:40</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	ND	0.00008									

Associated samples: **H23050597-009B, H23050597-010B**

Run ID :Run Order: <b>ICPMS205-H_230530C: 23</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/30/23 15:43</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0205	0.0050	0.02	0	103	85	115				

Associated samples: **H23050597-009B, H23050597-010B**

Run ID :Run Order: <b>ICPMS205-H_230530C: 137</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23050596-006BMS</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/31/23 00:47</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0515	0.0010	0.05	0	103	70	130				

Associated samples: **H23050597-009B, H23050597-010B**

Run ID :Run Order: <b>ICPMS205-H_230530C: 138</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23050596-006BMSD</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/31/23 00:51</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0516	0.0010	0.05	0	103	70	130	0.0515	0.1	20	

Associated samples: **H23050597-009B, H23050597-010B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** R184956

**Date:** 06-Jun-23

Run ID :Run Order: <b>ICPMS205-H_230530C: 139</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>05/31/23 00:56</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0211	0.0050	0.02	0	<b>106</b>	90	110				
Titanium	0.0508	0.010	0.05	0	<b>102</b>	90	110				

Associated samples: **H23050597-009B, H23050597-009F, H23050597-010B, H23050597-010F**

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** R185079

**Date:** 06-Jun-23

Run ID :Run Order: <b>ICPMS205-H_230602A: 12</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>06/02/23 13:48</b>	Units: <b>mg/L</b>		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.0610	0.010	0.06	0	102	90	110				

Associated samples: **H23050597-010F**

Run ID :Run Order: <b>ICPMS205-H_230602A: 20</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>06/02/23 19:43</b>	Units: <b>mg/L</b>		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.0522	0.010	0.05	0	104	90	110				

Associated samples: **H23050597-010F**



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23050597

**BatchID:** R185081

**Date:** 06-Jun-23

Run ID :Run Order: <b>ICP2-HE_230602A: 6</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>			Method: <b>E200.7</b>			
Analysis Date: <b>06/02/23 08:51</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	3.93	0.010	4	0	<b>98</b>	95	105				

Associated samples: **H23050597-010F**

Run ID :Run Order: <b>ICP2-HE_230602A: 14</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>			Method: <b>E200.7</b>			
Analysis Date: <b>06/02/23 09:42</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	3.90	0.010	4	0	<b>97</b>	95	105				

Associated samples: **H23050597-010F**

Run ID :Run Order: <b>ICP2-HE_230602A: 15</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV-1</b>			Method: <b>E200.7</b>			
Analysis Date: <b>06/02/23 09:46</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	2.46	0.010	2.5	0	<b>98</b>	95	105				

Associated samples: **H23050597-010F**

Run ID :Run Order: <b>ICP2-HE_230602A: 135</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>			Method: <b>E200.7</b>			
Analysis Date: <b>06/02/23 18:13</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	2.44	0.010	2.5	0	<b>98</b>	90	110				

Associated samples: **H23050597-010F**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23050597

BatchID: TDS230521A

Date: 06-Jun-23

Run ID :Run Order: ACCU-124 (14410200)_230521A: 1	SampType: Method Blank	Lab ID: MB-1_230521	Method: A2540 C								
Analysis Date: 05/21/23 07:35	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	ND	7									
Associated samples: H23050597-001A, H23050597-002A, H23050597-003A, H23050597-004A, H23050597-005A, H23050597-006A, H23050597-007A, H23050597-008A, H23050597-009A, H23050597-010A											

Run ID :Run Order: ACCU-124 (14410200)_230521A: 2	SampType: Laboratory Control Sample	Lab ID: LCS-2_230521	Method: A2540 C								
Analysis Date: 05/21/23 07:35	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	1950	50	2000	0	98	90	110				
Associated samples: H23050597-001A, H23050597-002A, H23050597-003A, H23050597-004A, H23050597-005A, H23050597-006A, H23050597-007A, H23050597-008A, H23050597-009A, H23050597-010A											

Run ID :Run Order: ACCU-124 (14410200)_230521A: 2	SampType: Sample Duplicate	Lab ID: H23050597-008A DUP	Method: A2540 C								
Analysis Date: 05/21/23 07:40	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	1130	25		0				1149	1.3	10	
Associated samples: H23050597-001A, H23050597-002A, H23050597-003A, H23050597-004A, H23050597-005A, H23050597-006A, H23050597-007A, H23050597-008A, H23050597-009A, H23050597-010A											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



# Work Order Receipt Checklist

MT Dept of Justice

H23050597

Login completed by: Taylor K. Jones

Date Received: 5/17/2023

Reviewed by: rtooke

Received by: rrs

Reviewed Date: 5/22/2023

Carrier name: Hand Deliver

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	2.4°C On Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

## Contact and Corrective Action Comments:

None









# Chain of Custody & Analytical Request Record

www.energylab.com

Account Information <small>(Billing information)</small>	Report Information <small>(if different than Account Information)</small>	Comments
Company/Name: MT DOJ / Natural Resource Damage Program	Company/Name: Water & Environmental Technologies	C1-2.4 C2-1.8 C3-1.0
Contact: Jim Ford	Contact: Janelle Garza	
Phone: (406) 444-4034	Phone: (406) 565-4291	
Mailing Address: 1720 9th Avenue	Mailing Address: 480 East Park Street	
City, State, Zip: Helena, Montana 59620-1425	City, State, Zip: Butte, Montana 59701	
Email: jford@mt.gov	Email: jgarza@waterenvtech.com	
Receive Invoice: <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	Receive Report: <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	
Purchase Order:      Quote:      Bottle Order:	Special Report/Formats: <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC <input checked="" type="checkbox"/> EDD/EDT <small>(contact laboratory)</small> <input type="checkbox"/> Other	

Project Information	Matrix Codes	Analysis Requested																			
Project Name, PWSID, Permit, etc: NRDPM16 TO2 / 001	A - Air W - Water S - Soils/Solids V - Vegetation B - Bioassay O - Oil DW - Drinking Water	<table border="1" style="width:100%; text-align: center; font-size: 0.8em;"> <tr> <th>pH &amp; pH Meas. Temp</th> <th>Conductivity</th> <th>TDS</th> <th>CaCO3, HCO3, CO3</th> <th>Cl(-), SO4(2-), Br(-), F(-)</th> <th>Hardness</th> <th>DOC &amp; TOC</th> <th>Nitrate+Nitrite</th> <th>Total &amp; Dissolved Metals</th> </tr> <tr> <td>A4500-H B</td> <td>A25510 B</td> <td>A2540 C</td> <td>A2320 B</td> <td>E300.0</td> <td>A2340 B</td> <td>A5310 C</td> <td>E353.2</td> <td>E200.7/8</td> </tr> </table>	pH & pH Meas. Temp	Conductivity	TDS	CaCO3, HCO3, CO3	Cl(-), SO4(2-), Br(-), F(-)	Hardness	DOC & TOC	Nitrate+Nitrite	Total & Dissolved Metals	A4500-H B	A25510 B	A2540 C	A2320 B	E300.0	A2340 B	A5310 C	E353.2	E200.7/8	See Attached
pH & pH Meas. Temp			Conductivity	TDS	CaCO3, HCO3, CO3	Cl(-), SO4(2-), Br(-), F(-)	Hardness	DOC & TOC	Nitrate+Nitrite	Total & Dissolved Metals											
A4500-H B			A25510 B	A2540 C	A2320 B	E300.0	A2340 B	A5310 C	E353.2	E200.7/8											
Sampler Name: Janelle Garza      Sampler Phone: (406) 599-6770																					
Sample Origin State: Montana      EPA/State Compliance: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																					
<b>URANIUM MINING CLIENTS MUST indicate sample type</b> <input type="checkbox"/> Unprocessed Ore <input type="checkbox"/> Processed Ore (Ground or Refined) <b>**CALL BEFORE SENDING</b> <input type="checkbox"/> 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)																					

All turnaround times are standard unless marked as RUSH. Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page

Sample Identification <small>(Name, Location, Interval, etc.)</small>	Collection		Number of Containers	Matrix <small>(See Codes Above)</small>	Analysis Requested									See Attached	RUSH TAT	ELI LAB ID <small>Laboratory Use Only</small>
	Date	Time			pH & pH Meas. Temp	Conductivity	TDS	CaCO3, HCO3, CO3	Cl(-), SO4(2-), Br(-), F(-)	Hardness	DOC & TOC	Nitrate+Nitrite	Total & Dissolved Metals			
C3 1 MH-MSD116	05/16/2023	11:14 am	6	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	H23050597
2																
3																
4																
5																
6																
7																
8																
9																

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

<b>Custody Record MUST be signed</b>	Relinquished by (print): Janelle Garza	Date/Time: 5-17-23/1530	Signature: <i>JCG</i>	Received by (print): Mike Worden	Date/Time: 5-17-23/1530	Signature: <i>[Signature]</i>
	Relinquished by (print): Mike Worden	Date/Time: 5-17-23/1615	Signature: <i>[Signature]</i>	Received by Laboratory (print): R SPONHOLZ	Date/Time: 051723 1615	Signature: <i>[Signature]</i>
<b>LABORATORY USE ONLY</b>						
Shipped By: HAND	Cooler ID(s): Y	Custody Seals: Y (N) C B	Intact: Y N	Receipt Temp: TOP °C	Temp Blank: (Y) N	On Ice: (Y) N
Payment Type: CC Cash Check			Amount: \$	Receipt Number (Cash/check only):		

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.



# ANALYTICAL SUMMARY REPORT

December 08, 2023

MT Dept of Justice  
Natural Resource Damage Program  
Helena, MT 59620-1425

Work Order: H23080754      Quote ID: H2187

Project Name: NRDPM16 TO2-Task 001

Energy Laboratories Inc Helena MT received the following 23 samples for MT Dept of Justice on 8/18/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H23080754-001	MSD-03	08/17/23 9:53	08/18/23	Groundwater	Rare Earth Metals, Dissolved Metals by ICP/ICPMS, Dissolved Alkalinity to pH 4.5 Anion - Cation Balance Carbon, Dissolved Organic Conductivity Carbon, Total Organic Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Solids, Total Dissolved
H23080754-002	PMP-07A	08/17/23 10:29	08/18/23	Groundwater	Same As Above
H23080754-003	DUP-3	08/17/23 10:30	08/18/23	Groundwater	Alkalinity to pH 4.5 Anion - Cation Balance Carbon, Dissolved Organic Conductivity Carbon, Total Organic Anions by Ion Chromatography pH Solids, Total Dissolved
H23080754-004	EB-3	08/17/23 10:37	08/18/23	Groundwater	Rare Earth Metals, Dissolved Metals by ICP/ICPMS, Dissolved Alkalinity to pH 4.5 Anion - Cation Balance Carbon, Dissolved Organic Conductivity Carbon, Total Organic Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Solids, Total Dissolved
H23080754-005	GS-29SR	08/17/23 10:42	08/18/23	Groundwater	Same As Above
H23080754-006	FB-3	08/17/23 10:43	08/18/23	Groundwater	Same As Above
H23080754-007	MF-11	08/17/23 11:31	08/18/23	Groundwater	Same As Above
H23080754-008	BPS07-07B	08/17/23 11:40	08/18/23	Groundwater	Same As Above
H23080754-009	PMP-11A	08/17/23 11:45	08/18/23	Groundwater	Same As Above
H23080754-010	MSD-04	08/17/23 12:05	08/18/23	Groundwater	Same As Above
H23080754-011	BPS07-07	08/17/23 12:16	08/18/23	Groundwater	Same As Above

## ANALYTICAL SUMMARY REPORT

H23080754-012	MSD-02B	08/17/23 12:38	08/18/23	Groundwater	Same As Above
H23080754-013	BPS07-23	08/17/23 13:37	08/18/23	Groundwater	Same As Above
H23080754-014	DUP-1	08/17/23 13:39	08/18/23	Groundwater	Same As Above
H23080754-015	AMW-13B	08/17/23 13:45	08/18/23	Groundwater	Same As Above
H23080754-016	BPS11-18B	08/17/23 14:12	08/18/23	Groundwater	Same As Above
H23080754-017	AMW-13B2	08/17/23 14:18	08/18/23	Groundwater	Same As Above
H23080754-018	AMW-13C	08/17/23 14:49	08/18/23	Groundwater	Same As Above
H23080754-019	BPS11-18C	08/17/23 15:06	08/18/23	Groundwater	Same As Above
H23080754-020	PMP-11B	08/17/23 15:26	08/18/23	Groundwater	Same As Above
H23080754-021	PMP-09A	08/17/23 15:40	08/18/23	Groundwater	Same As Above
H23080754-022	PMP-05A	08/17/23 16:05	08/18/23	Groundwater	Same As Above
H23080754-023	AMW-13A	08/17/23 17:11	08/18/23	Groundwater	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:



Project Management

Digitally signed by  
Ravyn R. Sponholz  
Date: 2023.12.08 08:27:39 -07:00



**CLIENT:** MT Dept of Justice  
**Project:** NRDPM16 TO2-Task 001  
**Work Order:** H23080754

**Revised Date:** 12/08/23

**Report Date:** 09/13/23

## CASE NARRATIVE

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Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002.

Multiple results for DOC are greater than TOC. The tables for each sample were checked and verified. The data has been re-analyzed and the results duplicated in laboratory. RRS 09082023

Per J. Garza this report was revised to make the following correction: Sample ID for -005 was changed from GS-29S4 to GS-29SR. No other data has been changed. RRS 12082023





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-03  
**Lab ID:** H23080754-001  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 09:53  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.8	s.u.	H	0.1		A4500-H B	08/18/23 15:48 / ams		PHSC_101-H_230818A : 103		R187297
pH Measurement Temp	19.2	°C				A4500-H B	08/18/23 15:48 / ams		PHSC_101-H_230818A : 103		R187297
Conductivity @ 25 C	2710	umhos/cm		5		A2510 B	08/18/23 15:48 / ams		PHSC_101-H_230818A : 104		R187297
Solids, Total Dissolved TDS @ 180 C	2490	mg/L		50		A2540 C	08/18/23 14:52 / eek		124 (14410200)_230818B : 27		TDS230818A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	55	mg/L		4		A2320 B	08/20/23 17:50 / ams		PHSC_101-H_230821A : 126	230820_PHSC_101_	
Bicarbonate as HCO3	66	mg/L		4		A2320 B	08/20/23 17:50 / ams		PHSC_101-H_230821A : 126	230820_PHSC_101_	
Carbonate as CO3	ND	mg/L		4		A2320 B	08/20/23 17:50 / ams		PHSC_101-H_230821A : 126	230820_PHSC_101_	
Chloride	113	mg/L		1		E300.0	08/24/23 07:46 / SR		IC METROHM_230823A : 62		R187509
Sulfate	1520	mg/L		1		E300.0	08/24/23 07:46 / SR		IC METROHM_230823A : 62		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 07:46 / SR		IC METROHM_230823A : 62		R187509
Fluoride	0.3	mg/L		0.1		E300.0	08/24/23 07:46 / SR		IC METROHM_230823A : 62		R187509
Hardness as CaCO3	1500	mg/L		1		A2340 B	08/22/23 01:35 / SR		CALC_230828A : 696		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.2	mg/L		0.5		A5310 C	08/25/23 01:31 / eli-c		SUB-C298059 : 30		C_R298059
Organic Carbon, Total (TOC)	1.2	mg/L		0.5		A5310 C	08/24/23 18:54 / eli-c		SUB-C298059 : 12		C_R298059
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	5.03	mg/L		0.05		E353.2	08/28/23 18:32 / JAR		SEAL AA500_230828B : 39		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	0.030	mg/L		0.009		E200.8	08/24/23 23:53 / dck		ICPMS205-H_230824B : 125		R187581
Antimony	ND	mg/L		0.0005		E200.8	08/24/23 23:53 / dck		ICPMS205-H_230824B : 125		R187581
Arsenic	0.002	mg/L		0.001		E200.8	08/24/23 23:53 / dck		ICPMS205-H_230824B : 125		R187581
Barium	0.018	mg/L		0.003		E200.8	08/24/23 23:53 / dck		ICPMS205-H_230824B : 125		R187581
Beryllium	ND	mg/L		0.0008		E200.8	08/24/23 23:53 / dck		ICPMS205-H_230824B : 125		R187581
Boron	0.19	mg/L		0.05		E200.7	08/22/23 01:35 / slj		ICP2-HE_230821B : 121		R187409
Cadmium	0.0820	mg/L		0.00003		E200.8	08/24/23 23:53 / dck		ICPMS205-H_230824B : 125		R187581
Cesium	ND	mg/L		0.01		E200.8	08/30/23 13:45 / dck		ICPMS206-H_230830B : 25		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-03  
**Lab ID:** H23080754-001  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 09:53  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	412	mg/L		1		E200.7	08/22/23 01:35 / slj		ICP2-HE_230821B : 121		R187409
Chromium	ND	mg/L		0.005		E200.8	08/24/23 23:53 / dck		ICPMS205-H_230824B : 125		R187581
Cobalt	0.036	mg/L		0.005		E200.8	08/24/23 23:53 / dck		ICPMS205-H_230824B : 125		R187581
Copper	2.10	mg/L		0.02		E200.7	08/22/23 01:35 / slj		ICP2-HE_230821B : 121		R187409
Gallium	ND	mg/L		0.01		E200.8	08/30/23 13:45 / dck		ICPMS206-H_230830B : 25		R187736
Iron	ND	mg/L		0.02		E200.8	08/24/23 23:53 / dck		ICPMS205-H_230824B : 125		R187581
Lead	0.0053	mg/L		0.0003		E200.8	08/24/23 23:53 / dck		ICPMS205-H_230824B : 125		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 13:45 / dck		ICPMS206-H_230830B : 25		R187736
Lithium	0.4	mg/L		0.1		E200.7	08/22/23 01:35 / slj		ICP2-HE_230821B : 121		R187409
Magnesium	114	mg/L		1		E200.7	08/22/23 01:35 / slj		ICP2-HE_230821B : 121		R187409
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 13:45 / dck		ICPMS206-H_230830B : 25		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 13:45 / dck		ICPMS206-H_230830B : 25		R187736
Manganese	53.2	mg/L		0.003		E200.7	08/22/23 01:35 / slj		ICP2-HE_230821B : 121		R187409
Molybdenum	ND	mg/L		0.001		E200.8	08/24/23 23:53 / dck		ICPMS205-H_230824B : 125		R187581
Nickel	0.121	mg/L		0.002		E200.8	08/24/23 23:53 / dck		ICPMS205-H_230824B : 125		R187581
Palladium	ND	mg/L		0.01		E200.8	08/30/23 13:45 / dck		ICPMS206-H_230830B : 25		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 13:45 / dck		ICPMS206-H_230830B : 25		R187736
Rubidium	0.01	mg/L		0.01		E200.8	08/30/23 13:45 / dck		ICPMS206-H_230830B : 25		R187736
Potassium	17	mg/L		1		E200.7	08/22/23 01:35 / slj		ICP2-HE_230821B : 121		R187409
Selenium	ND	mg/L		0.001		E200.8	08/24/23 23:53 / dck		ICPMS205-H_230824B : 125		R187581
Silver	0.0023	mg/L		0.0002		E200.8	08/24/23 23:53 / dck		ICPMS205-H_230824B : 125		R187581
Sodium	72	mg/L		1		E200.7	08/22/23 01:35 / slj		ICP2-HE_230821B : 121		R187409
Strontium	3.47	mg/L		0.01		E200.7	08/22/23 01:35 / slj		ICP2-HE_230821B : 121		R187409
Thallium	ND	mg/L		0.0002		E200.8	08/24/23 23:53 / dck		ICPMS205-H_230824B : 125		R187581
Thorium	ND	mg/L		0.005		E200.8	08/30/23 13:45 / dck		ICPMS206-H_230830B : 228		R187736
Tin	ND	mg/L		0.05		E200.8	08/24/23 23:53 / dck		ICPMS205-H_230824B : 125		R187581
Titanium	ND	mg/L		0.005		E200.8	08/24/23 23:53 / dck		ICPMS205-H_230824B : 125		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 13:45 / dck		ICPMS206-H_230830B : 25		R187736
Uranium	0.0008	mg/L		0.0002		E200.8	08/24/23 23:53 / dck		ICPMS205-H_230824B : 125		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/24/23 23:53 / dck		ICPMS205-H_230824B : 125		R187581
Zinc	26.5	mg/L		0.008		E200.7	08/22/23 01:35 / slj		ICP2-HE_230821B : 121		R187409
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 13:45 / dck		ICPMS206-H_230830B : 25		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-03  
**Lab ID:** H23080754-001  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 09:53      **Date Received:** 08/18/23  
**Report Date:** 09/13/23                      **Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-3.49	%				A1030 E	08/28/23 10:19 / SR		CALC_230828A : 694		R187604

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-07A  
**Lab ID:** H23080754-002  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 10:29  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.9	s.u.	H	0.1		A4500-H B	08/18/23 15:50 / ams		PHSC_101-H_230818A : 105		R187297
pH Measurement Temp	19.0	°C				A4500-H B	08/18/23 15:50 / ams		PHSC_101-H_230818A : 105		R187297
Conductivity @ 25 C	811	umhos/cm		5		A2510 B	08/18/23 15:50 / ams		PHSC_101-H_230818A : 106		R187297
Solids, Total Dissolved TDS @ 180 C	544	mg/L		20		A2540 C	08/18/23 14:52 / eek		124 (14410200)_230818B : 28		TDS230818A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	240	mg/L		4		A2320 B	08/20/23 17:58 / ams		PHSC_101-H_230821A : 128	230820_PHSC_101_	
Bicarbonate as HCO3	300	mg/L		4		A2320 B	08/20/23 17:58 / ams		PHSC_101-H_230821A : 128	230820_PHSC_101_	
Carbonate as CO3	ND	mg/L		4		A2320 B	08/20/23 17:58 / ams		PHSC_101-H_230821A : 128	230820_PHSC_101_	
Chloride	60	mg/L		1		E300.0	08/24/23 08:00 / SR		IC METROHM_230823A : 63		R187509
Sulfate	91	mg/L		1		E300.0	08/24/23 08:00 / SR		IC METROHM_230823A : 63		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 08:00 / SR		IC METROHM_230823A : 63		R187509
Fluoride	0.5	mg/L		0.1		E300.0	08/24/23 08:00 / SR		IC METROHM_230823A : 63		R187509
Hardness as CaCO3	352	mg/L		1		A2340 B	08/22/23 01:38 / SR		CALC_230828A : 707		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	3.1	mg/L		0.5		A5310 C	08/25/23 02:21 / eli-c		SUB-C298059 : 33		C_R298059
Organic Carbon, Total (TOC)	3.1	mg/L		0.5		A5310 C	08/24/23 19:44 / eli-c		SUB-C298059 : 15		C_R298059
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	1.41	mg/L		0.02		E353.2	08/28/23 18:33 / JAR		SEAL AA500_230828B : 40		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/24/23 22:35 / dck		ICPMS205-H_230824B : 100		R187581
Antimony	ND	mg/L		0.0005		E200.8	08/24/23 22:35 / dck		ICPMS205-H_230824B : 100		R187581
Arsenic	0.003	mg/L		0.001		E200.8	08/24/23 22:35 / dck		ICPMS205-H_230824B : 100		R187581
Barium	0.051	mg/L		0.003		E200.8	08/24/23 22:35 / dck		ICPMS205-H_230824B : 100		R187581
Beryllium	ND	mg/L		0.0008		E200.8	08/24/23 22:35 / dck		ICPMS205-H_230824B : 100		R187581
Boron	0.30	mg/L		0.05		E200.7	08/22/23 01:38 / slj		ICP2-HE_230821B : 122		R187409
Cadmium	0.00132	mg/L		0.00003		E200.8	08/24/23 22:35 / dck		ICPMS205-H_230824B : 100		R187581
Cesium	ND	mg/L		0.01		E200.8	08/30/23 13:47 / dck		ICPMS206-H_230830B : 26		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-07A  
**Lab ID:** H23080754-002  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 10:29  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	97	mg/L		1		E200.7	08/22/23 01:38 / slj		ICP2-HE_230821B : 122		R187409
Chromium	ND	mg/L		0.005		E200.8	08/24/23 22:35 / dck		ICPMS205-H_230824B : 100		R187581
Cobalt	ND	mg/L		0.005		E200.8	08/24/23 22:35 / dck		ICPMS205-H_230824B : 100		R187581
Copper	0.008	mg/L		0.002		E200.8	08/24/23 22:35 / dck		ICPMS205-H_230824B : 100		R187581
Gallium	ND	mg/L		0.01		E200.8	08/30/23 13:47 / dck		ICPMS206-H_230830B : 26		R187736
Iron	ND	mg/L		0.02		E200.8	08/24/23 22:35 / dck		ICPMS205-H_230824B : 100		R187581
Lead	ND	mg/L		0.0003		E200.8	08/24/23 22:35 / dck		ICPMS205-H_230824B : 100		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 13:47 / dck		ICPMS206-H_230830B : 26		R187736
Lithium	ND	mg/L		0.1		E200.7	08/22/23 01:38 / slj		ICP2-HE_230821B : 122		R187409
Magnesium	27	mg/L		1		E200.7	08/22/23 01:38 / slj		ICP2-HE_230821B : 122		R187409
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 13:47 / dck		ICPMS206-H_230830B : 26		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 13:47 / dck		ICPMS206-H_230830B : 26		R187736
Manganese	3.07	mg/L		0.001		E200.7	08/22/23 01:38 / slj		ICP2-HE_230821B : 122		R187409
Molybdenum	0.022	mg/L		0.001		E200.8	08/24/23 22:35 / dck		ICPMS205-H_230824B : 100		R187581
Nickel	0.005	mg/L		0.002		E200.8	08/24/23 22:35 / dck		ICPMS205-H_230824B : 100		R187581
Palladium	ND	mg/L		0.01		E200.8	08/30/23 13:47 / dck		ICPMS206-H_230830B : 26		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 13:47 / dck		ICPMS206-H_230830B : 26		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 13:47 / dck		ICPMS206-H_230830B : 26		R187736
Potassium	8	mg/L		1		E200.7	08/22/23 01:38 / slj		ICP2-HE_230821B : 122		R187409
Selenium	ND	mg/L		0.001		E200.8	08/24/23 22:35 / dck		ICPMS205-H_230824B : 100		R187581
Silver	ND	mg/L		0.0002		E200.8	08/24/23 22:35 / dck		ICPMS205-H_230824B : 100		R187581
Sodium	31	mg/L		1		E200.7	08/22/23 01:38 / slj		ICP2-HE_230821B : 122		R187409
Strontium	0.66	mg/L		0.01		E200.7	08/22/23 01:38 / slj		ICP2-HE_230821B : 122		R187409
Thallium	ND	mg/L		0.0002		E200.8	08/24/23 22:35 / dck		ICPMS205-H_230824B : 100		R187581
Thorium	ND	mg/L		0.005		E200.8	08/30/23 13:47 / dck		ICPMS206-H_230830B : 229		R187736
Tin	ND	mg/L		0.05		E200.8	08/24/23 22:35 / dck		ICPMS205-H_230824B : 100		R187581
Titanium	ND	mg/L		0.005		E200.8	08/24/23 22:35 / dck		ICPMS205-H_230824B : 100		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 13:47 / dck		ICPMS206-H_230830B : 26		R187736
Uranium	0.0538	mg/L		0.0002		E200.8	08/24/23 22:35 / dck		ICPMS205-H_230824B : 100		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/24/23 22:35 / dck		ICPMS205-H_230824B : 100		R187581
Zinc	0.314	mg/L		0.008		E200.8	08/24/23 22:35 / dck		ICPMS205-H_230824B : 100		R187581
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 13:47 / dck		ICPMS206-H_230830B : 26		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-07A  
**Lab ID:** H23080754-002  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 10:29      **Date Received:** 08/18/23  
**Report Date:** 09/13/23                      **Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	0.85	%				A1030 E	08/28/23 10:20 / SR		CALC_230828A : 705		R187604

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-3  
**Lab ID:** H23080754-003  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 10:30  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.8	s.u.	H	0.1		A4500-H B	08/18/23 15:52 / ams		PHSC_101-H_230818A : 107		R187297
pH Measurement Temp	19.2	°C				A4500-H B	08/18/23 15:52 / ams		PHSC_101-H_230818A : 107		R187297
Conductivity @ 25 C	812	umhos/cm		5		A2510 B	08/18/23 15:52 / ams		PHSC_101-H_230818A : 108		R187297
Solids, Total Dissolved TDS @ 180 C	525	mg/L		20		A2540 C	08/18/23 14:53 / eek		124 (14410200)_230818B : 29		TDS230818A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	240	mg/L		4		A2320 B	08/20/23 18:07 / ams		PHSC_101-H_230821A : 130	230820_PHSC_101_	
Bicarbonate as HCO3	290	mg/L		4		A2320 B	08/20/23 18:07 / ams		PHSC_101-H_230821A : 130	230820_PHSC_101_	
Carbonate as CO3	ND	mg/L		4		A2320 B	08/20/23 18:07 / ams		PHSC_101-H_230821A : 130	230820_PHSC_101_	
Chloride	60	mg/L		1		E300.0	08/24/23 08:15 / SR		IC METROHM_230823A : 64		R187509
Sulfate	91	mg/L		1		E300.0	08/24/23 08:15 / SR		IC METROHM_230823A : 64		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 08:15 / SR		IC METROHM_230823A : 64		R187509
Fluoride	0.5	mg/L		0.1		E300.0	08/24/23 08:15 / SR		IC METROHM_230823A : 64		R187509
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	3.0	mg/L		0.5		A5310 C	08/25/23 02:37 / eli-c		SUB-C298059 : 34		C_R298059
Organic Carbon, Total (TOC)	3.0	mg/L		0.5		A5310 C	08/24/23 19:59 / eli-c		SUB-C298059 : 16		C_R298059

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-3  
**Lab ID:** H23080754-004  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 10:37  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.8	s.u.	H	0.1		A4500-H B	08/21/23 12:49 / ams		PHSC_101-H_230821A : 147		R187366
pH Measurement Temp	8.7	°C				A4500-H B	08/21/23 12:49 / ams		PHSC_101-H_230821A : 147		R187366
Conductivity @ 25 C	12	umhos/cm			5	A2510 B	08/21/23 12:49 / ams		PHSC_101-H_230821A : 148		R187366
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	L	20		A2540 C	08/18/23 14:53 / eek		124 (14410200)_230818B : 30		TDS230818A
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.											
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	08/20/23 18:17 / ams		PHSC_101-H_230821A : 132	230820_PHSC_101_	
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	08/20/23 18:17 / ams		PHSC_101-H_230821A : 132	230820_PHSC_101_	
Carbonate as CO3	ND	mg/L		4		A2320 B	08/20/23 18:17 / ams		PHSC_101-H_230821A : 132	230820_PHSC_101_	
Chloride	ND	mg/L		1		E300.0	08/24/23 08:29 / SR		IC METROHM_230823A : 65		R187509
Sulfate	ND	mg/L		1		E300.0	08/24/23 08:29 / SR		IC METROHM_230823A : 65		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 08:29 / SR		IC METROHM_230823A : 65		R187509
Fluoride	ND	mg/L		0.1		E300.0	08/24/23 08:29 / SR		IC METROHM_230823A : 65		R187509
Hardness as CaCO3	ND	mg/L		1		A2340 B	08/22/23 01:50 / SR		CALC_230828A : 718		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	08/25/23 02:52 / eli-c		SUB-C298059 : 35		C_R298059
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	08/24/23 20:14 / eli-c		SUB-C298059 : 17		C_R298059
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	08/28/23 18:34 / JAR		SEAL AA500_230828B : 41		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/24/23 22:38 / dck		ICPMS205-H_230824B : 101		R187581
Antimony	ND	mg/L		0.0005		E200.8	08/24/23 22:38 / dck		ICPMS205-H_230824B : 101		R187581
Arsenic	ND	mg/L		0.001		E200.8	08/24/23 22:38 / dck		ICPMS205-H_230824B : 101		R187581
Barium	ND	mg/L		0.003		E200.8	08/24/23 22:38 / dck		ICPMS205-H_230824B : 101		R187581
Beryllium	ND	mg/L		0.0008		E200.8	08/24/23 22:38 / dck		ICPMS205-H_230824B : 101		R187581
Boron	ND	mg/L		0.05		E200.7	08/22/23 01:50 / slj		ICP2-HE_230821B : 125		R187409
Cadmium	ND	mg/L		0.00003		E200.8	08/24/23 22:38 / dck		ICPMS205-H_230824B : 101		R187581
Cesium	ND	mg/L		0.01		E200.8	08/30/23 13:49 / dck		ICPMS206-H_230830B : 27		R187736

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level  
L -Lowest available reporting limit for the analytical method used and/or volume submitted

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-3  
**Lab ID:** H23080754-004  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 10:37  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	ND	mg/L		1		E200.7	08/22/23 01:50 / slj		ICP2-HE_230821B : 125		R187409
Chromium	ND	mg/L		0.005		E200.8	08/24/23 22:38 / dck		ICPMS205-H_230824B : 101		R187581
Cobalt	ND	mg/L		0.005		E200.8	08/24/23 22:38 / dck		ICPMS205-H_230824B : 101		R187581
Copper	ND	mg/L		0.002		E200.8	08/29/23 17:52 / dck		ICPMS206-H_230829A : 47		R187694
Gallium	ND	mg/L		0.01		E200.8	08/30/23 13:49 / dck		ICPMS206-H_230830B : 27		R187736
Iron	ND	mg/L		0.02		E200.8	08/24/23 22:38 / dck		ICPMS205-H_230824B : 101		R187581
Lead	ND	mg/L		0.0003		E200.8	08/24/23 22:38 / dck		ICPMS205-H_230824B : 101		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 13:49 / dck		ICPMS206-H_230830B : 27		R187736
Lithium	ND	mg/L		0.1		E200.7	08/22/23 01:50 / slj		ICP2-HE_230821B : 125		R187409
Magnesium	ND	mg/L		1		E200.7	08/22/23 01:50 / slj		ICP2-HE_230821B : 125		R187409
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 13:49 / dck		ICPMS206-H_230830B : 27		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 13:49 / dck		ICPMS206-H_230830B : 27		R187736
Manganese	0.005	mg/L		0.001		E200.8	08/29/23 17:52 / dck		ICPMS206-H_230829A : 47		R187694
Molybdenum	ND	mg/L		0.001		E200.8	08/24/23 22:38 / dck		ICPMS205-H_230824B : 101		R187581
Nickel	ND	mg/L		0.002		E200.8	08/24/23 22:38 / dck		ICPMS205-H_230824B : 101		R187581
Palladium	ND	mg/L		0.01		E200.8	08/30/23 13:49 / dck		ICPMS206-H_230830B : 27		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 13:49 / dck		ICPMS206-H_230830B : 27		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 13:49 / dck		ICPMS206-H_230830B : 27		R187736
Potassium	ND	mg/L		1		E200.7	08/22/23 01:50 / slj		ICP2-HE_230821B : 125		R187409
Selenium	ND	mg/L		0.001		E200.8	08/24/23 22:38 / dck		ICPMS205-H_230824B : 101		R187581
Silver	ND	mg/L		0.0002		E200.8	08/24/23 22:38 / dck		ICPMS205-H_230824B : 101		R187581
Sodium	ND	mg/L		1		E200.7	08/22/23 01:50 / slj		ICP2-HE_230821B : 125		R187409
Strontium	ND	mg/L		0.01		E200.7	08/22/23 01:50 / slj		ICP2-HE_230821B : 125		R187409
Thallium	ND	mg/L		0.0002		E200.8	08/24/23 22:38 / dck		ICPMS205-H_230824B : 101		R187581
Thorium	ND	mg/L		0.005		E200.8	08/29/23 17:52 / dck		ICPMS206-H_230829A : 47		R187694
Tin	ND	mg/L		0.05		E200.8	08/24/23 22:38 / dck		ICPMS205-H_230824B : 101		R187581
Titanium	ND	mg/L		0.005		E200.8	08/24/23 22:38 / dck		ICPMS205-H_230824B : 101		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 13:49 / dck		ICPMS206-H_230830B : 27		R187736
Uranium	ND	mg/L		0.0002		E200.8	08/24/23 22:38 / dck		ICPMS205-H_230824B : 101		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/24/23 22:38 / dck		ICPMS205-H_230824B : 101		R187581
Zinc	ND	mg/L		0.008		E200.8	08/24/23 22:38 / dck		ICPMS205-H_230824B : 101		R187581
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 13:49 / dck		ICPMS206-H_230830B : 27		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-3  
**Lab ID:** H23080754-004  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 10:37 **Date Received:** 08/18/23  
**Report Date:** 09/13/23 **Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-85.8	%				A1030 E	08/28/23 10:20 / SR		CALC_230828A : 716		R187604
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-29SR  
**Lab ID:** H23080754-005  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 10:42  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.1	s.u.	H	0.1		A4500-H B	08/18/23 15:56 / ams		PHSC_101-H_230818A : 111		R187297
pH Measurement Temp	19.0	°C				A4500-H B	08/18/23 15:56 / ams		PHSC_101-H_230818A : 111		R187297
Conductivity @ 25 C	429	umhos/cm		5		A2510 B	08/18/23 15:56 / ams		PHSC_101-H_230818A : 112		R187297
Solids, Total Dissolved TDS @ 180 C	266	mg/L		20		A2540 C	08/18/23 14:53 / eek		124 (14410200)_230818B : 31		TDS230818A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	08/20/23 18:22 / ams		PHSC_101-H_230821A : 134	230820_PHSC_101_	
Bicarbonate as HCO3	130	mg/L		4		A2320 B	08/20/23 18:22 / ams		PHSC_101-H_230821A : 134	230820_PHSC_101_	
Carbonate as CO3	ND	mg/L		4		A2320 B	08/20/23 18:22 / ams		PHSC_101-H_230821A : 134	230820_PHSC_101_	
Chloride	21	mg/L		1		E300.0	08/24/23 08:44 / SR		IC METROHM_230823A : 66		R187509
Sulfate	60	mg/L		1		E300.0	08/24/23 08:44 / SR		IC METROHM_230823A : 66		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 08:44 / SR		IC METROHM_230823A : 66		R187509
Fluoride	1.2	mg/L		0.1		E300.0	08/24/23 08:44 / SR		IC METROHM_230823A : 66		R187509
Hardness as CaCO3	143	mg/L		1		A2340 B	08/22/23 01:54 / SR		CALC_230828A : 729		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.7	mg/L		0.5		A5310 C	08/23/23 19:19 / eli-c		SUB-C298022 : 24		C_R298022
Organic Carbon, Total (TOC)	0.6	mg/L		0.5		A5310 C	08/23/23 12:56 / eli-c		SUB-C298022 : 8		C_R298022
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	2.38	mg/L		0.02		E353.2	08/28/23 18:35 / JAR		SEAL AA500_230828B : 42		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/24/23 22:41 / dck		ICPMS205-H_230824B : 102		R187581
Antimony	ND	mg/L		0.0005		E200.8	08/24/23 22:41 / dck		ICPMS205-H_230824B : 102		R187581
Arsenic	0.003	mg/L		0.001		E200.8	08/24/23 22:41 / dck		ICPMS205-H_230824B : 102		R187581
Barium	0.050	mg/L		0.003		E200.8	08/24/23 22:41 / dck		ICPMS205-H_230824B : 102		R187581
Beryllium	ND	mg/L		0.0008		E200.8	08/24/23 22:41 / dck		ICPMS205-H_230824B : 102		R187581
Boron	ND	mg/L		0.05		E200.7	08/22/23 01:54 / slj		ICP2-HE_230821B : 126		R187409
Cadmium	0.00253	mg/L		0.00003		E200.8	08/24/23 22:41 / dck		ICPMS205-H_230824B : 102		R187581
Cesium	ND	mg/L		0.01		E200.8	08/30/23 13:51 / dck		ICPMS206-H_230830B : 28		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-29SR  
**Lab ID:** H23080754-005  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 10:42  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	41	mg/L		1		E200.7	08/22/23 01:54 / slj		ICP2-HE_230821B : 126		R187409
Chromium	ND	mg/L		0.005		E200.8	08/24/23 22:41 / dck		ICPMS205-H_230824B : 102		R187581
Cobalt	ND	mg/L		0.005		E200.8	08/24/23 22:41 / dck		ICPMS205-H_230824B : 102		R187581
Copper	0.138	mg/L		0.002		E200.8	08/24/23 22:41 / dck		ICPMS205-H_230824B : 102		R187581
Gallium	ND	mg/L		0.01		E200.8	08/30/23 13:51 / dck		ICPMS206-H_230830B : 28		R187736
Iron	ND	mg/L		0.02		E200.8	08/24/23 22:41 / dck		ICPMS205-H_230824B : 102		R187581
Lead	ND	mg/L		0.0003		E200.8	08/24/23 22:41 / dck		ICPMS205-H_230824B : 102		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 13:51 / dck		ICPMS206-H_230830B : 28		R187736
Lithium	ND	mg/L		0.1		E200.7	08/22/23 01:54 / slj		ICP2-HE_230821B : 126		R187409
Magnesium	10	mg/L		1		E200.7	08/22/23 01:54 / slj		ICP2-HE_230821B : 126		R187409
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 13:51 / dck		ICPMS206-H_230830B : 28		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 13:51 / dck		ICPMS206-H_230830B : 28		R187736
Manganese	0.005	mg/L		0.001		E200.8	08/24/23 22:41 / dck		ICPMS205-H_230824B : 102		R187581
Molybdenum	0.012	mg/L		0.001		E200.8	08/24/23 22:41 / dck		ICPMS205-H_230824B : 102		R187581
Nickel	ND	mg/L		0.002		E200.8	08/24/23 22:41 / dck		ICPMS205-H_230824B : 102		R187581
Palladium	ND	mg/L		0.01		E200.8	08/30/23 13:51 / dck		ICPMS206-H_230830B : 28		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 13:51 / dck		ICPMS206-H_230830B : 28		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 13:51 / dck		ICPMS206-H_230830B : 28		R187736
Potassium	4	mg/L		1		E200.7	08/22/23 01:54 / slj		ICP2-HE_230821B : 126		R187409
Selenium	ND	mg/L		0.001		E200.8	08/24/23 22:41 / dck		ICPMS205-H_230824B : 102		R187581
Silver	ND	mg/L		0.0002		E200.8	08/24/23 22:41 / dck		ICPMS205-H_230824B : 102		R187581
Sodium	30	mg/L		1		E200.7	08/22/23 01:54 / slj		ICP2-HE_230821B : 126		R187409
Strontium	0.33	mg/L		0.01		E200.7	08/22/23 01:54 / slj		ICP2-HE_230821B : 126		R187409
Thallium	ND	mg/L		0.0002		E200.8	08/24/23 22:41 / dck		ICPMS205-H_230824B : 102		R187581
Thorium	ND	mg/L		0.005		E200.8	08/30/23 13:51 / dck		ICPMS206-H_230830B : 231		R187736
Tin	ND	mg/L		0.05		E200.8	08/24/23 22:41 / dck		ICPMS205-H_230824B : 102		R187581
Titanium	ND	mg/L		0.005		E200.8	08/24/23 22:41 / dck		ICPMS205-H_230824B : 102		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 13:51 / dck		ICPMS206-H_230830B : 28		R187736
Uranium	0.0086	mg/L		0.0002		E200.8	08/24/23 22:41 / dck		ICPMS205-H_230824B : 102		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/24/23 22:41 / dck		ICPMS205-H_230824B : 102		R187581
Zinc	0.326	mg/L		0.008		E200.8	08/24/23 22:41 / dck		ICPMS205-H_230824B : 102		R187581
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 13:51 / dck		ICPMS206-H_230830B : 28		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-29SR  
**Lab ID:** H23080754-005  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 10:42      **Date Received:** 08/18/23  
**Report Date:** 09/13/23                      **Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	1.78	%				A1030 E	08/28/23 10:20 / SR		CALC_230828A : 727		R187604

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-3  
**Lab ID:** H23080754-006  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 10:43  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.3	s.u.	H	0.1		A4500-H B	08/18/23 15:58 / ams		PHSC_101-H_230818A : 113		R187297
pH Measurement Temp	18.9	°C				A4500-H B	08/18/23 15:58 / ams		PHSC_101-H_230818A : 113		R187297
Conductivity @ 25 C	ND	umhos/cm			5	A2510 B	08/18/23 15:58 / ams		PHSC_101-H_230818A : 114		R187297
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	L	20		A2540 C	08/18/23 14:54 / eek		124 (14410200)_230818B : 32		TDS230818A
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.											
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	08/20/23 18:30 / ams		PHSC_101-H_230821A : 136	230820_PHSC_101_	
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	08/20/23 18:30 / ams		PHSC_101-H_230821A : 136	230820_PHSC_101_	
Carbonate as CO3	ND	mg/L		4		A2320 B	08/20/23 18:30 / ams		PHSC_101-H_230821A : 136	230820_PHSC_101_	
Chloride	ND	mg/L		1		E300.0	08/24/23 08:58 / SR		IC METROHM_230823A : 67		R187509
Sulfate	ND	mg/L		1		E300.0	08/24/23 08:58 / SR		IC METROHM_230823A : 67		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 08:58 / SR		IC METROHM_230823A : 67		R187509
Fluoride	ND	mg/L		0.1		E300.0	08/24/23 08:58 / SR		IC METROHM_230823A : 67		R187509
Hardness as CaCO3	ND	mg/L		1		A2340 B	08/22/23 02:09 / SR		CALC_230828A : 740		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	08/23/23 20:10 / eli-c		SUB-C298022 : 27		C_R298022
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	08/23/23 13:43 / eli-c		SUB-C298022 : 11		C_R298022
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	08/28/23 18:38 / JAR		SEAL AA500_230828B : 45		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/24/23 22:44 / dck		ICPMS205-H_230824B : 103		R187581
Antimony	ND	mg/L		0.0005		E200.8	08/24/23 22:44 / dck		ICPMS205-H_230824B : 103		R187581
Arsenic	ND	mg/L		0.001		E200.8	08/24/23 22:44 / dck		ICPMS205-H_230824B : 103		R187581
Barium	ND	mg/L		0.003		E200.8	08/24/23 22:44 / dck		ICPMS205-H_230824B : 103		R187581
Beryllium	ND	mg/L		0.0008		E200.8	08/24/23 22:44 / dck		ICPMS205-H_230824B : 103		R187581
Boron	ND	mg/L		0.05		E200.7	08/22/23 02:09 / slj		ICP2-HE_230821B : 130		R187409
Cadmium	ND	mg/L		0.00003		E200.8	08/24/23 22:44 / dck		ICPMS205-H_230824B : 103		R187581
Cesium	ND	mg/L		0.01		E200.8	08/30/23 13:53 / dck		ICPMS206-H_230830B : 29		R187736

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level  
L -Lowest available reporting limit for the analytical method used and/or volume submitted

ND - Not detected at the Reporting Limit (RL)



**LABORATORY ANALYTICAL REPORT**

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-3  
**Lab ID:** H23080754-006  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 10:43  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	ND	mg/L		1		E200.7	08/22/23 02:09 / slj		ICP2-HE_230821B : 130		R187409
Chromium	ND	mg/L		0.005		E200.8	08/24/23 22:44 / dck		ICPMS205-H_230824B : 103		R187581
Cobalt	ND	mg/L		0.005		E200.8	08/24/23 22:44 / dck		ICPMS205-H_230824B : 103		R187581
Copper	ND	mg/L		0.002		E200.8	08/24/23 22:44 / dck		ICPMS205-H_230824B : 103		R187581
Gallium	ND	mg/L		0.01		E200.8	08/30/23 13:53 / dck		ICPMS206-H_230830B : 29		R187736
Iron	ND	mg/L		0.02		E200.8	08/24/23 22:44 / dck		ICPMS205-H_230824B : 103		R187581
Lead	ND	mg/L		0.0003		E200.8	08/24/23 22:44 / dck		ICPMS205-H_230824B : 103		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 13:53 / dck		ICPMS206-H_230830B : 29		R187736
Lithium	ND	mg/L		0.1		E200.7	08/22/23 02:09 / slj		ICP2-HE_230821B : 130		R187409
Magnesium	ND	mg/L		1		E200.7	08/22/23 02:09 / slj		ICP2-HE_230821B : 130		R187409
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 13:53 / dck		ICPMS206-H_230830B : 29		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 13:53 / dck		ICPMS206-H_230830B : 29		R187736
Manganese	ND	mg/L		0.001		E200.8	08/24/23 22:44 / dck		ICPMS205-H_230824B : 103		R187581
Molybdenum	ND	mg/L		0.001		E200.8	08/24/23 22:44 / dck		ICPMS205-H_230824B : 103		R187581
Nickel	ND	mg/L		0.002		E200.8	08/24/23 22:44 / dck		ICPMS205-H_230824B : 103		R187581
Palladium	ND	mg/L		0.01		E200.8	08/30/23 13:53 / dck		ICPMS206-H_230830B : 29		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 13:53 / dck		ICPMS206-H_230830B : 29		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 13:53 / dck		ICPMS206-H_230830B : 29		R187736
Potassium	ND	mg/L		1		E200.7	08/22/23 02:09 / slj		ICP2-HE_230821B : 130		R187409
Selenium	ND	mg/L		0.001		E200.8	08/24/23 22:44 / dck		ICPMS205-H_230824B : 103		R187581
Silver	ND	mg/L		0.0002		E200.8	08/24/23 22:44 / dck		ICPMS205-H_230824B : 103		R187581
Sodium	ND	mg/L		1		E200.7	08/22/23 02:09 / slj		ICP2-HE_230821B : 130		R187409
Strontium	ND	mg/L		0.01		E200.7	08/22/23 02:09 / slj		ICP2-HE_230821B : 130		R187409
Thallium	ND	mg/L		0.0002		E200.8	08/24/23 22:44 / dck		ICPMS205-H_230824B : 103		R187581
Thorium	ND	mg/L		0.005		E200.8	08/30/23 13:53 / dck		ICPMS206-H_230830B : 232		R187736
Tin	ND	mg/L		0.05		E200.8	08/24/23 22:44 / dck		ICPMS205-H_230824B : 103		R187581
Titanium	ND	mg/L		0.005		E200.8	08/24/23 22:44 / dck		ICPMS205-H_230824B : 103		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 13:53 / dck		ICPMS206-H_230830B : 29		R187736
Uranium	ND	mg/L		0.0002		E200.8	08/24/23 22:44 / dck		ICPMS205-H_230824B : 103		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/24/23 22:44 / dck		ICPMS205-H_230824B : 103		R187581
Zinc	ND	mg/L		0.008		E200.8	08/24/23 22:44 / dck		ICPMS205-H_230824B : 103		R187581
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 13:53 / dck		ICPMS206-H_230830B : 29		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-3  
**Lab ID:** H23080754-006  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 10:43 **DateReceived:** 08/18/23  
**Report Date:** 09/13/23 **Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	ND	%				A1030 E	08/28/23 10:20 / SR		CALC_230828A : 738		R187604
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-11  
**Lab ID:** H23080754-007  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 11:31  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.0	s.u.	H	0.1		A4500-H B	08/18/23 16:01 / ams		PHSC_101-H_230818A : 115		R187297
pH Measurement Temp	18.9	°C				A4500-H B	08/18/23 16:01 / ams		PHSC_101-H_230818A : 115		R187297
Conductivity @ 25 C	708	umhos/cm		5		A2510 B	08/18/23 16:01 / ams		PHSC_101-H_230818A : 116		R187297
Solids, Total Dissolved TDS @ 180 C	448	mg/L		20		A2540 C	08/18/23 14:54 / eek		124 (14410200)_230818B : 33		TDS230818A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	180	mg/L		4		A2320 B	08/21/23 14:16 / ams		PHSC_101-H_230821A : 159		R187366
Bicarbonate as HCO3	220	mg/L		4		A2320 B	08/21/23 14:16 / ams		PHSC_101-H_230821A : 159		R187366
Carbonate as CO3	ND	mg/L		4		A2320 B	08/21/23 14:16 / ams		PHSC_101-H_230821A : 159		R187366
Chloride	58	mg/L		1		E300.0	08/24/23 10:24 / SR		IC METROHM_230823A : 72		R187509
Sulfate	86	mg/L		1		E300.0	08/24/23 10:24 / SR		IC METROHM_230823A : 72		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 10:24 / SR		IC METROHM_230823A : 72		R187509
Fluoride	0.6	mg/L		0.1		E300.0	08/24/23 10:24 / SR		IC METROHM_230823A : 72		R187509
Hardness as CaCO3	271	mg/L		1		A2340 B	08/22/23 02:12 / SR		CALC_230828A : 751		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.2	mg/L		0.5		A5310 C	08/23/23 20:29 / eli-c		SUB-C298022 : 28		C_R298022
Organic Carbon, Total (TOC)	2.1	mg/L		0.5		A5310 C	08/23/23 14:03 / eli-c		SUB-C298022 : 12		C_R298022
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	3.25	mg/L		0.02		E353.2	08/28/23 18:41 / JAR		SEAL AA500_230828B : 48		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/24/23 22:48 / dck		ICPMS205-H_230824B : 104		R187581
Antimony	ND	mg/L		0.0005		E200.8	08/24/23 22:48 / dck		ICPMS205-H_230824B : 104		R187581
Arsenic	0.007	mg/L		0.001		E200.8	08/24/23 22:48 / dck		ICPMS205-H_230824B : 104		R187581
Barium	0.027	mg/L		0.003		E200.8	08/24/23 22:48 / dck		ICPMS205-H_230824B : 104		R187581
Beryllium	ND	mg/L		0.0008		E200.8	08/24/23 22:48 / dck		ICPMS205-H_230824B : 104		R187581
Boron	0.27	mg/L		0.05		E200.7	08/22/23 02:12 / slj		ICP2-HE_230821B : 131		R187409
Cadmium	0.00352	mg/L		0.00003		E200.8	08/24/23 22:48 / dck		ICPMS205-H_230824B : 104		R187581
Cesium	ND	mg/L		0.01		E200.8	08/27/23 18:01 / dck		ICPMS206-H_230827C : 40		R187693

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-11  
**Lab ID:** H23080754-007  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 11:31  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	70	mg/L		1		E200.7	08/22/23 02:12 / slj		ICP2-HE_230821B : 131		R187409
Chromium	ND	mg/L		0.005		E200.8	08/24/23 22:48 / dck		ICPMS205-H_230824B : 104		R187581
Cobalt	ND	mg/L		0.005		E200.8	08/24/23 22:48 / dck		ICPMS205-H_230824B : 104		R187581
Copper	0.013	mg/L		0.002		E200.8	08/24/23 22:48 / dck		ICPMS205-H_230824B : 104		R187581
Gallium	ND	mg/L		0.01		E200.8	08/27/23 18:01 / dck		ICPMS206-H_230827C : 40		R187693
Iron	ND	mg/L		0.02		E200.8	08/24/23 22:48 / dck		ICPMS205-H_230824B : 104		R187581
Lead	ND	mg/L		0.0003		E200.8	08/24/23 22:48 / dck		ICPMS205-H_230824B : 104		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/27/23 18:01 / dck		ICPMS206-H_230827C : 40		R187693
Lithium	ND	mg/L		0.1		E200.7	08/22/23 02:12 / slj		ICP2-HE_230821B : 131		R187409
Magnesium	23	mg/L		1		E200.7	08/22/23 02:12 / slj		ICP2-HE_230821B : 131		R187409
Neodymium	ND	mg/L		0.005		E200.8	08/27/23 18:01 / dck		ICPMS206-H_230827C : 40		R187693
Niobium	ND	mg/L		0.01		E200.8	08/30/23 13:55 / dck		ICPMS206-H_230830B : 30		R187736
Manganese	0.576	mg/L		0.001		E200.8	08/24/23 22:48 / dck		ICPMS205-H_230824B : 104		R187581
Molybdenum	0.026	mg/L		0.001		E200.8	08/24/23 22:48 / dck		ICPMS205-H_230824B : 104		R187581
Nickel	ND	mg/L		0.002		E200.8	08/24/23 22:48 / dck		ICPMS205-H_230824B : 104		R187581
Palladium	ND	mg/L		0.01		E200.8	08/27/23 18:01 / dck		ICPMS206-H_230827C : 40		R187693
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 13:55 / dck		ICPMS206-H_230830B : 30		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/27/23 18:01 / dck		ICPMS206-H_230827C : 40		R187693
Potassium	6	mg/L		1		E200.7	08/22/23 02:12 / slj		ICP2-HE_230821B : 131		R187409
Selenium	ND	mg/L		0.001		E200.8	08/24/23 22:48 / dck		ICPMS205-H_230824B : 104		R187581
Silver	ND	mg/L		0.0002		E200.8	08/24/23 22:48 / dck		ICPMS205-H_230824B : 104		R187581
Sodium	38	mg/L		1		E200.7	08/22/23 02:12 / slj		ICP2-HE_230821B : 131		R187409
Strontium	0.49	mg/L		0.01		E200.7	08/22/23 02:12 / slj		ICP2-HE_230821B : 131		R187409
Thallium	ND	mg/L		0.0002		E200.8	08/24/23 22:48 / dck		ICPMS205-H_230824B : 104		R187581
Thorium	ND	mg/L		0.005		E200.8	08/30/23 13:55 / dck		ICPMS206-H_230830B : 233		R187736
Tin	ND	mg/L		0.05		E200.8	08/24/23 22:48 / dck		ICPMS205-H_230824B : 104		R187581
Titanium	ND	mg/L		0.005		E200.8	08/24/23 22:48 / dck		ICPMS205-H_230824B : 104		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/27/23 18:01 / dck		ICPMS206-H_230827C : 40		R187693
Uranium	0.0252	mg/L		0.0002		E200.8	08/24/23 22:48 / dck		ICPMS205-H_230824B : 104		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/24/23 22:48 / dck		ICPMS205-H_230824B : 104		R187581
Zinc	0.891	mg/L		0.008		E200.8	08/24/23 22:48 / dck		ICPMS205-H_230824B : 104		R187581
Zirconium	ND	mg/L		0.005		E200.8	08/27/23 18:01 / dck		ICPMS206-H_230827C : 40		R187693

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-11  
**Lab ID:** H23080754-007  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 11:31      **Date Received:** 08/18/23  
**Report Date:** 09/13/23              **Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	0.85	%				A1030 E	08/28/23 10:21 / SR		CALC_230828A : 749		R187604

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-07B  
**Lab ID:** H23080754-008  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 11:40  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.9	s.u.	H	0.1		A4500-H B	08/18/23 16:02 / ams		PHSC_101-H_230818A : 117		R187297
pH Measurement Temp	19.0	°C				A4500-H B	08/18/23 16:02 / ams		PHSC_101-H_230818A : 117		R187297
Conductivity @ 25 C	629	umhos/cm		5		A2510 B	08/18/23 16:02 / ams		PHSC_101-H_230818A : 118		R187297
Solids, Total Dissolved TDS @ 180 C	434	mg/L		20		A2540 C	08/18/23 14:56 / eek		124 (14410200)_230818B : 36		TDS230818A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	77	mg/L		4		A2320 B	08/21/23 14:31 / ams		PHSC_101-H_230821A : 163		R187366
Bicarbonate as HCO3	93	mg/L		4		A2320 B	08/21/23 14:31 / ams		PHSC_101-H_230821A : 163		R187366
Carbonate as CO3	ND	mg/L		4		A2320 B	08/21/23 14:31 / ams		PHSC_101-H_230821A : 163		R187366
Chloride	9	mg/L		1		E300.0	08/24/23 10:39 / SR		IC METROHM_230823A : 73		R187509
Sulfate	215	mg/L		1		E300.0	08/24/23 10:39 / SR		IC METROHM_230823A : 73		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 10:39 / SR		IC METROHM_230823A : 73		R187509
Fluoride	1.7	mg/L		0.1		E300.0	08/24/23 10:39 / SR		IC METROHM_230823A : 73		R187509
Hardness as CaCO3	189	mg/L		1		A2340 B	08/22/23 02:16 / SR		CALC_230828A : 762		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	3.8	mg/L		0.5		A5310 C	08/23/23 20:46 / eli-c		SUB-C298022 : 29		C_R298022
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	08/23/23 14:19 / eli-c		SUB-C298022 : 13		C_R298022
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.58	mg/L		0.01		E353.2	08/28/23 18:42 / JAR		SEAL AA500_230828B : 49		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/24/23 22:51 / dck		ICPMS205-H_230824B : 105		R187581
Antimony	ND	mg/L		0.0005		E200.8	08/24/23 22:51 / dck		ICPMS205-H_230824B : 105		R187581
Arsenic	0.011	mg/L		0.001		E200.8	08/24/23 22:51 / dck		ICPMS205-H_230824B : 105		R187581
Barium	0.008	mg/L		0.003		E200.8	08/24/23 22:51 / dck		ICPMS205-H_230824B : 105		R187581
Beryllium	ND	mg/L		0.0008		E200.8	08/24/23 22:51 / dck		ICPMS205-H_230824B : 105		R187581
Boron	0.07	mg/L		0.05		E200.7	08/22/23 02:16 / slj		ICP2-HE_230821B : 132		R187409
Cadmium	0.00226	mg/L		0.00003		E200.8	08/24/23 22:51 / dck		ICPMS205-H_230824B : 105		R187581
Cesium	ND	mg/L		0.01		E200.8	08/27/23 18:07 / dck		ICPMS206-H_230827C : 42		R187693

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-07B  
**Lab ID:** H23080754-008  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 11:40  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	55	mg/L		1		E200.7	08/22/23 02:16 / slj		ICP2-HE_230821B : 132		R187409
Chromium	ND	mg/L		0.005		E200.8	08/24/23 22:51 / dck		ICPMS205-H_230824B : 105		R187581
Cobalt	ND	mg/L		0.005		E200.8	08/24/23 22:51 / dck		ICPMS205-H_230824B : 105		R187581
Copper	ND	mg/L		0.002		E200.8	08/24/23 22:51 / dck		ICPMS205-H_230824B : 105		R187581
Gallium	ND	mg/L		0.01		E200.8	08/27/23 18:07 / dck		ICPMS206-H_230827C : 42		R187693
Iron	ND	mg/L		0.02		E200.8	08/24/23 22:51 / dck		ICPMS205-H_230824B : 105		R187581
Lead	ND	mg/L		0.0003		E200.8	08/24/23 22:51 / dck		ICPMS205-H_230824B : 105		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/27/23 18:07 / dck		ICPMS206-H_230827C : 42		R187693
Lithium	0.1	mg/L		0.1		E200.7	08/22/23 02:16 / slj		ICP2-HE_230821B : 132		R187409
Magnesium	12	mg/L		1		E200.7	08/22/23 02:16 / slj		ICP2-HE_230821B : 132		R187409
Neodymium	ND	mg/L		0.005		E200.8	08/27/23 18:07 / dck		ICPMS206-H_230827C : 42		R187693
Niobium	ND	mg/L		0.01		E200.8	08/30/23 13:57 / dck		ICPMS206-H_230830B : 31		R187736
Manganese	ND	mg/L		0.001		E200.8	08/24/23 22:51 / dck		ICPMS205-H_230824B : 105		R187581
Molybdenum	0.075	mg/L		0.001		E200.8	08/24/23 22:51 / dck		ICPMS205-H_230824B : 105		R187581
Nickel	ND	mg/L		0.002		E200.8	08/24/23 22:51 / dck		ICPMS205-H_230824B : 105		R187581
Palladium	ND	mg/L		0.01		E200.8	08/27/23 18:07 / dck		ICPMS206-H_230827C : 42		R187693
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 13:57 / dck		ICPMS206-H_230830B : 31		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/27/23 18:07 / dck		ICPMS206-H_230827C : 42		R187693
Potassium	8	mg/L		1		E200.7	08/22/23 02:16 / slj		ICP2-HE_230821B : 132		R187409
Selenium	ND	mg/L		0.001		E200.8	08/24/23 22:51 / dck		ICPMS205-H_230824B : 105		R187581
Silver	ND	mg/L		0.0002		E200.8	08/24/23 22:51 / dck		ICPMS205-H_230824B : 105		R187581
Sodium	49	mg/L		1		E200.7	08/22/23 02:16 / slj		ICP2-HE_230821B : 132		R187409
Strontium	0.57	mg/L		0.01		E200.7	08/22/23 02:16 / slj		ICP2-HE_230821B : 132		R187409
Thallium	ND	mg/L		0.0002		E200.8	08/24/23 22:51 / dck		ICPMS205-H_230824B : 105		R187581
Thorium	ND	mg/L		0.005		E200.8	08/30/23 13:57 / dck		ICPMS206-H_230830B : 234		R187736
Tin	ND	mg/L		0.05		E200.8	08/24/23 22:51 / dck		ICPMS205-H_230824B : 105		R187581
Titanium	ND	mg/L		0.005		E200.8	08/24/23 22:51 / dck		ICPMS205-H_230824B : 105		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/27/23 18:07 / dck		ICPMS206-H_230827C : 42		R187693
Uranium	0.0018	mg/L		0.0002		E200.8	08/24/23 22:51 / dck		ICPMS205-H_230824B : 105		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/24/23 22:51 / dck		ICPMS205-H_230824B : 105		R187581
Zinc	0.189	mg/L		0.008		E200.8	08/24/23 22:51 / dck		ICPMS205-H_230824B : 105		R187581
Zirconium	ND	mg/L		0.005		E200.8	08/27/23 18:07 / dck		ICPMS206-H_230827C : 42		R187693

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-07B  
**Lab ID:** H23080754-008  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 11:40 **Date Received:** 08/18/23  
**Report Date:** 09/13/23 **Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-2.22	%				A1030 E	08/28/23 10:21 / SR		CALC_230828A : 760		R187604

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-11A  
**Lab ID:** H23080754-009  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 11:45  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.2	s.u.	H	0.1		A4500-H B	08/18/23 16:04 / ams		PHSC_101-H_230818A : 119		R187297
pH Measurement Temp	19.0	°C				A4500-H B	08/18/23 16:04 / ams		PHSC_101-H_230818A : 119		R187297
Conductivity @ 25 C	302	umhos/cm		5		A2510 B	08/18/23 16:04 / ams		PHSC_101-H_230818A : 120		R187297
Solids, Total Dissolved TDS @ 180 C	192	mg/L		20		A2540 C	08/18/23 14:56 / eek		124 (14410200)_230818B : 38		TDS230818A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	96	mg/L		4		A2320 B	08/21/23 14:38 / ams		PHSC_101-H_230821A : 165		R187366
Bicarbonate as HCO3	120	mg/L		4		A2320 B	08/21/23 14:38 / ams		PHSC_101-H_230821A : 165		R187366
Carbonate as CO3	ND	mg/L		4		A2320 B	08/21/23 14:38 / ams		PHSC_101-H_230821A : 165		R187366
Chloride	12	mg/L		1		E300.0	08/24/23 10:53 / SR		IC METROHM_230823A : 74		R187509
Sulfate	33	mg/L		1		E300.0	08/24/23 10:53 / SR		IC METROHM_230823A : 74		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 10:53 / SR		IC METROHM_230823A : 74		R187509
Fluoride	1.1	mg/L		0.1		E300.0	08/24/23 10:53 / SR		IC METROHM_230823A : 74		R187509
Hardness as CaCO3	98	mg/L		1		A2340 B	08/22/23 02:20 / SR		CALC_230828A : 773		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.5	mg/L		0.5		A5310 C	08/23/23 21:05 / eli-c		SUB-C298022 : 30		C_R298022
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	08/23/23 14:38 / eli-c		SUB-C298022 : 14		C_R298022
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.76	mg/L		0.01		E353.2	08/28/23 18:43 / JAR		SEAL AA500_230828B : 50		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/24/23 22:54 / dck		ICPMS205-H_230824B : 106		R187581
Antimony	ND	mg/L		0.0005		E200.8	08/24/23 22:54 / dck		ICPMS205-H_230824B : 106		R187581
Arsenic	0.002	mg/L		0.001		E200.8	08/24/23 22:54 / dck		ICPMS205-H_230824B : 106		R187581
Barium	0.042	mg/L		0.003		E200.8	08/24/23 22:54 / dck		ICPMS205-H_230824B : 106		R187581
Beryllium	ND	mg/L		0.0008		E200.8	08/24/23 22:54 / dck		ICPMS205-H_230824B : 106		R187581
Boron	ND	mg/L		0.05		E200.7	08/22/23 02:20 / slj		ICP2-HE_230821B : 133		R187409
Cadmium	0.00024	mg/L		0.00003		E200.8	08/24/23 22:54 / dck		ICPMS205-H_230824B : 106		R187581
Cesium	ND	mg/L		0.01		E200.8	08/27/23 18:12 / dck		ICPMS206-H_230827C : 44		R187693

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-11A  
**Lab ID:** H23080754-009  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 11:45  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	28	mg/L		1		E200.7	08/22/23 02:20 / slj		ICP2-HE_230821B : 133		R187409
Chromium	ND	mg/L		0.005		E200.8	08/24/23 22:54 / dck		ICPMS205-H_230824B : 106		R187581
Cobalt	ND	mg/L		0.005		E200.8	08/24/23 22:54 / dck		ICPMS205-H_230824B : 106		R187581
Copper	ND	mg/L		0.002		E200.8	08/24/23 22:54 / dck		ICPMS205-H_230824B : 106		R187581
Gallium	ND	mg/L		0.01		E200.8	08/27/23 18:12 / dck		ICPMS206-H_230827C : 44		R187693
Iron	ND	mg/L		0.02		E200.8	08/24/23 22:54 / dck		ICPMS205-H_230824B : 106		R187581
Lead	ND	mg/L		0.0003		E200.8	08/24/23 22:54 / dck		ICPMS205-H_230824B : 106		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/27/23 18:12 / dck		ICPMS206-H_230827C : 44		R187693
Lithium	ND	mg/L		0.1		E200.7	08/22/23 02:20 / slj		ICP2-HE_230821B : 133		R187409
Magnesium	7	mg/L		1		E200.7	08/22/23 02:20 / slj		ICP2-HE_230821B : 133		R187409
Neodymium	ND	mg/L		0.005		E200.8	08/27/23 18:12 / dck		ICPMS206-H_230827C : 44		R187693
Niobium	ND	mg/L		0.01		E200.8	08/30/23 14:00 / dck		ICPMS206-H_230830B : 32		R187736
Manganese	ND	mg/L		0.001		E200.8	08/24/23 22:54 / dck		ICPMS205-H_230824B : 106		R187581
Molybdenum	0.023	mg/L		0.001		E200.8	08/24/23 22:54 / dck		ICPMS205-H_230824B : 106		R187581
Nickel	ND	mg/L		0.002		E200.8	08/24/23 22:54 / dck		ICPMS205-H_230824B : 106		R187581
Palladium	ND	mg/L		0.01		E200.8	08/27/23 18:12 / dck		ICPMS206-H_230827C : 44		R187693
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 14:00 / dck		ICPMS206-H_230830B : 32		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/27/23 18:12 / dck		ICPMS206-H_230827C : 44		R187693
Potassium	4	mg/L		1		E200.7	08/22/23 02:20 / slj		ICP2-HE_230821B : 133		R187409
Selenium	ND	mg/L		0.001		E200.8	08/24/23 22:54 / dck		ICPMS205-H_230824B : 106		R187581
Silver	ND	mg/L		0.0002		E200.8	08/24/23 22:54 / dck		ICPMS205-H_230824B : 106		R187581
Sodium	22	mg/L		1		E200.7	08/22/23 02:20 / slj		ICP2-HE_230821B : 133		R187409
Strontium	0.24	mg/L		0.01		E200.7	08/22/23 02:20 / slj		ICP2-HE_230821B : 133		R187409
Thallium	ND	mg/L		0.0002		E200.8	08/24/23 22:54 / dck		ICPMS205-H_230824B : 106		R187581
Thorium	ND	mg/L		0.005		E200.8	08/30/23 14:00 / dck		ICPMS206-H_230830B : 235		R187736
Tin	ND	mg/L		0.05		E200.8	08/24/23 22:54 / dck		ICPMS205-H_230824B : 106		R187581
Titanium	ND	mg/L		0.005		E200.8	08/24/23 22:54 / dck		ICPMS205-H_230824B : 106		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/27/23 18:12 / dck		ICPMS206-H_230827C : 44		R187693
Uranium	0.0040	mg/L		0.0002		E200.8	08/24/23 22:54 / dck		ICPMS205-H_230824B : 106		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/24/23 22:54 / dck		ICPMS205-H_230824B : 106		R187581
Zinc	0.046	mg/L		0.008		E200.8	08/24/23 22:54 / dck		ICPMS205-H_230824B : 106		R187581
Zirconium	ND	mg/L		0.005		E200.8	08/27/23 18:12 / dck		ICPMS206-H_230827C : 44		R187693

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-11A  
**Lab ID:** H23080754-009  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 11:45      **Date Received:** 08/18/23  
**Report Date:** 09/13/23              **Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	0.05	%				A1030 E	08/28/23 10:21 / SR		CALC_230828A : 771		R187604

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-04  
**Lab ID:** H23080754-010  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 12:05  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.4	s.u.	H	0.1		A4500-H B	08/18/23 16:06 / ams		PHSC_101-H_230818A : 121		R187297
pH Measurement Temp	19.0	°C				A4500-H B	08/18/23 16:06 / ams		PHSC_101-H_230818A : 121		R187297
Conductivity @ 25 C	985	umhos/cm		5		A2510 B	08/18/23 16:06 / ams		PHSC_101-H_230818A : 122		R187297
Solids, Total Dissolved TDS @ 180 C	727	mg/L		20		A2540 C	08/18/23 14:57 / eek		124 (14410200)_230818B : 39		TDS230818A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	59	mg/L		4		A2320 B	08/21/23 14:45 / ams		PHSC_101-H_230821A : 167		R187366
Bicarbonate as HCO3	71	mg/L		4		A2320 B	08/21/23 14:45 / ams		PHSC_101-H_230821A : 167		R187366
Carbonate as CO3	ND	mg/L		4		A2320 B	08/21/23 14:45 / ams		PHSC_101-H_230821A : 167		R187366
Chloride	43	mg/L		1		E300.0	08/24/23 11:08 / SR		IC METROHM_230823A : 75		R187509
Sulfate	388	mg/L		1		E300.0	08/24/23 11:08 / SR		IC METROHM_230823A : 75		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 11:08 / SR		IC METROHM_230823A : 75		R187509
Fluoride	0.3	mg/L		0.1		E300.0	08/24/23 11:08 / SR		IC METROHM_230823A : 75		R187509
Hardness as CaCO3	421	mg/L		1		A2340 B	08/22/23 02:24 / SR		CALC_230828A : 784		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.9	mg/L		0.5		A5310 C	08/25/23 03:07 / eli-c		SUB-C298059 : 36		C_R298059
Organic Carbon, Total (TOC)	0.9	mg/L		0.5		A5310 C	08/24/23 20:29 / eli-c		SUB-C298059 : 18		C_R298059
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	3.75	mg/L		0.02		E353.2	08/28/23 18:44 / JAR		SEAL AA500_230828B : 51		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/24/23 22:57 / dck		ICPMS205-H_230824B : 107		R187581
Antimony	ND	mg/L		0.0005		E200.8	08/24/23 22:57 / dck		ICPMS205-H_230824B : 107		R187581
Arsenic	0.001	mg/L		0.001		E200.8	08/24/23 22:57 / dck		ICPMS205-H_230824B : 107		R187581
Barium	0.016	mg/L		0.003		E200.8	08/24/23 22:57 / dck		ICPMS205-H_230824B : 107		R187581
Beryllium	ND	mg/L		0.0008		E200.8	08/24/23 22:57 / dck		ICPMS205-H_230824B : 107		R187581
Boron	0.09	mg/L		0.05		E200.7	08/22/23 02:24 / slj		ICP2-HE_230821B : 134		R187409
Cadmium	0.00378	mg/L		0.00003		E200.8	08/24/23 22:57 / dck		ICPMS205-H_230824B : 107		R187581
Cesium	ND	mg/L		0.01		E200.8	08/27/23 18:18 / dck		ICPMS206-H_230827C : 46		R187693

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-04  
**Lab ID:** H23080754-010  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 12:05  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	107	mg/L		1		E200.7	08/22/23 02:24 / slj		ICP2-HE_230821B : 134		R187409
Chromium	ND	mg/L		0.005		E200.8	08/24/23 22:57 / dck		ICPMS205-H_230824B : 107		R187581
Cobalt	ND	mg/L		0.005		E200.8	08/24/23 22:57 / dck		ICPMS205-H_230824B : 107		R187581
Copper	0.003	mg/L		0.002		E200.8	08/24/23 22:57 / dck		ICPMS205-H_230824B : 107		R187581
Gallium	ND	mg/L		0.01		E200.8	08/27/23 18:18 / dck		ICPMS206-H_230827C : 46		R187693
Iron	ND	mg/L		0.02		E200.8	08/24/23 22:57 / dck		ICPMS205-H_230824B : 107		R187581
Lead	ND	mg/L		0.0003		E200.8	08/24/23 22:57 / dck		ICPMS205-H_230824B : 107		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/27/23 18:18 / dck		ICPMS206-H_230827C : 46		R187693
Lithium	0.1	mg/L		0.1		E200.7	08/22/23 02:24 / slj		ICP2-HE_230821B : 134		R187409
Magnesium	37	mg/L		1		E200.7	08/22/23 02:24 / slj		ICP2-HE_230821B : 134		R187409
Neodymium	ND	mg/L		0.005		E200.8	08/27/23 18:18 / dck		ICPMS206-H_230827C : 46		R187693
Niobium	ND	mg/L		0.01		E200.8	08/30/23 14:02 / dck		ICPMS206-H_230830B : 33		R187736
Manganese	5.00	mg/L		0.001		E200.7	08/22/23 02:24 / slj		ICP2-HE_230821B : 134		R187409
Molybdenum	0.003	mg/L		0.001		E200.8	08/24/23 22:57 / dck		ICPMS205-H_230824B : 107		R187581
Nickel	0.005	mg/L		0.002		E200.8	08/24/23 22:57 / dck		ICPMS205-H_230824B : 107		R187581
Palladium	ND	mg/L		0.01		E200.8	08/27/23 18:18 / dck		ICPMS206-H_230827C : 46		R187693
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 14:02 / dck		ICPMS206-H_230830B : 33		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/27/23 18:18 / dck		ICPMS206-H_230827C : 46		R187693
Potassium	9	mg/L		1		E200.7	08/22/23 02:24 / slj		ICP2-HE_230821B : 134		R187409
Selenium	ND	mg/L		0.001		E200.8	08/24/23 22:57 / dck		ICPMS205-H_230824B : 107		R187581
Silver	ND	mg/L		0.0002		E200.8	08/24/23 22:57 / dck		ICPMS205-H_230824B : 107		R187581
Sodium	40	mg/L		1		E200.7	08/22/23 02:24 / slj		ICP2-HE_230821B : 134		R187409
Strontium	0.58	mg/L		0.01		E200.7	08/22/23 02:24 / slj		ICP2-HE_230821B : 134		R187409
Thallium	ND	mg/L		0.0002		E200.8	08/24/23 22:57 / dck		ICPMS205-H_230824B : 107		R187581
Thorium	ND	mg/L		0.005		E200.8	08/30/23 14:02 / dck		ICPMS206-H_230830B : 236		R187736
Tin	ND	mg/L		0.05		E200.8	08/24/23 22:57 / dck		ICPMS205-H_230824B : 107		R187581
Titanium	ND	mg/L		0.005		E200.8	08/24/23 22:57 / dck		ICPMS205-H_230824B : 107		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/27/23 18:18 / dck		ICPMS206-H_230827C : 46		R187693
Uranium	0.0010	mg/L		0.0002		E200.8	08/24/23 22:57 / dck		ICPMS205-H_230824B : 107		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/24/23 22:57 / dck		ICPMS205-H_230824B : 107		R187581
Zinc	0.198	mg/L		0.008		E200.8	08/24/23 22:57 / dck		ICPMS205-H_230824B : 107		R187581
Zirconium	ND	mg/L		0.005		E200.8	08/27/23 18:18 / dck		ICPMS206-H_230827C : 46		R187693

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-04  
**Lab ID:** H23080754-010  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 12:05      **DateReceived:** 08/18/23  
**Report Date:** 09/13/23                      **Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-0.53	%				A1030 E	08/28/23 10:21 / SR		CALC_230828A : 782		R187604

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-07  
**Lab ID:** H23080754-011  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 12:16  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.8	s.u.	H	0.1		A4500-H B	08/18/23 16:08 / ams		PHSC_101-H_230818A : 123		R187297
pH Measurement Temp	19.1	°C				A4500-H B	08/18/23 16:08 / ams		PHSC_101-H_230818A : 123		R187297
Conductivity @ 25 C	279	umhos/cm		5		A2510 B	08/18/23 16:08 / ams		PHSC_101-H_230818A : 124		R187297
Solids, Total Dissolved TDS @ 180 C	184	mg/L		20		A2540 C	08/18/23 14:57 / eek		124 (14410200)_230818B : 40		TDS230818A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	87	mg/L		4		A2320 B	08/21/23 14:52 / ams		PHSC_101-H_230821A : 169		R187366
Bicarbonate as HCO3	110	mg/L		4		A2320 B	08/21/23 14:52 / ams		PHSC_101-H_230821A : 169		R187366
Carbonate as CO3	ND	mg/L		4		A2320 B	08/21/23 14:52 / ams		PHSC_101-H_230821A : 169		R187366
Chloride	12	mg/L		1		E300.0	08/24/23 11:22 / SR		IC METROHM_230823A : 76		R187509
Sulfate	31	mg/L		1		E300.0	08/24/23 11:22 / SR		IC METROHM_230823A : 76		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 11:22 / SR		IC METROHM_230823A : 76		R187509
Fluoride	1.8	mg/L		0.1		E300.0	08/24/23 11:22 / SR		IC METROHM_230823A : 76		R187509
Hardness as CaCO3	76	mg/L		1		A2340 B	08/22/23 03:06 / SR		CALC_230828A : 795		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.2	mg/L		0.5		A5310 C	08/25/23 03:22 / eli-c		SUB-C298059 : 37		C_R298059
Organic Carbon, Total (TOC)	2.6	mg/L		0.5		A5310 C	08/28/23 14:34 / eli-c		SUB-C298148 : 11		C_R298148
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.02	mg/L		0.01		E353.2	08/28/23 18:45 / JAR		SEAL AA500_230828B : 52		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	0.014	mg/L		0.009		E200.8	08/24/23 23:00 / dck		ICPMS205-H_230824B : 108		R187581
Antimony	ND	mg/L		0.0005		E200.8	08/24/23 23:00 / dck		ICPMS205-H_230824B : 108		R187581
Arsenic	0.007	mg/L		0.001		E200.8	08/24/23 23:00 / dck		ICPMS205-H_230824B : 108		R187581
Barium	0.023	mg/L		0.003		E200.8	08/24/23 23:00 / dck		ICPMS205-H_230824B : 108		R187581
Beryllium	ND	mg/L		0.0008		E200.8	08/24/23 23:00 / dck		ICPMS205-H_230824B : 108		R187581
Boron	ND	mg/L		0.05		E200.7	08/22/23 03:06 / slj		ICP2-HE_230821B : 145		R187409
Cadmium	0.00005	mg/L		0.00003		E200.8	08/24/23 23:00 / dck		ICPMS205-H_230824B : 108		R187581
Cesium	ND	mg/L		0.01		E200.8	08/27/23 18:24 / dck		ICPMS206-H_230827C : 48		R187693

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-07  
**Lab ID:** H23080754-011  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 12:16  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	21	mg/L		1		E200.7	08/22/23 03:06 / slj		ICP2-HE_230821B : 145		R187409
Chromium	ND	mg/L		0.005		E200.8	08/24/23 23:00 / dck		ICPMS205-H_230824B : 108		R187581
Cobalt	ND	mg/L		0.005		E200.8	08/24/23 23:00 / dck		ICPMS205-H_230824B : 108		R187581
Copper	ND	mg/L		0.002		E200.8	08/24/23 23:00 / dck		ICPMS205-H_230824B : 108		R187581
Gallium	ND	mg/L		0.01		E200.8	08/27/23 18:24 / dck		ICPMS206-H_230827C : 48		R187693
Iron	0.62	mg/L		0.02		E200.8	08/24/23 23:00 / dck		ICPMS205-H_230824B : 108		R187581
Lead	ND	mg/L		0.0003		E200.8	08/24/23 23:00 / dck		ICPMS205-H_230824B : 108		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/27/23 18:24 / dck		ICPMS206-H_230827C : 48		R187693
Lithium	ND	mg/L		0.1		E200.8	08/24/23 23:00 / dck		ICPMS205-H_230824B : 108		R187581
Magnesium	6	mg/L		1		E200.7	08/22/23 03:06 / slj		ICP2-HE_230821B : 145		R187409
Neodymium	ND	mg/L		0.005		E200.8	08/27/23 18:24 / dck		ICPMS206-H_230827C : 48		R187693
Niobium	ND	mg/L		0.01		E200.8	08/30/23 14:04 / dck		ICPMS206-H_230830B : 34		R187736
Manganese	0.283	mg/L		0.001		E200.8	08/24/23 23:00 / dck		ICPMS205-H_230824B : 108		R187581
Molybdenum	0.010	mg/L		0.001		E200.8	08/24/23 23:00 / dck		ICPMS205-H_230824B : 108		R187581
Nickel	ND	mg/L		0.002		E200.8	08/24/23 23:00 / dck		ICPMS205-H_230824B : 108		R187581
Palladium	ND	mg/L		0.01		E200.8	08/27/23 18:24 / dck		ICPMS206-H_230827C : 48		R187693
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 14:04 / dck		ICPMS206-H_230830B : 34		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/27/23 18:24 / dck		ICPMS206-H_230827C : 48		R187693
Potassium	4	mg/L		1		E200.8	08/24/23 23:00 / dck		ICPMS205-H_230824B : 108		R187581
Selenium	ND	mg/L		0.001		E200.8	08/24/23 23:00 / dck		ICPMS205-H_230824B : 108		R187581
Silver	ND	mg/L		0.0002		E200.8	08/24/23 23:00 / dck		ICPMS205-H_230824B : 108		R187581
Sodium	24	mg/L		1		E200.7	08/22/23 03:06 / slj		ICP2-HE_230821B : 145		R187409
Strontium	0.19	mg/L		0.01		E200.7	08/22/23 03:06 / slj		ICP2-HE_230821B : 145		R187409
Thallium	ND	mg/L		0.0002		E200.8	08/24/23 23:00 / dck		ICPMS205-H_230824B : 108		R187581
Thorium	ND	mg/L		0.005		E200.8	08/30/23 14:04 / dck		ICPMS206-H_230830B : 237		R187736
Tin	ND	mg/L		0.05		E200.8	08/24/23 23:00 / dck		ICPMS205-H_230824B : 108		R187581
Titanium	ND	mg/L		0.005		E200.8	08/24/23 23:00 / dck		ICPMS205-H_230824B : 108		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/27/23 18:24 / dck		ICPMS206-H_230827C : 48		R187693
Uranium	0.0004	mg/L		0.0002		E200.8	08/24/23 23:00 / dck		ICPMS205-H_230824B : 108		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/24/23 23:00 / dck		ICPMS205-H_230824B : 108		R187581
Zinc	0.022	mg/L		0.008		E200.8	08/24/23 23:00 / dck		ICPMS205-H_230824B : 108		R187581
Zirconium	ND	mg/L		0.005		E200.8	08/27/23 18:24 / dck		ICPMS206-H_230827C : 48		R187693

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-07  
**Lab ID:** H23080754-011  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 12:16      **Date Received:** 08/18/23  
**Report Date:** 09/13/23                      **Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-2.84	%				A1030 E	08/28/23 10:22 / SR		CALC_230828A : 793		R187604
The Anion/Cation Balance Difference is <±0.2 meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-02B  
**Lab ID:** H23080754-012  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 12:38  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.4	s.u.	H	0.1		A4500-H B	08/18/23 16:10 / ams		PHSC_101-H_230818A : 125		R187297
pH Measurement Temp	19.3	°C				A4500-H B	08/18/23 16:10 / ams		PHSC_101-H_230818A : 125		R187297
Conductivity @ 25 C	4490	umhos/cm		5		A2510 B	08/18/23 16:10 / ams		PHSC_101-H_230818A : 126		R187297
Solids, Total Dissolved TDS @ 180 C	5380	mg/L		100		A2540 C	08/18/23 14:58 / eek		124 (14410200)_230818B : 41		TDS230818A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	08/21/23 14:59 / ams		PHSC_101-H_230821A : 171		R187366
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	08/21/23 14:59 / ams		PHSC_101-H_230821A : 171		R187366
Carbonate as CO3	ND	mg/L		4		A2320 B	08/21/23 14:59 / ams		PHSC_101-H_230821A : 171		R187366
Chloride	172	mg/L		1		E300.0	08/30/23 15:39 / SR		IC METROHM_230830A : 16		R187731
Sulfate	3130	mg/L		1		E300.0	08/30/23 15:39 / SR		IC METROHM_230830A : 16		R187731
Bromide	ND	mg/L		0.5		E300.0	08/24/23 11:37 / SR		IC METROHM_230823A : 77		R187509
Fluoride	1.5	mg/L		0.1		E300.0	08/24/23 11:37 / SR		IC METROHM_230823A : 77		R187509
Hardness as CaCO3	1860	mg/L		1		A2340 B	08/23/23 15:39 / SR		CALC_230905B : 861		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.5	mg/L		0.5		A5310 C	08/25/23 03:45 / eli-c		SUB-C298059 : 38		C_R298059
Organic Carbon, Total (TOC)	1.5	mg/L		0.5		A5310 C	08/24/23 21:03 / eli-c		SUB-C298059 : 20		C_R298059
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	08/28/23 18:46 / JAR		SEAL AA500_230828B : 53		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	3.30	mg/L		0.06		E200.7	08/22/23 03:10 / slj		ICP2-HE_230821B : 146		R187409
Antimony	ND	mg/L		0.0005		E200.8	08/24/23 23:59 / dck		ICPMS205-H_230824B : 127		R187581
Arsenic	0.002	mg/L		0.001		E200.8	08/24/23 23:59 / dck		ICPMS205-H_230824B : 127		R187581
Barium	0.014	mg/L		0.003		E200.8	08/24/23 23:59 / dck		ICPMS205-H_230824B : 127		R187581
Beryllium	0.0097	mg/L		0.0008		E200.8	08/29/23 17:55 / dck		ICPMS206-H_230829A : 48		R187694
Boron	0.13	mg/L		0.05		E200.7	08/22/23 03:10 / slj		ICP2-HE_230821B : 146		R187409
Cadmium	0.948	mg/L		0.00003		E200.8	08/24/23 23:59 / dck		ICPMS205-H_230824B : 127		R187581
Cesium	ND	mg/L		0.01		E200.8	08/30/23 15:59 / dck		ICPMS206-H_230830B : 67		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-02B  
**Lab ID:** H23080754-012  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 12:38  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	463	mg/L		1		E200.7	08/23/23 15:39 / slj		ICP2-HE_230823B : 61		R187479
Chromium	ND	mg/L		0.005		E200.8	08/24/23 23:59 / dck		ICPMS205-H_230824B : 127		R187581
Cobalt	1.31	mg/L		0.005		E200.8	08/24/23 23:59 / dck		ICPMS205-H_230824B : 127		R187581
Copper	33.9	mg/L		0.02		E200.7	08/22/23 03:10 / slj		ICP2-HE_230821B : 146		R187409
Gallium	ND	mg/L		0.01		E200.8	08/30/23 15:59 / dck		ICPMS206-H_230830B : 67		R187736
Iron	309	mg/L		0.02		E200.7	08/22/23 03:10 / slj		ICP2-HE_230821B : 146		R187409
Lead	0.0112	mg/L		0.0003		E200.8	08/24/23 23:59 / dck		ICPMS205-H_230824B : 127		R187581
Lanthanum	0.12	mg/L		0.01		E200.8	08/30/23 15:59 / dck		ICPMS206-H_230830B : 67		R187736
Lithium	0.8	mg/L		0.1		E200.7	08/23/23 15:39 / slj		ICP2-HE_230823B : 61		R187479
Magnesium	172	mg/L		1		E200.7	08/22/23 03:10 / slj		ICP2-HE_230821B : 146		R187409
Neodymium	0.064	mg/L		0.005		E200.8	08/30/23 15:59 / dck		ICPMS206-H_230830B : 67		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 15:59 / dck		ICPMS206-H_230830B : 67		R187736
Manganese	198	mg/L		0.003		E200.7	08/22/23 03:10 / slj		ICP2-HE_230821B : 146		R187409
Molybdenum	ND	mg/L		0.001		E200.8	08/24/23 23:59 / dck		ICPMS205-H_230824B : 127		R187581
Nickel	0.481	mg/L		0.002		E200.8	08/24/23 23:59 / dck		ICPMS205-H_230824B : 127		R187581
Palladium	ND	mg/L		0.01		E200.8	08/30/23 15:59 / dck		ICPMS206-H_230830B : 67		R187736
Praseodymium	0.02	mg/L		0.01		E200.8	08/30/23 15:59 / dck		ICPMS206-H_230830B : 67		R187736
Rubidium	0.02	mg/L		0.01		E200.8	08/30/23 15:59 / dck		ICPMS206-H_230830B : 67		R187736
Potassium	20	mg/L		1		E200.7	08/23/23 15:39 / slj		ICP2-HE_230823B : 61		R187479
Selenium	ND	mg/L		0.001		E200.8	08/24/23 23:59 / dck		ICPMS205-H_230824B : 127		R187581
Silver	0.0065	mg/L		0.0002		E200.8	08/24/23 23:59 / dck		ICPMS205-H_230824B : 127		R187581
Sodium	106	mg/L		1		E200.7	08/22/23 03:10 / slj		ICP2-HE_230821B : 146		R187409
Strontium	3.30	mg/L		0.01		E200.7	08/22/23 03:10 / slj		ICP2-HE_230821B : 146		R187409
Thallium	ND	mg/L		0.0002		E200.8	08/24/23 23:59 / dck		ICPMS205-H_230824B : 127		R187581
Thorium	ND	mg/L		0.005		E200.8	08/29/23 17:55 / dck		ICPMS206-H_230829A : 48		R187694
Tin	ND	mg/L		0.05		E200.8	08/24/23 23:59 / dck		ICPMS205-H_230824B : 127		R187581
Titanium	ND	mg/L		0.005		E200.8	08/24/23 23:59 / dck		ICPMS205-H_230824B : 127		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 15:59 / dck		ICPMS206-H_230830B : 67		R187736
Uranium	0.0185	mg/L		0.0002		E200.8	08/24/23 23:59 / dck		ICPMS205-H_230824B : 127		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/24/23 23:59 / dck		ICPMS205-H_230824B : 127		R187581
Zinc	202	mg/L		0.008		E200.7	08/22/23 03:10 / slj		ICP2-HE_230821B : 146		R187409
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 15:59 / dck		ICPMS206-H_230830B : 67		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-02B  
**Lab ID:** H23080754-012  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 12:38      **Date Received:** 08/18/23  
**Report Date:** 09/13/23              **Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.75	%				A1030 E	09/05/23 14:53 / SR		CALC_230905B : 859		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-23  
**Lab ID:** H23080754-013  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 13:37  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.0	s.u.	H	0.1		A4500-H B	08/18/23 16:12 / ams		PHSC_101-H_230818A : 127		R187297
pH Measurement Temp	19.6	°C				A4500-H B	08/18/23 16:12 / ams		PHSC_101-H_230818A : 127		R187297
Conductivity @ 25 C	1610	umhos/cm		5		A2510 B	08/18/23 16:12 / ams		PHSC_101-H_230818A : 128		R187297
Solids, Total Dissolved TDS @ 180 C	1080	mg/L		20		A2540 C	08/18/23 14:58 / eek		124 (14410200)_230818B : 42		TDS230818A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	440	mg/L		4		A2320 B	08/21/23 15:03 / ams		PHSC_101-H_230821A : 173		R187366
Bicarbonate as HCO3	530	mg/L		4		A2320 B	08/21/23 15:03 / ams		PHSC_101-H_230821A : 173		R187366
Carbonate as CO3	ND	mg/L		4		A2320 B	08/21/23 15:03 / ams		PHSC_101-H_230821A : 173		R187366
Chloride	123	mg/L		1		E300.0	08/24/23 11:51 / SR		IC METROHM_230823A : 78		R187509
Sulfate	304	mg/L		1		E300.0	08/24/23 11:51 / SR		IC METROHM_230823A : 78		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 11:51 / SR		IC METROHM_230823A : 78		R187509
Fluoride	1.7	mg/L		0.1		E300.0	08/24/23 11:51 / SR		IC METROHM_230823A : 78		R187509
Hardness as CaCO3	657	mg/L		1		A2340 B	08/22/23 03:14 / SR		CALC_230828A : 806		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	8.0	mg/L		0.5		A5310 C	08/29/23 01:10 / eli-c		SUB-C298148 : 17		C_R298148
Organic Carbon, Total (TOC)	1.5	mg/L		0.5		A5310 C	08/28/23 14:50 / eli-c		SUB-C298148 : 12		C_R298148
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	08/28/23 18:47 / JAR		SEAL AA500_230828B : 54		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/24/23 23:15 / dck		ICPMS205-H_230824B : 113		R187581
Antimony	ND	mg/L		0.0005		E200.8	08/24/23 23:15 / dck		ICPMS205-H_230824B : 113		R187581
Arsenic	0.212	mg/L		0.001		E200.8	08/24/23 23:15 / dck		ICPMS205-H_230824B : 113		R187581
Barium	0.078	mg/L		0.003		E200.8	08/24/23 23:15 / dck		ICPMS205-H_230824B : 113		R187581
Beryllium	ND	mg/L		0.0008		E200.8	08/24/23 23:15 / dck		ICPMS205-H_230824B : 113		R187581
Boron	0.30	mg/L		0.05		E200.7	08/22/23 03:14 / slj		ICP2-HE_230821B : 147		R187409
Cadmium	ND	mg/L		0.00003		E200.8	08/24/23 23:15 / dck		ICPMS205-H_230824B : 113		R187581
Cesium	ND	mg/L		0.01		E200.8	08/30/23 16:01 / dck		ICPMS206-H_230830B : 68		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-23  
**Lab ID:** H23080754-013  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 13:37  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	175	mg/L		1		E200.7	08/22/23 03:14 / slj		ICP2-HE_230821B : 147		R187409
Chromium	ND	mg/L		0.005		E200.8	08/24/23 23:15 / dck		ICPMS205-H_230824B : 113		R187581
Cobalt	ND	mg/L		0.005		E200.8	08/24/23 23:15 / dck		ICPMS205-H_230824B : 113		R187581
Copper	ND	mg/L		0.002		E200.8	08/24/23 23:15 / dck		ICPMS205-H_230824B : 113		R187581
Gallium	ND	mg/L		0.01		E200.8	08/30/23 16:01 / dck		ICPMS206-H_230830B : 68		R187736
Iron	12.0	mg/L		0.02		E200.7	08/22/23 03:14 / slj		ICP2-HE_230821B : 147		R187409
Lead	ND	mg/L		0.0003		E200.8	08/24/23 23:15 / dck		ICPMS205-H_230824B : 113		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 16:01 / dck		ICPMS206-H_230830B : 68		R187736
Lithium	0.1	mg/L		0.1		E200.8	08/24/23 23:15 / dck		ICPMS205-H_230824B : 113		R187581
Magnesium	53	mg/L		1		E200.7	08/22/23 03:14 / slj		ICP2-HE_230821B : 147		R187409
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 16:01 / dck		ICPMS206-H_230830B : 68		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 16:01 / dck		ICPMS206-H_230830B : 68		R187736
Manganese	3.78	mg/L		0.001		E200.7	08/22/23 03:14 / slj		ICP2-HE_230821B : 147		R187409
Molybdenum	0.017	mg/L		0.001		E200.8	08/24/23 23:15 / dck		ICPMS205-H_230824B : 113		R187581
Nickel	ND	mg/L		0.002		E200.8	08/24/23 23:15 / dck		ICPMS205-H_230824B : 113		R187581
Palladium	ND	mg/L		0.01		E200.8	08/27/23 18:38 / dck		ICPMS206-H_230827C : 53		R187693
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 16:01 / dck		ICPMS206-H_230830B : 68		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 16:01 / dck		ICPMS206-H_230830B : 68		R187736
Potassium	13	mg/L		1		E200.8	08/24/23 23:15 / dck		ICPMS205-H_230824B : 113		R187581
Selenium	ND	mg/L		0.001		E200.8	08/24/23 23:15 / dck		ICPMS205-H_230824B : 113		R187581
Silver	ND	mg/L		0.0002		E200.8	08/24/23 23:15 / dck		ICPMS205-H_230824B : 113		R187581
Sodium	102	mg/L		1		E200.7	08/22/23 03:14 / slj		ICP2-HE_230821B : 147		R187409
Strontium	1.67	mg/L		0.01		E200.7	08/22/23 03:14 / slj		ICP2-HE_230821B : 147		R187409
Thallium	ND	mg/L		0.0002		E200.8	08/24/23 23:15 / dck		ICPMS205-H_230824B : 113		R187581
Thorium	ND	mg/L		0.005		E200.8	08/30/23 14:41 / dck		ICPMS206-H_230830B : 244		R187736
Tin	ND	mg/L		0.05		E200.8	08/24/23 23:15 / dck		ICPMS205-H_230824B : 113		R187581
Titanium	ND	mg/L		0.005		E200.8	08/24/23 23:15 / dck		ICPMS205-H_230824B : 113		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/27/23 18:38 / dck		ICPMS206-H_230827C : 53		R187693
Uranium	0.0431	mg/L		0.0002		E200.8	08/24/23 23:15 / dck		ICPMS205-H_230824B : 113		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/24/23 23:15 / dck		ICPMS205-H_230824B : 113		R187581
Zinc	0.095	mg/L		0.008		E200.8	08/24/23 23:15 / dck		ICPMS205-H_230824B : 113		R187581
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 16:01 / dck		ICPMS206-H_230830B : 68		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-23  
**Lab ID:** H23080754-013  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 13:37      **Date Received:** 08/18/23  
**Report Date:** 09/13/23                      **Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.90	%				A1030 E	08/28/23 10:22 / SR		CALC_230828A : 804		R187604

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-1  
**Lab ID:** H23080754-014  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 13:39  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.0	s.u.	H	0.1		A4500-H B	08/18/23 16:14 / ams		PHSC_101-H_230818A : 129		R187297
pH Measurement Temp	19.8	°C				A4500-H B	08/18/23 16:14 / ams		PHSC_101-H_230818A : 129		R187297
Conductivity @ 25 C	1620	umhos/cm		5		A2510 B	08/18/23 16:14 / ams		PHSC_101-H_230818A : 130		R187297
Solids, Total Dissolved TDS @ 180 C	1090	mg/L		20		A2540 C	08/18/23 14:59 / eek		-124 (14410200)_230818B : 1		TDS230818A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	440	mg/L		4		A2320 B	08/21/23 15:12 / ams		PHSC_101-H_230821A : 175		R187366
Bicarbonate as HCO3	530	mg/L		4		A2320 B	08/21/23 15:12 / ams		PHSC_101-H_230821A : 175		R187366
Carbonate as CO3	ND	mg/L		4		A2320 B	08/21/23 15:12 / ams		PHSC_101-H_230821A : 175		R187366
Chloride	124	mg/L		1		E300.0	08/24/23 12:05 / SR		IC METROHM_230823A : 79		R187509
Sulfate	305	mg/L		1		E300.0	08/24/23 12:05 / SR		IC METROHM_230823A : 79		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 12:05 / SR		IC METROHM_230823A : 79		R187509
Fluoride	1.7	mg/L		0.1		E300.0	08/24/23 12:05 / SR		IC METROHM_230823A : 79		R187509
Hardness as CaCO3	660	mg/L		1		A2340 B	08/22/23 03:18 / SR		CALC_230828A : 817		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	6.9	mg/L		0.5		A5310 C	08/25/23 04:21 / eli-c		SUB-C298059 : 40		C_R298059
Organic Carbon, Total (TOC)	6.6	mg/L		0.5		A5310 C	08/24/23 22:12 / eli-c		SUB-C298059 : 23		C_R298059
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	08/28/23 18:48 / JAR		SEAL AA500_230828B : 55		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/24/23 23:19 / dck		ICPMS205-H_230824B : 114		R187581
Antimony	ND	mg/L		0.0005		E200.8	08/24/23 23:19 / dck		ICPMS205-H_230824B : 114		R187581
Arsenic	0.218	mg/L		0.001		E200.8	08/24/23 23:19 / dck		ICPMS205-H_230824B : 114		R187581
Barium	0.079	mg/L		0.003		E200.8	08/24/23 23:19 / dck		ICPMS205-H_230824B : 114		R187581
Beryllium	ND	mg/L		0.0008		E200.8	08/24/23 23:19 / dck		ICPMS205-H_230824B : 114		R187581
Boron	0.31	mg/L		0.05		E200.7	08/22/23 03:18 / slj		ICP2-HE_230821B : 148		R187409
Cadmium	ND	mg/L		0.00003		E200.8	08/24/23 23:19 / dck		ICPMS205-H_230824B : 114		R187581
Cesium	ND	mg/L		0.01		E200.8	08/30/23 16:03 / dck		ICPMS206-H_230830B : 69		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-1  
**Lab ID:** H23080754-014  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 13:39  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	174	mg/L		1		E200.7	08/22/23 03:18 / slj		ICP2-HE_230821B : 148		R187409
Chromium	ND	mg/L		0.005		E200.8	08/24/23 23:19 / dck		ICPMS205-H_230824B : 114		R187581
Cobalt	ND	mg/L		0.005		E200.8	08/24/23 23:19 / dck		ICPMS205-H_230824B : 114		R187581
Copper	ND	mg/L		0.002		E200.8	08/24/23 23:19 / dck		ICPMS205-H_230824B : 114		R187581
Gallium	ND	mg/L		0.01		E200.8	08/30/23 16:03 / dck		ICPMS206-H_230830B : 69		R187736
Iron	11.9	mg/L		0.02		E200.7	08/22/23 03:18 / slj		ICP2-HE_230821B : 148		R187409
Lead	ND	mg/L		0.0003		E200.8	08/24/23 23:19 / dck		ICPMS205-H_230824B : 114		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 16:03 / dck		ICPMS206-H_230830B : 69		R187736
Lithium	ND	mg/L		0.1		E200.8	08/24/23 23:19 / dck		ICPMS205-H_230824B : 114		R187581
Magnesium	55	mg/L		1		E200.7	08/22/23 03:18 / slj		ICP2-HE_230821B : 148		R187409
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 16:03 / dck		ICPMS206-H_230830B : 69		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 16:03 / dck		ICPMS206-H_230830B : 69		R187736
Manganese	3.78	mg/L		0.001		E200.7	08/22/23 03:18 / slj		ICP2-HE_230821B : 148		R187409
Molybdenum	0.017	mg/L		0.001		E200.8	08/24/23 23:19 / dck		ICPMS205-H_230824B : 114		R187581
Nickel	ND	mg/L		0.002		E200.8	08/24/23 23:19 / dck		ICPMS205-H_230824B : 114		R187581
Palladium	ND	mg/L		0.01		E200.8	08/27/23 18:40 / dck		ICPMS206-H_230827C : 54		R187693
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 16:03 / dck		ICPMS206-H_230830B : 69		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 16:03 / dck		ICPMS206-H_230830B : 69		R187736
Potassium	13	mg/L		1		E200.8	08/24/23 23:19 / dck		ICPMS205-H_230824B : 114		R187581
Selenium	ND	mg/L		0.001		E200.8	08/24/23 23:19 / dck		ICPMS205-H_230824B : 114		R187581
Silver	ND	mg/L		0.0002		E200.8	08/24/23 23:19 / dck		ICPMS205-H_230824B : 114		R187581
Sodium	104	mg/L		1		E200.7	08/22/23 03:18 / slj		ICP2-HE_230821B : 148		R187409
Strontium	1.69	mg/L		0.01		E200.7	08/22/23 03:18 / slj		ICP2-HE_230821B : 148		R187409
Thallium	ND	mg/L		0.0002		E200.8	08/24/23 23:19 / dck		ICPMS205-H_230824B : 114		R187581
Thorium	ND	mg/L		0.005		E200.8	08/30/23 14:43 / dck		ICPMS206-H_230830B : 245		R187736
Tin	ND	mg/L		0.05		E200.8	08/24/23 23:19 / dck		ICPMS205-H_230824B : 114		R187581
Titanium	ND	mg/L		0.005		E200.8	08/24/23 23:19 / dck		ICPMS205-H_230824B : 114		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/27/23 18:40 / dck		ICPMS206-H_230827C : 54		R187693
Uranium	0.0434	mg/L		0.0002		E200.8	08/24/23 23:19 / dck		ICPMS205-H_230824B : 114		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/24/23 23:19 / dck		ICPMS205-H_230824B : 114		R187581
Zinc	0.094	mg/L		0.008		E200.8	08/24/23 23:19 / dck		ICPMS205-H_230824B : 114		R187581
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 16:03 / dck		ICPMS206-H_230830B : 69		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-1  
**Lab ID:** H23080754-014  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 13:39      **Date Received:** 08/18/23  
**Report Date:** 09/13/23              **Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.57	%				A1030 E	08/28/23 10:22 / SR		CALC_230828A : 815		R187604

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13B  
**Lab ID:** H23080754-015  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 13:45  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.4	s.u.	H	0.1		A4500-H B	08/18/23 16:16 / ams		PHSC_101-H_230818A : 131		R187297
pH Measurement Temp	19.8	°C				A4500-H B	08/18/23 16:16 / ams		PHSC_101-H_230818A : 131		R187297
Conductivity @ 25 C	296	umhos/cm		5		A2510 B	08/18/23 16:16 / ams		PHSC_101-H_230818A : 132		R187297
Solids, Total Dissolved TDS @ 180 C	202	mg/L		20		A2540 C	08/18/23 14:59 / eek		-124 (14410200)_230818B : 2		TDS230818A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	90	mg/L		4		A2320 B	08/21/23 15:22 / ams		PHSC_101-H_230821A : 177		R187366
Bicarbonate as HCO3	110	mg/L		4		A2320 B	08/21/23 15:22 / ams		PHSC_101-H_230821A : 177		R187366
Carbonate as CO3	ND	mg/L		4		A2320 B	08/21/23 15:22 / ams		PHSC_101-H_230821A : 177		R187366
Chloride	7	mg/L		1		E300.0	08/24/23 12:20 / SR		IC METROHM_230823A : 80		R187509
Sulfate	44	mg/L		1		E300.0	08/24/23 12:20 / SR		IC METROHM_230823A : 80		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 12:20 / SR		IC METROHM_230823A : 80		R187509
Fluoride	1.5	mg/L		0.1		E300.0	08/24/23 12:20 / SR		IC METROHM_230823A : 80		R187509
Hardness as CaCO3	81	mg/L		1		A2340 B	08/22/23 03:21 / SR		CALC_230828A : 828		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	08/23/23 21:19 / eli-c		SUB-C298022 : 31		C_R298022
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	08/23/23 14:53 / eli-c		SUB-C298022 : 15		C_R298022
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.56	mg/L		0.01		E353.2	08/28/23 18:49 / JAR		SEAL AA500_230828B : 56		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/24/23 23:22 / dck		ICPMS205-H_230824B : 115		R187581
Antimony	ND	mg/L		0.0005		E200.8	08/24/23 23:22 / dck		ICPMS205-H_230824B : 115		R187581
Arsenic	0.004	mg/L		0.001		E200.8	08/24/23 23:22 / dck		ICPMS205-H_230824B : 115		R187581
Barium	0.031	mg/L		0.003		E200.8	08/24/23 23:22 / dck		ICPMS205-H_230824B : 115		R187581
Beryllium	ND	mg/L		0.0008		E200.8	08/24/23 23:22 / dck		ICPMS205-H_230824B : 115		R187581
Boron	ND	mg/L		0.05		E200.7	08/22/23 03:21 / slj		ICP2-HE_230821B : 149		R187409
Cadmium	0.00028	mg/L		0.00003		E200.8	08/24/23 23:22 / dck		ICPMS205-H_230824B : 115		R187581
Cesium	ND	mg/L		0.01		E200.8	08/30/23 16:05 / dck		ICPMS206-H_230830B : 70		R187736

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13B  
**Lab ID:** H23080754-015  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 13:45  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	23	mg/L		1		E200.7	08/22/23 03:21 / slj		ICP2-HE_230821B : 149		R187409
Chromium	ND	mg/L		0.005		E200.8	08/24/23 23:22 / dck		ICPMS205-H_230824B : 115		R187581
Cobalt	ND	mg/L		0.005		E200.8	08/24/23 23:22 / dck		ICPMS205-H_230824B : 115		R187581
Copper	ND	mg/L		0.002		E200.8	08/24/23 23:22 / dck		ICPMS205-H_230824B : 115		R187581
Gallium	ND	mg/L		0.01		E200.8	08/30/23 16:05 / dck		ICPMS206-H_230830B : 70		R187736
Iron	ND	mg/L		0.02		E200.8	08/24/23 23:22 / dck		ICPMS205-H_230824B : 115		R187581
Lead	ND	mg/L		0.0003		E200.8	08/24/23 23:22 / dck		ICPMS205-H_230824B : 115		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 16:05 / dck		ICPMS206-H_230830B : 70		R187736
Lithium	ND	mg/L		0.1		E200.8	08/24/23 23:22 / dck		ICPMS205-H_230824B : 115		R187581
Magnesium	6	mg/L		1		E200.7	08/22/23 03:21 / slj		ICP2-HE_230821B : 149		R187409
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 16:05 / dck		ICPMS206-H_230830B : 70		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 16:05 / dck		ICPMS206-H_230830B : 70		R187736
Manganese	ND	mg/L		0.001		E200.8	08/24/23 23:22 / dck		ICPMS205-H_230824B : 115		R187581
Molybdenum	0.041	mg/L		0.001		E200.8	08/24/23 23:22 / dck		ICPMS205-H_230824B : 115		R187581
Nickel	ND	mg/L		0.002		E200.8	08/24/23 23:22 / dck		ICPMS205-H_230824B : 115		R187581
Palladium	ND	mg/L		0.01		E200.8	08/27/23 18:43 / dck		ICPMS206-H_230827C : 55		R187693
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 16:05 / dck		ICPMS206-H_230830B : 70		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 16:05 / dck		ICPMS206-H_230830B : 70		R187736
Potassium	3	mg/L		1		E200.8	08/24/23 23:22 / dck		ICPMS205-H_230824B : 115		R187581
Selenium	ND	mg/L		0.001		E200.8	08/24/23 23:22 / dck		ICPMS205-H_230824B : 115		R187581
Silver	ND	mg/L		0.0002		E200.8	08/24/23 23:22 / dck		ICPMS205-H_230824B : 115		R187581
Sodium	28	mg/L		1		E200.7	08/22/23 03:21 / slj		ICP2-HE_230821B : 149		R187409
Strontium	0.17	mg/L		0.01		E200.7	08/22/23 03:21 / slj		ICP2-HE_230821B : 149		R187409
Thallium	ND	mg/L		0.0002		E200.8	08/24/23 23:22 / dck		ICPMS205-H_230824B : 115		R187581
Thorium	ND	mg/L		0.005		E200.8	08/30/23 14:45 / dck		ICPMS206-H_230830B : 246		R187736
Tin	ND	mg/L		0.05		E200.8	08/24/23 23:22 / dck		ICPMS205-H_230824B : 115		R187581
Titanium	ND	mg/L		0.005		E200.8	08/24/23 23:22 / dck		ICPMS205-H_230824B : 115		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/27/23 18:43 / dck		ICPMS206-H_230827C : 55		R187693
Uranium	0.0036	mg/L		0.0002		E200.8	08/24/23 23:22 / dck		ICPMS205-H_230824B : 115		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/24/23 23:22 / dck		ICPMS205-H_230824B : 115		R187581
Zinc	0.023	mg/L		0.008		E200.8	08/24/23 23:22 / dck		ICPMS205-H_230824B : 115		R187581
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 16:05 / dck		ICPMS206-H_230830B : 70		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13B  
**Lab ID:** H23080754-015  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 13:45 **Date Received:** 08/18/23  
**Report Date:** 09/13/23 **Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.30	%				A1030 E	08/28/23 10:22 / SR		CALC_230828A : 826		R187604
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-18B  
**Lab ID:** H23080754-016  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 14:12  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.3	s.u.	H	0.1		A4500-H B	08/18/23 16:35 / ams		PHSC_101-H_230818A : 138		R187297
pH Measurement Temp	19.5	°C				A4500-H B	08/18/23 16:35 / ams		PHSC_101-H_230818A : 138		R187297
Conductivity @ 25 C	3710	umhos/cm		5		A2510 B	08/18/23 16:35 / ams		PHSC_101-H_230818A : 139		R187297
Solids, Total Dissolved TDS @ 180 C	3560	mg/L		100		A2540 C	08/18/23 14:59 / eek		-124 (14410200)_230818B : 3		TDS230818A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	08/21/23 15:29 / ams		PHSC_101-H_230821A : 179		R187366
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	08/21/23 15:29 / ams		PHSC_101-H_230821A : 179		R187366
Carbonate as CO3	ND	mg/L		4		A2320 B	08/21/23 15:29 / ams		PHSC_101-H_230821A : 179		R187366
Chloride	121	mg/L		1		E300.0	08/24/23 13:03 / SR		IC METROHM_230823A : 83		R187509
Sulfate	2580	mg/L		1		E300.0	08/24/23 13:03 / SR		IC METROHM_230823A : 83		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 13:03 / SR		IC METROHM_230823A : 83		R187509
Fluoride	1	mg/L		0.1		E300.0	08/24/23 13:03 / SR		IC METROHM_230823A : 83		R187509
Hardness as CaCO3	1630	mg/L		1		A2340 B	08/23/23 15:43 / SR		CALC_230828A : 1048		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.3	mg/L		0.5		A5310 C	08/23/23 21:41 / eli-c		SUB-C298022 : 32		C_R298022
Organic Carbon, Total (TOC)	1.3	mg/L		0.5		A5310 C	08/23/23 15:15 / eli-c		SUB-C298022 : 16		C_R298022
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	08/28/23 18:52 / JAR		SEAL AA500_230828B : 59		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	2.49	mg/L		0.06		E200.7	08/22/23 03:37 / slj		ICP2-HE_230821B : 153		R187409
Antimony	ND	mg/L		0.0005		E200.8	08/25/23 00:05 / dck		ICPMS205-H_230824B : 129		R187581
Arsenic	0.001	mg/L		0.001		E200.8	08/25/23 00:05 / dck		ICPMS205-H_230824B : 129		R187581
Barium	0.012	mg/L		0.003		E200.8	08/25/23 00:05 / dck		ICPMS205-H_230824B : 129		R187581
Beryllium	0.0044	mg/L		0.0008		E200.8	08/25/23 00:05 / dck		ICPMS205-H_230824B : 129		R187581
Boron	0.11	mg/L		0.05		E200.7	08/22/23 03:37 / slj		ICP2-HE_230821B : 153		R187409
Cadmium	0.554	mg/L		0.00003		E200.8	08/25/23 00:05 / dck		ICPMS205-H_230824B : 129		R187581
Cesium	ND	mg/L		0.01		E200.8	08/30/23 16:07 / dck		ICPMS206-H_230830B : 71		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-18B  
**Lab ID:** H23080754-016  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 14:12  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	425	mg/L		1		E200.7	08/23/23 15:43 / slj		ICP2-HE_230823B : 62		R187479
Chromium	ND	mg/L		0.005		E200.8	08/25/23 00:05 / dck		ICPMS205-H_230824B : 129		R187581
Cobalt	1.19	mg/L		0.005		E200.8	08/25/23 00:05 / dck		ICPMS205-H_230824B : 129		R187581
Copper	14.8	mg/L		0.02		E200.7	08/22/23 03:37 / slj		ICP2-HE_230821B : 153		R187409
Gallium	ND	mg/L		0.01		E200.8	08/30/23 16:07 / dck		ICPMS206-H_230830B : 71		R187736
Iron	203	mg/L		0.04		E200.7	08/23/23 15:43 / slj		ICP2-HE_230823B : 62		R187479
Lead	0.0189	mg/L		0.0003		E200.8	08/25/23 00:05 / dck		ICPMS205-H_230824B : 129		R187581
Lanthanum	0.07	mg/L		0.01		E200.8	08/30/23 16:07 / dck		ICPMS206-H_230830B : 71		R187736
Lithium	0.6	mg/L		0.1		E200.7	08/23/23 15:43 / slj		ICP2-HE_230823B : 62		R187479
Magnesium	137	mg/L		1		E200.7	08/22/23 03:37 / slj		ICP2-HE_230821B : 153		R187409
Neodymium	0.040	mg/L		0.005		E200.8	08/30/23 16:07 / dck		ICPMS206-H_230830B : 71		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 16:07 / dck		ICPMS206-H_230830B : 71		R187736
Manganese	161	mg/L		0.007		E200.7	08/23/23 15:43 / slj		ICP2-HE_230823B : 62		R187479
Molybdenum	ND	mg/L		0.001		E200.8	08/25/23 00:05 / dck		ICPMS205-H_230824B : 129		R187581
Nickel	0.360	mg/L		0.002		E200.8	08/25/23 00:05 / dck		ICPMS205-H_230824B : 129		R187581
Palladium	ND	mg/L		0.01		E200.8	08/30/23 16:07 / dck		ICPMS206-H_230830B : 71		R187736
Praseodymium	0.01	mg/L		0.01		E200.8	08/30/23 16:07 / dck		ICPMS206-H_230830B : 71		R187736
Rubidium	0.01	mg/L		0.01		E200.8	08/30/23 16:07 / dck		ICPMS206-H_230830B : 71		R187736
Potassium	19	mg/L		1		E200.7	08/23/23 15:43 / slj		ICP2-HE_230823B : 62		R187479
Selenium	ND	mg/L		0.001		E200.8	08/25/23 00:05 / dck		ICPMS205-H_230824B : 129		R187581
Silver	0.0038	mg/L		0.0002		E200.8	08/25/23 00:05 / dck		ICPMS205-H_230824B : 129		R187581
Sodium	92	mg/L		1		E200.7	08/22/23 03:37 / slj		ICP2-HE_230821B : 153		R187409
Strontium	2.67	mg/L		0.01		E200.7	08/22/23 03:37 / slj		ICP2-HE_230821B : 153		R187409
Thallium	ND	mg/L		0.0002		E200.8	08/25/23 00:05 / dck		ICPMS205-H_230824B : 129		R187581
Thorium	ND	mg/L		0.005		E200.8	08/30/23 14:47 / dck		ICPMS206-H_230830B : 247		R187736
Tin	ND	mg/L		0.05		E200.8	08/25/23 00:05 / dck		ICPMS205-H_230824B : 129		R187581
Titanium	ND	mg/L		0.005		E200.8	08/25/23 00:05 / dck		ICPMS205-H_230824B : 129		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 16:07 / dck		ICPMS206-H_230830B : 71		R187736
Uranium	0.0158	mg/L		0.0002		E200.8	08/25/23 00:05 / dck		ICPMS205-H_230824B : 129		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/25/23 00:05 / dck		ICPMS205-H_230824B : 129		R187581
Zinc	135	mg/L		0.008		E200.7	08/22/23 03:37 / slj		ICP2-HE_230821B : 153		R187409
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 16:07 / dck		ICPMS206-H_230830B : 71		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-18B  
**Lab ID:** H23080754-016  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 14:12      **Date Received:** 08/18/23  
**Report Date:** 09/13/23                      **Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.55	%				A1030 E	08/28/23 10:57 / SR		CALC_230828A : 1046		R187604

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13B2  
**Lab ID:** H23080754-017  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 14:18  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.3	s.u.	H	0.1		A4500-H B	08/18/23 16:40 / ams		PHSC_101-H_230818A : 142		R187297
pH Measurement Temp	19.6	°C				A4500-H B	08/18/23 16:40 / ams		PHSC_101-H_230818A : 142		R187297
Conductivity @ 25 C	337	umhos/cm		5		A2510 B	08/18/23 16:40 / ams		PHSC_101-H_230818A : 143		R187297
Solids, Total Dissolved TDS @ 180 C	240	mg/L		20		A2540 C	08/18/23 15:00 / eek		-124 (14410200)_230818B : 4		TDS230818A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	87	mg/L		4		A2320 B	08/21/23 15:32 / ams		PHSC_101-H_230821A : 181		R187366
Bicarbonate as HCO3	110	mg/L		4		A2320 B	08/21/23 15:32 / ams		PHSC_101-H_230821A : 181		R187366
Carbonate as CO3	ND	mg/L		4		A2320 B	08/21/23 15:32 / ams		PHSC_101-H_230821A : 181		R187366
Chloride	7	mg/L		1		E300.0	08/24/23 14:01 / SR		IC METROHM_230823A : 86		R187509
Sulfate	65	mg/L		1		E300.0	08/24/23 14:01 / SR		IC METROHM_230823A : 86		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 14:01 / SR		IC METROHM_230823A : 86		R187509
Fluoride	1.6	mg/L		0.1		E300.0	08/24/23 14:01 / SR		IC METROHM_230823A : 86		R187509
Hardness as CaCO3	93	mg/L		1		A2340 B	08/22/23 03:48 / SR		CALC_230828A : 839		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	08/23/23 21:57 / eli-c		SUB-C298022 : 33		C_R298022
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	08/23/23 15:31 / eli-c		SUB-C298022 : 17		C_R298022
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.52	mg/L		0.01		E353.2	08/28/23 18:55 / JAR		SEAL AA500_230828B : 62		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/24/23 23:25 / dck		ICPMS205-H_230824B : 116		R187581
Antimony	ND	mg/L		0.0005		E200.8	08/24/23 23:25 / dck		ICPMS205-H_230824B : 116		R187581
Arsenic	0.005	mg/L		0.001		E200.8	08/24/23 23:25 / dck		ICPMS205-H_230824B : 116		R187581
Barium	0.029	mg/L		0.003		E200.8	08/24/23 23:25 / dck		ICPMS205-H_230824B : 116		R187581
Beryllium	ND	mg/L		0.0008		E200.8	08/24/23 23:25 / dck		ICPMS205-H_230824B : 116		R187581
Boron	ND	mg/L		0.05		E200.7	08/22/23 03:48 / slj		ICP2-HE_230821B : 156		R187409
Cadmium	0.00051	mg/L		0.00003		E200.8	08/24/23 23:25 / dck		ICPMS205-H_230824B : 116		R187581
Cesium	ND	mg/L		0.01		E200.8	08/30/23 16:09 / dck		ICPMS206-H_230830B : 72		R187736

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13B2  
**Lab ID:** H23080754-017  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 14:18  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	27	mg/L		1		E200.7	08/22/23 03:48 / slj		ICP2-HE_230821B : 156		R187409
Chromium	ND	mg/L		0.005		E200.8	08/24/23 23:25 / dck		ICPMS205-H_230824B : 116		R187581
Cobalt	ND	mg/L		0.005		E200.8	08/24/23 23:25 / dck		ICPMS205-H_230824B : 116		R187581
Copper	0.002	mg/L		0.002		E200.8	08/24/23 23:25 / dck		ICPMS205-H_230824B : 116		R187581
Gallium	ND	mg/L		0.01		E200.8	08/30/23 16:09 / dck		ICPMS206-H_230830B : 72		R187736
Iron	ND	mg/L		0.02		E200.8	08/24/23 23:25 / dck		ICPMS205-H_230824B : 116		R187581
Lead	ND	mg/L		0.0003		E200.8	08/24/23 23:25 / dck		ICPMS205-H_230824B : 116		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 16:09 / dck		ICPMS206-H_230830B : 72		R187736
Lithium	ND	mg/L		0.1		E200.8	08/24/23 23:25 / dck		ICPMS205-H_230824B : 116		R187581
Magnesium	6	mg/L		1		E200.7	08/22/23 03:48 / slj		ICP2-HE_230821B : 156		R187409
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 16:09 / dck		ICPMS206-H_230830B : 72		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 16:09 / dck		ICPMS206-H_230830B : 72		R187736
Manganese	ND	mg/L		0.001		E200.8	08/24/23 23:25 / dck		ICPMS205-H_230824B : 116		R187581
Molybdenum	0.043	mg/L		0.001		E200.8	08/24/23 23:25 / dck		ICPMS205-H_230824B : 116		R187581
Nickel	ND	mg/L		0.002		E200.8	08/24/23 23:25 / dck		ICPMS205-H_230824B : 116		R187581
Palladium	ND	mg/L		0.01		E200.8	08/27/23 18:46 / dck		ICPMS206-H_230827C : 56		R187693
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 16:09 / dck		ICPMS206-H_230830B : 72		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 16:09 / dck		ICPMS206-H_230830B : 72		R187736
Potassium	3	mg/L		1		E200.8	08/24/23 23:25 / dck		ICPMS205-H_230824B : 116		R187581
Selenium	ND	mg/L		0.001		E200.8	08/24/23 23:25 / dck		ICPMS205-H_230824B : 116		R187581
Silver	ND	mg/L		0.0002		E200.8	08/24/23 23:25 / dck		ICPMS205-H_230824B : 116		R187581
Sodium	32	mg/L		1		E200.8	08/24/23 23:25 / dck		ICPMS205-H_230824B : 116		R187581
Strontium	0.21	mg/L		0.01		E200.7	08/22/23 03:48 / slj		ICP2-HE_230821B : 156		R187409
Thallium	ND	mg/L		0.0002		E200.8	08/24/23 23:25 / dck		ICPMS205-H_230824B : 116		R187581
Thorium	ND	mg/L		0.005		E200.8	08/30/23 14:49 / dck		ICPMS206-H_230830B : 248		R187736
Tin	ND	mg/L		0.05		E200.8	08/24/23 23:25 / dck		ICPMS205-H_230824B : 116		R187581
Titanium	ND	mg/L		0.005		E200.8	08/24/23 23:25 / dck		ICPMS205-H_230824B : 116		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/27/23 18:46 / dck		ICPMS206-H_230827C : 56		R187693
Uranium	0.0037	mg/L		0.0002		E200.8	08/24/23 23:25 / dck		ICPMS205-H_230824B : 116		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/24/23 23:25 / dck		ICPMS205-H_230824B : 116		R187581
Zinc	0.052	mg/L		0.008		E200.8	08/24/23 23:25 / dck		ICPMS205-H_230824B : 116		R187581
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 16:09 / dck		ICPMS206-H_230830B : 72		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13B2  
**Lab ID:** H23080754-017  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 14:18      **Date Received:** 08/18/23  
**Report Date:** 09/13/23              **Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-0.68	%				A1030 E	08/28/23 10:23 / SR		CALC_230828A : 837		R187604

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13C  
**Lab ID:** H23080754-018  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 14:49  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.8	s.u.	H	0.1		A4500-H B	08/18/23 16:42 / ams		PHSC_101-H_230818A : 144		R187297
pH Measurement Temp	19.5	°C				A4500-H B	08/18/23 16:42 / ams		PHSC_101-H_230818A : 144		R187297
Conductivity @ 25 C	656	umhos/cm		5		A2510 B	08/18/23 16:42 / ams		PHSC_101-H_230818A : 145		R187297
Solids, Total Dissolved TDS @ 180 C	468	mg/L		20		A2540 C	08/18/23 15:00 / eek		-124 (14410200)_230818B : 5		TDS230818A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	60	mg/L		4		A2320 B	08/21/23 15:39 / ams		PHSC_101-H_230821A : 183		R187366
Bicarbonate as HCO3	72	mg/L		4		A2320 B	08/21/23 15:39 / ams		PHSC_101-H_230821A : 183		R187366
Carbonate as CO3	ND	mg/L		4		A2320 B	08/21/23 15:39 / ams		PHSC_101-H_230821A : 183		R187366
Chloride	7	mg/L		1		E300.0	08/24/23 14:15 / SR		IC METROHM_230823A : 87		R187509
Sulfate	252	mg/L		1		E300.0	08/24/23 14:15 / SR		IC METROHM_230823A : 87		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 14:15 / SR		IC METROHM_230823A : 87		R187509
Fluoride	1.2	mg/L		0.1		E300.0	08/24/23 14:15 / SR		IC METROHM_230823A : 87		R187509
Hardness as CaCO3	212	mg/L		1		A2340 B	08/22/23 03:52 / SR		CALC_230828A : 850		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	08/23/23 22:17 / eli-c		SUB-C298022 : 34		C_R298022
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	08/23/23 15:46 / eli-c		SUB-C298022 : 18		C_R298022
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.17	mg/L		0.01		E353.2	08/28/23 18:56 / JAR		SEAL AA500_230828B : 63		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/24/23 23:28 / dck		ICPMS205-H_230824B : 117		R187581
Antimony	ND	mg/L		0.0005		E200.8	08/24/23 23:28 / dck		ICPMS205-H_230824B : 117		R187581
Arsenic	0.006	mg/L		0.001		E200.8	08/24/23 23:28 / dck		ICPMS205-H_230824B : 117		R187581
Barium	0.009	mg/L		0.003		E200.8	08/24/23 23:28 / dck		ICPMS205-H_230824B : 117		R187581
Beryllium	ND	mg/L		0.0008		E200.8	08/24/23 23:28 / dck		ICPMS205-H_230824B : 117		R187581
Boron	ND	mg/L		0.05		E200.7	08/22/23 03:52 / slj		ICP2-HE_230821B : 157		R187409
Cadmium	0.00181	mg/L		0.00003		E200.8	08/24/23 23:28 / dck		ICPMS205-H_230824B : 117		R187581
Cesium	ND	mg/L		0.01		E200.8	08/30/23 16:11 / dck		ICPMS206-H_230830B : 73		R187736

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13C  
**Lab ID:** H23080754-018  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 14:49  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	60	mg/L		1		E200.7	08/22/23 03:52 / slj		ICP2-HE_230821B : 157		R187409
Chromium	ND	mg/L		0.005		E200.8	08/24/23 23:28 / dck		ICPMS205-H_230824B : 117		R187581
Cobalt	ND	mg/L		0.005		E200.8	08/24/23 23:28 / dck		ICPMS205-H_230824B : 117		R187581
Copper	ND	mg/L		0.002		E200.8	08/24/23 23:28 / dck		ICPMS205-H_230824B : 117		R187581
Gallium	ND	mg/L		0.01		E200.8	08/30/23 16:11 / dck		ICPMS206-H_230830B : 73		R187736
Iron	ND	mg/L		0.02		E200.8	08/24/23 23:28 / dck		ICPMS205-H_230824B : 117		R187581
Lead	ND	mg/L		0.0003		E200.8	08/24/23 23:28 / dck		ICPMS205-H_230824B : 117		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 16:11 / dck		ICPMS206-H_230830B : 73		R187736
Lithium	ND	mg/L		0.1		E200.8	08/24/23 23:28 / dck		ICPMS205-H_230824B : 117		R187581
Magnesium	15	mg/L		1		E200.7	08/22/23 03:52 / slj		ICP2-HE_230821B : 157		R187409
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 16:11 / dck		ICPMS206-H_230830B : 73		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 16:11 / dck		ICPMS206-H_230830B : 73		R187736
Manganese	ND	mg/L		0.001		E200.8	08/24/23 23:28 / dck		ICPMS205-H_230824B : 117		R187581
Molybdenum	0.167	mg/L		0.001		E200.8	08/24/23 23:28 / dck		ICPMS205-H_230824B : 117		R187581
Nickel	ND	mg/L		0.002		E200.8	08/24/23 23:28 / dck		ICPMS205-H_230824B : 117		R187581
Palladium	ND	mg/L		0.01		E200.8	08/27/23 18:49 / dck		ICPMS206-H_230827C : 57		R187693
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 16:11 / dck		ICPMS206-H_230830B : 73		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 16:11 / dck		ICPMS206-H_230830B : 73		R187736
Potassium	7	mg/L		1		E200.8	08/24/23 23:28 / dck		ICPMS205-H_230824B : 117		R187581
Selenium	ND	mg/L		0.001		E200.8	08/24/23 23:28 / dck		ICPMS205-H_230824B : 117		R187581
Silver	ND	mg/L		0.0002		E200.8	08/24/23 23:28 / dck		ICPMS205-H_230824B : 117		R187581
Sodium	46	mg/L		1		E200.7	08/22/23 03:52 / slj		ICP2-HE_230821B : 157		R187409
Strontium	0.44	mg/L		0.01		E200.7	08/22/23 03:52 / slj		ICP2-HE_230821B : 157		R187409
Thallium	ND	mg/L		0.0002		E200.8	08/24/23 23:28 / dck		ICPMS205-H_230824B : 117		R187581
Thorium	ND	mg/L		0.005		E200.8	08/30/23 14:51 / dck		ICPMS206-H_230830B : 249		R187736
Tin	ND	mg/L		0.05		E200.8	08/24/23 23:28 / dck		ICPMS205-H_230824B : 117		R187581
Titanium	ND	mg/L		0.005		E200.8	08/24/23 23:28 / dck		ICPMS205-H_230824B : 117		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/27/23 18:49 / dck		ICPMS206-H_230827C : 57		R187693
Uranium	0.0014	mg/L		0.0002		E200.8	08/24/23 23:28 / dck		ICPMS205-H_230824B : 117		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/24/23 23:28 / dck		ICPMS205-H_230824B : 117		R187581
Zinc	0.158	mg/L		0.008		E200.8	08/24/23 23:28 / dck		ICPMS205-H_230824B : 117		R187581
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 16:11 / dck		ICPMS206-H_230830B : 73		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13C  
**Lab ID:** H23080754-018  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 14:49      **Date Received:** 08/18/23  
**Report Date:** 09/13/23              **Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-2.22	%				A1030 E	08/28/23 10:23 / SR		CALC_230828A : 848		R187604

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-18C  
**Lab ID:** H23080754-019  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 15:06  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.8	s.u.	H	0.1		A4500-H B	08/18/23 16:44 / ams		PHSC_101-H_230818A : 146		R187297
pH Measurement Temp	19.4	°C				A4500-H B	08/18/23 16:44 / ams		PHSC_101-H_230818A : 146		R187297
Conductivity @ 25 C	1960	umhos/cm		5		A2510 B	08/18/23 16:44 / ams		PHSC_101-H_230818A : 147		R187297
Solids, Total Dissolved TDS @ 180 C	1720	mg/L		50		A2540 C	08/18/23 15:00 / eek		-124 (14410200)_230818B : 6		TDS230818A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	54	mg/L		4		A2320 B	08/21/23 15:46 / ams		PHSC_101-H_230821A : 185		R187366
Bicarbonate as HCO3	65	mg/L		4		A2320 B	08/21/23 15:46 / ams		PHSC_101-H_230821A : 185		R187366
Carbonate as CO3	ND	mg/L		4		A2320 B	08/21/23 15:46 / ams		PHSC_101-H_230821A : 185		R187366
Chloride	93	mg/L		1		E300.0	08/24/23 14:30 / SR		IC METROHM_230823A : 88		R187509
Sulfate	994	mg/L		1		E300.0	08/24/23 14:30 / SR		IC METROHM_230823A : 88		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 14:30 / SR		IC METROHM_230823A : 88		R187509
Fluoride	0.5	mg/L		0.1		E300.0	08/24/23 14:30 / SR		IC METROHM_230823A : 88		R187509
Hardness as CaCO3	858	mg/L		1		A2340 B	08/22/23 03:55 / SR		CALC_230828A : 1059		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.4	mg/L		0.5		A5310 C	08/25/23 04:37 / eli-c		SUB-C298059 : 41		C_R298059
Organic Carbon, Total (TOC)	1.5	mg/L		0.5		A5310 C	08/24/23 22:28 / eli-c		SUB-C298059 : 24		C_R298059
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	8.06	mg/L		0.05		E353.2	08/28/23 18:57 / JAR		SEAL AA500_230828B : 64		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	0.042	mg/L		0.009		E200.8	08/25/23 00:11 / dck		ICPMS205-H_230824B : 131		R187581
Antimony	ND	mg/L		0.0005		E200.8	08/25/23 00:11 / dck		ICPMS205-H_230824B : 131		R187581
Arsenic	0.004	mg/L		0.001		E200.8	08/25/23 00:11 / dck		ICPMS205-H_230824B : 131		R187581
Barium	0.016	mg/L		0.003		E200.8	08/25/23 00:11 / dck		ICPMS205-H_230824B : 131		R187581
Beryllium	0.0010	mg/L		0.0008		E200.8	08/25/23 00:11 / dck		ICPMS205-H_230824B : 131		R187581
Boron	0.25	mg/L		0.05		E200.7	08/22/23 03:55 / slj		ICP2-HE_230821B : 158		R187409
Cadmium	0.104	mg/L		0.00003		E200.8	08/25/23 00:11 / dck		ICPMS205-H_230824B : 131		R187581
Cesium	ND	mg/L		0.01		E200.8	08/30/23 16:13 / dck		ICPMS206-H_230830B : 74		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-18C  
**Lab ID:** H23080754-019  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 15:06  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	222	mg/L		1		E200.7	08/22/23 03:55 / slj		ICP2-HE_230821B : 158		R187409
Chromium	ND	mg/L		0.005		E200.8	08/25/23 00:11 / dck		ICPMS205-H_230824B : 131		R187581
Cobalt	0.015	mg/L		0.005		E200.8	08/25/23 00:11 / dck		ICPMS205-H_230824B : 131		R187581
Copper	5.36	mg/L		0.02		E200.7	08/23/23 15:46 / slj		ICP2-HE_230823B : 63		R187479
Gallium	ND	mg/L		0.01		E200.8	08/30/23 16:13 / dck		ICPMS206-H_230830B : 74		R187736
Iron	0.02	mg/L		0.02		E200.8	08/25/23 00:11 / dck		ICPMS205-H_230824B : 131		R187581
Lead	0.0004	mg/L		0.0003		E200.8	08/25/23 00:11 / dck		ICPMS205-H_230824B : 131		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 16:13 / dck		ICPMS206-H_230830B : 74		R187736
Lithium	0.4	mg/L		0.1		E200.7	08/23/23 15:46 / slj		ICP2-HE_230823B : 63		R187479
Magnesium	74	mg/L		1		E200.7	08/22/23 03:55 / slj		ICP2-HE_230821B : 158		R187409
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 16:13 / dck		ICPMS206-H_230830B : 74		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 16:13 / dck		ICPMS206-H_230830B : 74		R187736
Manganese	49.8	mg/L		0.001		E200.7	08/22/23 03:55 / slj		ICP2-HE_230821B : 158		R187409
Molybdenum	ND	mg/L		0.001		E200.8	08/25/23 00:11 / dck		ICPMS205-H_230824B : 131		R187581
Nickel	0.133	mg/L		0.002		E200.8	08/25/23 00:11 / dck		ICPMS205-H_230824B : 131		R187581
Palladium	ND	mg/L		0.01		E200.8	08/30/23 16:13 / dck		ICPMS206-H_230830B : 74		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 16:13 / dck		ICPMS206-H_230830B : 74		R187736
Rubidium	0.02	mg/L		0.01		E200.8	08/30/23 16:13 / dck		ICPMS206-H_230830B : 74		R187736
Potassium	18	mg/L		1		E200.7	08/23/23 15:46 / slj		ICP2-HE_230823B : 63		R187479
Selenium	ND	mg/L		0.001		E200.8	08/25/23 00:11 / dck		ICPMS205-H_230824B : 131		R187581
Silver	0.0011	mg/L		0.0002		E200.8	08/25/23 00:11 / dck		ICPMS205-H_230824B : 131		R187581
Sodium	63	mg/L		1		E200.7	08/22/23 03:55 / slj		ICP2-HE_230821B : 158		R187409
Strontium	2.64	mg/L		0.01		E200.7	08/22/23 03:55 / slj		ICP2-HE_230821B : 158		R187409
Thallium	ND	mg/L		0.0002		E200.8	08/25/23 00:11 / dck		ICPMS205-H_230824B : 131		R187581
Thorium	ND	mg/L		0.005		E200.8	08/30/23 14:54 / dck		ICPMS206-H_230830B : 250		R187736
Tin	ND	mg/L		0.05		E200.8	08/25/23 00:11 / dck		ICPMS205-H_230824B : 131		R187581
Titanium	ND	mg/L		0.005		E200.8	08/25/23 00:11 / dck		ICPMS205-H_230824B : 131		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 16:13 / dck		ICPMS206-H_230830B : 74		R187736
Uranium	0.0014	mg/L		0.0002		E200.8	08/25/23 00:11 / dck		ICPMS205-H_230824B : 131		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/25/23 00:11 / dck		ICPMS205-H_230824B : 131		R187581
Zinc	32.1	mg/L		0.008		E200.7	08/22/23 03:55 / slj		ICP2-HE_230821B : 158		R187409
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 16:13 / dck		ICPMS206-H_230830B : 74		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-18C  
**Lab ID:** H23080754-019  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 15:06 **DateReceived:** 08/18/23  
**Report Date:** 09/13/23 **Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-4.79	%				A1030 E	08/28/23 10:58 / SR		CALC_230828A : 1057		R187604
Cation/Anion Balance includes selected metals											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-11B  
**Lab ID:** H23080754-020  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 15:26  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.4	s.u.	H	0.1		A4500-H B	08/18/23 16:46 / ams		PHSC_101-H_230818A : 148		R187297
pH Measurement Temp	19.7	°C				A4500-H B	08/18/23 16:46 / ams		PHSC_101-H_230818A : 148		R187297
Conductivity @ 25 C	284	umhos/cm		5		A2510 B	08/18/23 16:46 / ams		PHSC_101-H_230818A : 149		R187297
Solids, Total Dissolved TDS @ 180 C	196	mg/L		20		A2540 C	08/18/23 15:01 / eek		-124 (14410200)_230818B : 7		TDS230818A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	90	mg/L		4		A2320 B	08/21/23 15:53 / ams		PHSC_101-H_230821A : 187		R187366
Bicarbonate as HCO3	110	mg/L		4		A2320 B	08/21/23 15:53 / ams		PHSC_101-H_230821A : 187		R187366
Carbonate as CO3	ND	mg/L		4		A2320 B	08/21/23 15:53 / ams		PHSC_101-H_230821A : 187		R187366
Chloride	9	mg/L		1		E300.0	08/24/23 14:44 / SR		IC METROHM_230823A : 89		R187509
Sulfate	34	mg/L		1		E300.0	08/24/23 14:44 / SR		IC METROHM_230823A : 89		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 14:44 / SR		IC METROHM_230823A : 89		R187509
Fluoride	1	mg/L		0.1		E300.0	08/24/23 14:44 / SR		IC METROHM_230823A : 89		R187509
Hardness as CaCO3	82	mg/L		1		A2340 B	08/22/23 03:59 / SR		CALC_230828A : 861		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.7	mg/L		0.5		A5310 C	08/25/23 05:32 / eli-c		SUB-C298059 : 42		C_R298059
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	08/24/23 23:22 / eli-c		SUB-C298059 : 27		C_R298059
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	1.24	mg/L		0.01		E353.2	08/28/23 18:58 / JAR		SEAL AA500_230828B : 65		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/24/23 23:31 / dck		ICPMS205-H_230824B : 118		R187581
Antimony	ND	mg/L		0.0005		E200.8	08/24/23 23:31 / dck		ICPMS205-H_230824B : 118		R187581
Arsenic	0.004	mg/L		0.001		E200.8	08/24/23 23:31 / dck		ICPMS205-H_230824B : 118		R187581
Barium	0.029	mg/L		0.003		E200.8	08/24/23 23:31 / dck		ICPMS205-H_230824B : 118		R187581
Beryllium	ND	mg/L		0.0008		E200.8	08/24/23 23:31 / dck		ICPMS205-H_230824B : 118		R187581
Boron	ND	mg/L		0.05		E200.7	08/22/23 03:59 / slj		ICP2-HE_230821B : 159		R187409
Cadmium	0.00038	mg/L		0.00003		E200.8	08/24/23 23:31 / dck		ICPMS205-H_230824B : 118		R187581
Cesium	ND	mg/L		0.01		E200.8	08/30/23 16:16 / dck		ICPMS206-H_230830B : 75		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-11B  
**Lab ID:** H23080754-020  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 15:26  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	23	mg/L		1		E200.7	08/22/23 03:59 / slj		ICP2-HE_230821B : 159		R187409
Chromium	ND	mg/L		0.005		E200.8	08/24/23 23:31 / dck		ICPMS205-H_230824B : 118		R187581
Cobalt	ND	mg/L		0.005		E200.8	08/24/23 23:31 / dck		ICPMS205-H_230824B : 118		R187581
Copper	0.002	mg/L		0.002		E200.8	08/24/23 23:31 / dck		ICPMS205-H_230824B : 118		R187581
Gallium	ND	mg/L		0.01		E200.8	08/30/23 16:16 / dck		ICPMS206-H_230830B : 75		R187736
Iron	ND	mg/L		0.02		E200.8	08/24/23 23:31 / dck		ICPMS205-H_230824B : 118		R187581
Lead	ND	mg/L		0.0003		E200.8	08/24/23 23:31 / dck		ICPMS205-H_230824B : 118		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 16:16 / dck		ICPMS206-H_230830B : 75		R187736
Lithium	ND	mg/L		0.1		E200.8	08/24/23 23:31 / dck		ICPMS205-H_230824B : 118		R187581
Magnesium	6	mg/L		1		E200.7	08/22/23 03:59 / slj		ICP2-HE_230821B : 159		R187409
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 16:16 / dck		ICPMS206-H_230830B : 75		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 16:16 / dck		ICPMS206-H_230830B : 75		R187736
Manganese	ND	mg/L		0.001		E200.8	08/24/23 23:31 / dck		ICPMS205-H_230824B : 118		R187581
Molybdenum	0.019	mg/L		0.001		E200.8	08/24/23 23:31 / dck		ICPMS205-H_230824B : 118		R187581
Nickel	ND	mg/L		0.002		E200.8	08/24/23 23:31 / dck		ICPMS205-H_230824B : 118		R187581
Palladium	ND	mg/L		0.01		E200.8	08/27/23 18:52 / dck		ICPMS206-H_230827C : 58		R187693
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 16:16 / dck		ICPMS206-H_230830B : 75		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 16:16 / dck		ICPMS206-H_230830B : 75		R187736
Potassium	3	mg/L		1		E200.8	08/24/23 23:31 / dck		ICPMS205-H_230824B : 118		R187581
Selenium	ND	mg/L		0.001		E200.8	08/24/23 23:31 / dck		ICPMS205-H_230824B : 118		R187581
Silver	ND	mg/L		0.0002		E200.8	08/24/23 23:31 / dck		ICPMS205-H_230824B : 118		R187581
Sodium	21	mg/L		1		E200.7	08/22/23 03:59 / slj		ICP2-HE_230821B : 159		R187409
Strontium	0.18	mg/L		0.01		E200.7	08/22/23 03:59 / slj		ICP2-HE_230821B : 159		R187409
Thallium	ND	mg/L		0.0002		E200.8	08/24/23 23:31 / dck		ICPMS205-H_230824B : 118		R187581
Thorium	ND	mg/L		0.005		E200.8	08/30/23 14:56 / dck		ICPMS206-H_230830B : 251		R187736
Tin	ND	mg/L		0.05		E200.8	08/24/23 23:31 / dck		ICPMS205-H_230824B : 118		R187581
Titanium	ND	mg/L		0.005		E200.8	08/24/23 23:31 / dck		ICPMS205-H_230824B : 118		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/27/23 18:52 / dck		ICPMS206-H_230827C : 58		R187693
Uranium	0.0036	mg/L		0.0002		E200.8	08/24/23 23:31 / dck		ICPMS205-H_230824B : 118		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/24/23 23:31 / dck		ICPMS205-H_230824B : 118		R187581
Zinc	0.047	mg/L		0.008		E200.8	08/24/23 23:31 / dck		ICPMS205-H_230824B : 118		R187581
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 16:16 / dck		ICPMS206-H_230830B : 75		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-11B  
**Lab ID:** H23080754-020  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 15:26      **Date Received:** 08/18/23  
**Report Date:** 09/13/23              **Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-2.92	%				A1030 E	08/28/23 10:23 / SR		CALC_230828A : 859		R187604
The Anion/Cation Balance Difference is <±0.2 meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-09A  
**Lab ID:** H23080754-021  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 15:40  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.8	s.u.	H	0.1		A4500-H B	08/18/23 16:48 / ams		PHSC_101-H_230818A : 150		R187297
pH Measurement Temp	20.0	°C				A4500-H B	08/18/23 16:48 / ams		PHSC_101-H_230818A : 150		R187297
Conductivity @ 25 C	1380	umhos/cm		5		A2510 B	08/18/23 16:48 / ams		PHSC_101-H_230818A : 151		R187297
Solids, Total Dissolved TDS @ 180 C	1050	mg/L		20		A2540 C	08/18/23 15:01 / eek		-124 (14410200)_230818B : 8		TDS230818A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	190	mg/L		4		A2320 B	08/21/23 16:00 / ams		PHSC_101-H_230821A : 189		R187366
Bicarbonate as HCO3	240	mg/L		4		A2320 B	08/21/23 16:00 / ams		PHSC_101-H_230821A : 189		R187366
Carbonate as CO3	ND	mg/L		4		A2320 B	08/21/23 16:00 / ams		PHSC_101-H_230821A : 189		R187366
Chloride	73	mg/L		1		E300.0	08/24/23 15:27 / SR		IC METROHM_230823A : 92		R187509
Sulfate	448	mg/L		1		E300.0	08/24/23 15:27 / SR		IC METROHM_230823A : 92		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 15:27 / SR		IC METROHM_230823A : 92		R187509
Fluoride	0.9	mg/L		0.1		E300.0	08/24/23 15:27 / SR		IC METROHM_230823A : 92		R187509
Hardness as CaCO3	566	mg/L		1		A2340 B	08/22/23 04:03 / SR		CALC_230828A : 872		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.2	mg/L		0.5		A5310 C	08/23/23 22:37 / eli-c		SUB-C298022 : 35		C_R298022
Organic Carbon, Total (TOC)	1.2	mg/L		0.5		A5310 C	08/24/23 23:42 / eli-c		SUB-C298059 : 28		C_R298059
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	6.90	mg/L		0.05		E353.2	08/28/23 18:59 / JAR		SEAL AA500_230828B : 66		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/24/23 23:34 / dck		ICPMS205-H_230824B : 119		R187581
Antimony	ND	mg/L		0.0005		E200.8	08/24/23 23:34 / dck		ICPMS205-H_230824B : 119		R187581
Arsenic	0.003	mg/L		0.001		E200.8	08/24/23 23:34 / dck		ICPMS205-H_230824B : 119		R187581
Barium	0.017	mg/L		0.003		E200.8	08/24/23 23:34 / dck		ICPMS205-H_230824B : 119		R187581
Beryllium	ND	mg/L		0.0008		E200.8	08/24/23 23:34 / dck		ICPMS205-H_230824B : 119		R187581
Boron	0.12	mg/L		0.05		E200.7	08/22/23 04:03 / slj		ICP2-HE_230821B : 160		R187409
Cadmium	0.00514	mg/L		0.00003		E200.8	08/24/23 23:34 / dck		ICPMS205-H_230824B : 119		R187581
Cesium	ND	mg/L		0.01		E200.8	08/30/23 16:18 / dck		ICPMS206-H_230830B : 76		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-09A  
**Lab ID:** H23080754-021  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 15:40  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	163	mg/L		1		E200.7	08/22/23 04:03 / slj		ICP2-HE_230821B : 160		R187409
Chromium	ND	mg/L		0.005		E200.8	08/24/23 23:34 / dck		ICPMS205-H_230824B : 119		R187581
Cobalt	ND	mg/L		0.005		E200.8	08/24/23 23:34 / dck		ICPMS205-H_230824B : 119		R187581
Copper	0.047	mg/L		0.002		E200.8	08/24/23 23:34 / dck		ICPMS205-H_230824B : 119		R187581
Gallium	ND	mg/L		0.01		E200.8	08/30/23 16:18 / dck		ICPMS206-H_230830B : 76		R187736
Iron	ND	mg/L		0.02		E200.8	08/24/23 23:34 / dck		ICPMS205-H_230824B : 119		R187581
Lead	ND	mg/L		0.0003		E200.8	08/24/23 23:34 / dck		ICPMS205-H_230824B : 119		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 16:18 / dck		ICPMS206-H_230830B : 76		R187736
Lithium	0.2	mg/L		0.1		E200.8	08/24/23 23:34 / dck		ICPMS205-H_230824B : 119		R187581
Magnesium	39	mg/L		1		E200.7	08/22/23 04:03 / slj		ICP2-HE_230821B : 160		R187409
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 16:18 / dck		ICPMS206-H_230830B : 76		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 16:18 / dck		ICPMS206-H_230830B : 76		R187736
Manganese	ND	mg/L		0.001		E200.8	08/24/23 23:34 / dck		ICPMS205-H_230824B : 119		R187581
Molybdenum	0.007	mg/L		0.001		E200.8	08/24/23 23:34 / dck		ICPMS205-H_230824B : 119		R187581
Nickel	0.002	mg/L		0.002		E200.8	08/24/23 23:34 / dck		ICPMS205-H_230824B : 119		R187581
Palladium	ND	mg/L		0.01		E200.8	08/27/23 18:55 / dck		ICPMS206-H_230827C : 59		R187693
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 16:18 / dck		ICPMS206-H_230830B : 76		R187736
Rubidium	0.01	mg/L		0.01		E200.8	08/30/23 16:18 / dck		ICPMS206-H_230830B : 76		R187736
Potassium	12	mg/L		1		E200.8	08/24/23 23:34 / dck		ICPMS205-H_230824B : 119		R187581
Selenium	ND	mg/L		0.001		E200.8	08/24/23 23:34 / dck		ICPMS205-H_230824B : 119		R187581
Silver	0.0003	mg/L		0.0002		E200.8	08/24/23 23:34 / dck		ICPMS205-H_230824B : 119		R187581
Sodium	79	mg/L		1		E200.7	08/22/23 04:03 / slj		ICP2-HE_230821B : 160		R187409
Strontium	1.89	mg/L		0.01		E200.7	08/22/23 04:03 / slj		ICP2-HE_230821B : 160		R187409
Thallium	ND	mg/L		0.0002		E200.8	08/24/23 23:34 / dck		ICPMS205-H_230824B : 119		R187581
Thorium	ND	mg/L		0.005		E200.8	08/30/23 14:58 / dck		ICPMS206-H_230830B : 252		R187736
Tin	ND	mg/L		0.05		E200.8	08/24/23 23:34 / dck		ICPMS205-H_230824B : 119		R187581
Titanium	ND	mg/L		0.005		E200.8	08/24/23 23:34 / dck		ICPMS205-H_230824B : 119		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/27/23 18:55 / dck		ICPMS206-H_230827C : 59		R187693
Uranium	0.0535	mg/L		0.0002		E200.8	08/24/23 23:34 / dck		ICPMS205-H_230824B : 119		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/24/23 23:34 / dck		ICPMS205-H_230824B : 119		R187581
Zinc	0.656	mg/L		0.008		E200.8	08/24/23 23:34 / dck		ICPMS205-H_230824B : 119		R187581
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 16:18 / dck		ICPMS206-H_230830B : 76		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-09A  
**Lab ID:** H23080754-021  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 15:40      **Date Received:** 08/18/23  
**Report Date:** 09/13/23              **Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-0.99	%				A1030 E	08/28/23 10:23 / SR		CALC_230828A : 870		R187604

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-05A  
**Lab ID:** H23080754-022  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 16:05  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.0	s.u.	H	0.1		A4500-H B	08/18/23 16:50 / ams		PHSC_101-H_230818A : 152		R187297
pH Measurement Temp	20.2	°C				A4500-H B	08/18/23 16:50 / ams		PHSC_101-H_230818A : 152		R187297
Conductivity @ 25 C	2090	umhos/cm		5		A2510 B	08/18/23 16:50 / ams		PHSC_101-H_230818A : 153		R187297
Solids, Total Dissolved TDS @ 180 C	2080	mg/L		50		A2540 C	08/18/23 15:01 / eek		-124 (14410200)_230818B : 9		TDS230818A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	41	mg/L		4		A2320 B	08/21/23 16:08 / ams		PHSC_101-H_230821A : 191		R187366
Bicarbonate as HCO3	50	mg/L		4		A2320 B	08/21/23 16:08 / ams		PHSC_101-H_230821A : 191		R187366
Carbonate as CO3	ND	mg/L		4		A2320 B	08/21/23 16:08 / ams		PHSC_101-H_230821A : 191		R187366
Chloride	68	mg/L		1		E300.0	08/24/23 15:42 / SR		IC METROHM_230823A : 93		R187509
Sulfate	1250	mg/L		1		E300.0	08/24/23 15:42 / SR		IC METROHM_230823A : 93		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 15:42 / SR		IC METROHM_230823A : 93		R187509
Fluoride	0.4	mg/L		0.1		E300.0	08/24/23 15:42 / SR		IC METROHM_230823A : 93		R187509
Hardness as CaCO3	1040	mg/L		1		A2340 B	08/23/23 15:50 / SR		CALC_230828A : 1070		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.1	mg/L		0.5		A5310 C	08/23/23 23:27 / eli-c		SUB-C298022 : 37		C_R298022
Organic Carbon, Total (TOC)	1.0	mg/L		0.5		A5310 C	08/23/23 16:36 / eli-c		SUB-C298022 : 19		C_R298022
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.19	mg/L		0.01		E353.2	08/28/23 19:00 / JAR		SEAL AA500_230828B : 67		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	0.135	mg/L		0.009		E200.8	08/25/23 00:17 / dck		ICPMS205-H_230824B : 133		R187581
Antimony	0.0024	mg/L		0.0005		E200.8	08/25/23 00:17 / dck		ICPMS205-H_230824B : 133		R187581
Arsenic	0.013	mg/L		0.001		E200.8	08/25/23 00:17 / dck		ICPMS205-H_230824B : 133		R187581
Barium	0.021	mg/L		0.003		E200.8	08/25/23 00:17 / dck		ICPMS205-H_230824B : 133		R187581
Beryllium	ND	mg/L		0.0008		E200.8	08/25/23 00:17 / dck		ICPMS205-H_230824B : 133		R187581
Boron	0.12	mg/L		0.05		E200.7	08/22/23 04:07 / slj		ICP2-HE_230821B : 161		R187409
Cadmium	0.208	mg/L		0.00003		E200.8	08/25/23 00:17 / dck		ICPMS205-H_230824B : 133		R187581
Cesium	ND	mg/L		0.01		E200.8	08/30/23 16:30 / dck		ICPMS206-H_230830B : 82		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-05A  
**Lab ID:** H23080754-022  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 16:05  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	286	mg/L		1		E200.7	08/23/23 15:50 / slj		ICP2-HE_230823B : 64		R187479
Chromium	ND	mg/L		0.005		E200.8	08/25/23 00:17 / dck		ICPMS205-H_230824B : 133		R187581
Cobalt	0.428	mg/L		0.005		E200.8	08/25/23 00:17 / dck		ICPMS205-H_230824B : 133		R187581
Copper	0.897	mg/L		0.002		E200.8	08/25/23 00:17 / dck		ICPMS205-H_230824B : 133		R187581
Gallium	ND	mg/L		0.01		E200.8	08/30/23 16:30 / dck		ICPMS206-H_230830B : 82		R187736
Iron	3.70	mg/L		0.02		E200.7	08/22/23 04:07 / slj		ICP2-HE_230821B : 161		R187409
Lead	0.0066	mg/L		0.0003		E200.8	08/25/23 00:17 / dck		ICPMS205-H_230824B : 133		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 16:30 / dck		ICPMS206-H_230830B : 82		R187736
Lithium	0.3	mg/L		0.1		E200.7	08/23/23 15:50 / slj		ICP2-HE_230823B : 64		R187479
Magnesium	80	mg/L		1		E200.7	08/22/23 04:07 / slj		ICP2-HE_230821B : 161		R187409
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 16:30 / dck		ICPMS206-H_230830B : 82		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 16:30 / dck		ICPMS206-H_230830B : 82		R187736
Manganese	68.0	mg/L		0.001		E200.7	08/22/23 04:07 / slj		ICP2-HE_230821B : 161		R187409
Molybdenum	0.009	mg/L		0.001		E200.8	08/25/23 00:17 / dck		ICPMS205-H_230824B : 133		R187581
Nickel	0.136	mg/L		0.002		E200.8	08/25/23 00:17 / dck		ICPMS205-H_230824B : 133		R187581
Palladium	ND	mg/L		0.01		E200.8	08/30/23 16:30 / dck		ICPMS206-H_230830B : 82		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 16:30 / dck		ICPMS206-H_230830B : 82		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 16:30 / dck		ICPMS206-H_230830B : 82		R187736
Potassium	12	mg/L		1		E200.7	08/23/23 15:50 / slj		ICP2-HE_230823B : 64		R187479
Selenium	ND	mg/L		0.001		E200.8	08/25/23 00:17 / dck		ICPMS205-H_230824B : 133		R187581
Silver	ND	mg/L		0.0002		E200.8	08/25/23 00:17 / dck		ICPMS205-H_230824B : 133		R187581
Sodium	58	mg/L		1		E200.7	08/22/23 04:07 / slj		ICP2-HE_230821B : 161		R187409
Strontium	1.55	mg/L		0.01		E200.7	08/22/23 04:07 / slj		ICP2-HE_230821B : 161		R187409
Thallium	ND	mg/L		0.0002		E200.8	08/25/23 00:17 / dck		ICPMS205-H_230824B : 133		R187581
Thorium	ND	mg/L		0.005		E200.8	08/30/23 16:30 / dck		ICPMS206-H_230830B : 284		R187736
Tin	ND	mg/L		0.05		E200.8	08/25/23 00:17 / dck		ICPMS205-H_230824B : 133		R187581
Titanium	ND	mg/L		0.005		E200.8	08/25/23 00:17 / dck		ICPMS205-H_230824B : 133		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 16:30 / dck		ICPMS206-H_230830B : 82		R187736
Uranium	0.0052	mg/L		0.0002		E200.8	08/25/23 00:17 / dck		ICPMS205-H_230824B : 133		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/25/23 00:17 / dck		ICPMS205-H_230824B : 133		R187581
Zinc	32.2	mg/L		0.008		E200.7	08/22/23 04:07 / slj		ICP2-HE_230821B : 161		R187409
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 16:30 / dck		ICPMS206-H_230830B : 82		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-05A  
**Lab ID:** H23080754-022  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 16:05      **Date Received:** 08/18/23  
**Report Date:** 09/13/23              **Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.41	%				A1030 E	08/28/23 11:00 / SR		CALC_230828A : 1068		R187604

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13A  
**Lab ID:** H23080754-023  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 17:11  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.6	s.u.	H	0.1		A4500-H B	08/18/23 16:51 / ams		PHSC_101-H_230818A : 154		R187297
pH Measurement Temp	20.5	°C				A4500-H B	08/18/23 16:51 / ams		PHSC_101-H_230818A : 154		R187297
Conductivity @ 25 C	1120	umhos/cm		5		A2510 B	08/18/23 16:51 / ams		PHSC_101-H_230818A : 155		R187297
Solids, Total Dissolved TDS @ 180 C	855	mg/L		20		A2540 C	08/18/23 15:01 / eek		124 (14410200)_230818B : 10		TDS230818A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	310	mg/L		4		A2320 B	08/21/23 16:14 / ams		PHSC_101-H_230821A : 193		R187366
Bicarbonate as HCO3	380	mg/L		4		A2320 B	08/21/23 16:14 / ams		PHSC_101-H_230821A : 193		R187366
Carbonate as CO3	ND	mg/L		4		A2320 B	08/21/23 16:14 / ams		PHSC_101-H_230821A : 193		R187366
Chloride	9	mg/L		1		E300.0	08/24/23 15:56 / SR		IC METROHM_230823A : 94		R187509
Sulfate	310	mg/L		1		E300.0	08/24/23 15:56 / SR		IC METROHM_230823A : 94		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 15:56 / SR		IC METROHM_230823A : 94		R187509
Fluoride	0.2	mg/L		0.1		E300.0	08/24/23 15:56 / SR		IC METROHM_230823A : 94		R187509
Hardness as CaCO3	559	mg/L		1		A2340 B	08/22/23 04:10 / SR		CALC_230828A : 883		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	5.7	mg/L		0.5		A5310 C	08/25/23 06:20 / eli-c		SUB-C298059 : 43		C_R298059
Organic Carbon, Total (TOC)	5.1	mg/L		0.5		A5310 C	08/23/23 17:24 / eli-c		SUB-C298022 : 20		C_R298022
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	3.83	mg/L		0.05		E353.2	08/28/23 19:01 / JAR		SEAL AA500_230828B : 68		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/24/23 23:37 / dck		ICPMS205-H_230824B : 120		R187581
Antimony	0.0006	mg/L		0.0005		E200.8	08/24/23 23:37 / dck		ICPMS205-H_230824B : 120		R187581
Arsenic	ND	mg/L		0.001		E200.8	08/24/23 23:37 / dck		ICPMS205-H_230824B : 120		R187581
Barium	0.141	mg/L		0.003		E200.8	08/24/23 23:37 / dck		ICPMS205-H_230824B : 120		R187581
Beryllium	ND	mg/L		0.0008		E200.8	08/24/23 23:37 / dck		ICPMS205-H_230824B : 120		R187581
Boron	0.48	mg/L		0.05		E200.7	08/22/23 04:10 / slj		ICP2-HE_230821B : 162		R187409
Cadmium	0.00257	mg/L		0.00003		E200.8	08/24/23 23:37 / dck		ICPMS205-H_230824B : 120		R187581
Cesium	ND	mg/L		0.01		E200.8	08/30/23 16:32 / dck		ICPMS206-H_230830B : 83		R187736

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13A  
**Lab ID:** H23080754-023  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 17:11  
**Report Date:** 09/13/23  
**Date Received:** 08/18/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	193	mg/L		1		E200.7	08/22/23 04:10 / slj		ICP2-HE_230821B : 162		R187409
Chromium	ND	mg/L		0.005		E200.8	08/24/23 23:37 / dck		ICPMS205-H_230824B : 120		R187581
Cobalt	ND	mg/L		0.005		E200.8	08/24/23 23:37 / dck		ICPMS205-H_230824B : 120		R187581
Copper	0.027	mg/L		0.002		E200.8	08/24/23 23:37 / dck		ICPMS205-H_230824B : 120		R187581
Gallium	ND	mg/L		0.01		E200.8	08/30/23 16:32 / dck		ICPMS206-H_230830B : 83		R187736
Iron	ND	mg/L		0.02		E200.8	08/24/23 23:37 / dck		ICPMS205-H_230824B : 120		R187581
Lead	ND	mg/L		0.0003		E200.8	08/24/23 23:37 / dck		ICPMS205-H_230824B : 120		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 16:32 / dck		ICPMS206-H_230830B : 83		R187736
Lithium	ND	mg/L		0.1		E200.8	08/24/23 23:37 / dck		ICPMS205-H_230824B : 120		R187581
Magnesium	18	mg/L		1		E200.7	08/22/23 04:10 / slj		ICP2-HE_230821B : 162		R187409
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 16:32 / dck		ICPMS206-H_230830B : 83		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 16:32 / dck		ICPMS206-H_230830B : 83		R187736
Manganese	0.218	mg/L		0.001		E200.8	08/24/23 23:37 / dck		ICPMS205-H_230824B : 120		R187581
Molybdenum	ND	mg/L		0.001		E200.8	08/24/23 23:37 / dck		ICPMS205-H_230824B : 120		R187581
Nickel	0.008	mg/L		0.002		E200.8	08/24/23 23:37 / dck		ICPMS205-H_230824B : 120		R187581
Palladium	ND	mg/L		0.01		E200.8	08/27/23 18:57 / dck		ICPMS206-H_230827C : 60		R187693
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 16:32 / dck		ICPMS206-H_230830B : 83		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 16:32 / dck		ICPMS206-H_230830B : 83		R187736
Potassium	17	mg/L		1		E200.8	08/24/23 23:37 / dck		ICPMS205-H_230824B : 120		R187581
Selenium	ND	mg/L		0.001		E200.8	08/24/23 23:37 / dck		ICPMS205-H_230824B : 120		R187581
Silver	ND	mg/L		0.0002		E200.8	08/24/23 23:37 / dck		ICPMS205-H_230824B : 120		R187581
Sodium	22	mg/L		1		E200.7	08/22/23 04:10 / slj		ICP2-HE_230821B : 162		R187409
Strontium	1.12	mg/L		0.01		E200.7	08/22/23 04:10 / slj		ICP2-HE_230821B : 162		R187409
Thallium	ND	mg/L		0.0002		E200.8	08/24/23 23:37 / dck		ICPMS205-H_230824B : 120		R187581
Thorium	ND	mg/L		0.005		E200.8	08/30/23 16:32 / dck		ICPMS206-H_230830B : 285		R187736
Tin	ND	mg/L		0.05		E200.8	08/24/23 23:37 / dck		ICPMS205-H_230824B : 120		R187581
Titanium	ND	mg/L		0.005		E200.8	08/24/23 23:37 / dck		ICPMS205-H_230824B : 120		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/27/23 18:57 / dck		ICPMS206-H_230827C : 60		R187693
Uranium	0.0013	mg/L		0.0002		E200.8	08/24/23 23:37 / dck		ICPMS205-H_230824B : 120		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/24/23 23:37 / dck		ICPMS205-H_230824B : 120		R187581
Zinc	1.33	mg/L		0.008		E200.7	08/22/23 04:10 / slj		ICP2-HE_230821B : 162		R187409
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 16:32 / dck		ICPMS206-H_230830B : 83		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13A  
**Lab ID:** H23080754-023  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 17:11      **Date Received:** 08/18/23  
**Report Date:** 09/13/23                      **Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.56	%				A1030 E	08/28/23 10:24 / SR		CALC_230828A : 881		R187604

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: 230820\_PHSC\_101\_H

Date: 08-Dec-23

Run ID :Run Order: <b>PHSC_101-H_230821A: 94</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A2320 B</b>		
Analysis Date: <b>08/20/23 15:30</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-004A, H23080754-005A, H23080754-006A

Run ID :Run Order: <b>PHSC_101-H_230821A: 95</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS</b>				Method: <b>A2320 B</b>		
Analysis Date: <b>08/20/23 15:34</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	590	4.0	600	0	98	90	110				

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-004A, H23080754-005A, H23080754-006A

Run ID :Run Order: <b>PHSC_101-H_230821A: 138</b>	SampType: <b>Sample Duplicate</b>				Lab ID: <b>H23080754-006ADUP</b>				Method: <b>A2320 B</b>		
Analysis Date: <b>08/20/23 18:36</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	3.0	4.0		0				0		10	
Bicarbonate as HCO3	3.1	4.0		0				0		10	
Carbonate as CO3	ND	4.0		0				0		10	

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-004A, H23080754-005A, H23080754-006A



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: 230820\_PHSC\_101\_H

Date: 08-Dec-23

Run ID :Run Order: PHSC_101-H_230821A: 2	SampType: Initial Calibration Verification Standard				Lab ID: SC 150			Method: A2510 B			
Analysis Date: 08/20/23 13:07	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	153	5.0	150	0	102	90	110				

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-004A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A

Run ID :Run Order: PHSC_101-H_230821A: 3	SampType: Initial Calibration Verification Standard				Lab ID: SC 20000			Method: A2510 B			
Analysis Date: 08/20/23 13:09	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	19600	5.0	20000	0	98	90	110				

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-004A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A

Run ID :Run Order: PHSC_101-H_230821A: 4	SampType: Initial Calibration Verification Standard				Lab ID: SC 5000			Method: A2510 B			
Analysis Date: 08/20/23 13:11	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	4980	5.0	5000	0	100	90	110				

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-004A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A

Run ID :Run Order: PHSC_101-H_230821A: 93	SampType: Continuing Calibration Verification Standard				Lab ID: CCV - SC 1413			Method: A2510 B			
Analysis Date: 08/20/23 15:10	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1400	5.0	1413	0	99	90	110				

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-004A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: 230820\_PHSC\_101\_H

Date: 08-Dec-23

Run ID :Run Order: PHSC_101-H_230821A: 1	SampType: Initial Calibration Verification Standard				Lab ID: pH 7			Method: A4500-H B			
Analysis Date: 08/20/23 13:02	Units: s.u.				Prep Info: Prep Date:			Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	21.5			0		0	0				

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-004A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A

Run ID :Run Order: PHSC_101-H_230821A: 92	SampType: Continuing Calibration Verification Standard				Lab ID: CCV - pH 7			Method: A4500-H B			
Analysis Date: 08/20/23 15:07	Units: s.u.				Prep Info: Prep Date:			Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	19.9			0		0	0				

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-004A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice  
Work Order: H23080754

Prepared by Helena, MT Branch  
BatchID: C\_R298022

Date: 08-Dec-23

Run ID :Run Order: SUB-C298022: 1	SampType: Method Blank				Lab ID: MBLK				Method: A5310 C		
Analysis Date: 08/23/23 11:48	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	ND	0.1									

Associated samples: H23080754-005D, H23080754-005E, H23080754-006D, H23080754-006E, H23080754-007D, H23080754-007E, H23080754-008D, H23080754-008E, H23080754-009D, H23080754-009E, H23080754-015D, H23080754-015E, H23080754-016D, H23080754-016E, H23080754-017D, H23080754-017E, H23080754-018D, H23080754-018E, H23080754-021D, H23080754-022D, H23080754-022E, H23080754-023E

Run ID :Run Order: SUB-C298022: 2	SampType: Laboratory Control Sample				Lab ID: LCS				Method: A5310 C		
Analysis Date: 08/23/23 12:08	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	4.62	0.50	5	0	92	90	111	0			

Associated samples: H23080754-005D, H23080754-005E, H23080754-006D, H23080754-006E, H23080754-007D, H23080754-007E, H23080754-008D, H23080754-008E, H23080754-009D, H23080754-009E, H23080754-015D, H23080754-015E, H23080754-016D, H23080754-016E, H23080754-017D, H23080754-017E, H23080754-018D, H23080754-018E, H23080754-021D, H23080754-022D, H23080754-022E, H23080754-023E

Run ID :Run Order: SUB-C298022: 3	SampType: Continuing Calibration Verification Standard				Lab ID: CCV-11940				Method: A5310 C		
Analysis Date: 08/23/23 16:05	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	4.65	0.50	5	0	93	90	110	0			

Associated samples: H23080754-005D, H23080754-005E, H23080754-006D, H23080754-006E, H23080754-007D, H23080754-007E, H23080754-008D, H23080754-008E, H23080754-009D, H23080754-009E, H23080754-015D, H23080754-015E, H23080754-016D, H23080754-016E, H23080754-017D, H23080754-017E, H23080754-018D, H23080754-018E, H23080754-021D, H23080754-022D, H23080754-022E, H23080754-023E

Run ID :Run Order: SUB-C298022: 4	SampType: Sample Matrix Spike				Lab ID: H23080754-022E				Method: A5310 C		
Analysis Date: 08/23/23 16:52	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.13	0.50	5	1.04	82	90	111	0			S

Associated samples: H23080754-005D, H23080754-005E, H23080754-006D, H23080754-006E, H23080754-007D, H23080754-007E, H23080754-008D, H23080754-008E, H23080754-009D, H23080754-009E, H23080754-015D, H23080754-015E, H23080754-016D, H23080754-016E, H23080754-017D, H23080754-017E, H23080754-018D, H23080754-018E, H23080754-021D, H23080754-022D, H23080754-022E, H23080754-023E

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: C\_R298022

Date: 08-Dec-23

Run ID :Run Order: <b>SUB-C298022: 5</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23080754-022E</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/23/23 17:09</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.88	0.50	5	1.04	<b>97</b>	90	111	5.13	<b>14</b>	20	
Associated samples: <b>H23080754-005D, H23080754-005E, H23080754-006D, H23080754-006E, H23080754-007D, H23080754-007E, H23080754-008D, H23080754-008E, H23080754-009D, H23080754-009E, H23080754-015D, H23080754-015E, H23080754-016D, H23080754-016E, H23080754-017D, H23080754-017E, H23080754-018D, H23080754-018E, H23080754-021D, H23080754-022D, H23080754-022E, H23080754-023E</b>											

Run ID :Run Order: <b>SUB-C298022: 7</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/23/23 12:23</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	4.64	0.50	5	0	<b>93</b>	90	110	0			
Associated samples: <b>H23080754-005D, H23080754-005E, H23080754-006D, H23080754-006E, H23080754-007D, H23080754-007E, H23080754-008D, H23080754-008E, H23080754-009D, H23080754-009E, H23080754-015D, H23080754-015E, H23080754-016D, H23080754-016E, H23080754-017D, H23080754-017E, H23080754-018D, H23080754-018E, H23080754-021D, H23080754-022D, H23080754-022E, H23080754-023E</b>											

Run ID :Run Order: <b>SUB-C298022: 9</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23080754-005E</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/23/23 13:11</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.30	0.50	5	0.6135	<b>94</b>	90	111	0			
Associated samples: <b>H23080754-005D, H23080754-005E, H23080754-006D, H23080754-006E, H23080754-007D, H23080754-007E, H23080754-008D, H23080754-008E, H23080754-009D, H23080754-009E, H23080754-015D, H23080754-015E, H23080754-016D, H23080754-016E, H23080754-017D, H23080754-017E, H23080754-018D, H23080754-018E, H23080754-021D, H23080754-022D, H23080754-022E, H23080754-023E</b>											

Run ID :Run Order: <b>SUB-C298022: 10</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23080754-005E</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/23/23 13:27</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.30	0.50	5	0.6135	<b>94</b>	90	111	5.303	<b>0.1</b>	20	
Associated samples: <b>H23080754-005D, H23080754-005E, H23080754-006D, H23080754-006E, H23080754-007D, H23080754-007E, H23080754-008D, H23080754-008E, H23080754-009D, H23080754-009E, H23080754-015D, H23080754-015E, H23080754-016D, H23080754-016E, H23080754-017D, H23080754-017E, H23080754-018D, H23080754-018E, H23080754-021D, H23080754-022D, H23080754-022E, H23080754-023E</b>											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: C\_R298022

Date: 08-Dec-23

Run ID :Run Order: <b>SUB-C298022: 21</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS-11923</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/23/23 18:29</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.73	0.50	5	0	<b>95</b>	88	112	0			
Associated samples: <b>H23080754-005D, H23080754-005E, H23080754-006D, H23080754-006E, H23080754-007D, H23080754-007E, H23080754-008D, H23080754-008E, H23080754-009D, H23080754-009E, H23080754-015D, H23080754-015E, H23080754-016D, H23080754-016E, H23080754-017D, H23080754-017E, H23080754-018D, H23080754-018E, H23080754-021D, H23080754-022D, H23080754-022E, H23080754-023E</b>											

Run ID :Run Order: <b>SUB-C298022: 22</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/23/23 18:44</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	ND	0.1									
Associated samples: <b>H23080754-005D, H23080754-005E, H23080754-006D, H23080754-006E, H23080754-007D, H23080754-007E, H23080754-008D, H23080754-008E, H23080754-009D, H23080754-009E, H23080754-015D, H23080754-015E, H23080754-016D, H23080754-016E, H23080754-017D, H23080754-017E, H23080754-018D, H23080754-018E, H23080754-021D, H23080754-022D, H23080754-022E, H23080754-023E</b>											

Run ID :Run Order: <b>SUB-C298022: 23</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV-11940</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/23/23 19:03</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.78	0.50	5	0	<b>96</b>	90	110	0			
Associated samples: <b>H23080754-005D, H23080754-005E, H23080754-006D, H23080754-006E, H23080754-007D, H23080754-007E, H23080754-008D, H23080754-008E, H23080754-009D, H23080754-009E, H23080754-015D, H23080754-015E, H23080754-016D, H23080754-016E, H23080754-017D, H23080754-017E, H23080754-018D, H23080754-018E, H23080754-021D, H23080754-022D, H23080754-022E, H23080754-023E</b>											

Run ID :Run Order: <b>SUB-C298022: 25</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>C23080995-005MS</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/23/23 19:39</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.45	0.50	5	0	<b>109</b>	88	112	0			
Associated samples: <b>H23080754-005D, H23080754-005E, H23080754-006D, H23080754-006E, H23080754-007D, H23080754-007E, H23080754-008D, H23080754-008E, H23080754-009D, H23080754-009E, H23080754-015D, H23080754-015E, H23080754-016D, H23080754-016E, H23080754-017D, H23080754-017E, H23080754-018D, H23080754-018E, H23080754-021D, H23080754-022D, H23080754-022E, H23080754-023E</b>											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: C\_R298022

Date: 08-Dec-23

Run ID :Run Order: <b>SUB-C298022: 26</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>C23080995-005MSD</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/23/23 19:54</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.31	0.50	5	0	<b>106</b>	88	112	5.449	<b>2.6</b>	20	
Associated samples: <b>H23080754-005D, H23080754-005E, H23080754-006D, H23080754-006E, H23080754-007D, H23080754-007E, H23080754-008D, H23080754-008E, H23080754-009D, H23080754-009E, H23080754-015D, H23080754-015E, H23080754-016D, H23080754-016E, H23080754-017D, H23080754-017E, H23080754-018D, H23080754-018E, H23080754-021D, H23080754-022D, H23080754-022E, H23080754-023E</b>											

Run ID :Run Order: <b>SUB-C298022: 36</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV-11940</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/23/23 22:53</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.92	0.50	5	0	<b>98</b>	90	110	0			
Associated samples: <b>H23080754-005D, H23080754-005E, H23080754-006D, H23080754-006E, H23080754-007D, H23080754-007E, H23080754-008D, H23080754-008E, H23080754-009D, H23080754-009E, H23080754-015D, H23080754-015E, H23080754-016D, H23080754-016E, H23080754-017D, H23080754-017E, H23080754-018D, H23080754-018E, H23080754-021D, H23080754-022D, H23080754-022E, H23080754-023E</b>											

Run ID :Run Order: <b>SUB-C298022: 38</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23080754-022D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/23/23 23:48</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.96	0.50	5	1.142	<b>96</b>	88	112	0			
Associated samples: <b>H23080754-005D, H23080754-005E, H23080754-006D, H23080754-006E, H23080754-007D, H23080754-007E, H23080754-008D, H23080754-008E, H23080754-009D, H23080754-009E, H23080754-015D, H23080754-015E, H23080754-016D, H23080754-016E, H23080754-017D, H23080754-017E, H23080754-018D, H23080754-018E, H23080754-021D, H23080754-022D, H23080754-022E, H23080754-023E</b>											

Run ID :Run Order: <b>SUB-C298022: 39</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23080754-022D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/24/23 00:05</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	6.05	0.50	5	1.142	<b>98</b>	88	112	5.961	<b>1.5</b>	20	
Associated samples: <b>H23080754-005D, H23080754-005E, H23080754-006D, H23080754-006E, H23080754-007D, H23080754-007E, H23080754-008D, H23080754-008E, H23080754-009D, H23080754-009E, H23080754-015D, H23080754-015E, H23080754-016D, H23080754-016E, H23080754-017D, H23080754-017E, H23080754-018D, H23080754-018E, H23080754-021D, H23080754-022D, H23080754-022E, H23080754-023E</b>											

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: C\_R298059

Date: 08-Dec-23

Run ID :Run Order: <b>SUB-C298059: 1</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS-11923</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/25/23 00:36</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.88	0.50	5	0	<b>98</b>	88	112	0			

Associated samples: H23080754-001D, H23080754-001E, H23080754-002D, H23080754-002E, H23080754-003D, H23080754-003E, H23080754-004D, H23080754-004E, H23080754-010D, H23080754-010E, H23080754-011D, H23080754-012D, H23080754-012E, H23080754-014D, H23080754-014E, H23080754-019D, H23080754-019E, H23080754-020D, H23080754-020E, H23080754-021E, H23080754-023D

Run ID :Run Order: <b>SUB-C298059: 2</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/25/23 00:55</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	ND	0.1									

Associated samples: H23080754-001D, H23080754-001E, H23080754-002D, H23080754-002E, H23080754-003D, H23080754-003E, H23080754-004D, H23080754-004E, H23080754-010D, H23080754-010E, H23080754-011D, H23080754-012D, H23080754-012E, H23080754-014D, H23080754-014E, H23080754-019D, H23080754-019E, H23080754-020D, H23080754-020E, H23080754-021E, H23080754-023D

Run ID :Run Order: <b>SUB-C298059: 3</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV-11940</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/25/23 04:53</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.99	0.50	5	0	<b>100</b>	90	110	0			

Associated samples: H23080754-001D, H23080754-001E, H23080754-002D, H23080754-002E, H23080754-003D, H23080754-003E, H23080754-004D, H23080754-004E, H23080754-010D, H23080754-010E, H23080754-011D, H23080754-012D, H23080754-012E, H23080754-014D, H23080754-014E, H23080754-019D, H23080754-019E, H23080754-020D, H23080754-020E, H23080754-021E, H23080754-023D

Run ID :Run Order: <b>SUB-C298059: 4</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23080754-020D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/25/23 05:48</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.59	0.50	5	0.6665	<b>98</b>	88	112	0			

Associated samples: H23080754-001D, H23080754-001E, H23080754-002D, H23080754-002E, H23080754-003D, H23080754-003E, H23080754-004D, H23080754-004E, H23080754-010D, H23080754-010E, H23080754-011D, H23080754-012D, H23080754-012E, H23080754-014D, H23080754-014E, H23080754-019D, H23080754-019E, H23080754-020D, H23080754-020E, H23080754-021E, H23080754-023D

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: C\_R298059

Date: 08-Dec-23

Run ID :Run Order: <b>SUB-C298059: 5</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23080754-020D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/25/23 06:04</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.54	0.50	5	0.6665	97	88	112	5.587	0.9	20	
Associated samples: H23080754-001D, H23080754-001E, H23080754-002D, H23080754-002E, H23080754-003D, H23080754-003E, H23080754-004D, H23080754-004E, H23080754-010D, H23080754-010E, H23080754-011D, H23080754-012D, H23080754-012E, H23080754-014D, H23080754-014E, H23080754-019D, H23080754-019E, H23080754-020D, H23080754-020E, H23080754-021E, H23080754-023D											

Run ID :Run Order: <b>SUB-C298059: 9</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/24/23 17:26</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	ND	0.1									
Associated samples: H23080754-001D, H23080754-001E, H23080754-002D, H23080754-002E, H23080754-003D, H23080754-003E, H23080754-004D, H23080754-004E, H23080754-010D, H23080754-010E, H23080754-011D, H23080754-012D, H23080754-012E, H23080754-014D, H23080754-014E, H23080754-019D, H23080754-019E, H23080754-020D, H23080754-020E, H23080754-021E, H23080754-023D											

Run ID :Run Order: <b>SUB-C298059: 10</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/24/23 17:45</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	4.64	0.50	5	0	93	90	111	0			
Associated samples: H23080754-001D, H23080754-001E, H23080754-002D, H23080754-002E, H23080754-003D, H23080754-003E, H23080754-004D, H23080754-004E, H23080754-010D, H23080754-010E, H23080754-011D, H23080754-012D, H23080754-012E, H23080754-014D, H23080754-014E, H23080754-019D, H23080754-019E, H23080754-020D, H23080754-020E, H23080754-021E, H23080754-023D											

Run ID :Run Order: <b>SUB-C298059: 11</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/24/23 18:01</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	4.59	0.50	5	0	92	90	110	0			
Associated samples: H23080754-001D, H23080754-001E, H23080754-002D, H23080754-002E, H23080754-003D, H23080754-003E, H23080754-004D, H23080754-004E, H23080754-010D, H23080754-010E, H23080754-011D, H23080754-012D, H23080754-012E, H23080754-014D, H23080754-014E, H23080754-019D, H23080754-019E, H23080754-020D, H23080754-020E, H23080754-021E, H23080754-023D											



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: C\_R298059

Date: 08-Dec-23

Run ID :Run Order: <b>SUB-C298059: 13</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23080754-001E</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/24/23 19:11</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	6.13	0.50	5	1.197	<b>99</b>	90	111	0			
Associated samples: <b>H23080754-001D, H23080754-001E, H23080754-002D, H23080754-002E, H23080754-003D, H23080754-003E, H23080754-004D, H23080754-004E, H23080754-010D, H23080754-010E, H23080754-011D, H23080754-012D, H23080754-012E, H23080754-014D, H23080754-014E, H23080754-019D, H23080754-019E, H23080754-020D, H23080754-020E, H23080754-021E, H23080754-023D</b>											

Run ID :Run Order: <b>SUB-C298059: 14</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23080754-001E</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/24/23 19:28</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.96	0.50	5	1.197	<b>95</b>	90	111	6.135	<b>3.0</b>	20	
Associated samples: <b>H23080754-001D, H23080754-001E, H23080754-002D, H23080754-002E, H23080754-003D, H23080754-003E, H23080754-004D, H23080754-004E, H23080754-010D, H23080754-010E, H23080754-011D, H23080754-012D, H23080754-012E, H23080754-014D, H23080754-014E, H23080754-019D, H23080754-019E, H23080754-020D, H23080754-020E, H23080754-021E, H23080754-023D</b>											

Run ID :Run Order: <b>SUB-C298059: 22</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV-11940</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/24/23 21:37</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	4.89	0.50	5	0	<b>98</b>	90	110	0			
Associated samples: <b>H23080754-001D, H23080754-001E, H23080754-002D, H23080754-002E, H23080754-003D, H23080754-003E, H23080754-004D, H23080754-004E, H23080754-010D, H23080754-010E, H23080754-011D, H23080754-012D, H23080754-012E, H23080754-014D, H23080754-014E, H23080754-019D, H23080754-019E, H23080754-020D, H23080754-020E, H23080754-021E, H23080754-023D</b>											

Run ID :Run Order: <b>SUB-C298059: 25</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23080754-019E</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/24/23 22:50</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	6.39	0.50	5	1.478	<b>98</b>	90	111	0			
Associated samples: <b>H23080754-001D, H23080754-001E, H23080754-002D, H23080754-002E, H23080754-003D, H23080754-003E, H23080754-004D, H23080754-004E, H23080754-010D, H23080754-010E, H23080754-011D, H23080754-012D, H23080754-012E, H23080754-014D, H23080754-014E, H23080754-019D, H23080754-019E, H23080754-020D, H23080754-020E, H23080754-021E, H23080754-023D</b>											

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice  
Work Order: H23080754

Prepared by Helena, MT Branch  
BatchID: C\_R298059

Date: 08-Dec-23

Run ID :Run Order: <b>SUB-C298059: 26</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23080754-019E</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/24/23 23:06</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	6.46	0.50	5	1.478	<b>100</b>	90	111	6.386	<b>1.1</b>	20	

Associated samples: H23080754-001D, H23080754-001E, H23080754-002D, H23080754-002E, H23080754-003D, H23080754-003E, H23080754-004D, H23080754-004E, H23080754-010D, H23080754-010E, H23080754-011D, H23080754-012D, H23080754-012E, H23080754-014D, H23080754-014E, H23080754-019D, H23080754-019E, H23080754-020D, H23080754-020E, H23080754-021E, H23080754-023D

Run ID :Run Order: <b>SUB-C298059: 29</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV-11940</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/25/23 01:15</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.94	0.50	5	0	<b>99</b>	90	110	0			

Associated samples: H23080754-001D, H23080754-001E, H23080754-002D, H23080754-002E, H23080754-003D, H23080754-003E, H23080754-004D, H23080754-004E, H23080754-010D, H23080754-010E, H23080754-011D, H23080754-012D, H23080754-012E, H23080754-014D, H23080754-014E, H23080754-019D, H23080754-019E, H23080754-020D, H23080754-020E, H23080754-021E, H23080754-023D

Run ID :Run Order: <b>SUB-C298059: 31</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23080754-001D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/25/23 01:48</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	6.15	0.50	5	1.235	<b>98</b>	88	112	0			

Associated samples: H23080754-001D, H23080754-001E, H23080754-002D, H23080754-002E, H23080754-003D, H23080754-003E, H23080754-004D, H23080754-004E, H23080754-010D, H23080754-010E, H23080754-011D, H23080754-012D, H23080754-012E, H23080754-014D, H23080754-014E, H23080754-019D, H23080754-019E, H23080754-020D, H23080754-020E, H23080754-021E, H23080754-023D

Run ID :Run Order: <b>SUB-C298059: 32</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23080754-001D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/25/23 02:04</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.96	0.50	5	1.235	<b>95</b>	88	112	6.152	<b>3.1</b>	20	

Associated samples: H23080754-001D, H23080754-001E, H23080754-002D, H23080754-002E, H23080754-003D, H23080754-003E, H23080754-004D, H23080754-004E, H23080754-010D, H23080754-010E, H23080754-011D, H23080754-012D, H23080754-012E, H23080754-014D, H23080754-014E, H23080754-019D, H23080754-019E, H23080754-020D, H23080754-020E, H23080754-021E, H23080754-023D





## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080754

**BatchID:** C\_R298148

**Date:** 08-Dec-23

Run ID :Run Order: <b>SUB-C298148: 1</b>		SampType: <b>Laboratory Control Sample</b>			Lab ID: <b>LCS-11923</b>				Method: <b>A5310 C</b>			
Analysis Date: <b>08/28/23 23:41</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:				Prep Method:			
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)		4.87	0.50	5	0	97	88	112	0			

Associated samples: **H23080754-011E, H23080754-013D, H23080754-013E**

Run ID :Run Order: <b>SUB-C298148: 2</b>		SampType: <b>Method Blank</b>			Lab ID: <b>MBLK</b>				Method: <b>A5310 C</b>			
Analysis Date: <b>08/28/23 23:55</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:				Prep Method:			
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)		ND	0.1									

Associated samples: **H23080754-011E, H23080754-013D, H23080754-013E**

Run ID :Run Order: <b>SUB-C298148: 3</b>		SampType: <b>Continuing Calibration Verification Standard</b>			Lab ID: <b>CCV-11940</b>				Method: <b>A5310 C</b>			
Analysis Date: <b>08/29/23 00:10</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:				Prep Method:			
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)		4.82	0.50	5	0	97	90	110	0			

Associated samples: **H23080754-011E, H23080754-013D, H23080754-013E**

Run ID :Run Order: <b>SUB-C298148: 5</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23080917-001D</b>				Method: <b>A5310 C</b>			
Analysis Date: <b>08/29/23 02:32</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:				Prep Method:			
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)		15.8	0.50	5	10.16	113	88	112	0			S

Associated samples: **H23080754-011E, H23080754-013D, H23080754-013E**

Run ID :Run Order: <b>SUB-C298148: 6</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23080917-001D</b>				Method: <b>A5310 C</b>			
Analysis Date: <b>08/29/23 02:53</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:				Prep Method:			
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)		16.1	0.50	5	10.16	119	88	112	15.79	2.1	20	S

Associated samples: **H23080754-011E, H23080754-013D, H23080754-013E**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: C\_R298148

Date: 08-Dec-23

Run ID :Run Order: <b>SUB-C298148: 7</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/28/23 13:06</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	ND	0.1									
Associated samples: <b>H23080754-011E, H23080754-013D, H23080754-013E</b>											

Run ID :Run Order: <b>SUB-C298148: 8</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/28/23 13:25</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	4.68	0.50	5	0	94	90	111	0			
Associated samples: <b>H23080754-011E, H23080754-013D, H23080754-013E</b>											

Run ID :Run Order: <b>SUB-C298148: 9</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/28/23 13:41</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	4.78	0.50	5	0	96	90	110	0			
Associated samples: <b>H23080754-011E, H23080754-013D, H23080754-013E</b>											

Run ID :Run Order: <b>SUB-C298148: 14</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>C23081110-001GMS</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/28/23 15:55</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	8.73	0.50	5	4.016	94	90	111	0			
Associated samples: <b>H23080754-011E, H23080754-013D, H23080754-013E</b>											

Run ID :Run Order: <b>SUB-C298148: 15</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>C23081110-001GMSD</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/28/23 16:11</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	8.05	0.50	5	4.016	81	90	111	8.729	8.1	20	S
Associated samples: <b>H23080754-011E, H23080754-013D, H23080754-013E</b>											



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187297

Date: 08-Dec-23

Run ID :Run Order: PHSC_101-H_230818A: 3	SampType: Initial Calibration Verification Standard				Lab ID: SC 150			Method: A2510 B			
Analysis Date: 08/18/23 09:09	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	152	5.0	150	0	101	90	110				
Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A											

Run ID :Run Order: PHSC_101-H_230818A: 4	SampType: Initial Calibration Verification Standard				Lab ID: SC 20000			Method: A2510 B			
Analysis Date: 08/18/23 09:11	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	19400	5.0	20000	0	97	90	110				
Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A											

Run ID :Run Order: PHSC_101-H_230818A: 5	SampType: Initial Calibration Verification Standard				Lab ID: SC 5000			Method: A2510 B			
Analysis Date: 08/18/23 09:13	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	4970	5.0	5000	0	99	90	110				
Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A											

Run ID :Run Order: PHSC_101-H_230818A: 6	SampType: Laboratory Control Sample				Lab ID: SC 1000			Method: A2510 B			
Analysis Date: 08/18/23 09:15	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	992	5.0	1000	0	99	90	110				
Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A											

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187297

Date: 08-Dec-23

Run ID :Run Order: PHSC_101-H_230818A: 17	SampType: Method Blank	Lab ID: MBLK	Method: A2510 B								
Analysis Date: 08/18/23 13:36	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	ND	5									

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A

Run ID :Run Order: PHSC_101-H_230818A: 88	SampType: Continuing Calibration Verification Standard	Lab ID: CCV - SC 1413	Method: A2510 B								
Analysis Date: 08/18/23 15:24	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1410	5.0	1413	0	100	90	110				

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A

Run ID :Run Order: PHSC_101-H_230818A: 94	SampType: Sample Duplicate	Lab ID: H23080753-001ADUP	Method: A2510 B								
Analysis Date: 08/18/23 15:39	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1120	5.0		0				1113	0.2	10	

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A

Run ID :Run Order: PHSC_101-H_230818A: 136	SampType: Continuing Calibration Verification Standard	Lab ID: CCV - SC 1413	Method: A2510 B								
Analysis Date: 08/18/23 16:22	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1400	5.0	1413	0	99	90	110				

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080754

**BatchID:** R187297

**Date:** 08-Dec-23

Run ID :Run Order: <b>PHSC_101-H_230818A: 141</b>	SampType: <b>Sample Duplicate</b>	Lab ID: <b>H23080754-016ADUP</b>	Method: <b>A2510 B</b>								
Analysis Date: <b>08/18/23 16:38</b>	Units: <b>umhos/cm</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	3690	5.0		0				3711	<b>0.6</b>	10	

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187297

Date: 08-Dec-23

Run ID :Run Order: PHSC_101-H_230818A: 2	SampType: Initial Calibration Verification Standard				Lab ID: pH 7				Method: A4500-H B		
Analysis Date: 08/18/23 09:04	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	6.9	0.1	7	0	99	98	102				
pH Measurement Temp	21.5			0		0	0				

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A

Run ID :Run Order: PHSC_101-H_230818A: 87	SampType: Continuing Calibration Verification Standard				Lab ID: CCV - pH 7				Method: A4500-H B		
Analysis Date: 08/18/23 15:21	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	20.5			0		0	0				

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A

Run ID :Run Order: PHSC_101-H_230818A: 93	SampType: Sample Duplicate				Lab ID: H23080753-001ADUP				Method: A4500-H B		
Analysis Date: 08/18/23 15:39	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.1	0.1		0				7.12	0.3	3	H
pH Measurement Temp	18.5			0				19			

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A

Run ID :Run Order: PHSC_101-H_230818A: 135	SampType: Continuing Calibration Verification Standard				Lab ID: CCV - pH 7				Method: A4500-H B		
Analysis Date: 08/18/23 16:20	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	20.5			0		0	0				

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080754

**BatchID:** R187297

**Date:** 08-Dec-23

Run ID :Run Order: <b>PHSC_101-H_230818A: 140</b>	SampType: <b>Sample Duplicate</b>				Lab ID: <b>H23080754-016ADUP</b>				Method: <b>A4500-H B</b>		
Analysis Date: <b>08/18/23 16:38</b>	Units: <b>s.u.</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	4.4	0.1		0				4.34	<b>0.2</b>	3	H
pH Measurement Temp	19.5			0				19.5			

Associated samples: **H23080754-001A, H23080754-002A, H23080754-003A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A**



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187366

Date: 08-Dec-23

Run ID :Run Order: <b>PHSC_101-H_230821A: 157</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A2320 B</b>		
Analysis Date: <b>08/21/23 14:01</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									
Associated samples: <b>H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A</b>											

Run ID :Run Order: <b>PHSC_101-H_230821A: 158</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS</b>				Method: <b>A2320 B</b>		
Analysis Date: <b>08/21/23 14:07</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	590	4.0	600	0	<b>98</b>	90	110				
Associated samples: <b>H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A</b>											

Run ID :Run Order: <b>PHSC_101-H_230821A: 161</b>	SampType: <b>Sample Duplicate</b>				Lab ID: <b>H23080754-007ADUP</b>				Method: <b>A2320 B</b>		
Analysis Date: <b>08/21/23 14:23</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	180	4.0		0				182.4	<b>1.2</b>	10	
Bicarbonate as HCO3	220	4.0		0				222	<b>1.2</b>	10	
Carbonate as CO3	ND	4.0		0				0		10	
Associated samples: <b>H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A</b>											

Run ID :Run Order: <b>PHSC_101-H_230821A: 195</b>	SampType: <b>Sample Duplicate</b>				Lab ID: <b>H23080754-023ADUP</b>				Method: <b>A2320 B</b>		
Analysis Date: <b>08/21/23 16:23</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	320	4.0		0				312	<b>1.1</b>	10	
Bicarbonate as HCO3	380	4.0		0				380	<b>1.1</b>	10	
Carbonate as CO3	ND	4.0		0				0		10	
Associated samples: <b>H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A</b>											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount

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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187366

Date: 08-Dec-23

Run ID :Run Order: PHSC_101-H_230821A: 14	SampType: Laboratory Control Sample				Lab ID: SC 1000				Method: A2510 B		
Analysis Date: 08/21/23 09:36	Units: umhos/cm				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	998	5.0	1000	0	100	90	110				

Associated samples: H23080754-004A

Run ID :Run Order: PHSC_101-H_230821A: 141	SampType: Initial Calibration Verification Standard				Lab ID: SC 150				Method: A2510 B		
Analysis Date: 08/21/23 09:30	Units: umhos/cm				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	152	5.0	150	0	102	90	110				

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-004A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A

Run ID :Run Order: PHSC_101-H_230821A: 142	SampType: Initial Calibration Verification Standard				Lab ID: SC 20000				Method: A2510 B		
Analysis Date: 08/21/23 09:32	Units: umhos/cm				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	19300	5.0	20000	0	97	90	110				

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-004A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A

Run ID :Run Order: PHSC_101-H_230821A: 143	SampType: Initial Calibration Verification Standard				Lab ID: SC 5000				Method: A2510 B		
Analysis Date: 08/21/23 09:34	Units: umhos/cm				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	4930	5.0	5000	0	99	90	110				

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-004A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A

Run ID :Run Order: PHSC_101-H_230821A: 144	SampType: Method Blank				Lab ID: MBLK				Method: A2510 B		
Analysis Date: 08/21/23 12:45	Units: umhos/cm				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	ND	5									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080754

**BatchID:** R187366

**Date:** 08-Dec-23

Run ID :Run Order: <b>PHSC_101-H_230821A: 144</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MBLK</b>	Method: <b>A2510 B</b>
Analysis Date: <b>08/21/23 12:45</b>	Units: <b>umhos/cm</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Associated samples: **H23080754-004A**

Run ID :Run Order: <b>PHSC_101-H_230821A: 152</b>	SampType: <b>Sample Duplicate</b>	Lab ID: <b>H23080799-001ADUP</b>	Method: <b>A2510 B</b>
Analysis Date: <b>08/21/23 12:53</b>	Units: <b>umhos/cm</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Conductivity @ 25 C	354	5.0	0	355.5	<b>0.3</b>	10
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Associated samples: **H23080754-004A**



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187366

Date: 08-Dec-23

Run ID :Run Order: PHSC_101-H_230821A: 140	SampType: Initial Calibration Verification Standard				Lab ID: pH 7				Method: A4500-H B		
Analysis Date: 08/21/23 09:25	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	21.7			0		0	0				

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-004A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A

Run ID :Run Order: PHSC_101-H_230821A: 155	SampType: Continuing Calibration Verification Standard				Lab ID: CCV - pH 7				Method: A4500-H B		
Analysis Date: 08/21/23 12:57	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	20.9			0		0	0				

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-004A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A

Run ID :Run Order: PHSC_101-H_230821A: 162	SampType: Sample Duplicate				Lab ID: H23080754-007ADUP				Method: A4500-H B		
Analysis Date: 08/21/23 14:23	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.3	0.1		0				7.26	0.8	3	H
pH Measurement Temp	20.3			0				21.6			

Associated samples: H23080754-004A

Run ID :Run Order: PHSC_101-H_230821A: 196	SampType: Sample Duplicate				Lab ID: H23080754-023ADUP				Method: A4500-H B		
Analysis Date: 08/21/23 16:23	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	6.9	0.1		0				6.9	0.1	3	H
pH Measurement Temp	21.6			0				21.57			

Associated samples: H23080754-004A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187409

Date: 08-Dec-23

Run ID :Run Order: ICP2-HE_230821B: 6	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.7		
Analysis Date: 08/21/23 10:02	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3.94	0.10	4	0	99	95	105				
Boron	0.795	0.10	0.8	0	99	95	105				
Calcium	38.8	1.0	40	0	97	95	105				
Copper	0.816	0.012	0.8	0	102	95	105				
Iron	3.92	0.020	4	0	98	95	105				
Lithium	0.773	0.10	0.8	0	97	95	105				
Magnesium	38.8	1.0	40	0	97	95	105				
Manganese	3.97	0.010	4	0	99	95	105				
Potassium	38.7	1.0	40	0	97	95	105				
Sodium	39.3	1.0	40	0	98	95	105				
Strontium	0.801	0.10	0.8	0	100	95	105				
Zinc	0.800	0.010	0.8	0	100	95	105				

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Run ID :Run Order: ICP2-HE_230821B: 7	SampType: Continuing Calibration Verification Standard				Lab ID: CCV-1				Method: E200.7		
Analysis Date: 08/21/23 10:06	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.49	0.10	2.5	0	99	95	105				
Boron	2.51	0.10	2.5	0	101	95	105				
Calcium	24.0	1.0	25	0	96	95	105				
Copper	2.61	0.012	2.5	0	104	95	105				
Iron	2.50	0.020	2.5	0	100	95	105				
Lithium	1.24	0.10	1.25	0	99	95	105				
Magnesium	25.1	1.0	25	0	100	95	105				
Manganese	2.53	0.010	2.5	0	101	95	105				
Potassium	24.8	1.0	25	0	99	95	105				
Sodium	24.7	1.0	25	0	99	95	105				
Strontium	2.55	0.10	2.5	0	102	95	105				
Zinc	2.53	0.010	2.5	0	101	95	105				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187409

Date: 08-Dec-23

Run ID :Run Order: ICP2-HE_230821B: 7	SampType: Continuing Calibration Verification Standard	Lab ID: CCV-1	Method: E200.7								
Analysis Date: 08/21/23 10:06	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Run ID :Run Order: ICP2-HE_230821B: 13	SampType: Method Blank	Lab ID: MB	Method: E200.7								
Analysis Date: 08/21/23 10:29	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.03									
Boron	ND	0.004									
Calcium	ND	0.2									
Copper	ND	0.01									
Iron	ND	0.008									
Lithium	ND	0.002									
Magnesium	ND	0.05									
Manganese	ND	0.001									
Potassium	ND	0.06									
Sodium	ND	0.7									
Strontium	ND	0.0003									
Zinc	ND	0.003									

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Run ID :Run Order: ICP2-HE_230821B: 14	SampType: Laboratory Fortified Blank	Lab ID: LFB	Method: E200.7								
Analysis Date: 08/21/23 10:33	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.95	0.10	5	0	99	85	115				
Boron	0.949	0.10	1	0	95	85	115				
Calcium	50.4	1.0	50	0	101	85	115				
Copper	1.03	0.012	1	0	103	85	115				
Iron	5.06	0.020	5	0	101	85	115				
Lithium	0.930	0.10	1	0	93	85	115				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187409

Date: 08-Dec-23

Run ID :Run Order: ICP2-HE_230821B: 14	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.7		
Analysis Date: 08/21/23 10:33	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	48.5	1.0	50	0	97	85	115				
Manganese	5.09	0.010	5	0	102	85	115				
Potassium	46.8	1.0	50	0	94	85	115				
Sodium	49.1	1.0	50	0	98	85	115				
Strontium	1.02	0.10	1	0	102	85	115				
Zinc	0.977	0.010	1	0	98	85	115				

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Run ID :Run Order: ICP2-HE_230821B: 111	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.7		
Analysis Date: 08/22/23 00:56	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.31	0.10	2.5	0	93	90	110				
Boron	2.51	0.10	2.5	0	100	90	110				
Calcium	27.3	1.0	25	0	109	90	110				
Copper	2.43	0.012	2.5	0	97	90	110				
Iron	2.61	0.020	2.5	0	104	90	110				
Lithium	1.20	0.10	1.25	0	96	90	110				
Magnesium	23.9	1.0	25	0	96	90	110				
Manganese	2.60	0.010	2.5	0	104	90	110				
Potassium	24.8	1.0	25	0	99	90	110				
Sodium	25.6	1.0	25	0	102	90	110				
Strontium	2.53	0.10	2.5	0	101	90	110				
Zinc	2.62	0.010	2.5	0	105	90	110				

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187409

Date: 08-Dec-23

Run ID :Run Order: ICP2-HE_230821B: 123	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.7		
Analysis Date: 08/22/23 01:42	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.56	0.10	2.5	0	102	90	110				
Boron	2.59	0.10	2.5	0	104	90	110				
Calcium	26.1	1.0	25	0	105	90	110				
Copper	2.62	0.012	2.5	0	105	90	110				
Iron	2.59	0.020	2.5	0	104	90	110				
Lithium	1.35	0.10	1.25	0	108	90	110				
Magnesium	25.9	1.0	25	0	104	90	110				
Manganese	2.56	0.010	2.5	0	103	90	110				
Potassium	27.3	1.0	25	0	109	90	110				
Sodium	26.2	1.0	25	0	105	90	110				
Strontium	2.62	0.10	2.5	0	105	90	110				
Zinc	2.64	0.010	2.5	0	106	90	110				

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Run ID :Run Order: ICP2-HE_230821B: 128	SampType: Sample Matrix Spike				Lab ID: H23080754-005BMS2				Method: E200.7		
Analysis Date: 08/22/23 02:01	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.12	0.030	5	0	102	70	130				
Boron	0.994	0.050	1	0.04378	95	70	130				
Calcium	95.2	1.0	50	41.27	108	70	130				
Copper	1.13	0.012	1	0.1414	99	70	130				
Iron	5.13	0.020	5	0	103	70	130				
Lithium	0.997	0.10	1	0.03084	97	70	130				
Magnesium	57.6	1.0	50	9.64	96	70	130				
Manganese	5.03	0.0014	5	0.00497	101	70	130				
Potassium	54.0	1.0	50	4.454	99	70	130				
Sodium	79.7	1.0	50	30.07	99	70	130				
Strontium	1.34	0.010	1	0.335	101	70	130				
Zinc	1.34	0.010	1	0.339	100	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187409

Date: 08-Dec-23

Run ID :Run Order: ICP2-HE_230821B: 128	SampType: Sample Matrix Spike	Lab ID: H23080754-005BMS2	Method: E200.7
Analysis Date: 08/22/23 02:01	Units: mg/L	Prep Info: Prep Date:	Prep Method:
Analytes 12	Result PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Run ID :Run Order: ICP2-HE_230821B: 129	SampType: Sample Matrix Spike Duplicate	Lab ID: H23080754-005BMSD2	Method: E200.7
Analysis Date: 08/22/23 02:05	Units: mg/L	Prep Info: Prep Date:	Prep Method:
Analytes 12	Result PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Aluminum	5.15 0.030 5 0	103 70 130 5.122	0.6 20
Boron	0.998 0.050 1 0.04378	95 70 130 0.9945	0.3 20
Calcium	93.9 1.0 50 41.27	105 70 130 95.17	1.4 20
Copper	1.12 0.012 1 0.1414	98 70 130 1.132	1.4 20
Iron	5.04 0.020 5 0	101 70 130 5.13	1.8 20
Lithium	0.988 0.10 1 0.03084	96 70 130 0.997	0.9 20
Magnesium	56.8 1.0 50 9.64	94 70 130 57.65	1.5 20
Manganese	4.92 0.0014 5 0.00497	98 70 130 5.03	2.3 20
Potassium	53.6 1.0 50 4.454	98 70 130 53.97	0.7 20
Sodium	79.4 1.0 50 30.07	99 70 130 79.66	0.3 20
Strontium	1.32 0.010 1 0.335	99 70 130 1.343	1.6 20
Zinc	1.34 0.010 1 0.339	101 70 130 1.337	0.6 20

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Run ID :Run Order: ICP2-HE_230821B: 151	SampType: Sample Matrix Spike	Lab ID: H23080754-015BMS2	Method: E200.7
Analysis Date: 08/22/23 03:29	Units: mg/L	Prep Info: Prep Date:	Prep Method:
Analytes 12	Result PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Aluminum	4.89 0.030 5 0	98 70 130	
Boron	1.03 0.050 1 0.03807	99 70 130	
Calcium	70.6 1.0 50 22.51	96 70 130	
Copper	1.07 0.012 1 0	107 70 130	
Iron	4.74 0.020 5 0	95 70 130	
Lithium	1.20 0.10 1 0.01702	118 70 130	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187409

Date: 08-Dec-23

Run ID :Run Order: ICP2-HE_230821B: 151		SampType: Sample Matrix Spike			Lab ID: H23080754-015BMS2				Method: E200.7		
Analysis Date: 08/22/23 03:29		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	58.4	1.0	50	6.066	105	70	130				
Manganese	4.84	0.0014	5	0	97	70	130				
Potassium	61.9	1.0	50	3.714	116	70	130				
Sodium	80.1	1.0	50	27.92	104	70	130				
Strontium	1.18	0.010	1	0.1727	101	70	130				
Zinc	1.03	0.010	1	0.02431	101	70	130				

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Run ID :Run Order: ICP2-HE_230821B: 152		SampType: Sample Matrix Spike Duplicate			Lab ID: H23080754-015BMSD2				Method: E200.7		
Analysis Date: 08/22/23 03:33		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.87	0.030	5	0	97	70	130	4.892	0.5	20	
Boron	1.01	0.050	1	0.03807	98	70	130	1.032	1.7	20	
Calcium	70.6	1.0	50	22.51	96	70	130	70.65	0.1	20	
Copper	1.06	0.012	1	0	106	70	130	1.067	0.3	20	
Iron	4.74	0.020	5	0	95	70	130	4.74	0.1	20	
Lithium	1.20	0.10	1	0.01702	118	70	130	1.196	0.1	20	
Magnesium	57.8	1.0	50	6.066	103	70	130	58.37	1.0	20	
Manganese	4.80	0.0014	5	0	96	70	130	4.835	0.6	20	
Potassium	62.1	1.0	50	3.714	117	70	130	61.88	0.4	20	
Sodium	80.1	1.0	50	27.92	104	70	130	80.13	0	20	
Strontium	1.17	0.010	1	0.1727	99	70	130	1.178	1.0	20	
Zinc	1.02	0.010	1	0.02431	100	70	130	1.034	1.3	20	

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187409

Date: 08-Dec-23

Run ID :Run Order: ICP2-HE_230821B: 168	SampType: Sample Matrix Spike				Lab ID: H23080771-001BMS2				Method: E200.7		
Analysis Date: 08/22/23 04:34	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.67	0.030	5	0	93	70	130				
Boron	1.14	0.050	1	0.1219	102	70	130				
Calcium	455	1.0	50	409.3		70	130				A
Copper	1.22	0.012	1	0	122	70	130				
Iron	4.73	0.020	5	0.01884	94	70	130				
Lithium	1.20	0.10	1	0.07899	112	70	130				
Magnesium	454	1.0	50	404.6		70	130				A
Manganese	8.40	0.0014	5	3.568	97	70	130				
Potassium	68.8	1.0	50	13.42	111	70	130				
Sodium	1440	1.0	50	1365		70	130				A
Strontium	6.54	0.010	1	5.524		70	130				A
Zinc	1.08	0.010	1	0.00478	108	70	130				

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Run ID :Run Order: ICP2-HE_230821B: 169	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080771-001BMSD2				Method: E200.7		
Analysis Date: 08/22/23 04:38	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.73	0.030	5	0	95	70	130	4.666	1.4	20	
Boron	1.16	0.050	1	0.1219	104	70	130	1.139	2.2	20	
Calcium	448	1.0	50	409.3		70	130	455.1	1.6	20	A
Copper	1.23	0.012	1	0	123	70	130	1.217	0.8	20	
Iron	4.75	0.020	5	0.01884	95	70	130	4.735	0.4	20	
Lithium	1.18	0.10	1	0.07899	110	70	130	1.195	1.4	20	
Magnesium	452	1.0	50	404.6		70	130	454.4	0.5	20	A
Manganese	8.32	0.0014	5	3.568	95	70	130	8.402	1.0	20	
Potassium	67.6	1.0	50	13.42	108	70	130	68.8	1.7	20	
Sodium	1400	1.0	50	1365		70	130	1444	3.0	20	A
Strontium	6.48	0.010	1	5.524		70	130	6.543	1.0	20	A
Zinc	1.10	0.010	1	0.00478	110	70	130	1.081	2.1	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080754

**BatchID:** R187409

**Date:** 08-Dec-23

Run ID :Run Order: <b>ICP2-HE_230821B: 169</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23080771-001BMSD2</b>	Method: <b>E200.7</b>								
Analysis Date: <b>08/22/23 04:38</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080754

**BatchID:** R187479

**Date:** 08-Dec-23

Run ID :Run Order: ICP2-HE_230823B: 6	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.7		
Analysis Date: 08/23/23 08:03	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	39.7	1.0	40	0	99	95	105				
Copper	0.809	0.012	0.8	0	101	95	105				
Iron	3.95	0.020	4	0	99	95	105				
Lithium	0.796	0.10	0.8	0	100	95	105				
Manganese	4.00	0.010	4	0	100	95	105				
Potassium	39.8	1.0	40	0	100	95	105				

Associated samples: H23080754-012B, H23080754-016B, H23080754-019B, H23080754-022B

Run ID :Run Order: ICP2-HE_230823B: 8	SampType: Continuing Calibration Verification Standard				Lab ID: CCV-1				Method: E200.7		
Analysis Date: 08/23/23 08:13	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	24.2	1.0	25	0	97	95	105				
Copper	2.53	0.012	2.5	0	101	95	105				
Iron	2.43	0.020	2.5	0	97	95	105				
Lithium	1.27	0.10	1.25	0	101	95	105				
Manganese	2.52	0.010	2.5	0	101	95	105				
Potassium	25.6	1.0	25	0	102	95	105				

Associated samples: H23080754-012B, H23080754-016B, H23080754-019B, H23080754-022B

Run ID :Run Order: ICP2-HE_230823B: 14	SampType: Method Blank				Lab ID: MB				Method: E200.7		
Analysis Date: 08/23/23 08:36	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.2									
Copper	ND	0.01									
Iron	ND	0.008									
Lithium	ND	0.002									
Manganese	ND	0.001									
Potassium	ND	0.06									

Associated samples: H23080754-012B, H23080754-016B, H23080754-019B, H23080754-022B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080754

**BatchID:** R187479

**Date:** 08-Dec-23

Run ID :Run Order: ICP2-HE_230823B: 15	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.7		
Analysis Date: 08/23/23 08:40	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	50.0	1.0	50	0	100	85	115				
Copper	1.05	0.012	1	0	105	85	115				
Iron	5.04	0.020	5	0	101	85	115				
Lithium	1.02	0.10	1	0	102	85	115				
Manganese	5.20	0.010	5	0	104	85	115				
Potassium	51.4	1.0	50	0	103	85	115				

Associated samples: H23080754-012B, H23080754-016B, H23080754-019B, H23080754-022B

Run ID :Run Order: ICP2-HE_230823B: 54	SampType: Sample Matrix Spike				Lab ID: H23080741-002BMS2				Method: E200.7		
Analysis Date: 08/23/23 15:12	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	536	1.0	250	294.5	97	70	130				
Copper	5.03	0.061	5	0	101	70	130				
Iron	23.5	0.041	25	0	94	70	130				
Lithium	5.05	0.10	5	0.1279	98	70	130				
Manganese	25.8	0.0068	25	1.668	96	70	130				
Potassium	253	1.0	250	5.702	99	70	130				

Associated samples: H23080754-012B, H23080754-016B, H23080754-019B, H23080754-022B

Run ID :Run Order: ICP2-HE_230823B: 55	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080741-002BMSD2				Method: E200.7		
Analysis Date: 08/23/23 15:16	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	544	1.0	250	294.5	100	70	130	535.9	1.5	20	
Copper	5.23	0.061	5	0	105	70	130	5.03	3.9	20	
Iron	24.3	0.041	25	0	97	70	130	23.5	3.3	20	
Lithium	5.26	0.10	5	0.1279	103	70	130	5.052	4.0	20	
Manganese	26.4	0.0068	25	1.668	99	70	130	25.79	2.2	20	
Potassium	263	1.0	250	5.702	103	70	130	253.4	3.9	20	

Associated samples: H23080754-012B, H23080754-016B, H23080754-019B, H23080754-022B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187479

Date: 08-Dec-23

Run ID :Run Order: ICP2-HE_230823B: 57		SampType: Continuing Calibration Verification Standard				Lab ID: CCV			Method: E200.7		
Analysis Date: 08/23/23 15:24		Units: mg/L		Prep Info:		Prep Date:		Prep Method:			
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	24.3	1.0	25	0	97	90	110				
Copper	2.63	0.012	2.5	0	105	90	110				
Iron	2.46	0.020	2.5	0	98	90	110				
Lithium	1.34	0.10	1.25	0	107	90	110				
Manganese	2.56	0.010	2.5	0	103	90	110				
Potassium	27.0	1.0	25	0	108	90	110				

Associated samples: H23080754-012B, H23080754-016B, H23080754-019B, H23080754-022B

Run ID :Run Order: ICP2-HE_230823B: 71		SampType: Sample Matrix Spike				Lab ID: H23080771-003BMS2			Method: E200.7		
Analysis Date: 08/23/23 16:17		Units: mg/L		Prep Info:		Prep Date:		Prep Method:			
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	787	1.0	250	468.5	127	70	130				
Copper	4.68	0.061	5	0	94	70	130				
Iron	32.7	0.041	25	6.684	104	70	130				
Lithium	4.08	0.10	5	0.08508	80	70	130				
Manganese	32.1	0.0068	25	5.896	105	70	130				
Potassium	221	1.0	250	10.71	84	70	130				

Associated samples: H23080754-012B, H23080754-016B, H23080754-019B, H23080754-022B

Run ID :Run Order: ICP2-HE_230823B: 72		SampType: Sample Matrix Spike Duplicate				Lab ID: H23080771-003BMSD2			Method: E200.7		
Analysis Date: 08/23/23 16:21		Units: mg/L		Prep Info:		Prep Date:		Prep Method:			
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	762	1.0	250	468.5	117	70	130	787.2	3.3	20	
Copper	4.75	0.061	5	0	95	70	130	4.678	1.5	20	
Iron	32.1	0.041	25	6.684	102	70	130	32.72	1.8	20	
Lithium	4.29	0.10	5	0.08508	84	70	130	4.076	5.2	20	
Manganese	31.6	0.0068	25	5.896	103	70	130	32.12	1.8	20	
Potassium	229	1.0	250	10.71	87	70	130	221	3.7	20	

Associated samples: H23080754-012B, H23080754-016B, H23080754-019B, H23080754-022B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187509

Date: 08-Dec-23

Run ID :Run Order: IC METROHM_230823A: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E300.0		
Analysis Date: 08/23/23 18:49	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	101	1.0	100	0	101	90	110				
Sulfate	404	1.0	400	0	101	90	110				
Bromide	5.07	0.50	5	0	101	90	110				
Fluoride	5.30	0.10	5	0	106	90	110				

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-004A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A

Run ID :Run Order: IC METROHM_230823A: 13	SampType: Method Blank				Lab ID: ICB				Method: E300.0		
Analysis Date: 08/23/23 19:18	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.02									
Sulfate	ND	0.03									
Bromide	ND	0.001									
Fluoride	ND	0.01									

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-004A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A

Run ID :Run Order: IC METROHM_230823A: 14	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E300.0		
Analysis Date: 08/23/23 19:32	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	25.0	1.0	25	0	100	90	110				
Sulfate	101	1.0	100	0	101	90	110				
Bromide	1.22	0.50	1.25	0	98	90	110				
Fluoride	1.26	0.10	1.25	0	101	90	110				

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-004A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount

## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080754

**BatchID:** R187509

**Date:** 08-Dec-23

Run ID :Run Order: <b>IC METROHM_230823A: 56</b>		SampType: <b>Continuing Calibration Verification Standard</b>			Lab ID: <b>CCV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>08/24/23 06:05</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	51.8	1.0	50	0	104	90	110				
Sulfate	204	1.0	200	0	102	90	110				
Bromide	2.54	0.50	2.5	0	102	90	110				
Fluoride	2.50	0.10	2.5	0	100	90	110				

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-004A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A

Run ID :Run Order: <b>IC METROHM_230823A: 68</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23080754-006AMS</b>			Method: <b>E300.0</b>			
Analysis Date: <b>08/24/23 09:12</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	25.1	1.0	25	0	100	90	110				
Sulfate	100	1.0	100	0	100	90	110				
Bromide	1.19	0.50	1.25	0	95	90	110				
Fluoride	1.23	0.10	1.25	0	98	90	110				

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-004A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A

Run ID :Run Order: <b>IC METROHM_230823A: 69</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23080754-006AMSD</b>			Method: <b>E300.0</b>			
Analysis Date: <b>08/24/23 09:27</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	25.0	1.0	25	0	100	90	110	25.09	0.2	20	
Sulfate	101	1.0	100	0	101	90	110	100.3	0.4	20	
Bromide	1.19	0.50	1.25	0	95	90	110	1.191	0.3	20	
Fluoride	1.23	0.10	1.25	0	98	90	110	1.225	0.3	20	

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-004A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187509

Date: 08-Dec-23

Run ID :Run Order: IC METROHM_230823A: 70	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E300.0		
Analysis Date: 08/24/23 09:41	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	51.9	1.0	50	0	104	90	110				
Sulfate	205	1.0	200	0	103	90	110				
Bromide	2.55	0.50	2.5	0	102	90	110				
Fluoride	2.57	0.10	2.5	0	103	90	110				

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-004A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A

Run ID :Run Order: IC METROHM_230823A: 81	SampType: Sample Matrix Spike				Lab ID: H23080754-015AMS				Method: E300.0		
Analysis Date: 08/24/23 12:34	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	32.9	1.0	25	7.224	103	90	110				
Sulfate	143	1.0	100	43.72	99	90	110				
Bromide	1.25	0.50	1.25	0.038	97	90	110				
Fluoride	2.73	0.10	1.25	1.539	95	90	110				

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-004A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A

Run ID :Run Order: IC METROHM_230823A: 82	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080754-015AMSD				Method: E300.0		
Analysis Date: 08/24/23 12:49	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	32.8	1.0	25	7.224	102	90	110	32.86	0.1	20	
Sulfate	144	1.0	100	43.72	100	90	110	143.1	0.3	20	
Bromide	1.25	0.50	1.25	0.038	97	90	110	1.248	0.2	20	
Fluoride	2.72	0.10	1.25	1.539	95	90	110	2.725	0.1	20	

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-004A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187509

Date: 08-Dec-23

Run ID :Run Order: IC METROHM_230823A: 84		SampType: Continuing Calibration Verification Standard				Lab ID: CCV			Method: E300.0		
Analysis Date: 08/24/23 13:18		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	52.3	1.0	50	0	105	90	110				
Sulfate	209	1.0	200	0	104	90	110				
Bromide	2.56	0.50	2.5	0	102	90	110				
Fluoride	2.58	0.10	2.5	0	103	90	110				

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-004A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A

Run ID :Run Order: IC METROHM_230823A: 90		SampType: Sample Matrix Spike				Lab ID: H23080754-020AMS			Method: E300.0		
Analysis Date: 08/24/23 14:58		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	34.4	1.0	25	9.218	101	90	110				
Sulfate	131	1.0	100	33.63	97	90	110				
Bromide	1.17	0.50	1.25	0.044	90	90	110				
Fluoride	2.32	0.10	1.25	1.044	102	90	110				

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-004A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A

Run ID :Run Order: IC METROHM_230823A: 91		SampType: Sample Matrix Spike Duplicate				Lab ID: H23080754-020AMSD			Method: E300.0		
Analysis Date: 08/24/23 15:13		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	34.2	1.0	25	9.218	100	90	110	34.45	0.6	20	
Sulfate	130	1.0	100	33.63	96	90	110	130.5	0.4	20	
Bromide	1.16	0.50	1.25	0.044	89	90	110	1.168	0.9	20	S
Fluoride	2.31	0.10	1.25	1.044	101	90	110	2.32	0.5	20	

Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-004A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187581

Date: 08-Dec-23

Run ID :Run Order: ICPMS205-H_230824B: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 08/24/23 17:49	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.312	0.10	0.3	0	104	90	110				
Antimony	0.0615	0.050	0.06	0	103	90	110				
Arsenic	0.0612	0.0050	0.06	0	102	90	110				
Barium	0.0605	0.10	0.06	0	101	90	110				
Beryllium	0.0309	0.0010	0.03	0	103	90	110				
Cadmium	0.0309	0.0010	0.03	0	103	90	110				
Chromium	0.0602	0.010	0.06	0	100	90	110				
Cobalt	0.0610	0.010	0.06	0	102	90	110				
Copper	0.0617	0.010	0.06	0	103	90	110				
Iron	0.307	0.020	0.3	0	102	90	110				
Lead	0.0600	0.010	0.06	0	100	90	110				
Lithium	0.0630	0.10	0.06	0	105	90	110				
Manganese	0.301	0.010	0.3	0	100	90	110				
Molybdenum	0.0592	0.0050	0.06	0	99	90	110				
Nickel	0.0615	0.010	0.06	0	103	90	110				
Potassium	3.00	0.50	3	0	100	90	110				
Selenium	0.0615	0.0050	0.06	0	102	90	110				
Silver	0.0308	0.0050	0.03	0	103	90	110				
Sodium	3.14	0.50	3	0	105	90	110				
Thallium	0.0598	0.10	0.06	0	100	90	110				
Tin	0.0622	0.10	0.06	0	104	90	110				
Titanium	0.0585	0.010	0.06	0	97	90	110				
Uranium	0.0602	0.00030	0.06	0	100	90	110				
Vanadium	0.0597	0.10	0.06	0	99	90	110				
Zinc	0.0623	0.010	0.06	0	104	90	110				

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Run ID :Run Order: ICPMS205-H_230824B: 22	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 08/24/23 18:34	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187581

Date: 08-Dec-23

Run ID :Run Order: ICPMS205-H_230824B: 22		SampType: Method Blank			Lab ID: LRB				Method: E200.8		
Analysis Date: 08/24/23 18:34		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.0002									
Arsenic	ND	0.0002									
Barium	ND	0.0002									
Beryllium	ND	0.0002									
Cadmium	ND	0.00002									
Chromium	ND	0.0001									
Cobalt	ND	0.001									
Copper	ND	0.0001									
Iron	ND	0.004									
Lead	ND	0.0001									
Lithium	ND	0.001									
Manganese	ND	0.0003									
Molybdenum	ND	0.0003									
Nickel	ND	0.0002									
Potassium	ND	0.04									
Selenium	ND	0.00007									
Silver	ND	0.00008									
Sodium	ND	0.04									
Thallium	ND	0.00008									
Tin	ND	0.0002									
Titanium	ND	0.0005									
Uranium	ND	0.00002									
Vanadium	ND	0.0001									
Zinc	ND	0.001									

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Run ID :Run Order: ICPMS205-H_230824B: 23		SampType: Laboratory Fortified Blank			Lab ID: LFB				Method: E200.8		
Analysis Date: 08/24/23 18:37		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0465	0.10	0.05	0	93	85	115				
Antimony	0.0491	0.050	0.05	0	98	85	115				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187581

Date: 08-Dec-23

Run ID :Run Order: ICPMS205-H_230824B: 23	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.8		
Analysis Date: 08/24/23 18:37	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0497	0.0050	0.05	0	99	85	115				
Barium	0.0484	0.10	0.05	0	97	85	115				
Beryllium	0.0512	0.0010	0.05	0	102	85	115				
Cadmium	0.0501	0.0010	0.05	0	100	85	115				
Chromium	0.0483	0.010	0.05	0	97	85	115				
Cobalt	0.0492	0.010	0.05	0	98	85	115				
Copper	0.0490	0.010	0.05	0	98	85	115				
Iron	0.155	0.020	0.15	0	103	85	115				
Lead	0.0484	0.010	0.05	0	97	85	115				
Lithium	0.0553	0.10	0.05	0	111	85	115				
Manganese	0.0499	0.010	0.05	0	100	85	115				
Molybdenum	0.0483	0.0050	0.05	0	97	85	115				
Nickel	0.0493	0.010	0.05	0	99	85	115				
Potassium	1.04	0.50	1	0	103	85	115				
Selenium	0.0486	0.0050	0.05	0	97	85	115				
Silver	0.0200	0.0050	0.02	0	100	85	115				
Sodium	1.05	0.50	1	0	105	85	115				
Thallium	0.0483	0.10	0.05	0	97	85	115				
Tin	0.0448	0.10	0.05	0	90	85	115				
Titanium	0.0471	0.010	0.05	0	94	85	115				
Uranium	0.0470	0.00030	0.05	0	94	85	115				
Vanadium	0.0483	0.10	0.05	0	97	85	115				
Zinc	0.0515	0.010	0.05	0	103	85	115				

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Run ID :Run Order: ICPMS205-H_230824B: 98	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 08/24/23 22:29	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0518	0.10	0.05	0	104	90	110				
Antimony	0.0492	0.050	0.05	0	98	90	110				
Arsenic	0.0501	0.0050	0.05	0	100	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187581

Date: 08-Dec-23

Run ID :Run Order: ICPMS205-H_230824B: 98	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 08/24/23 22:29	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.0501	0.10	0.05	0	100	90	110				
Beryllium	0.0504	0.0010	0.05	0	101	90	110				
Cadmium	0.0502	0.0010	0.05	0	100	90	110				
Chromium	0.0505	0.010	0.05	0	101	90	110				
Cobalt	0.0502	0.010	0.05	0	100	90	110				
Copper	0.0501	0.010	0.05	0	100	90	110				
Iron	1.32	0.020	1.3	0	102	90	110				
Lead	0.0500	0.010	0.05	0	100	90	110				
Lithium	0.659	0.10	0.625	0	105	90	110				
Manganese	0.0510	0.010	0.05	0	102	90	110				
Molybdenum	0.0503	0.0050	0.05	0	101	90	110				
Nickel	0.0500	0.010	0.05	0	100	90	110				
Potassium	12.7	0.50	12.5	0	102	90	110				
Selenium	0.0503	0.0050	0.05	0	101	90	110				
Silver	0.0203	0.0050	0.02	0	101	90	110				
Sodium	13.2	0.50	12.5	0	105	90	110				
Thallium	0.0497	0.10	0.05	0	99	90	110				
Tin	0.0495	0.10	0.05	0	99	90	110				
Titanium	0.0533	0.010	0.05	0	107	90	110				
Uranium	0.0496	0.00030	0.05	0	99	90	110				
Vanadium	0.0508	0.10	0.05	0	102	90	110				
Zinc	0.0503	0.010	0.05	0	101	90	110				

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Run ID :Run Order: ICPMS205-H_230824B: 109	SampType: Sample Matrix Spike				Lab ID: H23080754-002BMS				Method: E200.8		
Analysis Date: 08/24/23 23:03	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0495	0.030	0.05	0	99	70	130				
Antimony	0.0498	0.0010	0.05	0.0002313	99	70	130				
Arsenic	0.0527	0.0010	0.05	0.002657	100	70	130				
Barium	0.100	0.050	0.05	0.05106	99	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187581

Date: 08-Dec-23

Run ID :Run Order: ICPMS205-H_230824B: 109	SampType: Sample Matrix Spike				Lab ID: H23080754-002BMS				Method: E200.8		
Analysis Date: 08/24/23 23:03	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0582	0.0010	0.05	0	116	70	130				
Cadmium	0.0512	0.0010	0.05	0.001322	100	70	130				
Chromium	0.0486	0.0050	0.05	0	97	70	130				
Cobalt	0.0503	0.0050	0.05	0.002008	97	70	130				
Copper	0.0553	0.0050	0.05	0.007861	95	70	130				
Iron	0.147	0.020	0.15	0	98	70	130				
Lead	0.0521	0.0010	0.05	0	104	70	130				
Lithium	0.102	0.10	0.05	0.04241	119	70	130				
Manganese	3.06	0.0010	0.05	3.075		70	130				A
Molybdenum	0.0716	0.0010	0.05	0.02224	99	70	130				
Nickel	0.0536	0.0050	0.05	0.005165	97	70	130				
Potassium	8.20	1.0	1	7.268		70	130				A
Selenium	0.0516	0.0010	0.05	0.0002209	103	70	130				
Silver	0.0154	0.0010	0.02	0	77	70	130				
Sodium	33.6	1.0	1	34.56		70	130				A
Thallium	0.0532	0.00050	0.05	0	106	70	130				
Tin	0.0420	0.050	0.05	0	84	70	130				
Titanium	0.0468	0.0050	0.05	0	94	70	130				
Uranium	0.103	0.00030	0.05	0.05385	98	70	130				
Vanadium	0.0508	0.010	0.05	0.002	98	70	130				
Zinc	0.355	0.010	0.05	0.3137		70	130				A

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Run ID :Run Order: ICPMS205-H_230824B: 110	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080754-002BMSD				Method: E200.8		
Analysis Date: 08/24/23 23:06	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0509	0.030	0.05	0	102	70	130	0.04948	2.9	20	
Antimony	0.0503	0.0010	0.05	0.0002313	100	70	130	0.04978	1.0	20	
Arsenic	0.0530	0.0010	0.05	0.002657	101	70	130	0.05269	0.6	20	
Barium	0.100	0.050	0.05	0.05106	98	70	130	0.1004	0.3	20	
Beryllium	0.0559	0.0010	0.05	0	112	70	130	0.0582	4.0	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187581

Date: 08-Dec-23

Run ID :Run Order: ICPMS205-H_230824B: 110	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080754-002BMSD				Method: E200.8		
Analysis Date: 08/24/23 23:06	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0509	0.0010	0.05	0.001322	99	70	130	0.05116	0.5	20	
Chromium	0.0491	0.0050	0.05	0	98	70	130	0.04858	1.1	20	
Cobalt	0.0504	0.0050	0.05	0.002008	97	70	130	0.05031	0.2	20	
Copper	0.0562	0.0050	0.05	0.007861	97	70	130	0.05528	1.7	20	
Iron	0.147	0.020	0.15	0	98	70	130	0.1469	0.1	20	
Lead	0.0523	0.0010	0.05	0	105	70	130	0.05208	0.5	20	
Lithium	0.0983	0.10	0.05	0.04241	112	70	130	0.1017		20	
Manganese	3.08	0.0010	0.05	3.075		70	130	3.056	0.9	20	A
Molybdenum	0.0716	0.0010	0.05	0.02224	99	70	130	0.07161	0	20	
Nickel	0.0541	0.0050	0.05	0.005165	98	70	130	0.05361	0.9	20	
Potassium	8.27	1.0	1	7.268		70	130	8.204	0.8	20	A
Selenium	0.0510	0.0010	0.05	0.0002209	102	70	130	0.05159	1.1	20	
Silver	0.0159	0.0010	0.02	0	79	70	130	0.01541	2.9	20	
Sodium	33.6	1.0	1	34.56		70	130	33.63	0.1	20	A
Thallium	0.0531	0.00050	0.05	0	106	70	130	0.05317	0.2	20	
Tin	0.0424	0.050	0.05	0	85	70	130	0.04205		20	
Titanium	0.0489	0.0050	0.05	0	98	70	130	0.04683	4.3	20	
Uranium	0.102	0.00030	0.05	0.05385	97	70	130	0.1028	0.5	20	
Vanadium	0.0515	0.010	0.05	0.002	99	70	130	0.05077	1.4	20	
Zinc	0.362	0.010	0.05	0.3137		70	130	0.3551	2.0	20	A

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Run ID :Run Order: ICPMS205-H_230824B: 111	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 08/24/23 23:09	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0520	0.10	0.05	0	104	90	110				
Antimony	0.0497	0.050	0.05	0	99	90	110				
Arsenic	0.0499	0.0050	0.05	0	100	90	110				
Barium	0.0497	0.10	0.05	0	99	90	110				
Beryllium	0.0501	0.0010	0.05	0	100	90	110				
Cadmium	0.0512	0.0010	0.05	0	102	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187581

Date: 08-Dec-23

Run ID :Run Order: ICPMS205-H_230824B: 111	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 08/24/23 23:09	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.0504	0.010	0.05	0	101	90	110				
Cobalt	0.0496	0.010	0.05	0	99	90	110				
Copper	0.0497	0.010	0.05	0	99	90	110				
Iron	1.31	0.020	1.3	0	100	90	110				
Lead	0.0501	0.010	0.05	0	100	90	110				
Lithium	0.640	0.10	0.625	0	102	90	110				
Manganese	0.0508	0.010	0.05	0	102	90	110				
Molybdenum	0.0516	0.0050	0.05	0	103	90	110				
Nickel	0.0498	0.010	0.05	0	100	90	110				
Potassium	12.7	0.50	12.5	0	101	90	110				
Selenium	0.0504	0.0050	0.05	0	101	90	110				
Silver	0.0205	0.0050	0.02	0	103	90	110				
Sodium	13.0	0.50	12.5	0	104	90	110				
Thallium	0.0498	0.10	0.05	0	100	90	110				
Tin	0.0508	0.10	0.05	0	102	90	110				
Titanium	0.0522	0.010	0.05	0	104	90	110				
Uranium	0.0500	0.00030	0.05	0	100	90	110				
Vanadium	0.0502	0.10	0.05	0	100	90	110				
Zinc	0.0489	0.010	0.05	0	98	90	110				

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Run ID :Run Order: ICPMS205-H_230824B: 121	SampType: Sample Matrix Spike				Lab ID: H23080754-013BMS				Method: E200.8		
Analysis Date: 08/24/23 23:40	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0508	0.030	0.05	0	102	70	130				
Antimony	0.0503	0.0010	0.05	0.0001784	100	70	130				
Arsenic	0.250	0.0010	0.05	0.2116		70	130				A
Barium	0.128	0.050	0.05	0.07814	100	70	130				
Beryllium	0.0515	0.0010	0.05	0	103	70	130				
Cadmium	0.0491	0.0010	0.05	0	98	70	130				
Chromium	0.0491	0.0050	0.05	0	98	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187581

Date: 08-Dec-23

Run ID :Run Order: ICPMS205-H_230824B: 121	SampType: Sample Matrix Spike				Lab ID: H23080754-013BMS				Method: E200.8		
Analysis Date: 08/24/23 23:40	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>25</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	0.0491	0.0050	0.05	0	98	70	130				
Copper	0.0477	0.0050	0.05	0	95	70	130				
Iron	12.3	0.020	0.15	12.55		70	130				A
Lead	0.0518	0.0010	0.05	0	104	70	130				
Lithium	0.160	0.10	0.05	0.1104	100	70	130				
Manganese	3.90	0.0010	0.05	3.978		70	130				A
Molybdenum	0.0665	0.0010	0.05	0.0167	100	70	130				
Nickel	0.0480	0.0050	0.05	0.0003155	95	70	130				
Potassium	14.2	1.0	1	13.44		70	130				A
Selenium	0.0530	0.0010	0.05	0.0001928	106	70	130				
Silver	0.0159	0.0010	0.02	0	80	70	130				
Sodium	103	1.0	1	108.7		70	130				A
Thallium	0.0532	0.00050	0.05	0	106	70	130				
Tin	0.0441	0.050	0.05	0.0002272	88	70	130				
Titanium	0.0485	0.0050	0.05	0	97	70	130				
Uranium	0.0929	0.00030	0.05	0.04307	100	70	130				
Vanadium	0.0502	0.010	0.05	0.0006615	99	70	130				
Zinc	0.141	0.010	0.05	0.09492	93	70	130				

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Run ID :Run Order: ICPMS205-H_230824B: 122	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080754-013BMSD				Method: E200.8		
Analysis Date: 08/24/23 23:43	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>25</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0561	0.030	0.05	0	112	70	130	0.05085	9.9	20	
Antimony	0.0503	0.0010	0.05	0.0001784	100	70	130	0.05032	0	20	
Arsenic	0.248	0.0010	0.05	0.2116		70	130	0.2501	1.0	20	A
Barium	0.130	0.050	0.05	0.07814	103	70	130	0.1281	1.3	20	
Beryllium	0.0520	0.0010	0.05	0	104	70	130	0.05152	0.9	20	
Cadmium	0.0487	0.0010	0.05	0	97	70	130	0.04906	0.8	20	
Chromium	0.0488	0.0050	0.05	0	98	70	130	0.04906	0.5	20	
Cobalt	0.0487	0.0050	0.05	0	97	70	130	0.04914	0.9	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount

### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187581

Date: 08-Dec-23

Run ID :Run Order: ICPMS205-H_230824B: 122	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080754-013BMSD				Method: E200.8		
Analysis Date: 08/24/23 23:43	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.0470	0.0050	0.05	0	94	70	130	0.0477	1.5	20	
Iron	12.3	0.020	0.15	12.55		70	130	12.34	0.7	20	A
Lead	0.0518	0.0010	0.05	0	104	70	130	0.05182	0.1	20	
Lithium	0.160	0.10	0.05	0.1104	100	70	130	0.1605	0.0	20	
Manganese	3.86	0.0010	0.05	3.978		70	130	3.9	0.9	20	A
Molybdenum	0.0672	0.0010	0.05	0.0167	101	70	130	0.06647	1.1	20	
Nickel	0.0473	0.0050	0.05	0.0003155	94	70	130	0.04805	1.5	20	
Potassium	14.1	1.0	1	13.44		70	130	14.22	0.7	20	A
Selenium	0.0528	0.0010	0.05	0.0001928	105	70	130	0.05298	0.4	20	
Silver	0.0157	0.0010	0.02	0	78	70	130	0.01591	1.4	20	
Sodium	104	1.0	1	108.7		70	130	103	0.9	20	A
Thallium	0.0528	0.00050	0.05	0	106	70	130	0.05323	0.8	20	
Tin	0.0458	0.050	0.05	0.0002272	91	70	130	0.04411		20	
Titanium	0.0507	0.0050	0.05	0	101	70	130	0.04853	4.4	20	
Uranium	0.0929	0.00030	0.05	0.04307	100	70	130	0.09291	0	20	
Vanadium	0.0503	0.010	0.05	0.0006615	99	70	130	0.05023	0.1	20	
Zinc	0.140	0.010	0.05	0.09492	89	70	130	0.1414	1.3	20	

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Run ID :Run Order: ICPMS205-H_230824B: 123	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 08/24/23 23:46	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0506	0.10	0.05	0	101	90	110				
Antimony	0.0488	0.050	0.05	0	98	90	110				
Arsenic	0.0500	0.0050	0.05	0	100	90	110				
Barium	0.0496	0.10	0.05	0	99	90	110				
Beryllium	0.0500	0.0010	0.05	0	100	90	110				
Cadmium	0.0502	0.0010	0.05	0	100	90	110				
Chromium	0.0499	0.010	0.05	0	100	90	110				
Cobalt	0.0500	0.010	0.05	0	100	90	110				
Copper	0.0501	0.010	0.05	0	100	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187581

Date: 08-Dec-23

Run ID :Run Order: ICPMS205-H_230824B: 123	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 08/24/23 23:46	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.31	0.020	1.3	0	100	90	110				
Lead	0.0498	0.010	0.05	0	100	90	110				
Lithium	0.646	0.10	0.625	0	103	90	110				
Manganese	0.0504	0.010	0.05	0	101	90	110				
Molybdenum	0.0508	0.0050	0.05	0	102	90	110				
Nickel	0.0500	0.010	0.05	0	100	90	110				
Potassium	12.7	0.50	12.5	0	101	90	110				
Selenium	0.0505	0.0050	0.05	0	101	90	110				
Silver	0.0202	0.0050	0.02	0	101	90	110				
Sodium	13.0	0.50	12.5	0	104	90	110				
Thallium	0.0496	0.10	0.05	0	99	90	110				
Tin	0.0505	0.10	0.05	0	101	90	110				
Titanium	0.0500	0.010	0.05	0	100	90	110				
Uranium	0.0494	0.00030	0.05	0	99	90	110				
Vanadium	0.0498	0.10	0.05	0	100	90	110				
Zinc	0.0498	0.010	0.05	0	100	90	110				

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Run ID :Run Order: ICPMS205-H_230824B: 134	SampType: Sample Matrix Spike				Lab ID: H23080754-023BMS				Method: E200.8		
Analysis Date: 08/25/23 00:20	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0470	0.030	0.05	0	94	70	130				
Antimony	0.0500	0.0010	0.05	0.0006491	99	70	130				
Arsenic	0.0523	0.0010	0.05	0.0002827	104	70	130				
Barium	0.189	0.050	0.05	0.1414	96	70	130				
Beryllium	0.0537	0.0010	0.05	0	107	70	130				
Cadmium	0.0517	0.0010	0.05	0.002567	98	70	130				
Chromium	0.0499	0.0050	0.05	0.0001249	99	70	130				
Cobalt	0.0495	0.0050	0.05	0	99	70	130				
Copper	0.0758	0.0050	0.05	0.02698	98	70	130				
Iron	0.159	0.020	0.15	0	106	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187581

Date: 08-Dec-23

Run ID :Run Order: ICPMS205-H_230824B: 134		SampType: Sample Matrix Spike			Lab ID: H23080754-023BMS				Method: E200.8		
Analysis Date: 08/25/23 00:20		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.0515	0.0010	0.05	0.0001196	103	70	130				
Lithium	0.101	0.10	0.05	0.04745	107	70	130				
Manganese	0.276	0.0010	0.05	0.2177		70	130				A
Molybdenum	0.0495	0.0010	0.05	0.00069	98	70	130				
Nickel	0.0570	0.0050	0.05	0.007669	99	70	130				
Potassium	17.2	1.0	1	16.98		70	130				A
Selenium	0.0534	0.0010	0.05	0.00008815	107	70	130				
Silver	0.0199	0.0010	0.02	0	99	70	130				
Sodium	23.5	1.0	1	23.45		70	130				A
Thallium	0.0511	0.00050	0.05	0	102	70	130				
Tin	0.0425	0.050	0.05	0	85	70	130				
Titanium	0.0490	0.0050	0.05	0	98	70	130				
Uranium	0.0525	0.00030	0.05	0.001346	102	70	130				
Vanadium	0.0502	0.010	0.05	0	100	70	130				
Zinc	1.30	0.010	0.05	1.264		70	130				A

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Run ID :Run Order: ICPMS205-H_230824B: 135		SampType: Sample Matrix Spike Duplicate			Lab ID: H23080754-023BMSD				Method: E200.8		
Analysis Date: 08/25/23 00:24		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0496	0.030	0.05	0	99	70	130	0.04697	5.4	20	
Antimony	0.0502	0.0010	0.05	0.0006491	99	70	130	0.04998	0.4	20	
Arsenic	0.0528	0.0010	0.05	0.0002827	105	70	130	0.05227	1.1	20	
Barium	0.193	0.050	0.05	0.1414	103	70	130	0.1892	1.9	20	
Beryllium	0.0534	0.0010	0.05	0	107	70	130	0.0537	0.6	20	
Cadmium	0.0524	0.0010	0.05	0.002567	100	70	130	0.05174	1.4	20	
Chromium	0.0492	0.0050	0.05	0.0001249	98	70	130	0.04986	1.4	20	
Cobalt	0.0491	0.0050	0.05	0	98	70	130	0.04951	0.8	20	
Copper	0.0757	0.0050	0.05	0.02698	97	70	130	0.07576	0.1	20	
Iron	0.155	0.020	0.15	0	103	70	130	0.1588	2.3	20	
Lead	0.0518	0.0010	0.05	0.0001196	103	70	130	0.05148	0.6	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187581

Date: 08-Dec-23

Run ID :Run Order: ICPMS205-H_230824B: 135	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080754-023BMSD				Method: E200.8		
Analysis Date: 08/25/23 00:24	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>25</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lithium	0.102	0.10	0.05	0.04745	109	70	130	0.1009	1.0	20	
Manganese	0.268	0.0010	0.05	0.2177		70	130	0.276	2.9	20	A
Molybdenum	0.0504	0.0010	0.05	0.00069	99	70	130	0.04951	1.8	20	
Nickel	0.0561	0.0050	0.05	0.007669	97	70	130	0.05696	1.5	20	
Potassium	17.3	1.0	1	16.98		70	130	17.25	0.5	20	A
Selenium	0.0534	0.0010	0.05	0.00008815	107	70	130	0.05345	0.2	20	
Silver	0.0200	0.0010	0.02	0	100	70	130	0.01986	0.9	20	
Sodium	23.5	1.0	1	23.45		70	130	23.47	0.3	20	A
Thallium	0.0512	0.00050	0.05	0	102	70	130	0.05114	0.1	20	
Tin	0.0438	0.050	0.05	0	88	70	130	0.0425		20	
Titanium	0.0493	0.0050	0.05	0	99	70	130	0.04905	0.5	20	
Uranium	0.0522	0.00030	0.05	0.001346	102	70	130	0.0525	0.6	20	
Vanadium	0.0498	0.010	0.05	0	100	70	130	0.05016	0.8	20	
Zinc	1.30	0.010	0.05	1.264		70	130	1.3	0.2	20	A

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187633

Date: 08-Dec-23

Run ID :Run Order: <b>SEAL AA500_230828B: 12</b>	SampType: <b>Method Blank</b>				Lab ID: <b>ICB</b>				Method: <b>E353.2</b>		
Analysis Date: <b>08/28/23 18:03</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.01									

Associated samples: H23080754-001C, H23080754-002C, H23080754-004C, H23080754-005C, H23080754-006C, H23080754-007C, H23080754-008C, H23080754-009C, H23080754-010C, H23080754-011C, H23080754-012C, H23080754-013C, H23080754-014C, H23080754-015C, H23080754-016C, H23080754-017C, H23080754-018C, H23080754-019C, H23080754-020C, H23080754-021C, H23080754-022C, H23080754-023C

Run ID :Run Order: <b>SEAL AA500_230828B: 14</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>				Method: <b>E353.2</b>		
Analysis Date: <b>08/28/23 18:05</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.01	0.010	1	0	101	90	110				

Associated samples: H23080754-001C, H23080754-002C, H23080754-004C, H23080754-005C, H23080754-006C, H23080754-007C, H23080754-008C, H23080754-009C, H23080754-010C, H23080754-011C, H23080754-012C, H23080754-013C, H23080754-014C, H23080754-015C, H23080754-016C, H23080754-017C, H23080754-018C, H23080754-019C, H23080754-020C, H23080754-021C, H23080754-022C, H23080754-023C

Run ID :Run Order: <b>SEAL AA500_230828B: 15</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>				Method: <b>E353.2</b>		
Analysis Date: <b>08/28/23 18:06</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.998	0.011	1	0	100	90	110				

Associated samples: H23080754-001C, H23080754-002C, H23080754-004C, H23080754-005C, H23080754-006C, H23080754-007C, H23080754-008C, H23080754-009C, H23080754-010C, H23080754-011C, H23080754-012C, H23080754-013C, H23080754-014C, H23080754-015C, H23080754-016C, H23080754-017C, H23080754-018C, H23080754-019C, H23080754-020C, H23080754-021C, H23080754-022C, H23080754-023C

Run ID :Run Order: <b>SEAL AA500_230828B: 28</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>E353.2</b>		
Analysis Date: <b>08/28/23 18:19</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.995	0.010	1	0	99	90	110				

Associated samples: H23080754-001C, H23080754-002C, H23080754-004C, H23080754-005C, H23080754-006C, H23080754-007C, H23080754-008C, H23080754-009C, H23080754-010C, H23080754-011C, H23080754-012C, H23080754-013C, H23080754-014C, H23080754-015C, H23080754-016C, H23080754-017C, H23080754-018C, H23080754-019C, H23080754-020C, H23080754-021C, H23080754-022C, H23080754-023C

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
 Page 120 of 145



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187633

Date: 08-Dec-23

Run ID :Run Order: <b>SEAL AA500_230828B: 32</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23080636-002BMS</b>				Method: <b>E353.2</b>		
Analysis Date: <b>08/28/23 18:25</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.946	0.011	1	0	<b>95</b>	90	110				

Associated samples: H23080754-001C, H23080754-002C, H23080754-004C, H23080754-005C, H23080754-006C, H23080754-007C, H23080754-008C, H23080754-009C, H23080754-010C, H23080754-011C, H23080754-012C, H23080754-013C, H23080754-014C, H23080754-015C, H23080754-016C, H23080754-017C, H23080754-018C, H23080754-019C, H23080754-020C, H23080754-021C, H23080754-022C, H23080754-023C

Run ID :Run Order: <b>SEAL AA500_230828B: 33</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23080636-002BMSD</b>				Method: <b>E353.2</b>		
Analysis Date: <b>08/28/23 18:26</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.960	0.011	1	0	<b>96</b>	90	110	0.9459	<b>1.4</b>	10	

Associated samples: H23080754-001C, H23080754-002C, H23080754-004C, H23080754-005C, H23080754-006C, H23080754-007C, H23080754-008C, H23080754-009C, H23080754-010C, H23080754-011C, H23080754-012C, H23080754-013C, H23080754-014C, H23080754-015C, H23080754-016C, H23080754-017C, H23080754-018C, H23080754-019C, H23080754-020C, H23080754-021C, H23080754-022C, H23080754-023C

Run ID :Run Order: <b>SEAL AA500_230828B: 43</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>E353.2</b>		
Analysis Date: <b>08/28/23 18:36</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.997	0.010	1	0	<b>100</b>	90	110				

Associated samples: H23080754-001C, H23080754-002C, H23080754-004C, H23080754-005C, H23080754-006C, H23080754-007C, H23080754-008C, H23080754-009C, H23080754-010C, H23080754-011C, H23080754-012C, H23080754-013C, H23080754-014C, H23080754-015C, H23080754-016C, H23080754-017C, H23080754-018C, H23080754-019C, H23080754-020C, H23080754-021C, H23080754-022C, H23080754-023C

Run ID :Run Order: <b>SEAL AA500_230828B: 46</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23080754-006CMS</b>				Method: <b>E353.2</b>		
Analysis Date: <b>08/28/23 18:39</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.986	0.011	1	0	<b>99</b>	90	110				

Associated samples: H23080754-001C, H23080754-002C, H23080754-004C, H23080754-005C, H23080754-006C, H23080754-007C, H23080754-008C, H23080754-009C, H23080754-010C, H23080754-011C, H23080754-012C, H23080754-013C, H23080754-014C, H23080754-015C, H23080754-016C, H23080754-017C, H23080754-018C, H23080754-019C, H23080754-020C, H23080754-021C, H23080754-022C, H23080754-023C

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187633

Date: 08-Dec-23

Run ID :Run Order: <b>SEAL AA500_230828B: 47</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23080754-006CMSD</b>				Method: <b>E353.2</b>		
Analysis Date: <b>08/28/23 18:40</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.984	0.011	1	0	<b>98</b>	90	110	0.9861	<b>0.2</b>	10	
Associated samples: <b>H23080754-001C, H23080754-002C, H23080754-004C, H23080754-005C, H23080754-006C, H23080754-007C, H23080754-008C, H23080754-009C, H23080754-010C, H23080754-011C, H23080754-012C, H23080754-013C, H23080754-014C, H23080754-015C, H23080754-016C, H23080754-017C, H23080754-018C, H23080754-019C, H23080754-020C, H23080754-021C, H23080754-022C, H23080754-023C</b>											

Run ID :Run Order: <b>SEAL AA500_230828B: 57</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>E353.2</b>		
Analysis Date: <b>08/28/23 18:50</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.993	0.010	1	0	<b>99</b>	90	110				
Associated samples: <b>H23080754-001C, H23080754-002C, H23080754-004C, H23080754-005C, H23080754-006C, H23080754-007C, H23080754-008C, H23080754-009C, H23080754-010C, H23080754-011C, H23080754-012C, H23080754-013C, H23080754-014C, H23080754-015C, H23080754-016C, H23080754-017C, H23080754-018C, H23080754-019C, H23080754-020C, H23080754-021C, H23080754-022C, H23080754-023C</b>											

Run ID :Run Order: <b>SEAL AA500_230828B: 60</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23080754-016CMS</b>				Method: <b>E353.2</b>		
Analysis Date: <b>08/28/23 18:53</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.935	0.011	1	0	<b>94</b>	90	110				
Associated samples: <b>H23080754-001C, H23080754-002C, H23080754-004C, H23080754-005C, H23080754-006C, H23080754-007C, H23080754-008C, H23080754-009C, H23080754-010C, H23080754-011C, H23080754-012C, H23080754-013C, H23080754-014C, H23080754-015C, H23080754-016C, H23080754-017C, H23080754-018C, H23080754-019C, H23080754-020C, H23080754-021C, H23080754-022C, H23080754-023C</b>											

Run ID :Run Order: <b>SEAL AA500_230828B: 61</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23080754-016CMSD</b>				Method: <b>E353.2</b>		
Analysis Date: <b>08/28/23 18:54</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.924	0.011	1	0	<b>92</b>	90	110	0.9353	<b>1.2</b>	10	
Associated samples: <b>H23080754-001C, H23080754-002C, H23080754-004C, H23080754-005C, H23080754-006C, H23080754-007C, H23080754-008C, H23080754-009C, H23080754-010C, H23080754-011C, H23080754-012C, H23080754-013C, H23080754-014C, H23080754-015C, H23080754-016C, H23080754-017C, H23080754-018C, H23080754-019C, H23080754-020C, H23080754-021C, H23080754-022C, H23080754-023C</b>											

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080754

**BatchID:** R187693

**Date:** 08-Dec-23

Run ID :Run Order: ICPMS206-H_230827C: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 08/27/23 16:51	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0594	0.010	0.06	0	99	90	110				
Gallium	0.0606	0.010	0.06	0	101	90	110				
Lanthanum	0.0590	0.010	0.06	0	98	90	110				
Neodymium	0.0604	0.0050	0.06	0	101	90	110				
Palladium	0.0597	0.010	0.06	0	100	90	110				
Rubidium	0.0604	0.010	0.06	0	101	90	110				
Tungsten	0.0586	0.10	0.06	0	98	90	110				
Zirconium	0.0623	0.0050	0.06	0	104	90	110				

Associated samples: H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-017B, H23080754-018B, H23080754-020B, H23080754-021B, H23080754-023B

Run ID :Run Order: ICPMS206-H_230827C: 20	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 08/27/23 17:08	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0526	0.010	0.05	0	105	90	110				
Gallium	0.0517	0.010	0.05	0	103	90	110				
Lanthanum	0.0509	0.010	0.05	0	102	90	110				
Neodymium	0.0519	0.0050	0.05	0	104	90	110				
Palladium	0.0511	0.010	0.05	0	102	90	110				
Rubidium	0.0517	0.010	0.05	0	103	90	110				
Tungsten	0.0510	0.10	0.05	0	102	90	110				
Zirconium	0.0508	0.0050	0.05	0	102	90	110				

Associated samples: H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-017B, H23080754-018B, H23080754-020B, H23080754-021B, H23080754-023B

Run ID :Run Order: ICPMS206-H_230827C: 22	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 08/27/23 17:12	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	ND	0.0003									
Gallium	ND	0.00004									
Lanthanum	ND	0.00004									
Neodymium	ND	0.00004									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187693

Date: 08-Dec-23

Run ID :Run Order: ICPMS206-H_230827C: 22	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 08/27/23 17:12	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Palladium	ND	0.00004									
Rubidium	ND	0.00003									
Tungsten	ND	0.00003									
Zirconium	ND	0.00006									

Associated samples: H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-017B, H23080754-018B, H23080754-020B, H23080754-021B, H23080754-023B

Run ID :Run Order: ICPMS206-H_230827C: 23	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.8		
Analysis Date: 08/27/23 17:14	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0483	0.010	0.05	0	97	85	115				
Gallium	0.0483	0.010	0.05	0	97	85	115				
Lanthanum	0.0492	0.010	0.05	0	98	85	115				
Neodymium	0.0487	0.0050	0.05	0	97	85	115				
Palladium	0.0488	0.010	0.05	0	98	85	115				
Rubidium	0.0482	0.010	0.05	0	96	85	115				
Tungsten	0.0488	0.10	0.05	0	98	85	115				
Zirconium	0.0484	0.0050	0.05	0	97	85	115				

Associated samples: H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-017B, H23080754-018B, H23080754-020B, H23080754-021B, H23080754-023B

Run ID :Run Order: ICPMS206-H_230827C: 38	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 08/27/23 17:55	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0519	0.010	0.05	0	104	90	110				
Gallium	0.0536	0.010	0.05	0	107	90	110				
Lanthanum	0.0522	0.010	0.05	0	104	90	110				
Neodymium	0.0532	0.0050	0.05	0	106	90	110				
Palladium	0.0503	0.010	0.05	0	101	90	110				
Rubidium	0.0542	0.010	0.05	0	108	90	110				
Tungsten	0.0510	0.10	0.05	0	102	90	110				
Zirconium	0.0538	0.0050	0.05	0	108	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187693

Date: 08-Dec-23

Run ID :Run Order: **ICPMS206-H\_230827C: 38**      SampType: **Continuing Calibration Verification Standard**      Lab ID: **CCV**      Method: **E200.8**  
 Analysis Date: **08/27/23 17:55**      Units: **mg/L**      Prep Info:      Prep Date:      Prep Method:  
 Analytes **8**      Result      PQL      SPK value      SPK Ref Val      %REC      LowLimit      HighLimit      RPD Ref Val      %RPD      RPDLimit      Qual

Associated samples: H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-017B, H23080754-018B, H23080754-020B, H23080754-021B, H23080754-023B

Run ID :Run Order: **ICPMS206-H\_230827C: 49**      SampType: **Sample Matrix Spike**      Lab ID: **H23080754-011BMS**      Method: **E200.8**  
 Analysis Date: **08/27/23 18:26**      Units: **mg/L**      Prep Info:      Prep Date:      Prep Method:  
 Analytes **8**      Result      PQL      SPK value      SPK Ref Val      %REC      LowLimit      HighLimit      RPD Ref Val      %RPD      RPDLimit      Qual

Cesium	0.0525	0.010	0.05	0	105	70	130				
Gallium	0.0508	0.010	0.05	0	102	70	130				
Lanthanum	0.0540	0.010	0.05	0.00004227	108	70	130				
Neodymium	0.0524	0.0050	0.05	0	105	70	130				
Palladium	0.0489	0.010	0.05	0.00004949	98	70	130				
Rubidium	0.0524	0.010	0.05	0.001289	102	70	130				
Tungsten	0.0522	0.10	0.05	0.0006724	103	70	130				
Zirconium	0.0474	0.0050	0.05	0	95	70	130				

Associated samples: H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-017B, H23080754-018B, H23080754-020B, H23080754-021B, H23080754-023B

Run ID :Run Order: **ICPMS206-H\_230827C: 50**      SampType: **Sample Matrix Spike Duplicate**      Lab ID: **H23080754-011BMSD**      Method: **E200.8**  
 Analysis Date: **08/27/23 18:29**      Units: **mg/L**      Prep Info:      Prep Date:      Prep Method:  
 Analytes **8**      Result      PQL      SPK value      SPK Ref Val      %REC      LowLimit      HighLimit      RPD Ref Val      %RPD      RPDLimit      Qual

Cesium	0.0529	0.010	0.05	0	106	70	130	0.05254	0.8	20	
Gallium	0.0517	0.010	0.05	0	103	70	130	0.0508	1.8	20	
Lanthanum	0.0524	0.010	0.05	0.00004227	105	70	130	0.05402	3.0	20	
Neodymium	0.0530	0.0050	0.05	0	106	70	130	0.05239	1.2	20	
Palladium	0.0497	0.010	0.05	0.00004949	99	70	130	0.04887	1.7	20	
Rubidium	0.0533	0.010	0.05	0.001289	104	70	130	0.05242	1.7	20	
Tungsten	0.0528	0.10	0.05	0.0006724	104	70	130	0.05218		20	
Zirconium	0.0484	0.0050	0.05	0	97	70	130	0.04735	2.2	20	

Associated samples: H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-017B, H23080754-018B, H23080754-020B, H23080754-021B, H23080754-023B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187693

Date: 08-Dec-23

Run ID :Run Order: ICPMS206-H_230827C: 51		SampType: Continuing Calibration Verification Standard				Lab ID: CCV			Method: E200.8		
Analysis Date: 08/27/23 18:32		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0537	0.010	0.05	0	107	90	110				
Gallium	0.0540	0.010	0.05	0	108	90	110				
Lanthanum	0.0546	0.010	0.05	0	109	90	110				
Neodymium	0.0539	0.0050	0.05	0	108	90	110				
Palladium	0.0518	0.010	0.05	0	104	90	110				
Rubidium	0.0542	0.010	0.05	0	108	90	110				
Tungsten	0.0528	0.10	0.05	0	106	90	110				
Zirconium	0.0540	0.0050	0.05	0	108	90	110				

Associated samples: H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-017B, H23080754-018B, H23080754-020B, H23080754-021B, H23080754-023B

Run ID :Run Order: ICPMS206-H_230827C: 63		SampType: Sample Matrix Spike				Lab ID: H23080754-021BMS			Method: E200.8		
Analysis Date: 08/27/23 19:06		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0507	0.010	0.05	0	101	70	130				
Gallium	0.0503	0.010	0.05	0	101	70	130				
Lanthanum	0.0530	0.010	0.05	0	106	70	130				
Neodymium	0.0525	0.0050	0.05	0	105	70	130				
Palladium	0.0475	0.010	0.05	0.0004915	94	70	130				
Rubidium	0.0648	0.010	0.05	0.01393	102	70	130				
Tungsten	0.0519	0.10	0.05	0.00003947	104	70	130				
Zirconium	0.0488	0.0050	0.05	0	97	70	130				

Associated samples: H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-017B, H23080754-018B, H23080754-020B, H23080754-021B, H23080754-023B

Run ID :Run Order: ICPMS206-H_230827C: 64		SampType: Sample Matrix Spike Duplicate				Lab ID: H23080754-021BMSD			Method: E200.8		
Analysis Date: 08/27/23 19:09		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0553	0.010	0.05	0	111	70	130	0.05072	8.7	20	
Gallium	0.0527	0.010	0.05	0	105	70	130	0.05026	4.8	20	
Lanthanum	0.0559	0.010	0.05	0	112	70	130	0.05297	5.3	20	
Neodymium	0.0560	0.0050	0.05	0	112	70	130	0.05252	6.4	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187693

Date: 08-Dec-23

Run ID :Run Order: ICPMS206-H_230827C: 64	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080754-021BMSD				Method: E200.8		
Analysis Date: 08/27/23 19:09	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>8</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Palladium	0.0506	0.010	0.05	0.0004915	100	70	130	0.04753	6.3	20	
Rubidium	0.0676	0.010	0.05	0.01393	107	70	130	0.06484	4.1	20	
Tungsten	0.0540	0.10	0.05	0.00003947	108	70	130	0.05192		20	
Zirconium	0.0514	0.0050	0.05	0	103	70	130	0.04875	5.2	20	

Associated samples: H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-017B, H23080754-018B, H23080754-020B, H23080754-021B, H23080754-023B



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080754

**BatchID:** R187694

**Date:** 08-Dec-23

Run ID :Run Order: <b>ICPMS206-H_230829A: 12</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>08/29/23 12:31</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0313	0.0010	0.03	0	<b>104</b>	90	110				
Copper	0.0613	0.010	0.06	0	<b>102</b>	90	110				
Manganese	0.304	0.010	0.3	0	<b>101</b>	90	110				
Thorium	0.0621	0.0010	0.06	0	<b>104</b>	90	110				

Associated samples: **H23080754-004B, H23080754-012B**

Run ID :Run Order: <b>ICPMS206-H_230829A: 23</b>	SampType: <b>Method Blank</b>				Lab ID: <b>LRB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>08/29/23 14:20</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	ND	0.00003									
Copper	0.0001	0.00004									
Manganese	ND	0.00005									
Thorium	ND	4E-06									

Associated samples: **H23080754-004B, H23080754-012B**

Run ID :Run Order: <b>ICPMS206-H_230829A: 24</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>08/29/23 14:23</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0491	0.0010	0.05	0	<b>98</b>	85	115				
Copper	0.0486	0.010	0.05	0	<b>97</b>	85	115				
Manganese	0.0484	0.010	0.05	0	<b>97</b>	85	115				
Thorium	0.0462	0.0010	0.05	0	<b>92</b>	85	115				

Associated samples: **H23080754-004B, H23080754-012B**

Run ID :Run Order: <b>ICPMS206-H_230829A: 45</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>08/29/23 17:44</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0534	0.0010	0.05	0	<b>107</b>	90	110				
Copper	0.0496	0.010	0.05	0	<b>99</b>	90	110				
Manganese	0.0500	0.010	0.05	0	<b>100</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187694

Date: 08-Dec-23

Run ID :Run Order: ICPMS206-H_230829A: 45	SampType: Continuing Calibration Verification Standard				Lab ID: CCV	Method: E200.8					
Analysis Date: 08/29/23 17:44	Units: mg/L				Prep Info:	Prep Date:			Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0500	0.0010	0.05	0	100	90	110				

Associated samples: H23080754-004B, H23080754-012B

Run ID :Run Order: ICPMS206-H_230829A: 53	SampType: Sample Matrix Spike				Lab ID: H23080811-008BMS	Method: E200.8					
Analysis Date: 08/29/23 18:13	Units: mg/L				Prep Info:	Prep Date:			Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0517	0.0010	0.05	0	103	70	130				
Copper	0.203	0.0050	0.05	0.1671	72	70	130				
Manganese	0.0492	0.0010	0.05	0.00279	93	70	130				
Thorium	0.0499	0.0050	0.05	0.000004668	100	70	130				

Associated samples: H23080754-004B, H23080754-012B

Run ID :Run Order: ICPMS206-H_230829A: 54	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080811-008BMSD	Method: E200.8					
Analysis Date: 08/29/23 18:17	Units: mg/L				Prep Info:	Prep Date:			Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0526	0.0010	0.05	0	105	70	130	0.05167	1.9	20	
Copper	0.209	0.0050	0.05	0.1671	83	70	130	0.2031	2.7	20	
Manganese	0.0505	0.0010	0.05	0.00279	95	70	130	0.04918	2.7	20	
Thorium	0.0527	0.0050	0.05	0.000004668	105	70	130	0.04989	5.5	20	

Associated samples: H23080754-004B, H23080754-012B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187731

Date: 08-Dec-23

Run ID :Run Order: <b>IC METROHM_230830A: 2</b>	SampType: <b>Method Blank</b>				Lab ID: <b>ICB</b>				Method: <b>E300.0</b>		
Analysis Date: <b>08/30/23 12:04</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.02									
Sulfate	ND	0.03									

Associated samples: H23080754-012A

Run ID :Run Order: <b>IC METROHM_230830A: 3</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>				Method: <b>E300.0</b>		
Analysis Date: <b>08/30/23 12:18</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	100	1.0	100	0	<b>100</b>	90	110				
Sulfate	384	1.0	400	0	<b>96</b>	90	110				

Associated samples: H23080754-012A

Run ID :Run Order: <b>IC METROHM_230830A: 4</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>				Method: <b>E300.0</b>		
Analysis Date: <b>08/30/23 12:32</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	24.6	1.0	25	0	<b>98</b>	90	110				
Sulfate	99.1	1.0	100	0	<b>99</b>	90	110				

Associated samples: H23080754-012A

Run ID :Run Order: <b>IC METROHM_230830A: 6</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>E300.0</b>		
Analysis Date: <b>08/30/23 13:01</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	50.6	1.0	50	0	<b>101</b>	90	110				
Sulfate	199	1.0	200	0	<b>100</b>	90	110				

Associated samples: H23080754-012A

Run ID :Run Order: <b>IC METROHM_230830A: 11</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23080941-001AMS</b>				Method: <b>E300.0</b>		
Analysis Date: <b>08/30/23 14:27</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	38.0	1.0	25	11.73	<b>105</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187731

Date: 08-Dec-23

Run ID :Run Order: <b>IC METROHM_230830A: 11</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23080941-001AMS</b>				Method: <b>E300.0</b>		
Analysis Date: <b>08/30/23 14:27</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	134	1.0	100	32.76	<b>101</b>	90	110				

Associated samples: **H23080754-012A**

Run ID :Run Order: <b>IC METROHM_230830A: 12</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23080941-001AMSD</b>				Method: <b>E300.0</b>		
Analysis Date: <b>08/30/23 14:41</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	37.7	1.0	25	11.73	<b>104</b>	90	110	37.98	<b>0.9</b>	20	
Sulfate	134	1.0	100	32.76	<b>101</b>	90	110	133.7	<b>0.1</b>	20	

Associated samples: **H23080754-012A**





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187736

Date: 08-Dec-23

Run ID :Run Order: ICPMS206-H_230830B: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 08/30/23 12:46	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0612	0.010	0.06	0	102	90	110				
Gallium	0.0608	0.010	0.06	0	101	90	110				
Lanthanum	0.0625	0.010	0.06	0	104	90	110				
Neodymium	0.0623	0.0050	0.06	0	104	90	110				
Niobium	0.0607	0.0010	0.06	0	101	90	110				
Palladium	0.0619	0.010	0.06	0	103	90	110				
Praseodymium	0.0618	0.0010	0.06	0	103	90	110				
Rubidium	0.0602	0.010	0.06	0	100	90	110				
Tungsten	0.0588	0.10	0.06	0	98	90	110				
Zirconium	0.0644	0.0050	0.06	0	107	90	110				

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Run ID :Run Order: ICPMS206-H_230830B: 20	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 08/30/23 13:34	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0532	0.010	0.05	0	106	90	110				
Gallium	0.0528	0.010	0.05	0	106	90	110				
Lanthanum	0.0552	0.010	0.05	0	110	90	110				
Neodymium	0.0528	0.0050	0.05	0	106	90	110				
Niobium	0.0550	0.0010	0.05	0	110	90	110				
Palladium	0.0530	0.010	0.05	0	106	90	110				
Praseodymium	0.0533	0.0010	0.05	0	107	90	110				
Rubidium	0.0522	0.010	0.05	0	104	90	110				
Tungsten	0.0532	0.10	0.05	0	106	90	110				
Zirconium	0.0545	0.0050	0.05	0	109	90	110				

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187736

Date: 08-Dec-23

Run ID :Run Order: ICPMS206-H_230830B: 22	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 08/30/23 13:39	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	ND	0.0003									
Gallium	ND	0.00004									
Lanthanum	ND	0.00004									
Neodymium	ND	0.00004									
Niobium	0.00009	0.00004									
Palladium	ND	0.00004									
Praseodymium	ND	0.00005									
Rubidium	ND	0.00003									
Tungsten	ND	0.00003									
Zirconium	ND	0.00006									

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Run ID :Run Order: ICPMS206-H_230830B: 23	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.8		
Analysis Date: 08/30/23 13:41	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0515	0.010	0.05	0	103	85	115				
Gallium	0.0499	0.010	0.05	0	100	85	115				
Lanthanum	0.0500	0.010	0.05	0	100	85	115				
Neodymium	0.0505	0.0050	0.05	0	101	85	115				
Niobium	0.0526	0.0010	0.05	0	105	85	115				
Palladium	0.0503	0.010	0.05	0	101	85	115				
Praseodymium	0.0512	0.0010	0.05	0	102	85	115				
Rubidium	0.0494	0.010	0.05	0	99	85	115				
Tungsten	0.0516	0.10	0.05	0	103	85	115				
Zirconium	0.0526	0.0050	0.05	0	105	85	115				

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187736

Date: 08-Dec-23

Run ID :Run Order: ICPMS206-H_230830B: 35		SampType: Sample Matrix Spike			Lab ID: H23080754-001BMS				Method: E200.8		
Analysis Date: 08/30/23 14:06		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.273	0.010	0.25	0	109	70	130				
Gallium	0.260	0.010	0.25	0.0002198	104	70	130				
Lanthanum	0.275	0.010	0.25	0.000517	110	70	130				
Neodymium	0.270	0.0050	0.25	0	108	70	130				
Niobium	0.290	0.0010	0.25	0.0003255	116	70	130				
Palladium	0.254	0.010	0.25	0.001073	101	70	130				
Praseodymium	0.265	0.0010	0.25	0	106	70	130				
Rubidium	0.273	0.010	0.25	0.01248	104	70	130				
Tungsten	0.267	0.10	0.25	0.0002778	107	70	130				
Zirconium	0.276	0.0050	0.25	0	111	70	130				

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Run ID :Run Order: ICPMS206-H_230830B: 36		SampType: Sample Matrix Spike Duplicate			Lab ID: H23080754-001BMSD				Method: E200.8		
Analysis Date: 08/30/23 14:08		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.268	0.010	0.25	0	107	70	130	0.2732	2.1	20	
Gallium	0.259	0.010	0.25	0.0002198	104	70	130	0.2595	0.1	20	
Lanthanum	0.269	0.010	0.25	0.000517	107	70	130	0.2746	2.1	20	
Neodymium	0.269	0.0050	0.25	0	108	70	130	0.2702	0.4	20	
Niobium	0.285	0.0010	0.25	0.0003255	114	70	130	0.29			
Palladium	0.250	0.010	0.25	0.001073	100	70	130	0.2538	1.3	20	
Praseodymium	0.262	0.0010	0.25	0	105	70	130	0.2646			
Rubidium	0.274	0.010	0.25	0.01248	105	70	130	0.2734	0.2	20	
Tungsten	0.273	0.10	0.25	0.0002778	109	70	130	0.2672	2.3	20	
Zirconium	0.276	0.0050	0.25	0	110	70	130	0.2765	0.1	20	

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187736

Date: 08-Dec-23

Run ID :Run Order: ICPMS206-H_230830B: 39	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 08/30/23 14:20	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0523	0.010	0.05	0	105	90	110				
Gallium	0.0520	0.010	0.05	0	104	90	110				
Lanthanum	0.0507	0.010	0.05	0	101	90	110				
Neodymium	0.0520	0.0050	0.05	0	104	90	110				
Niobium	0.0540	0.0010	0.05	0	108	90	110				
Palladium	0.0506	0.010	0.05	0	101	90	110				
Praseodymium	0.0515	0.0010	0.05	0	103	90	110				
Rubidium	0.0519	0.010	0.05	0	104	90	110				
Tungsten	0.0534	0.10	0.05	0	107	90	110				
Zirconium	0.0535	0.0050	0.05	0	107	90	110				

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Run ID :Run Order: ICPMS206-H_230830B: 59	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 08/30/23 15:31	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0604	0.010	0.06	0	101	90	110				
Gallium	0.0616	0.010	0.06	0	103	90	110				
Lanthanum	0.0606	0.010	0.06	0	101	90	110				
Neodymium	0.0602	0.0050	0.06	0	100	90	110				
Niobium	0.0603	0.0010	0.06	0	101	90	110				
Palladium	0.0599	0.010	0.06	0	100	90	110				
Praseodymium	0.0619	0.0010	0.06	0	103	90	110				
Rubidium	0.0603	0.010	0.06	0	101	90	110				
Tungsten	0.0592	0.10	0.06	0	99	90	110				
Zirconium	0.0633	0.0050	0.06	0	106	90	110				

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187736

Date: 08-Dec-23

Run ID :Run Order: ICPMS206-H_230830B: 64		SampType: Continuing Calibration Verification Standard				Lab ID: CCV			Method: E200.8		
Analysis Date: 08/30/23 15:42		Units: mg/L				Prep Info: Prep Date:			Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0485	0.010	0.05	0	97	90	110				
Gallium	0.0505	0.010	0.05	0	101	90	110				
Lanthanum	0.0499	0.010	0.05	0	100	90	110				
Neodymium	0.0493	0.0050	0.05	0	99	90	110				
Niobium	0.0502	0.0010	0.05	0	100	90	110				
Palladium	0.0493	0.010	0.05	0	99	90	110				
Praseodymium	0.0512	0.0010	0.05	0	102	90	110				
Rubidium	0.0495	0.010	0.05	0	99	90	110				
Tungsten	0.0507	0.10	0.05	0	101	90	110				
Zirconium	0.0477	0.0050	0.05	0	95	90	110				

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Run ID :Run Order: ICPMS206-H_230830B: 77		SampType: Sample Matrix Spike				Lab ID: H23080754-012BMS			Method: E200.8		
Analysis Date: 08/30/23 16:20		Units: mg/L				Prep Info: Prep Date:			Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.232	0.010	0.25	0	93	70	130				
Gallium	0.230	0.010	0.25	0.001625	92	70	130				
Lanthanum	0.368	0.010	0.25	0.1248	97	70	130				
Neodymium	0.302	0.0050	0.25	0.06385	95	70	130				
Niobium	0.235	0.0010	0.25	0.00025	94	70	130				
Palladium	0.228	0.010	0.25	0.00216	90	70	130				
Praseodymium	0.265	0.0010	0.25	0.02004	98	70	130				
Rubidium	0.245	0.010	0.25	0.01584	92	70	130				
Tungsten	0.242	0.10	0.25	0.0002	97	70	130				
Zirconium	0.236	0.0050	0.25	0	94	70	130				

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187736

Date: 08-Dec-23

Run ID :Run Order: ICPMS206-H_230830B: 78		SampType: Sample Matrix Spike Duplicate			Lab ID: H23080754-012BMSD				Method: E200.8		
Analysis Date: 08/30/23 16:22		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.237	0.010	0.25	0	95	70	130	0.2325	2.0	20	
Gallium	0.235	0.010	0.25	0.001625	93	70	130	0.2305	1.8	20	
Lanthanum	0.365	0.010	0.25	0.1248	96	70	130	0.368	0.9	20	
Neodymium	0.303	0.0050	0.25	0.06385	96	70	130	0.3016	0.4	20	
Niobium	0.241	0.0010	0.25	0.00025	96	70	130	0.235			
Palladium	0.228	0.010	0.25	0.00216	90	70	130	0.228	0.1	20	
Praseodymium	0.265	0.0010	0.25	0.02004	98	70	130	0.2654			
Rubidium	0.249	0.010	0.25	0.01584	93	70	130	0.2452	1.4	20	
Tungsten	0.248	0.10	0.25	0.0002	99	70	130	0.242	2.3	20	
Zirconium	0.241	0.0050	0.25	0	97	70	130	0.2361	2.2	20	

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Run ID :Run Order: ICPMS206-H_230830B: 79		SampType: Continuing Calibration Verification Standard			Lab ID: CCV				Method: E200.8		
Analysis Date: 08/30/23 16:24		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0487	0.010	0.05	0	97	90	110				
Gallium	0.0503	0.010	0.05	0	101	90	110				
Lanthanum	0.0502	0.010	0.05	0	100	90	110				
Neodymium	0.0500	0.0050	0.05	0	100	90	110				
Niobium	0.0508	0.0010	0.05	0	102	90	110				
Palladium	0.0490	0.010	0.05	0	98	90	110				
Praseodymium	0.0513	0.0010	0.05	0	103	90	110				
Rubidium	0.0497	0.010	0.05	0	99	90	110				
Tungsten	0.0506	0.10	0.05	0	101	90	110				
Zirconium	0.0473	0.0050	0.05	0	95	90	110				

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187736

Date: 08-Dec-23

Run ID :Run Order: ICPMS206-H_230830B: 226	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.8		
Analysis Date: 08/30/23 13:41	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0487	0.0010	0.05	0	97	85	115				
Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B											

Run ID :Run Order: ICPMS206-H_230830B: 238	SampType: Sample Matrix Spike				Lab ID: H23080754-001BMS				Method: E200.8		
Analysis Date: 08/30/23 14:06	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.253	0.0050	0.25	0	101	70	130				
Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B											

Run ID :Run Order: ICPMS206-H_230830B: 239	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080754-001BMSD				Method: E200.8		
Analysis Date: 08/30/23 14:08	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.263	0.0050	0.25	0	105	70	130	0.253	4.0	20	
Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B											

Run ID :Run Order: ICPMS206-H_230830B: 253	SampType: Sample Matrix Spike				Lab ID: H23080754-012BMS				Method: E200.8		
Analysis Date: 08/30/23 15:00	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.264	0.0050	0.25	0	106	70	130				
Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B											

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: R187736

Date: 08-Dec-23

Run ID :Run Order: ICPMS206-H_230830B: 254	SampType: Sample Matrix Spike Duplicate	Lab ID: H23080754-012BMSD	Method: E200.8								
Analysis Date: 08/30/23 15:02	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.256	0.0050	0.25	0	102	70	130	0.264	3.2	20	

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Run ID :Run Order: ICPMS206-H_230830B: 280	SampType: Sample Matrix Spike	Lab ID: H23080754-012BMS	Method: E200.8								
Analysis Date: 08/30/23 16:20	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.234	0.0050	0.25	0	94	70	130				

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Run ID :Run Order: ICPMS206-H_230830B: 281	SampType: Sample Matrix Spike Duplicate	Lab ID: H23080754-012BMSD	Method: E200.8								
Analysis Date: 08/30/23 16:22	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.242	0.0050	0.25	0	97	70	130	0.2338	3.3	20	

Associated samples: H23080754-001B, H23080754-002B, H23080754-004B, H23080754-005B, H23080754-006B, H23080754-007B, H23080754-008B, H23080754-009B, H23080754-010B, H23080754-011B, H23080754-012B, H23080754-013B, H23080754-014B, H23080754-015B, H23080754-016B, H23080754-017B, H23080754-018B, H23080754-019B, H23080754-020B, H23080754-021B, H23080754-022B, H23080754-023B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080754

BatchID: TDS230818A

Date: 08-Dec-23

Run ID :Run Order: ACCU-124 (14410200)_230818B: 1	SampType: Method Blank	Lab ID: MB-1_230818	Method: A2540 C								
Analysis Date: 08/18/23 14:45	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	ND	7									
Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-004A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A											

Run ID :Run Order: ACCU-124 (14410200)_230818B: 1	SampType: Laboratory Control Sample	Lab ID: LCS-2_230818	Method: A2540 C								
Analysis Date: 08/18/23 14:46	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	1970	50	2000	0	98	90	110				
Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-004A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A											

Run ID :Run Order: ACCU-124 (14410200)_230818B: 3	SampType: Sample Duplicate	Lab ID: H23080754-008A DUP	Method: A2540 C								
Analysis Date: 08/18/23 14:56	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	430	25		0				434	0.9	10	
Associated samples: H23080754-001A, H23080754-002A, H23080754-003A, H23080754-004A, H23080754-005A, H23080754-006A, H23080754-007A, H23080754-008A, H23080754-009A, H23080754-010A, H23080754-011A, H23080754-012A, H23080754-013A, H23080754-014A, H23080754-015A, H23080754-016A, H23080754-017A, H23080754-018A, H23080754-019A, H23080754-020A, H23080754-021A, H23080754-022A, H23080754-023A											

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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# Work Order Receipt Checklist

MT Dept of Justice

H23080754

Login completed by: Taylor K. Jones

Date Received: 8/18/2023

Reviewed by: wjohnson

Received by: RAT

Reviewed Date: 8/26/2023

Carrier name: Hand Deliver

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	5.1°C On Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

## Contact and Corrective Action Comments:

The Temperature Blank temperature for shipping container 1 was 2.2°C, shipping container 2 was 5.1°C, shipping container 3 was 0.9°C, shipping container 4 was 1.1°C, shipping container 5 was 2.4°C and shipping container 6 was 0.8°C.

The containers for DUP-3 were preserved incorrectly. Client resampled the containers for Metals and Nutrients. The sample ID on the COC is GS-29S4 and the ID on the container is GS-29SR. Used ID per the COC.



## Work Order Receipt Checklist - Continued

MT Dept of Justice

H23080754

tj 8/18/23





# Chain of Custody & Analytical Request Record

www.energylab.com

### Account Information (Billing information)

Company/Name MT DOJ / Natural Resource Damage Program		
Contact	Jim Ford	
Phone	(406) 439-2108	
Mailing Address	1720 9th Avenue	
City, State, Zip	Helena, Montana 59620-1425	
Email	jford@mt.gov	
Receive Invoice	<input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email
Purchase Order	Quote 2187	Bottle Order 44881 & 44883

### Report Information (if different than Account Information)

Company/Name Water & Environmental Technologies		
Contact	Janelle Garza	
Phone	(406) 565-4291	
Mailing Address	480 East Park Street	
City, State, Zip	Butte, Montana 59701	
Email	jgarza@waterenvtech.com	
Receive Report	<input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	
Special Report/Formats	<input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC <input checked="" type="checkbox"/> EDD/EDT (contact laboratory) <input type="checkbox"/> Other	

### Comments

Please do not use any "EB" or "FB" samples for MS/MSD.

C1 2.2  
C2 5.1  
C3 0.9  
C4 1.1  
C5 2.4  
C6 0.8

### Project Information

Project Name, PWSID, Permit, etc. NRDPM16 TO2 - Task 001	
Sampler Name Janelle Garza	Sampler Phone (406) 599-6770
Sample Origin State Montana	EPA/State Compliance <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>URANIUM MINING CLIENTS MUST indicate sample type</b> <input type="checkbox"/> Unprocessed Ore <input type="checkbox"/> Processed Ore (Ground or Refined) **CALL BEFORE SENDING <input type="checkbox"/> 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)	

### Matrix Codes

- A - Air
- W - Water
- S - Soils/ Solids
- V - Vegetation
- B - Bioassay
- O - Oil
- DW - Drinking Water

### Analysis Requested

+	+	+	+	+	+	+	+	+	+	+	+	+	+
pH & pH Meas. Temp A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353.2	Dissolved Metals E200.718	See Attached				

All turnaround times are standard unless marked as RUSH.  
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page

	Sample Identification (Name, Location, Interval, etc.)	Collection		Number of Containers	Matrix (See Codes Above)	Analysis Requested													RUSH TAT	ELI LAB ID Laboratory Use Only
		Date	Time			pH & pH Meas. Temp A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353.2	Dissolved Metals E200.718	See Attached					
C1	1 MSD-03	08/17/2023	9:53 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		H23080754		
C1	2 PMP-07A	08/17/2023	10:29 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
C1	3 DUP-3	08/17/2023	10:30 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
C2	4 EB-3	08/17/2023	10:37 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
C2	5 GS-29S4	08/17/2023	10:42 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
C2	6 FB-3	08/17/2023	10:43 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
C2	7 MF-11	08/17/2023	11:31 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
C2	8 BPS07-07B	08/17/2023	11:40 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
C6	9 PMP-11A	08/17/2023	11:45 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print) Janelle Garza	Date/Time 8-18-23 / 1200	Signature <i>JG</i>	Received by (print) Josh Malpass	Date/Time 8-18-23 / 1000	Signature <i>Malpass</i>			
	Relinquished by (print) Josh Malpass	Date/Time 8-18-23 / 1236	Signature <i>JM</i>	Received by Laboratory (print) Rebecca Toke	Date/Time 8-18-23 1238	Signature <i>Rebecca Toke</i>			
<b>LABORATORY USE ONLY</b>									
Shipped By <i>hand</i>	Cooler ID(s) 6	Custody Seals Y <input checked="" type="checkbox"/> N <input type="checkbox"/> C <input type="checkbox"/> B <input type="checkbox"/>	Intact Y <input type="checkbox"/> N <input type="checkbox"/>	Receipt Temp See Log °C	Temp Blank Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	On Ice Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Payment Type CC Cash Check	Amount \$	Receipt Number (cash/check only)

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.





Trust our People. Trust our Data.

# Chain of Custody & Analytical Request Record

www.energylab.com

### Account Information (Billing information)

Company/Name MT DOJ / Natural Resource Damage Program		
Contact Jim Ford		
Phone (406) 439-2108		
Mailing Address 1720 9th Avenue		
City, State, Zip Helena, Montana 59620-1425		
Email jford@mt.gov		
Receive Invoice <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	
Purchase Order	Quote 2187	Bottle Order 44881 & 44883

### Report Information (if different than Account Information)

Company/Name Water & Environmental Technologies		
Contact Janelle Garza		
Phone (406) 565-4291		
Mailing Address 480 East Park Street		
City, State, Zip Butte, Montana 59701		
Email jgarza@waterenvtech.com		
Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email		
Special Report/Formats		
<input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC <input checked="" type="checkbox"/> EDD/EDT (contact laboratory) <input type="checkbox"/> Other		

### Comments

Please do not use any "EB" or "FB" samples for MS/MSD.

C1 2.2  
C2 5.1  
C3 0.9  
C4 1.1  
C5 2.4  
C6 0.8

### Project Information

Project Name, PWSID, Permit, etc. NRDPM16 TO2 - Task 001	
Sampler Name Janelle Garza	Sampler Phone (406) 599-6770
Sample Origin State Montana	EPA/State Compliance <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
URANIUM MINING CLIENTS MUST indicate sample type	
<input type="checkbox"/> Unprocessed Ore	
<input type="checkbox"/> Processed Ore (Ground or Refined) **CALL BEFORE SENDING	
<input type="checkbox"/> 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)	

### Matrix Codes

- A - Air
- W - Water
- S - Soils/ Solids
- V - Vegetation
- B - Bioassay
- O - Oil
- DW - Drinking Water

### Analysis Requested

	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	pH & pH Meas. Temp A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353.2	Dissolved Metals E200.7/8	See Attached	RUSH	TAT	ELI LAB ID	Laboratory Use Only	
1 MSD-04	✓	✓	✓	✓	✓	✓	✓	✓	✓				H28080754		
2 BPS07-07	✓	✓	✓	✓	✓	✓	✓	✓	✓						
3 MSD-02B	✓	✓	✓	✓	✓	✓	✓	✓	✓						
4 BPS07-23	✓	✓	✓	✓	✓	✓	✓	✓	✓						
5 DUP-1	✓	✓	✓	✓	✓	✓	✓	✓	✓						
6 AMW-13B	✓	✓	✓	✓	✓	✓	✓	✓	✓						
7 BPS11-18B	✓	✓	✓	✓	✓	✓	✓	✓	✓						
8 AMW-13B2	✓	✓	✓	✓	✓	✓	✓	✓	✓						
9 AMW-13C	✓	✓	✓	✓	✓	✓	✓	✓	✓						

All turnaround times are standard unless marked as RUSH. Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page

C1  
C2  
C3  
C4  
C5  
C6  
C7  
C8  
C9

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print) Janelle Garza	Date/Time 8-18-23 / 1200	Signature <i>Janelle Garza</i>	Received by (print) Josh Malpass	Date/Time 8-18-23 / 1200	Signature <i>Josh Malpass</i>
	Relinquished by (print) Josh Malpass	Date/Time 8-18-23 / 1238	Signature <i>Josh Malpass</i>	Received by Laboratory (print) Rebecca Trible	Date/Time 8-18-23 / 1238	Signature <i>Rebecca Trible</i>
LABORATORY USE ONLY						
Shipped By <i>hand</i>	Cooler ID(s) <i>6</i>	Custody Seals <i>Y W C B</i>	Intact <i>Y N</i>	Receipt Temp <i>see</i> °C	Temp Blank <i>Y N</i>	On Ice <i>Y N</i>
Payment Type <i>CC</i> Cash Check			Amount \$	Receipt Number (cash/check only)		

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.





# Chain of Custody & Analytical Request Record

[www.energylab.com](http://www.energylab.com)

### Account Information (Billing information)

Company/Name <b>MT DOJ / Natural Resource Damage Program</b>		
Contact <b>Jim Ford</b>		
Phone <b>(406) 439-2108</b>		
Mailing Address <b>1720 9th Avenue</b>		
City, State, Zip <b>Helena, Montana 59620-1425</b>		
Email <b>jford@mt.gov</b>		
Receive Invoice <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	
Purchase Order	Quote <b>2187</b>	Bottle Order <b>44881 &amp; 44883</b>

### Report Information (if different than Account Information)

Company/Name <b>Water &amp; Environmental Technologies</b>		
Contact <b>Janelle Garza</b>		
Phone <b>(406) 565-4291</b>		
Mailing Address <b>480 East Park Street</b>		
City, State, Zip <b>Butte, Montana 59701</b>		
Email <b>jgarza@waterenvtech.com</b>		
Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email		
Special Report/Formats		
<input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC <input checked="" type="checkbox"/> EDD/EDT <small>(contact laboratory)</small> <input type="checkbox"/> Other		

### Comments

Please do not use any "EB" or "FB" samples for MS/MSD.

C1 2-2  
C2 5-1  
C3 0-9  
C4 1-1  
C5 2-4  
C6 0-8

### Project Information

Project Name, PWSID, Permit, etc. <b>NRDPM16 TO2 - Task 001</b>	
Sampler Name <b>Janelle Garza</b>	Sampler Phone <b>(406) 599-6770</b>
Sample Origin State <b>Montana</b>	EPA/State Compliance <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>URANIUM MINING CLIENTS MUST indicate sample type</b>	
<input type="checkbox"/> Unprocessed Ore	
<input type="checkbox"/> Processed Ore (Ground or Refined) <b>**CALL BEFORE SENDING</b>	
<input type="checkbox"/> 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)	

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- A - Air
- W - Water
- S - Soils/Solids
- V - Vegetation
- B - Bioassay
- O - Oil
- DW - Drinking Water

### Analysis Requested

+	+	+	+	+	+	+	+	+	+
pH & pH Meas. A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353.2	Dissolved Metals E200.7/8	See Attached

All turnaround times are standard unless marked as RUSH.

Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page

C3  
C5  
C5  
C5  
C5

Sample Identification <small>(Name, Location, Interval, etc.)</small>	Collection		Number of Containers	Matrix <small>(See Codes Above)</small>	Analysis Requested										See Attached	RUSH TAT	ELI LAB ID <small>Laboratory Use Only</small>
	Date	Time			pH & pH Meas. A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353.2	Dissolved Metals E200.7/8				
1 BPS11-18C	08/17/2023	3:06 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		H23080754	
2 PMP-11B	08/17/2023	3:26 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓				
3 PMP-09A	08/17/2023	3:40 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓				
4 PMP-05A	08/17/2023	4:05 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓				
5 AMW-13A	08/17/2023	5:11 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓				
6																	
7																	
8																	
9																	

**ELI is REQUIRED to provide preservative traceability.** If the preservatives supplied with the bottle order were **NOT** used, please attach your preservative information with this COC.

<b>Custody Record MUST be signed</b>	Relinquished by (print) <b>Janelle Garza</b>	Date/Time <b>8-18-23 / 1200</b>	Signature <i>Janelle Garza</i>	Received by (print) <b>Josh Malpass</b>	Date/Time <b>8-18-23 / 1200</b>	Signature <i>Josh Malpass</i>			
	Relinquished by (print) <b>Josh Malpass</b>	Date/Time <b>8-18-23 / 1236</b>	Signature <i>Josh Malpass</i>	Received by Laboratory (print) <b>Rebecca Tocher</b>	Date/Time <b>8-18-23 / 1236</b>	Signature <i>Rebecca Tocher</i>			
<b>LABORATORY USE ONLY</b>									
Shipped By <i>hand</i>	Cooler ID(s) <b>6</b>	Custody Seals Y <b>(N)</b> C B	Intact Y N	Receipt Temp <i>see com</i> °C	Temp Blank Y N	On Ice Y N	Payment Type CC Cash Check	Amount \$	Receipt Number <small>(cash/check only)</small>

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.





# ANALYTICAL SUMMARY REPORT

September 11, 2023

MT Dept of Justice  
Natural Resource Damage Program  
Helena, MT 59620-1425

Work Order: H23080811      Quote ID: H2187

Project Name: NRDPM16 TO2-Task 001

Energy Laboratories Inc Helena MT received the following 14 samples for MT Dept of Justice on 8/21/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H23080811-001	PMP-08B	08/18/23 10:45	08/21/23	Groundwater	Rare Earth Metals, Dissolved Metals by ICP/ICPMS, Dissolved Alkalinity to pH 4.5 Anion - Cation Balance Carbon, Dissolved Organic Conductivity Carbon, Total Organic Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Solids, Total Dissolved
H23080811-002	GS-28B	08/18/23 11:00	08/21/23	Groundwater	Same As Above
H23080811-003	PMP-08A2	08/18/23 11:10	08/21/23	Groundwater	Rare Earth Metals, Dissolved Metals by ICP/ICPMS, Dissolved Alkalinity to pH 4.5 Carbon, Dissolved Organic Conductivity Carbon, Total Organic Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Solids, Total Dissolved
H23080811-004	PMP-05BR	08/18/23 11:22	08/21/23	Groundwater	Rare Earth Metals, Dissolved Metals by ICP/ICPMS, Dissolved Alkalinity to pH 4.5 Anion - Cation Balance Carbon, Dissolved Organic Conductivity Carbon, Total Organic Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Solids, Total Dissolved
H23080811-005	BPS11-17C	08/18/23 11:59	08/21/23	Groundwater	Same As Above
H23080811-006	BPS11-10A	08/18/23 12:43	08/21/23	Groundwater	Same As Above
H23080811-007	MF-07	08/18/23 13:06	08/21/23	Groundwater	Same As Above
H23080811-008	BPS11-10B	08/18/23 13:15	08/21/23	Groundwater	Same As Above
H23080811-009	MF-07B	08/18/23 13:39	08/21/23	Groundwater	Same As Above
H23080811-010	BPS11-10C	08/18/23 13:52	08/21/23	Groundwater	Same As Above



## ANALYTICAL SUMMARY REPORT

H23080811-011	PMP-06A	08/18/23 14:10	08/21/23	Groundwater	Same As Above
H23080811-012	AMC-24C	08/18/23 14:33	08/21/23	Groundwater	Same As Above
H23080811-013	PMP-06B	08/18/23 14:42	08/21/23	Groundwater	Same As Above
H23080811-014	DUP-3	08/17/23 10:30	08/21/23	Groundwater	Rare Earth Metals, Dissolved Metals by ICP/ICPMS, Dissolved Hardness Nitrogen, Nitrate + Nitrite

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:



Project Management

Digitally signed by  
Ravyn R. Sponholz  
Date: 2023.09.13 15:08:44 -06:00



**CLIENT:** MT Dept of Justice  
**Project:** NRDPM16 TO2-Task 001  
**Work Order:** H23080811

**Report Date:** 09/11/23

## **CASE NARRATIVE**

---

Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002.

Some samples came back with results for DOC greater than TOC. The labels for these samples were checked and verified. The samples have been re-analyzed and the results duplicated in laboratory. RRS 09112023



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08B  
**Lab ID:** H23080811-001  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 10:45 **Date Received:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.4	s.u.	H	0.1		A4500-H B	08/22/23 12:09 / eek		PHSC_101-H_230822A : 7		R187393
pH Measurement Temp	15.1	°C				A4500-H B	08/22/23 12:09 / eek		PHSC_101-H_230822A : 7		R187393
Conductivity @ 25 C	1610	umhos/cm		5		A2510 B	08/22/23 12:09 / eek		PHSC_101-H_230822A : 8		R187393
Solids, Total Dissolved TDS @ 180 C	1280	mg/L		20		A2540 C	08/23/23 14:36 / eek		-124 (14410200)_230823B : 3		TDS230823A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	58	mg/L		4		A2320 B	08/23/23 09:58 / eek		PHSC_101-H_230823A : 10		R187444
Bicarbonate as HCO3	70	mg/L		4		A2320 B	08/23/23 09:58 / eek		PHSC_101-H_230823A : 10		R187444
Carbonate as CO3	ND	mg/L		4		A2320 B	08/23/23 09:58 / eek		PHSC_101-H_230823A : 10		R187444
Chloride	31	mg/L		1		E300.0	08/24/23 18:48 / SR		C METROHM_230823A : 105		R187509
Sulfate	784	mg/L		1		E300.0	08/24/23 18:48 / SR		C METROHM_230823A : 105		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 18:48 / SR		C METROHM_230823A : 105		R187509
Fluoride	0.6	mg/L		0.1		E300.0	08/24/23 18:48 / SR		C METROHM_230823A : 105		R187509
Hardness as CaCO3	637	mg/L		1		A2340 B	08/25/23 00:50 / SR		CALC_230828A : 894		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.6	mg/L		0.5		A5310 C	08/24/23 02:49 / eli-c		SUB-C298028 : 25		C_R298028
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	08/23/23 19:09 / eli-c		SUB-C298028 : 4		C_R298028
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	2.36	mg/L		0.02		E353.2	08/28/23 19:03 / JAR		SEAL AA500_230828B : 70		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/25/23 11:54 / dck		ICPMS205-H_230824B : 185		R187581
Antimony	ND	mg/L		0.0005		E200.8	08/25/23 11:54 / dck		ICPMS205-H_230824B : 185		R187581
Arsenic	0.006	mg/L		0.001		E200.8	08/25/23 11:54 / dck		ICPMS205-H_230824B : 185		R187581
Barium	0.015	mg/L		0.003		E200.8	08/25/23 11:54 / dck		ICPMS205-H_230824B : 185		R187581
Beryllium	ND	mg/L		0.0008		E200.8	08/25/23 11:54 / dck		ICPMS205-H_230824B : 185		R187581
Boron	0.10	mg/L		0.05		E200.7	08/23/23 16:52 / slj		ICP2-HE_230823B : 80		R187479
Cadmium	0.0115	mg/L		0.00003		E200.8	08/25/23 11:54 / dck		ICPMS205-H_230824B : 185		R187581
Cesium	ND	mg/L		0.01		E200.8	08/30/23 16:34 / dck		ICPMS206-H_230830B : 84		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08B  
**Lab ID:** H23080811-001  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 10:45 **Date Received:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	185	mg/L		1		E200.7	08/25/23 00:50 / slj		ICP2-HE_230824B : 112		R187553
Chromium	ND	mg/L		0.005		E200.8	08/25/23 11:54 / dck		ICPMS205-H_230824B : 185		R187581
Cobalt	ND	mg/L		0.005		E200.8	08/25/23 11:54 / dck		ICPMS205-H_230824B : 185		R187581
Copper	0.201	mg/L		0.002		E200.8	08/25/23 11:54 / dck		ICPMS205-H_230824B : 185		R187581
Gallium	ND	mg/L		0.01		E200.8	08/30/23 16:34 / dck		ICPMS206-H_230830B : 84		R187736
Iron	ND	mg/L		0.02		E200.8	08/25/23 11:54 / dck		ICPMS205-H_230824B : 185		R187581
Lead	ND	mg/L		0.0003		E200.8	08/25/23 11:54 / dck		ICPMS205-H_230824B : 185		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 16:34 / dck		ICPMS206-H_230830B : 84		R187736
Lithium	0.2	mg/L		0.1		E200.7	08/23/23 16:52 / slj		ICP2-HE_230823B : 80		R187479
Magnesium	43	mg/L		1		E200.7	08/23/23 16:52 / slj		ICP2-HE_230823B : 80		R187479
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 16:34 / dck		ICPMS206-H_230830B : 84		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 16:34 / dck		ICPMS206-H_230830B : 84		R187736
Manganese	0.001	mg/L		0.001		E200.8	08/25/23 11:54 / dck		ICPMS205-H_230824B : 185		R187581
Molybdenum	0.002	mg/L		0.001		E200.8	08/25/23 11:54 / dck		ICPMS205-H_230824B : 185		R187581
Nickel	0.006	mg/L		0.002		E200.8	08/25/23 11:54 / dck		ICPMS205-H_230824B : 185		R187581
Palladium	ND	mg/L		0.01		E200.8	08/27/23 19:00 / dck		ICPMS206-H_230827C : 61		R187693
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 16:34 / dck		ICPMS206-H_230830B : 84		R187736
Rubidium	0.02	mg/L		0.01		E200.8	08/30/23 16:34 / dck		ICPMS206-H_230830B : 84		R187736
Potassium	14	mg/L		1		E200.7	08/23/23 16:52 / slj		ICP2-HE_230823B : 80		R187479
Selenium	ND	mg/L		0.001		E200.8	08/25/23 11:54 / dck		ICPMS205-H_230824B : 185		R187581
Silver	ND	mg/L		0.0002		E200.8	08/25/23 11:54 / dck		ICPMS205-H_230824B : 185		R187581
Sodium	83	mg/L		1		E200.7	08/23/23 16:52 / slj		ICP2-HE_230823B : 80		R187479
Strontium	2.37	mg/L		0.01		E200.7	08/23/23 16:52 / slj		ICP2-HE_230823B : 80		R187479
Thallium	ND	mg/L		0.0002		E200.8	08/25/23 11:54 / dck		ICPMS205-H_230824B : 185		R187581
Thorium	ND	mg/L		0.005		E200.8	08/30/23 16:34 / dck		ICPMS206-H_230830B : 286		R187736
Tin	ND	mg/L		0.05		E200.8	08/25/23 11:54 / dck		ICPMS205-H_230824B : 185		R187581
Titanium	ND	mg/L		0.005		E200.8	08/25/23 11:54 / dck		ICPMS205-H_230824B : 185		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/27/23 19:00 / dck		ICPMS206-H_230827C : 61		R187693
Uranium	0.0016	mg/L		0.0002		E200.8	08/25/23 11:54 / dck		ICPMS205-H_230824B : 185		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/25/23 11:54 / dck		ICPMS205-H_230824B : 185		R187581
Zinc	1.62	mg/L		0.008		E200.8	08/25/23 11:54 / dck		ICPMS205-H_230824B : 185		R187581
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 16:34 / dck		ICPMS206-H_230830B : 84		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08B  
**Lab ID:** H23080811-001  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 10:45      **DateReceived:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-4.77	%				A1030 E	08/28/23 10:24 / SR		CALC_230828A : 892		R187604

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-28B  
**Lab ID:** H23080811-002  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 11:00 **Date Received:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.2	s.u.	H	0.1		A4500-H B	08/22/23 12:13 / eek		PHSC_101-H_230822A : 11		R187393
pH Measurement Temp	14.4	°C				A4500-H B	08/22/23 12:13 / eek		PHSC_101-H_230822A : 11		R187393
Conductivity @ 25 C	327	umhos/cm		5		A2510 B	08/22/23 12:13 / eek		PHSC_101-H_230822A : 12		R187393
Solids, Total Dissolved TDS @ 180 C	214	mg/L		20		A2540 C	08/23/23 14:37 / eek		-124 (14410200)_230823B : 4		TDS230823A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	88	mg/L		4		A2320 B	08/23/23 10:11 / eek		PHSC_101-H_230823A : 14		R187444
Bicarbonate as HCO3	110	mg/L		4		A2320 B	08/23/23 10:11 / eek		PHSC_101-H_230823A : 14		R187444
Carbonate as CO3	ND	mg/L		4		A2320 B	08/23/23 10:11 / eek		PHSC_101-H_230823A : 14		R187444
Chloride	7	mg/L		1		E300.0	08/24/23 19:03 / SR		C METROHM_230823A : 106		R187509
Sulfate	57	mg/L		1		E300.0	08/24/23 19:03 / SR		C METROHM_230823A : 106		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 19:03 / SR		C METROHM_230823A : 106		R187509
Fluoride	0.5	mg/L		0.1		E300.0	08/24/23 19:03 / SR		C METROHM_230823A : 106		R187509
Hardness as CaCO3	111	mg/L		1		A2340 B	08/25/23 11:57 / SR		CALC_230828A : 905		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	4.5	mg/L		0.5		A5310 C	08/29/23 01:48 / eli-c		SUB-C298148 : 20		C_R298148
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	08/28/23 15:20 / eli-c		SUB-C298148 : 19		C_R298148
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.47	mg/L		0.01		E353.2	08/28/23 19:09 / JAR		SEAL AA500_230828B : 74		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/25/23 11:57 / dck		ICPMS205-H_230824B : 186		R187581
Antimony	ND	mg/L		0.0005		E200.8	08/25/23 11:57 / dck		ICPMS205-H_230824B : 186		R187581
Arsenic	0.002	mg/L		0.001		E200.8	08/25/23 11:57 / dck		ICPMS205-H_230824B : 186		R187581
Barium	0.031	mg/L		0.003		E200.8	08/25/23 11:57 / dck		ICPMS205-H_230824B : 186		R187581
Beryllium	ND	mg/L		0.0008		E200.8	08/25/23 11:57 / dck		ICPMS205-H_230824B : 186		R187581
Boron	ND	mg/L		0.05		E200.7	08/23/23 17:34 / slj		ICP2-HE_230823B : 91		R187479
Cadmium	0.00023	mg/L		0.00003		E200.8	08/25/23 11:57 / dck		ICPMS205-H_230824B : 186		R187581
Cesium	ND	mg/L		0.01		E200.8	08/30/23 16:36 / dck		ICPMS206-H_230830B : 85		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-28B  
**Lab ID:** H23080811-002  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 11:00  
**Date Received:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	29	mg/L		1		E200.7	08/23/23 17:34 / slj		ICP2-HE_230823B : 91		R187479
Chromium	ND	mg/L		0.005		E200.8	08/25/23 11:57 / dck		ICPMS205-H_230824B : 186		R187581
Cobalt	ND	mg/L		0.005		E200.8	08/25/23 11:57 / dck		ICPMS205-H_230824B : 186		R187581
Copper	ND	mg/L		0.002		E200.8	08/25/23 11:57 / dck		ICPMS205-H_230824B : 186		R187581
Gallium	ND	mg/L		0.01		E200.8	08/30/23 16:36 / dck		ICPMS206-H_230830B : 85		R187736
Iron	ND	mg/L		0.02		E200.8	08/25/23 11:57 / dck		ICPMS205-H_230824B : 186		R187581
Lead	ND	mg/L		0.0003		E200.8	08/25/23 11:57 / dck		ICPMS205-H_230824B : 186		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 16:36 / dck		ICPMS206-H_230830B : 85		R187736
Lithium	ND	mg/L		0.1		E200.8	08/25/23 11:57 / dck		ICPMS205-H_230824B : 186		R187581
Magnesium	9	mg/L		1		E200.8	08/25/23 11:57 / dck		ICPMS205-H_230824B : 186		R187581
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 16:36 / dck		ICPMS206-H_230830B : 85		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 16:36 / dck		ICPMS206-H_230830B : 85		R187736
Manganese	ND	mg/L		0.001		E200.8	08/25/23 11:57 / dck		ICPMS205-H_230824B : 186		R187581
Molybdenum	0.013	mg/L		0.001		E200.8	08/25/23 11:57 / dck		ICPMS205-H_230824B : 186		R187581
Nickel	ND	mg/L		0.002		E200.8	08/25/23 11:57 / dck		ICPMS205-H_230824B : 186		R187581
Palladium	ND	mg/L		0.01		E200.8	08/27/23 19:03 / dck		ICPMS206-H_230827C : 62		R187693
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 16:36 / dck		ICPMS206-H_230830B : 85		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 16:36 / dck		ICPMS206-H_230830B : 85		R187736
Potassium	4	mg/L		1		E200.7	08/23/23 17:34 / slj		ICP2-HE_230823B : 91		R187479
Selenium	ND	mg/L		0.001		E200.8	08/25/23 11:57 / dck		ICPMS205-H_230824B : 186		R187581
Silver	ND	mg/L		0.0002		E200.8	08/25/23 11:57 / dck		ICPMS205-H_230824B : 186		R187581
Sodium	22	mg/L		1		E200.7	08/23/23 17:34 / slj		ICP2-HE_230823B : 91		R187479
Strontium	0.20	mg/L		0.01		E200.7	08/23/23 17:34 / slj		ICP2-HE_230823B : 91		R187479
Thallium	ND	mg/L		0.0002		E200.8	08/25/23 11:57 / dck		ICPMS205-H_230824B : 186		R187581
Thorium	ND	mg/L		0.005		E200.8	08/30/23 16:36 / dck		ICPMS206-H_230830B : 287		R187736
Tin	ND	mg/L		0.05		E200.8	08/25/23 11:57 / dck		ICPMS205-H_230824B : 186		R187581
Titanium	ND	mg/L		0.005		E200.8	08/25/23 11:57 / dck		ICPMS205-H_230824B : 186		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/27/23 19:03 / dck		ICPMS206-H_230827C : 62		R187693
Uranium	0.0035	mg/L		0.0002		E200.8	08/25/23 11:57 / dck		ICPMS205-H_230824B : 186		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/25/23 11:57 / dck		ICPMS205-H_230824B : 186		R187581
Zinc	0.013	mg/L		0.008		E200.8	08/25/23 11:57 / dck		ICPMS205-H_230824B : 186		R187581
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 16:36 / dck		ICPMS206-H_230830B : 85		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-28B  
**Lab ID:** H23080811-002  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 11:00      **DateReceived:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	0.99	%				A1030 E	08/28/23 10:24 / SR		CALC_230828A : 903		R187604

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08A2  
**Lab ID:** H23080811-003  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 11:10  
**Date Received:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.6	s.u.	H	0.1		A4500-H B	08/22/23 12:15 / eek		PHSC_101-H_230822A : 13		R187393
pH Measurement Temp	14.3	°C				A4500-H B	08/22/23 12:15 / eek		PHSC_101-H_230822A : 13		R187393
Conductivity @ 25 C	761	umhos/cm		5		A2510 B	08/22/23 12:15 / eek		PHSC_101-H_230822A : 14		R187393
Solids, Total Dissolved TDS @ 180 C	529	mg/L		20		A2540 C	08/23/23 14:38 / eek		-124 (14410200)_230823B : 6		TDS230823A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	75	mg/L		4		A2320 B	08/23/23 10:18 / eek		PHSC_101-H_230823A : 16		R187444
Bicarbonate as HCO3	91	mg/L		4		A2320 B	08/23/23 10:18 / eek		PHSC_101-H_230823A : 16		R187444
Carbonate as CO3	ND	mg/L		4		A2320 B	08/23/23 10:18 / eek		PHSC_101-H_230823A : 16		R187444
Chloride	25	mg/L		1		E300.0	08/24/23 19:17 / SR		C METROHM_230823A : 107		R187509
Sulfate	248	mg/L		1		E300.0	08/24/23 19:17 / SR		C METROHM_230823A : 107		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 19:17 / SR		C METROHM_230823A : 107		R187509
Fluoride	0.3	mg/L		0.1		E300.0	08/24/23 19:17 / SR		C METROHM_230823A : 107		R187509
Hardness as CaCO3	303	mg/L		1		A2340 B	08/25/23 12:19 / SR		CALC_230828A : 916		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.1	mg/L		0.5		A5310 C	08/24/23 04:01 / eli-c		SUB-C298028 : 29		C_R298028
Organic Carbon, Total (TOC)	1.1	mg/L		0.5		A5310 C	08/23/23 20:22 / eli-c		SUB-C298028 : 8		C_R298028
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	4.79	mg/L		0.05		E353.2	08/28/23 19:10 / JAR		SEAL AA500_230828B : 75		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/25/23 12:19 / dck		ICPMS205-H_230824B : 192		R187581
Antimony	ND	mg/L		0.0005		E200.8	08/25/23 12:19 / dck		ICPMS205-H_230824B : 192		R187581
Arsenic	ND	mg/L		0.001		E200.8	08/25/23 12:19 / dck		ICPMS205-H_230824B : 192		R187581
Barium	0.017	mg/L		0.003		E200.8	08/25/23 12:19 / dck		ICPMS205-H_230824B : 192		R187581
Beryllium	ND	mg/L		0.0008		E200.8	08/25/23 12:19 / dck		ICPMS205-H_230824B : 192		R187581
Boron	0.08	mg/L		0.05		E200.7	08/23/23 17:38 / slj		ICP2-HE_230823B : 92		R187479
Cadmium	0.00121	mg/L		0.00003		E200.8	08/25/23 12:19 / dck		ICPMS205-H_230824B : 192		R187581
Cesium	ND	mg/L		0.01		E200.8	08/30/23 16:38 / dck		ICPMS206-H_230830B : 86		R187736

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08A2  
**Lab ID:** H23080811-003  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 11:10 **Date Received:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	80	mg/L		1		E200.7	08/23/23 17:38 / slj		ICP2-HE_230823B : 92		R187479
Chromium	ND	mg/L		0.005		E200.8	08/25/23 12:19 / dck		ICPMS205-H_230824B : 192		R187581
Cobalt	ND	mg/L		0.005		E200.8	08/25/23 12:19 / dck		ICPMS205-H_230824B : 192		R187581
Copper	0.010	mg/L		0.002		E200.8	08/25/23 12:19 / dck		ICPMS205-H_230824B : 192		R187581
Gallium	ND	mg/L		0.01		E200.8	08/30/23 16:38 / dck		ICPMS206-H_230830B : 86		R187736
Iron	ND	mg/L		0.02		E200.8	08/25/23 12:19 / dck		ICPMS205-H_230824B : 192		R187581
Lead	ND	mg/L		0.0003		E200.8	08/25/23 12:19 / dck		ICPMS205-H_230824B : 192		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 16:38 / dck		ICPMS206-H_230830B : 86		R187736
Lithium	ND	mg/L		0.1		E200.8	08/25/23 12:19 / dck		ICPMS205-H_230824B : 192		R187581
Magnesium	25	mg/L		1		E200.8	08/25/23 12:19 / dck		ICPMS205-H_230824B : 192		R187581
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 16:38 / dck		ICPMS206-H_230830B : 86		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 16:38 / dck		ICPMS206-H_230830B : 86		R187736
Manganese	ND	mg/L		0.001		E200.8	08/25/23 12:19 / dck		ICPMS205-H_230824B : 192		R187581
Molybdenum	0.004	mg/L		0.001		E200.8	08/29/23 17:59 / dck		ICPMS206-H_230829A : 49		R187694
Nickel	ND	mg/L		0.002		E200.8	08/25/23 12:19 / dck		ICPMS205-H_230824B : 192		R187581
Palladium	ND	mg/L		0.01		E200.8	08/27/23 19:17 / dck		ICPMS206-H_230827C : 67		R187693
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 16:38 / dck		ICPMS206-H_230830B : 86		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 16:38 / dck		ICPMS206-H_230830B : 86		R187736
Potassium	7	mg/L		1		E200.7	08/23/23 17:38 / slj		ICP2-HE_230823B : 92		R187479
Selenium	ND	mg/L		0.001		E200.8	08/25/23 12:19 / dck		ICPMS205-H_230824B : 192		R187581
Silver	ND	mg/L		0.0002		E200.8	08/25/23 12:19 / dck		ICPMS205-H_230824B : 192		R187581
Sodium	34	mg/L		1		E200.7	08/23/23 17:38 / slj		ICP2-HE_230823B : 92		R187479
Strontium	0.63	mg/L		0.01		E200.7	08/23/23 17:38 / slj		ICP2-HE_230823B : 92		R187479
Thallium	ND	mg/L		0.0002		E200.8	08/25/23 12:19 / dck		ICPMS205-H_230824B : 192		R187581
Thorium	ND	mg/L		0.005		E200.8	08/29/23 17:59 / dck		ICPMS206-H_230829A : 49		R187694
Tin	ND	mg/L		0.05		E200.8	08/25/23 12:19 / dck		ICPMS205-H_230824B : 192		R187581
Titanium	ND	mg/L		0.005		E200.8	08/25/23 12:19 / dck		ICPMS205-H_230824B : 192		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/27/23 19:17 / dck		ICPMS206-H_230827C : 67		R187693
Uranium	0.0012	mg/L		0.0002		E200.8	08/25/23 12:19 / dck		ICPMS205-H_230824B : 192		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/25/23 12:19 / dck		ICPMS205-H_230824B : 192		R187581
Zinc	0.265	mg/L		0.008		E200.8	08/25/23 12:19 / dck		ICPMS205-H_230824B : 192		R187581
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 16:38 / dck		ICPMS206-H_230830B : 86		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-05BR  
**Lab ID:** H23080811-004  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 11:22 **Date Received:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.4	s.u.	H	0.1		A4500-H B	08/22/23 12:17 / eek		PHSC_101-H_230822A : 15		R187393
pH Measurement Temp	14.2	°C				A4500-H B	08/22/23 12:17 / eek		PHSC_101-H_230822A : 15		R187393
Conductivity @ 25 C	3900	umhos/cm		5		A2510 B	08/22/23 12:17 / eek		PHSC_101-H_230822A : 16		R187393
Solids, Total Dissolved TDS @ 180 C	4140	mg/L		100		A2540 C	08/23/23 14:38 / eek		-124 (14410200)_230823B : 7		TDS230823A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	08/23/23 10:25 / eek		PHSC_101-H_230823A : 18		R187444
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	08/23/23 10:25 / eek		PHSC_101-H_230823A : 18		R187444
Carbonate as CO3	ND	mg/L		4		A2320 B	08/23/23 10:25 / eek		PHSC_101-H_230823A : 18		R187444
Chloride	121	mg/L		1		E300.0	08/24/23 19:31 / SR		C METROHM_230823A : 108		R187509
Sulfate	2640	mg/L		1		E300.0	08/24/23 19:31 / SR		C METROHM_230823A : 108		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 19:31 / SR		C METROHM_230823A : 108		R187509
Fluoride	2.4	mg/L		0.1		E300.0	08/24/23 19:31 / SR		C METROHM_230823A : 108		R187509
Hardness as CaCO3	1550	mg/L		1		A2340 B	08/25/23 13:16 / SR		CALC_230905B : 872		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.1	mg/L		0.5		A5310 C	08/24/23 04:24 / eli-c		SUB-C298028 : 30		C_R298028
Organic Carbon, Total (TOC)	1.2	mg/L		0.5		A5310 C	08/23/23 20:40 / eli-c		SUB-C298028 : 9		C_R298028
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.05	mg/L		0.01		E353.2	08/28/23 19:11 / JAR		SEAL AA500_230828B : 76		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	3.45	mg/L		0.06		E200.7	08/23/23 17:52 / slj		ICP2-HE_230823B : 96		R187479
Antimony	ND	mg/L		0.0005		E200.8	08/25/23 13:16 / dck		ICPMS205-H_230824B : 203		R187581
Arsenic	ND	mg/L		0.001		E200.8	08/25/23 13:16 / dck		ICPMS205-H_230824B : 203		R187581
Barium	0.020	mg/L		0.003		E200.8	08/25/23 13:16 / dck		ICPMS205-H_230824B : 203		R187581
Beryllium	0.0087	mg/L		0.0008		E200.8	08/25/23 13:16 / dck		ICPMS205-H_230824B : 203		R187581
Boron	0.13	mg/L		0.05		E200.7	08/23/23 17:52 / slj		ICP2-HE_230823B : 96		R187479
Cadmium	0.724	mg/L		0.00003		E200.8	08/25/23 13:16 / dck		ICPMS205-H_230824B : 203		R187581
Cesium	ND	mg/L		0.01		E200.8	08/30/23 16:40 / dck		ICPMS206-H_230830B : 87		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-05BR  
**Lab ID:** H23080811-004  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 11:22 **Date Received:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	401	mg/L		1		E200.7	08/23/23 17:52 / slj		ICP2-HE_230823B : 96		R187479
Chromium	ND	mg/L		0.005		E200.8	08/25/23 13:16 / dck		ICPMS205-H_230824B : 203		R187581
Cobalt	1.66	mg/L		0.005		E200.8	08/25/23 13:16 / dck		ICPMS205-H_230824B : 203		R187581
Copper	31.6	mg/L		0.02		E200.7	08/23/23 17:52 / slj		ICP2-HE_230823B : 96		R187479
Gallium	ND	mg/L		0.01		E200.8	08/30/23 16:40 / dck		ICPMS206-H_230830B : 87		R187736
Iron	56.6	mg/L		0.02		E200.7	08/23/23 17:52 / slj		ICP2-HE_230823B : 96		R187479
Lead	0.0100	mg/L		0.0003		E200.8	08/25/23 13:16 / dck		ICPMS205-H_230824B : 203		R187581
Lanthanum	0.03	mg/L		0.01		E200.8	08/30/23 16:40 / dck		ICPMS206-H_230830B : 87		R187736
Lithium	0.5	mg/L		0.1		E200.8	08/25/23 13:16 / dck		ICPMS205-H_230824B : 203		R187581
Magnesium	134	mg/L		1		E200.8	08/25/23 13:16 / dck		ICPMS205-H_230824B : 203		R187581
Neodymium	0.031	mg/L		0.005		E200.8	08/30/23 16:40 / dck		ICPMS206-H_230830B : 87		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 16:40 / dck		ICPMS206-H_230830B : 87		R187736
Manganese	198	mg/L		0.003		E200.7	08/23/23 17:52 / slj		ICP2-HE_230823B : 96		R187479
Molybdenum	ND	mg/L		0.001		E200.8	08/25/23 13:16 / dck		ICPMS205-H_230824B : 203		R187581
Nickel	0.447	mg/L		0.002		E200.8	08/25/23 13:16 / dck		ICPMS205-H_230824B : 203		R187581
Palladium	ND	mg/L		0.01		E200.8	08/30/23 16:40 / dck		ICPMS206-H_230830B : 87		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 16:40 / dck		ICPMS206-H_230830B : 87		R187736
Rubidium	0.01	mg/L		0.01		E200.8	08/30/23 16:40 / dck		ICPMS206-H_230830B : 87		R187736
Potassium	21	mg/L		1		E200.7	08/23/23 17:52 / slj		ICP2-HE_230823B : 96		R187479
Selenium	ND	mg/L		0.001		E200.8	08/25/23 13:16 / dck		ICPMS205-H_230824B : 203		R187581
Silver	ND	mg/L		0.0002		E200.8	08/25/23 13:16 / dck		ICPMS205-H_230824B : 203		R187581
Sodium	89	mg/L		1		E200.7	08/23/23 17:52 / slj		ICP2-HE_230823B : 96		R187479
Strontium	3.32	mg/L		0.01		E200.7	08/23/23 17:52 / slj		ICP2-HE_230823B : 96		R187479
Thallium	ND	mg/L		0.0002		E200.8	08/25/23 13:16 / dck		ICPMS205-H_230824B : 203		R187581
Thorium	ND	mg/L		0.005		E200.8	08/30/23 16:40 / dck		ICPMS206-H_230830B : 289		R187736
Tin	ND	mg/L		0.05		E200.8	08/25/23 13:16 / dck		ICPMS205-H_230824B : 203		R187581
Titanium	ND	mg/L		0.005		E200.8	08/25/23 13:16 / dck		ICPMS205-H_230824B : 203		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 16:40 / dck		ICPMS206-H_230830B : 87		R187736
Uranium	0.0092	mg/L		0.0002		E200.8	08/25/23 13:16 / dck		ICPMS205-H_230824B : 203		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/25/23 13:16 / dck		ICPMS205-H_230824B : 203		R187581
Zinc	149	mg/L		0.008		E200.7	08/23/23 17:52 / slj		ICP2-HE_230823B : 96		R187479
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 16:40 / dck		ICPMS206-H_230830B : 87		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-05BR  
**Lab ID:** H23080811-004  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 11:22      **DateReceived:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-12.6	%				A1030 E	09/05/23 14:54 / SR		CALC_230905B : 870		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-17C  
**Lab ID:** H23080811-005  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 11:59 **Date Received:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.4	s.u.	H	0.1		A4500-H B	08/22/23 12:19 / eek		PHSC_101-H_230822A : 17		R187393
pH Measurement Temp	14.3	°C				A4500-H B	08/22/23 12:19 / eek		PHSC_101-H_230822A : 17		R187393
Conductivity @ 25 C	2150	umhos/cm		5		A2510 B	08/22/23 12:19 / eek		PHSC_101-H_230822A : 18		R187393
Solids, Total Dissolved TDS @ 180 C	1860	mg/L		50		A2540 C	08/23/23 14:38 / eek		-124 (14410200)_230823B : 8		TDS230823A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	150	mg/L		4		A2320 B	08/23/23 10:28 / eek		PHSC_101-H_230823A : 20		R187444
Bicarbonate as HCO3	190	mg/L		4		A2320 B	08/23/23 10:28 / eek		PHSC_101-H_230823A : 20		R187444
Carbonate as CO3	ND	mg/L		4		A2320 B	08/23/23 10:28 / eek		PHSC_101-H_230823A : 20		R187444
Chloride	47	mg/L		1		E300.0	08/24/23 19:46 / SR		C METROHM_230823A : 109		R187509
Sulfate	1070	mg/L		1		E300.0	08/24/23 19:46 / SR		C METROHM_230823A : 109		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 19:46 / SR		C METROHM_230823A : 109		R187509
Fluoride	0.5	mg/L		0.1		E300.0	08/24/23 19:46 / SR		C METROHM_230823A : 109		R187509
Hardness as CaCO3	1160	mg/L		1		A2340 B	08/25/23 12:22 / SR		CALC_230828A : 927		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.3	mg/L		0.5		A5310 C	08/24/23 04:48 / eli-c		SUB-C298028 : 31		C_R298028
Organic Carbon, Total (TOC)	1.2	mg/L		0.5		A5310 C	08/23/23 20:58 / eli-c		SUB-C298028 : 10		C_R298028
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	9.5	mg/L		0.1		E353.2	08/28/23 19:14 / JAR		SEAL AA500_230828B : 79		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/25/23 12:22 / dck		ICPMS205-H_230824B : 193		R187581
Antimony	ND	mg/L		0.0005		E200.8	08/25/23 12:22 / dck		ICPMS205-H_230824B : 193		R187581
Arsenic	0.005	mg/L		0.001		E200.8	08/25/23 12:22 / dck		ICPMS205-H_230824B : 193		R187581
Barium	0.015	mg/L		0.003		E200.8	08/25/23 12:22 / dck		ICPMS205-H_230824B : 193		R187581
Beryllium	ND	mg/L		0.0008		E200.8	08/25/23 12:22 / dck		ICPMS205-H_230824B : 193		R187581
Boron	0.18	mg/L		0.05		E200.7	08/23/23 17:56 / slj		ICP2-HE_230823B : 97		R187479
Cadmium	0.0102	mg/L		0.00003		E200.8	08/25/23 12:22 / dck		ICPMS205-H_230824B : 193		R187581
Cesium	ND	mg/L		0.01		E200.8	08/30/23 16:42 / dck		ICPMS206-H_230830B : 88		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-17C  
**Lab ID:** H23080811-005  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 11:59  
**Date Received:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	314	mg/L		1		E200.7	08/23/23 17:56 / slj		ICP2-HE_230823B : 97		R187479
Chromium	ND	mg/L		0.005		E200.8	08/25/23 12:22 / dck		ICPMS205-H_230824B : 193		R187581
Cobalt	ND	mg/L		0.005		E200.8	08/25/23 12:22 / dck		ICPMS205-H_230824B : 193		R187581
Copper	0.634	mg/L		0.002		E200.8	08/25/23 12:22 / dck		ICPMS205-H_230824B : 193		R187581
Gallium	ND	mg/L		0.01		E200.8	08/30/23 16:42 / dck		ICPMS206-H_230830B : 88		R187736
Iron	ND	mg/L		0.02		E200.8	08/25/23 12:22 / dck		ICPMS205-H_230824B : 193		R187581
Lead	ND	mg/L		0.0003		E200.8	08/25/23 12:22 / dck		ICPMS205-H_230824B : 193		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 16:42 / dck		ICPMS206-H_230830B : 88		R187736
Lithium	0.3	mg/L		0.1		E200.8	08/25/23 12:22 / dck		ICPMS205-H_230824B : 193		R187581
Magnesium	91	mg/L		1		E200.8	08/25/23 12:22 / dck		ICPMS205-H_230824B : 193		R187581
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 16:42 / dck		ICPMS206-H_230830B : 88		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 16:42 / dck		ICPMS206-H_230830B : 88		R187736
Manganese	0.008	mg/L		0.001		E200.8	08/25/23 12:22 / dck		ICPMS205-H_230824B : 193		R187581
Molybdenum	0.001	mg/L		0.001		E200.8	08/25/23 12:22 / dck		ICPMS205-H_230824B : 193		R187581
Nickel	0.008	mg/L		0.002		E200.8	08/25/23 12:22 / dck		ICPMS205-H_230824B : 193		R187581
Palladium	ND	mg/L		0.01		E200.8	08/27/23 19:20 / dck		ICPMS206-H_230827C : 68		R187693
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 16:42 / dck		ICPMS206-H_230830B : 88		R187736
Rubidium	0.02	mg/L		0.01		E200.8	08/30/23 16:42 / dck		ICPMS206-H_230830B : 88		R187736
Potassium	14	mg/L		1		E200.7	08/23/23 17:56 / slj		ICP2-HE_230823B : 97		R187479
Selenium	ND	mg/L		0.001		E200.8	08/25/23 12:22 / dck		ICPMS205-H_230824B : 193		R187581
Silver	0.0003	mg/L		0.0002		E200.8	08/25/23 12:22 / dck		ICPMS205-H_230824B : 193		R187581
Sodium	58	mg/L		1		E200.7	08/23/23 17:56 / slj		ICP2-HE_230823B : 97		R187479
Strontium	3.31	mg/L		0.01		E200.7	08/23/23 17:56 / slj		ICP2-HE_230823B : 97		R187479
Thallium	ND	mg/L		0.0002		E200.8	08/25/23 12:22 / dck		ICPMS205-H_230824B : 193		R187581
Thorium	ND	mg/L		0.005		E200.8	08/30/23 16:42 / dck		ICPMS206-H_230830B : 290		R187736
Tin	ND	mg/L		0.05		E200.8	08/25/23 12:22 / dck		ICPMS205-H_230824B : 193		R187581
Titanium	ND	mg/L		0.005		E200.8	08/25/23 12:22 / dck		ICPMS205-H_230824B : 193		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/27/23 19:20 / dck		ICPMS206-H_230827C : 68		R187693
Uranium	0.0228	mg/L		0.0002		E200.8	08/25/23 12:22 / dck		ICPMS205-H_230824B : 193		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/25/23 12:22 / dck		ICPMS205-H_230824B : 193		R187581
Zinc	1.97	mg/L		0.008		E200.7	08/23/23 17:56 / slj		ICP2-HE_230823B : 97		R187479
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 16:42 / dck		ICPMS206-H_230830B : 88		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-17C  
**Lab ID:** H23080811-005  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 11:59      **DateReceived:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.25	%				A1030 E	08/28/23 10:25 / SR		CALC_230828A : 925		R187604

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10A  
**Lab ID:** H23080811-006  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 12:43 **Date Received:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.6	s.u.	H	0.1		A4500-H B	08/22/23 12:21 / eek		PHSC_101-H_230822A : 19		R187393
pH Measurement Temp	14.5	°C				A4500-H B	08/22/23 12:21 / eek		PHSC_101-H_230822A : 19		R187393
Conductivity @ 25 C	1400	umhos/cm		5		A2510 B	08/22/23 12:21 / eek		PHSC_101-H_230822A : 20		R187393
Solids, Total Dissolved TDS @ 180 C	927	mg/L		20		A2540 C	08/23/23 14:39 / eek		-124 (14410200)_230823B : 9		TDS230823A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	290	mg/L		4		A2320 B	08/23/23 10:36 / eek		PHSC_101-H_230823A : 22		R187444
Bicarbonate as HCO3	350	mg/L		4		A2320 B	08/23/23 10:36 / eek		PHSC_101-H_230823A : 22		R187444
Carbonate as CO3	ND	mg/L		4		A2320 B	08/23/23 10:36 / eek		PHSC_101-H_230823A : 22		R187444
Chloride	47	mg/L		1		E300.0	08/24/23 21:12 / SR		C METROHM_230823A : 114		R187509
Sulfate	356	mg/L		1		E300.0	08/24/23 21:12 / SR		C METROHM_230823A : 114		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 21:12 / SR		C METROHM_230823A : 114		R187509
Fluoride	7.3	mg/L	*	0.1		E300.0	08/24/23 21:12 / SR		C METROHM_230823A : 114		R187509
Hardness as CaCO3	487	mg/L		1		A2340 B	08/25/23 12:25 / SR		CALC_230828A : 1081		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	6.6	mg/L		0.5		A5310 C	08/24/23 05:09 / eli-c		SUB-C298028 : 32		C_R298028
Organic Carbon, Total (TOC)	6.4	mg/L		0.5		A5310 C	08/23/23 21:19 / eli-c		SUB-C298028 : 11		C_R298028
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	1.63	mg/L		0.02		E353.2	08/28/23 19:15 / JAR		SEAL AA500_230828B : 80		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	0.057	mg/L		0.009		E200.8	08/25/23 12:25 / dck		ICPMS205-H_230824B : 194		R187581
Antimony	ND	mg/L		0.0005		E200.8	08/25/23 12:25 / dck		ICPMS205-H_230824B : 194		R187581
Arsenic	1.25	mg/L		0.02		E200.7	08/23/23 18:00 / slj		ICP2-HE_230823B : 98		R187479
Barium	0.022	mg/L		0.003		E200.8	08/25/23 12:25 / dck		ICPMS205-H_230824B : 194		R187581
Beryllium	ND	mg/L		0.0008		E200.8	08/25/23 12:25 / dck		ICPMS205-H_230824B : 194		R187581
Boron	0.33	mg/L		0.05		E200.7	08/23/23 18:00 / slj		ICP2-HE_230823B : 98		R187479
Cadmium	0.00012	mg/L		0.00003		E200.8	08/25/23 12:25 / dck		ICPMS205-H_230824B : 194		R187581
Cesium	ND	mg/L		0.01		E200.8	08/30/23 16:45 / dck		ICPMS206-H_230830B : 89		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** \* - The result exceeds the Maximum Contaminant Level (MCL)

H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10A  
**Lab ID:** H23080811-006  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 12:43 **Date Received:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	123	mg/L		1		E200.7	08/23/23 18:00 / slj		ICP2-HE_230823B : 98		R187479
Chromium	ND	mg/L		0.005		E200.8	08/25/23 12:25 / dck		ICPMS205-H_230824B : 194		R187581
Cobalt	0.010	mg/L		0.005		E200.8	08/25/23 12:25 / dck		ICPMS205-H_230824B : 194		R187581
Copper	ND	mg/L		0.002		E200.8	08/25/23 12:25 / dck		ICPMS205-H_230824B : 194		R187581
Gallium	ND	mg/L		0.01		E200.8	08/30/23 16:45 / dck		ICPMS206-H_230830B : 89		R187736
Iron	50.9	mg/L		0.02		E200.7	08/23/23 18:00 / slj		ICP2-HE_230823B : 98		R187479
Lead	0.0078	mg/L		0.0003		E200.8	08/25/23 12:25 / dck		ICPMS205-H_230824B : 194		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 16:45 / dck		ICPMS206-H_230830B : 89		R187736
Lithium	ND	mg/L		0.1		E200.8	08/25/23 12:25 / dck		ICPMS205-H_230824B : 194		R187581
Magnesium	44	mg/L		1		E200.8	08/25/23 12:25 / dck		ICPMS205-H_230824B : 194		R187581
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 16:45 / dck		ICPMS206-H_230830B : 89		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 16:45 / dck		ICPMS206-H_230830B : 89		R187736
Manganese	10.5	mg/L		0.001		E200.7	08/23/23 18:00 / slj		ICP2-HE_230823B : 98		R187479
Molybdenum	0.013	mg/L		0.001		E200.8	08/25/23 12:25 / dck		ICPMS205-H_230824B : 194		R187581
Nickel	0.004	mg/L		0.002		E200.8	08/25/23 12:25 / dck		ICPMS205-H_230824B : 194		R187581
Palladium	ND	mg/L		0.01		E200.8	08/27/23 19:23 / dck		ICPMS206-H_230827C : 69		R187693
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 16:45 / dck		ICPMS206-H_230830B : 89		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 16:45 / dck		ICPMS206-H_230830B : 89		R187736
Potassium	15	mg/L		1		E200.7	08/23/23 18:00 / slj		ICP2-HE_230823B : 98		R187479
Selenium	ND	mg/L		0.001		E200.8	08/25/23 12:25 / dck		ICPMS205-H_230824B : 194		R187581
Silver	ND	mg/L		0.0002		E200.8	08/25/23 12:25 / dck		ICPMS205-H_230824B : 194		R187581
Sodium	67	mg/L		1		E200.7	08/23/23 18:00 / slj		ICP2-HE_230823B : 98		R187479
Strontium	0.62	mg/L		0.01		E200.7	08/23/23 18:00 / slj		ICP2-HE_230823B : 98		R187479
Thallium	ND	mg/L		0.0002		E200.8	08/25/23 12:25 / dck		ICPMS205-H_230824B : 194		R187581
Thorium	ND	mg/L		0.005		E200.8	08/30/23 16:45 / dck		ICPMS206-H_230830B : 291		R187736
Tin	ND	mg/L		0.05		E200.8	08/25/23 12:25 / dck		ICPMS205-H_230824B : 194		R187581
Titanium	ND	mg/L		0.005		E200.8	08/25/23 12:25 / dck		ICPMS205-H_230824B : 194		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/27/23 19:23 / dck		ICPMS206-H_230827C : 69		R187693
Uranium	0.0115	mg/L		0.0002		E200.8	08/25/23 12:25 / dck		ICPMS205-H_230824B : 194		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/25/23 12:25 / dck		ICPMS205-H_230824B : 194		R187581
Zinc	3.13	mg/L		0.008		E200.7	08/23/23 18:00 / slj		ICP2-HE_230823B : 98		R187479
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 16:45 / dck		ICPMS206-H_230830B : 89		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10A  
**Lab ID:** H23080811-006  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 12:43      **DateReceived:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	2.65	%				A1030 E	08/28/23 11:01 / SR		CALC_230828A : 1079		R187604

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-07  
**Lab ID:** H23080811-007  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 13:06 **Date Received:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.4	s.u.	H	0.1		A4500-H B	08/22/23 12:23 / eek		PHSC_101-H_230822A : 21		R187393
pH Measurement Temp	14.7	°C				A4500-H B	08/22/23 12:23 / eek		PHSC_101-H_230822A : 21		R187393
Conductivity @ 25 C	1820	umhos/cm		5		A2510 B	08/22/23 12:23 / eek		PHSC_101-H_230822A : 22		R187393
Solids, Total Dissolved TDS @ 180 C	1340	mg/L		50		A2540 C	08/23/23 14:39 / eek		124 (14410200)_230823B : 10		TDS230823A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	210	mg/L		4		A2320 B	08/23/23 10:44 / eek		PHSC_101-H_230823A : 24		R187444
Bicarbonate as HCO3	260	mg/L		4		A2320 B	08/23/23 10:44 / eek		PHSC_101-H_230823A : 24		R187444
Carbonate as CO3	ND	mg/L		4		A2320 B	08/23/23 10:44 / eek		PHSC_101-H_230823A : 24		R187444
Chloride	212	mg/L		1		E300.0	08/24/23 21:26 / SR		C METROHM_230823A : 115		R187509
Sulfate	457	mg/L		1		E300.0	08/24/23 21:26 / SR		C METROHM_230823A : 115		R187509
Bromide	0.6	mg/L		0.5		E300.0	08/24/23 21:26 / SR		C METROHM_230823A : 115		R187509
Fluoride	0.8	mg/L		0.1		E300.0	08/24/23 21:26 / SR		C METROHM_230823A : 115		R187509
Hardness as CaCO3	718	mg/L		1		A2340 B	08/25/23 13:24 / SR		CALC_230828A : 938		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	3.1	mg/L		0.5		A5310 C	08/24/23 05:27 / eli-c		SUB-C298028 : 33		C_R298028
Organic Carbon, Total (TOC)	3.1	mg/L		0.5		A5310 C	08/23/23 21:37 / eli-c		SUB-C298028 : 12		C_R298028
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	3.25	mg/L		0.05		E353.2	08/28/23 19:16 / JAR		SEAL AA500_230828B : 81		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	0.010	mg/L		0.009		E200.8	08/25/23 13:24 / dck		ICPMS205-H_230824B : 205		R187581
Antimony	ND	mg/L		0.0005		E200.8	08/25/23 13:24 / dck		ICPMS205-H_230824B : 205		R187581
Arsenic	0.004	mg/L		0.001		E200.8	08/25/23 13:24 / dck		ICPMS205-H_230824B : 205		R187581
Barium	0.035	mg/L		0.003		E200.8	08/25/23 13:24 / dck		ICPMS205-H_230824B : 205		R187581
Beryllium	ND	mg/L		0.0008		E200.8	08/25/23 13:24 / dck		ICPMS205-H_230824B : 205		R187581
Boron	0.67	mg/L		0.05		E200.7	08/23/23 18:04 / slj		ICP2-HE_230823B : 99		R187479
Cadmium	0.0266	mg/L		0.00003		E200.8	08/25/23 13:24 / dck		ICPMS205-H_230824B : 205		R187581
Cesium	ND	mg/L		0.01		E200.8	08/27/23 18:04 / dck		ICPMS206-H_230827C : 41		R187693

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-07  
**Lab ID:** H23080811-007  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 13:06 **Date Received:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	191	mg/L		1		E200.7	08/23/23 18:04 / slj		ICP2-HE_230823B : 99		R187479
Chromium	ND	mg/L		0.005		E200.8	08/25/23 13:24 / dck		ICPMS205-H_230824B : 205		R187581
Cobalt	0.010	mg/L		0.005		E200.8	08/25/23 13:24 / dck		ICPMS205-H_230824B : 205		R187581
Copper	0.098	mg/L		0.002		E200.8	08/25/23 13:24 / dck		ICPMS205-H_230824B : 205		R187581
Gallium	ND	mg/L		0.01		E200.8	08/27/23 18:04 / dck		ICPMS206-H_230827C : 41		R187693
Iron	0.02	mg/L		0.02		E200.8	08/25/23 13:24 / dck		ICPMS205-H_230824B : 205		R187581
Lead	ND	mg/L		0.0003		E200.8	08/25/23 13:24 / dck		ICPMS205-H_230824B : 205		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/27/23 18:04 / dck		ICPMS206-H_230827C : 41		R187693
Lithium	0.2	mg/L		0.1		E200.8	08/25/23 13:24 / dck		ICPMS205-H_230824B : 205		R187581
Magnesium	59	mg/L		1		E200.8	08/25/23 13:24 / dck		ICPMS205-H_230824B : 205		R187581
Neodymium	ND	mg/L		0.005		E200.8	08/27/23 18:04 / dck		ICPMS206-H_230827C : 41		R187693
Niobium	ND	mg/L		0.01		E200.8	08/30/23 16:55 / dck		ICPMS206-H_230830B : 94		R187736
Manganese	34.6	mg/L		0.001		E200.7	08/23/23 18:04 / slj		ICP2-HE_230823B : 99		R187479
Molybdenum	0.019	mg/L		0.001		E200.8	08/25/23 13:24 / dck		ICPMS205-H_230824B : 205		R187581
Nickel	0.057	mg/L		0.002		E200.8	08/25/23 13:24 / dck		ICPMS205-H_230824B : 205		R187581
Palladium	ND	mg/L		0.01		E200.8	08/27/23 18:04 / dck		ICPMS206-H_230827C : 41		R187693
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 16:55 / dck		ICPMS206-H_230830B : 94		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/27/23 18:04 / dck		ICPMS206-H_230827C : 41		R187693
Potassium	12	mg/L		1		E200.7	08/23/23 18:04 / slj		ICP2-HE_230823B : 99		R187479
Selenium	ND	mg/L		0.001		E200.8	08/25/23 13:24 / dck		ICPMS205-H_230824B : 205		R187581
Silver	ND	mg/L		0.0002		E200.8	08/25/23 13:24 / dck		ICPMS205-H_230824B : 205		R187581
Sodium	89	mg/L		1		E200.7	08/23/23 18:04 / slj		ICP2-HE_230823B : 99		R187479
Strontium	1.49	mg/L		0.01		E200.7	08/23/23 18:04 / slj		ICP2-HE_230823B : 99		R187479
Thallium	ND	mg/L		0.0002		E200.8	08/25/23 13:24 / dck		ICPMS205-H_230824B : 205		R187581
Thorium	ND	mg/L		0.005		E200.8	08/30/23 16:55 / dck		ICPMS206-H_230830B : 296		R187736
Tin	ND	mg/L		0.05		E200.8	08/25/23 13:24 / dck		ICPMS205-H_230824B : 205		R187581
Titanium	ND	mg/L		0.005		E200.8	08/25/23 13:24 / dck		ICPMS205-H_230824B : 205		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/27/23 18:04 / dck		ICPMS206-H_230827C : 41		R187693
Uranium	0.0328	mg/L		0.0002		E200.8	08/25/23 13:24 / dck		ICPMS205-H_230824B : 205		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/25/23 13:24 / dck		ICPMS205-H_230824B : 205		R187581
Zinc	10.5	mg/L		0.008		E200.7	08/23/23 18:04 / slj		ICP2-HE_230823B : 99		R187479
Zirconium	ND	mg/L		0.005		E200.8	08/27/23 18:04 / dck		ICPMS206-H_230827C : 41		R187693

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-07  
**Lab ID:** H23080811-007  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 13:06      **DateReceived:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-3.31	%				A1030 E	08/28/23 10:25 / SR		CALC_230828A : 936		R187604

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10B  
**Lab ID:** H23080811-008  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 13:15 **Date Received:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.6	s.u.	H	0.1		A4500-H B	08/22/23 12:25 / eek		PHSC_101-H_230822A : 23		R187393
pH Measurement Temp	14.9	°C				A4500-H B	08/22/23 12:25 / eek		PHSC_101-H_230822A : 23		R187393
Conductivity @ 25 C	1260	umhos/cm		5		A2510 B	08/22/23 12:25 / eek		PHSC_101-H_230822A : 24		R187393
Solids, Total Dissolved TDS @ 180 C	961	mg/L		20		A2540 C	08/23/23 14:40 / eek		124 (14410200)_230823B : 11		TDS230823A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	57	mg/L		4		A2320 B	08/23/23 10:52 / eek		PHSC_101-H_230823A : 26		R187444
Bicarbonate as HCO3	69	mg/L		4		A2320 B	08/23/23 10:52 / eek		PHSC_101-H_230823A : 26		R187444
Carbonate as CO3	ND	mg/L		4		A2320 B	08/23/23 10:52 / eek		PHSC_101-H_230823A : 26		R187444
Chloride	24	mg/L		1		E300.0	08/24/23 21:41 / SR		C METROHM_230823A : 116		R187509
Sulfate	587	mg/L		1		E300.0	08/24/23 21:41 / SR		C METROHM_230823A : 116		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 21:41 / SR		C METROHM_230823A : 116		R187509
Fluoride	0.6	mg/L		0.1		E300.0	08/24/23 21:41 / SR		C METROHM_230823A : 116		R187509
Hardness as CaCO3	509	mg/L		1		A2340 B	08/25/23 12:29 / SR		CALC_230828A : 949		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	08/24/23 05:45 / eli-c		SUB-C298028 : 34		C_R298028
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	08/23/23 21:54 / eli-c		SUB-C298028 : 13		C_R298028
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	1.05	mg/L		0.01		E353.2	08/28/23 19:17 / JAR		SEAL AA500_230828B : 82		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/25/23 12:29 / dck		ICPMS205-H_230824B : 195		R187581
Antimony	ND	mg/L		0.0005		E200.8	08/25/23 12:29 / dck		ICPMS205-H_230824B : 195		R187581
Arsenic	0.007	mg/L		0.001		E200.8	08/25/23 12:29 / dck		ICPMS205-H_230824B : 195		R187581
Barium	0.012	mg/L		0.003		E200.8	08/25/23 12:29 / dck		ICPMS205-H_230824B : 195		R187581
Beryllium	ND	mg/L		0.0008		E200.8	08/25/23 12:29 / dck		ICPMS205-H_230824B : 195		R187581
Boron	0.10	mg/L		0.05		E200.7	08/23/23 18:15 / slj		ICP2-HE_230823B : 102		R187479
Cadmium	0.00721	mg/L		0.00003		E200.8	08/25/23 12:29 / dck		ICPMS205-H_230824B : 195		R187581
Cesium	ND	mg/L		0.01		E200.8	08/30/23 16:57 / dck		ICPMS206-H_230830B : 95		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10B  
**Lab ID:** H23080811-008  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 13:15  
**Date Received:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	148	mg/L		1		E200.7	08/23/23 18:15 / slj		ICP2-HE_230823B : 102		R187479
Chromium	ND	mg/L		0.005		E200.8	08/25/23 12:29 / dck		ICPMS205-H_230824B : 195		R187581
Cobalt	ND	mg/L		0.005		E200.8	08/25/23 12:29 / dck		ICPMS205-H_230824B : 195		R187581
Copper	0.157	mg/L		0.002		E200.8	08/25/23 12:29 / dck		ICPMS205-H_230824B : 195		R187581
Gallium	ND	mg/L		0.01		E200.8	08/30/23 16:57 / dck		ICPMS206-H_230830B : 95		R187736
Iron	ND	mg/L		0.02		E200.8	08/25/23 12:29 / dck		ICPMS205-H_230824B : 195		R187581
Lead	ND	mg/L		0.0003		E200.8	08/25/23 12:29 / dck		ICPMS205-H_230824B : 195		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 16:57 / dck		ICPMS206-H_230830B : 95		R187736
Lithium	0.3	mg/L		0.1		E200.8	08/25/23 12:29 / dck		ICPMS205-H_230824B : 195		R187581
Magnesium	34	mg/L		1		E200.8	08/25/23 12:29 / dck		ICPMS205-H_230824B : 195		R187581
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 16:57 / dck		ICPMS206-H_230830B : 95		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 16:57 / dck		ICPMS206-H_230830B : 95		R187736
Manganese	0.003	mg/L		0.001		E200.8	08/29/23 18:02 / dck		ICPMS206-H_230829A : 50		R187694
Molybdenum	0.002	mg/L		0.001		E200.8	08/29/23 18:02 / dck		ICPMS206-H_230829A : 50		R187694
Nickel	0.005	mg/L		0.002		E200.8	08/25/23 12:29 / dck		ICPMS205-H_230824B : 195		R187581
Palladium	ND	mg/L		0.01		E200.8	08/27/23 19:26 / dck		ICPMS206-H_230827C : 70		R187693
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 16:57 / dck		ICPMS206-H_230830B : 95		R187736
Rubidium	0.02	mg/L		0.01		E200.8	08/30/23 16:57 / dck		ICPMS206-H_230830B : 95		R187736
Potassium	13	mg/L		1		E200.7	08/23/23 18:15 / slj		ICP2-HE_230823B : 102		R187479
Selenium	ND	mg/L		0.001		E200.8	08/25/23 12:29 / dck		ICPMS205-H_230824B : 195		R187581
Silver	ND	mg/L		0.0002		E200.8	08/25/23 12:29 / dck		ICPMS205-H_230824B : 195		R187581
Sodium	79	mg/L		1		E200.7	08/23/23 18:15 / slj		ICP2-HE_230823B : 102		R187479
Strontium	1.73	mg/L		0.01		E200.7	08/23/23 18:15 / slj		ICP2-HE_230823B : 102		R187479
Thallium	ND	mg/L		0.0002		E200.8	08/25/23 12:29 / dck		ICPMS205-H_230824B : 195		R187581
Thorium	ND	mg/L		0.005		E200.8	08/29/23 18:02 / dck		ICPMS206-H_230829A : 50		R187694
Tin	ND	mg/L		0.05		E200.8	08/25/23 12:29 / dck		ICPMS205-H_230824B : 195		R187581
Titanium	ND	mg/L		0.005		E200.8	08/25/23 12:29 / dck		ICPMS205-H_230824B : 195		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/27/23 19:26 / dck		ICPMS206-H_230827C : 70		R187693
Uranium	0.0014	mg/L		0.0002		E200.8	08/25/23 12:29 / dck		ICPMS205-H_230824B : 195		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/25/23 12:29 / dck		ICPMS205-H_230824B : 195		R187581
Zinc	1.26	mg/L		0.008		E200.7	08/23/23 18:15 / slj		ICP2-HE_230823B : 102		R187479
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 16:57 / dck		ICPMS206-H_230830B : 95		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10B  
**Lab ID:** H23080811-008  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 13:15      **DateReceived:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-0.53	%				A1030 E	08/28/23 10:25 / SR		CALC_230828A : 947		R187604

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-07B  
**Lab ID:** H23080811-009  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 13:39 **Date Received:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.3	s.u.	H	0.1		A4500-H B	08/22/23 12:27 / eek		PHSC_101-H_230822A : 25		R187393
pH Measurement Temp	15.6	°C				A4500-H B	08/22/23 12:27 / eek		PHSC_101-H_230822A : 25		R187393
Conductivity @ 25 C	1230	umhos/cm		5		A2510 B	08/22/23 12:27 / eek		PHSC_101-H_230822A : 26		R187393
Solids, Total Dissolved TDS @ 180 C	899	mg/L		20		A2540 C	08/23/23 14:40 / eek		124 (14410200)_230823B : 12		TDS230823A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	150	mg/L		4		A2320 B	08/23/23 10:59 / eek		PHSC_101-H_230823A : 28		R187444
Bicarbonate as HCO3	180	mg/L		4		A2320 B	08/23/23 10:59 / eek		PHSC_101-H_230823A : 28		R187444
Carbonate as CO3	ND	mg/L		4		A2320 B	08/23/23 10:59 / eek		PHSC_101-H_230823A : 28		R187444
Chloride	81	mg/L		1		E300.0	08/24/23 21:55 / SR		C METROHM_230823A : 117		R187509
Sulfate	354	mg/L		1		E300.0	08/24/23 21:55 / SR		C METROHM_230823A : 117		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 21:55 / SR		C METROHM_230823A : 117		R187509
Fluoride	0.8	mg/L		0.1		E300.0	08/24/23 21:55 / SR		C METROHM_230823A : 117		R187509
Hardness as CaCO3	465	mg/L		1		A2340 B	08/25/23 13:32 / SR		CALC_230828A : 960		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.9	mg/L		0.5		A5310 C	08/24/23 06:06 / eli-c		SUB-C298028 : 35		C_R298028
Organic Carbon, Total (TOC)	1.8	mg/L		0.5		A5310 C	08/23/23 22:49 / eli-c		SUB-C298028 : 15		C_R298028
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	8.0	mg/L		0.1		E353.2	08/28/23 19:18 / JAR		SEAL AA500_230828B : 83		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/25/23 13:32 / dck		ICPMS205-H_230824B : 207		R187581
Antimony	ND	mg/L		0.0005		E200.8	08/25/23 13:32 / dck		ICPMS205-H_230824B : 207		R187581
Arsenic	0.003	mg/L		0.001		E200.8	08/25/23 13:32 / dck		ICPMS205-H_230824B : 207		R187581
Barium	0.020	mg/L		0.003		E200.8	08/25/23 13:32 / dck		ICPMS205-H_230824B : 207		R187581
Beryllium	ND	mg/L		0.0008		E200.8	08/25/23 13:32 / dck		ICPMS205-H_230824B : 207		R187581
Boron	0.31	mg/L		0.05		E200.7	08/23/23 18:19 / slj		ICP2-HE_230823B : 103		R187479
Cadmium	0.0318	mg/L		0.00003		E200.8	08/25/23 13:32 / dck		ICPMS205-H_230824B : 207		R187581
Cesium	ND	mg/L		0.01		E200.8	08/27/23 18:09 / dck		ICPMS206-H_230827C : 43		R187693

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-07B  
**Lab ID:** H23080811-009  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 13:39 **Date Received:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	120	mg/L		1		E200.7	08/23/23 18:19 / slj		ICP2-HE_230823B : 103		R187479
Chromium	ND	mg/L		0.005		E200.8	08/25/23 13:32 / dck		ICPMS205-H_230824B : 207		R187581
Cobalt	0.007	mg/L		0.005		E200.8	08/25/23 13:32 / dck		ICPMS205-H_230824B : 207		R187581
Copper	0.397	mg/L		0.002		E200.8	08/25/23 13:32 / dck		ICPMS205-H_230824B : 207		R187581
Gallium	ND	mg/L		0.01		E200.8	08/27/23 18:09 / dck		ICPMS206-H_230827C : 43		R187693
Iron	ND	mg/L		0.02		E200.8	08/25/23 13:32 / dck		ICPMS205-H_230824B : 207		R187581
Lead	0.0005	mg/L		0.0003		E200.8	08/25/23 13:32 / dck		ICPMS205-H_230824B : 207		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/27/23 18:09 / dck		ICPMS206-H_230827C : 43		R187693
Lithium	0.2	mg/L		0.1		E200.8	08/25/23 13:32 / dck		ICPMS205-H_230824B : 207		R187581
Magnesium	40	mg/L		1		E200.8	08/25/23 13:32 / dck		ICPMS205-H_230824B : 207		R187581
Neodymium	ND	mg/L		0.005		E200.8	08/27/23 18:09 / dck		ICPMS206-H_230827C : 43		R187693
Niobium	ND	mg/L		0.01		E200.8	08/30/23 16:59 / dck		ICPMS206-H_230830B : 96		R187736
Manganese	15.9	mg/L		0.001		E200.7	08/23/23 18:19 / slj		ICP2-HE_230823B : 103		R187479
Molybdenum	0.002	mg/L		0.001		E200.8	08/25/23 13:32 / dck		ICPMS205-H_230824B : 207		R187581
Nickel	0.032	mg/L		0.002		E200.8	08/25/23 13:32 / dck		ICPMS205-H_230824B : 207		R187581
Palladium	ND	mg/L		0.01		E200.8	08/27/23 18:09 / dck		ICPMS206-H_230827C : 43		R187693
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 16:59 / dck		ICPMS206-H_230830B : 96		R187736
Rubidium	0.01	mg/L		0.01		E200.8	08/27/23 18:09 / dck		ICPMS206-H_230827C : 43		R187693
Potassium	12	mg/L		1		E200.7	08/23/23 18:19 / slj		ICP2-HE_230823B : 103		R187479
Selenium	ND	mg/L		0.001		E200.8	08/25/23 13:32 / dck		ICPMS205-H_230824B : 207		R187581
Silver	0.0003	mg/L		0.0002		E200.8	08/25/23 13:32 / dck		ICPMS205-H_230824B : 207		R187581
Sodium	67	mg/L		1		E200.7	08/23/23 18:19 / slj		ICP2-HE_230823B : 103		R187479
Strontium	1.19	mg/L		0.01		E200.7	08/23/23 18:19 / slj		ICP2-HE_230823B : 103		R187479
Thallium	ND	mg/L		0.0002		E200.8	08/25/23 13:32 / dck		ICPMS205-H_230824B : 207		R187581
Thorium	ND	mg/L		0.005		E200.8	08/30/23 16:59 / dck		ICPMS206-H_230830B : 298		R187736
Tin	ND	mg/L		0.05		E200.8	08/25/23 13:32 / dck		ICPMS205-H_230824B : 207		R187581
Titanium	ND	mg/L		0.005		E200.8	08/25/23 13:32 / dck		ICPMS205-H_230824B : 207		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/27/23 18:09 / dck		ICPMS206-H_230827C : 43		R187693
Uranium	0.0032	mg/L		0.0002		E200.8	08/25/23 13:32 / dck		ICPMS205-H_230824B : 207		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/25/23 13:32 / dck		ICPMS205-H_230824B : 207		R187581
Zinc	6.35	mg/L		0.008		E200.7	08/23/23 18:19 / slj		ICP2-HE_230823B : 103		R187479
Zirconium	ND	mg/L		0.005		E200.8	08/27/23 18:09 / dck		ICPMS206-H_230827C : 43		R187693

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-07B  
**Lab ID:** H23080811-009  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 13:39      **DateReceived:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-0.66	%				A1030 E	08/28/23 10:26 / SR		CALC_230828A : 958		R187604

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10C  
**Lab ID:** H23080811-010  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 13:52 **Date Received:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.8	s.u.	H	0.1		A4500-H B	08/22/23 12:28 / eek		PHSC_101-H_230822A : 27		R187393
pH Measurement Temp	15.3	°C				A4500-H B	08/22/23 12:28 / eek		PHSC_101-H_230822A : 27		R187393
Conductivity @ 25 C	1060	umhos/cm		5		A2510 B	08/22/23 12:28 / eek		PHSC_101-H_230822A : 28		R187393
Solids, Total Dissolved TDS @ 180 C	798	mg/L		20		A2540 C	08/23/23 14:40 / eek		124 (14410200)_230823B : 13		TDS230823A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	70	mg/L		4		A2320 B	08/23/23 11:06 / eek		PHSC_101-H_230823A : 30		R187444
Bicarbonate as HCO3	85	mg/L		4		A2320 B	08/23/23 11:06 / eek		PHSC_101-H_230823A : 30		R187444
Carbonate as CO3	ND	mg/L		4		A2320 B	08/23/23 11:06 / eek		PHSC_101-H_230823A : 30		R187444
Chloride	11	mg/L		1		E300.0	08/24/23 22:10 / SR		C METROHM_230823A : 118		R187509
Sulfate	478	mg/L		1		E300.0	08/24/23 22:10 / SR		C METROHM_230823A : 118		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 22:10 / SR		C METROHM_230823A : 118		R187509
Fluoride	0.6	mg/L		0.1		E300.0	08/24/23 22:10 / SR		C METROHM_230823A : 118		R187509
Hardness as CaCO3	416	mg/L		1		A2340 B	08/25/23 01:50 / SR		CALC_230828A : 971		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	08/24/23 06:21 / eli-c		SUB-C298028 : 36		C_R298028
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	08/23/23 23:43 / eli-c		SUB-C298028 : 18		C_R298028
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.19	mg/L		0.01		E353.2	08/28/23 19:19 / JAR		SEAL AA500_230828B : 84		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/25/23 12:32 / dck		ICPMS205-H_230824B : 196		R187581
Antimony	ND	mg/L		0.0005		E200.8	08/25/23 12:32 / dck		ICPMS205-H_230824B : 196		R187581
Arsenic	0.003	mg/L		0.001		E200.8	08/25/23 12:32 / dck		ICPMS205-H_230824B : 196		R187581
Barium	0.011	mg/L		0.003		E200.8	08/25/23 12:32 / dck		ICPMS205-H_230824B : 196		R187581
Beryllium	ND	mg/L		0.0008		E200.8	08/25/23 12:32 / dck		ICPMS205-H_230824B : 196		R187581
Boron	0.08	mg/L		0.05		E200.7	08/23/23 18:23 / slj		ICP2-HE_230823B : 104		R187479
Cadmium	0.00200	mg/L		0.00003		E200.8	08/25/23 12:32 / dck		ICPMS205-H_230824B : 196		R187581
Cesium	ND	mg/L		0.01		E200.8	08/30/23 17:01 / dck		ICPMS206-H_230830B : 97		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10C  
**Lab ID:** H23080811-010  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 13:52 **Date Received:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	123	mg/L		1		E200.7	08/23/23 18:23 / slj		ICP2-HE_230823B : 104		R187479
Chromium	ND	mg/L		0.005		E200.8	08/25/23 12:32 / dck		ICPMS205-H_230824B : 196		R187581
Cobalt	ND	mg/L		0.005		E200.8	08/25/23 12:32 / dck		ICPMS205-H_230824B : 196		R187581
Copper	ND	mg/L		0.002		E200.8	08/25/23 12:32 / dck		ICPMS205-H_230824B : 196		R187581
Gallium	ND	mg/L		0.01		E200.8	08/30/23 17:01 / dck		ICPMS206-H_230830B : 97		R187736
Iron	ND	mg/L		0.02		E200.8	08/25/23 12:32 / dck		ICPMS205-H_230824B : 196		R187581
Lead	ND	mg/L		0.0003		E200.8	08/25/23 12:32 / dck		ICPMS205-H_230824B : 196		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 17:01 / dck		ICPMS206-H_230830B : 97		R187736
Lithium	0.2	mg/L		0.1		E200.8	08/25/23 12:32 / dck		ICPMS205-H_230824B : 196		R187581
Magnesium	26	mg/L		1		E200.7	08/25/23 01:50 / slj		ICP2-HE_230824B : 128		R187553
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 17:01 / dck		ICPMS206-H_230830B : 97		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 17:01 / dck		ICPMS206-H_230830B : 97		R187736
Manganese	0.001	mg/L		0.001		E200.8	08/25/23 12:32 / dck		ICPMS205-H_230824B : 196		R187581
Molybdenum	0.010	mg/L		0.001		E200.8	08/25/23 12:32 / dck		ICPMS205-H_230824B : 196		R187581
Nickel	ND	mg/L		0.002		E200.8	08/25/23 12:32 / dck		ICPMS205-H_230824B : 196		R187581
Palladium	ND	mg/L		0.01		E200.8	08/27/23 19:28 / dck		ICPMS206-H_230827C : 71		R187693
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 17:01 / dck		ICPMS206-H_230830B : 97		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 17:01 / dck		ICPMS206-H_230830B : 97		R187736
Potassium	11	mg/L		1		E200.7	08/23/23 18:23 / slj		ICP2-HE_230823B : 104		R187479
Selenium	ND	mg/L		0.001		E200.8	08/25/23 12:32 / dck		ICPMS205-H_230824B : 196		R187581
Silver	ND	mg/L		0.0002		E200.8	08/25/23 12:32 / dck		ICPMS205-H_230824B : 196		R187581
Sodium	67	mg/L		1		E200.7	08/23/23 18:23 / slj		ICP2-HE_230823B : 104		R187479
Strontium	1.32	mg/L		0.01		E200.7	08/23/23 18:23 / slj		ICP2-HE_230823B : 104		R187479
Thallium	ND	mg/L		0.0002		E200.8	08/25/23 12:32 / dck		ICPMS205-H_230824B : 196		R187581
Thorium	ND	mg/L		0.005		E200.8	08/30/23 17:01 / dck		ICPMS206-H_230830B : 299		R187736
Tin	ND	mg/L		0.05		E200.8	08/25/23 12:32 / dck		ICPMS205-H_230824B : 196		R187581
Titanium	ND	mg/L		0.005		E200.8	08/25/23 12:32 / dck		ICPMS205-H_230824B : 196		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/27/23 19:28 / dck		ICPMS206-H_230827C : 71		R187693
Uranium	0.0025	mg/L		0.0002		E200.8	08/25/23 12:32 / dck		ICPMS205-H_230824B : 196		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/25/23 12:32 / dck		ICPMS205-H_230824B : 196		R187581
Zinc	0.154	mg/L		0.008		E200.8	08/25/23 12:32 / dck		ICPMS205-H_230824B : 196		R187581
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 17:01 / dck		ICPMS206-H_230830B : 97		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10C  
**Lab ID:** H23080811-010  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 13:52      **DateReceived:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-0.83	%				A1030 E	08/28/23 10:26 / SR		CALC_230828A : 969		R187604

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-06A  
**Lab ID:** H23080811-011  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 14:10 **Date Received:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.4	s.u.	H	0.1		A4500-H B	08/22/23 12:30 / eek		PHSC_101-H_230822A : 29		R187393
pH Measurement Temp	14.8	°C				A4500-H B	08/22/23 12:30 / eek		PHSC_101-H_230822A : 29		R187393
Conductivity @ 25 C	1640	umhos/cm		5		A2510 B	08/22/23 12:30 / eek		PHSC_101-H_230822A : 30		R187393
Solids, Total Dissolved TDS @ 180 C	1220	mg/L		20		A2540 C	08/23/23 14:41 / eek		124 (14410200)_230823B : 14		TDS230823A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	200	mg/L		4		A2320 B	08/23/23 11:13 / eek		PHSC_101-H_230823A : 32		R187444
Bicarbonate as HCO3	250	mg/L		4		A2320 B	08/23/23 11:13 / eek		PHSC_101-H_230823A : 32		R187444
Carbonate as CO3	ND	mg/L		4		A2320 B	08/23/23 11:13 / eek		PHSC_101-H_230823A : 32		R187444
Chloride	183	mg/L		1		E300.0	08/24/23 22:24 / SR		C METROHM_230823A : 119		R187509
Sulfate	419	mg/L		1		E300.0	08/24/23 22:24 / SR		C METROHM_230823A : 119		R187509
Bromide	0.6	mg/L		0.5		E300.0	08/24/23 22:24 / SR		C METROHM_230823A : 119		R187509
Fluoride	0.6	mg/L		0.1		E300.0	08/24/23 22:24 / SR		C METROHM_230823A : 119		R187509
Hardness as CaCO3	615	mg/L		1		A2340 B	08/25/23 01:54 / SR		CALC_230828A : 1092		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	3.3	mg/L		0.5		A5310 C	08/24/23 07:18 / eli-c		SUB-C298028 : 38		C_R298028
Organic Carbon, Total (TOC)	2.8	mg/L		0.5		A5310 C	08/24/23 00:05 / eli-c		SUB-C298028 : 19		C_R298028
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.39	mg/L		0.01		E353.2	08/28/23 19:20 / JAR		SEAL AA500_230828B : 85		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/25/23 13:39 / dck		ICPMS205-H_230824B : 209		R187581
Antimony	0.0019	mg/L		0.0005		E200.8	08/25/23 13:39 / dck		ICPMS205-H_230824B : 209		R187581
Arsenic	0.007	mg/L		0.001		E200.8	08/25/23 13:39 / dck		ICPMS205-H_230824B : 209		R187581
Barium	0.028	mg/L		0.003		E200.8	08/25/23 13:39 / dck		ICPMS205-H_230824B : 209		R187581
Beryllium	ND	mg/L		0.0008		E200.8	08/25/23 13:39 / dck		ICPMS205-H_230824B : 209		R187581
Boron	0.48	mg/L		0.05		E200.7	08/23/23 18:26 / slj		ICP2-HE_230823B : 105		R187479
Cadmium	0.0468	mg/L		0.00003		E200.8	08/25/23 13:39 / dck		ICPMS205-H_230824B : 209		R187581
Cesium	ND	mg/L		0.01		E200.8	08/27/23 18:15 / dck		ICPMS206-H_230827C : 45		R187693

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-06A  
**Lab ID:** H23080811-011  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 14:10 **Date Received:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	175	mg/L		1		E200.7	08/23/23 18:26 / slj		ICP2-HE_230823B : 105		R187479
Chromium	ND	mg/L		0.005		E200.8	08/25/23 13:39 / dck		ICPMS205-H_230824B : 209		R187581
Cobalt	0.016	mg/L		0.005		E200.8	08/25/23 13:39 / dck		ICPMS205-H_230824B : 209		R187581
Copper	0.206	mg/L		0.002		E200.8	08/25/23 13:39 / dck		ICPMS205-H_230824B : 209		R187581
Gallium	ND	mg/L		0.01		E200.8	08/27/23 18:15 / dck		ICPMS206-H_230827C : 45		R187693
Iron	0.06	mg/L		0.02		E200.8	08/25/23 13:39 / dck		ICPMS205-H_230824B : 209		R187581
Lead	0.0682	mg/L		0.0003		E200.8	08/25/23 13:39 / dck		ICPMS205-H_230824B : 209		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/27/23 18:15 / dck		ICPMS206-H_230827C : 45		R187693
Lithium	0.2	mg/L		0.1		E200.8	08/25/23 13:39 / dck		ICPMS205-H_230824B : 209		R187581
Magnesium	43	mg/L		1		E200.7	08/25/23 01:54 / slj		ICP2-HE_230824B : 129		R187553
Neodymium	ND	mg/L		0.005		E200.8	08/27/23 18:15 / dck		ICPMS206-H_230827C : 45		R187693
Niobium	ND	mg/L		0.01		E200.8	08/30/23 17:03 / dck		ICPMS206-H_230830B : 98		R187736
Manganese	22.0	mg/L		0.001		E200.7	08/23/23 18:26 / slj		ICP2-HE_230823B : 105		R187479
Molybdenum	0.015	mg/L		0.001		E200.8	08/25/23 13:39 / dck		ICPMS205-H_230824B : 209		R187581
Nickel	0.026	mg/L		0.002		E200.8	08/25/23 13:39 / dck		ICPMS205-H_230824B : 209		R187581
Palladium	ND	mg/L		0.01		E200.8	08/27/23 18:15 / dck		ICPMS206-H_230827C : 45		R187693
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 17:03 / dck		ICPMS206-H_230830B : 98		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/27/23 18:15 / dck		ICPMS206-H_230827C : 45		R187693
Potassium	11	mg/L		1		E200.7	08/23/23 18:26 / slj		ICP2-HE_230823B : 105		R187479
Selenium	ND	mg/L		0.001		E200.8	08/25/23 13:39 / dck		ICPMS205-H_230824B : 209		R187581
Silver	ND	mg/L		0.0002		E200.8	08/25/23 13:39 / dck		ICPMS205-H_230824B : 209		R187581
Sodium	83	mg/L		1		E200.7	08/23/23 18:26 / slj		ICP2-HE_230823B : 105		R187479
Strontium	1.36	mg/L		0.01		E200.7	08/23/23 18:26 / slj		ICP2-HE_230823B : 105		R187479
Thallium	ND	mg/L		0.0002		E200.8	08/25/23 13:39 / dck		ICPMS205-H_230824B : 209		R187581
Thorium	ND	mg/L		0.005		E200.8	08/30/23 17:03 / dck		ICPMS206-H_230830B : 300		R187736
Tin	ND	mg/L		0.05		E200.8	08/25/23 13:39 / dck		ICPMS205-H_230824B : 209		R187581
Titanium	ND	mg/L		0.005		E200.8	08/25/23 13:39 / dck		ICPMS205-H_230824B : 209		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/27/23 18:15 / dck		ICPMS206-H_230827C : 45		R187693
Uranium	0.0254	mg/L		0.0002		E200.8	08/25/23 13:39 / dck		ICPMS205-H_230824B : 209		R187581
Vanadium	0.01	mg/L		0.01		E200.8	08/25/23 13:39 / dck		ICPMS205-H_230824B : 209		R187581
Zinc	4.54	mg/L		0.008		E200.7	08/23/23 18:26 / slj		ICP2-HE_230823B : 105		R187479
Zirconium	ND	mg/L		0.005		E200.8	08/27/23 18:15 / dck		ICPMS206-H_230827C : 45		R187693

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-06A  
**Lab ID:** H23080811-011  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 14:10      **DateReceived:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-2.76	%				A1030 E	08/28/23 11:02 / SR		CALC_230828A : 1090		R187604

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-24C  
**Lab ID:** H23080811-012  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 14:33 **Date Received:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.6	s.u.	H	0.1		A4500-H B	08/22/23 12:32 / eek		PHSC_101-H_230822A : 31		R187393
pH Measurement Temp	14.8	°C				A4500-H B	08/22/23 12:32 / eek		PHSC_101-H_230822A : 31		R187393
Conductivity @ 25 C	1150	umhos/cm		5		A2510 B	08/22/23 12:32 / eek		PHSC_101-H_230822A : 32		R187393
Solids, Total Dissolved TDS @ 180 C	859	mg/L		20		A2540 C	08/23/23 14:41 / eek		124 (14410200)_230823B : 15		TDS230823A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	68	mg/L		4		A2320 B	08/23/23 11:20 / eek		PHSC_101-H_230823A : 34		R187444
Bicarbonate as HCO3	83	mg/L		4		A2320 B	08/23/23 11:20 / eek		PHSC_101-H_230823A : 34		R187444
Carbonate as CO3	ND	mg/L		4		A2320 B	08/23/23 11:20 / eek		PHSC_101-H_230823A : 34		R187444
Chloride	27	mg/L		1		E300.0	08/24/23 22:39 / SR		C METROHM_230823A : 120		R187509
Sulfate	504	mg/L		1		E300.0	08/24/23 22:39 / SR		C METROHM_230823A : 120		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 22:39 / SR		C METROHM_230823A : 120		R187509
Fluoride	0.5	mg/L		0.1		E300.0	08/24/23 22:39 / SR		C METROHM_230823A : 120		R187509
Hardness as CaCO3	410	mg/L		1		A2340 B	08/25/23 01:57 / SR		CALC_230828A : 982		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	08/24/23 08:12 / eli-c		SUB-C298028 : 41		C_R298028
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	08/24/23 00:27 / eli-c		SUB-C298028 : 20		C_R298028
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.12	mg/L		0.01		E353.2	08/28/23 19:23 / JAR		SEAL AA500_230828B : 88		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/25/23 12:35 / dck		ICPMS205-H_230824B : 197		R187581
Antimony	ND	mg/L		0.0005		E200.8	08/25/23 12:35 / dck		ICPMS205-H_230824B : 197		R187581
Arsenic	0.008	mg/L		0.001		E200.8	08/25/23 12:35 / dck		ICPMS205-H_230824B : 197		R187581
Barium	0.014	mg/L		0.003		E200.8	08/25/23 12:35 / dck		ICPMS205-H_230824B : 197		R187581
Beryllium	ND	mg/L		0.0008		E200.8	08/25/23 12:35 / dck		ICPMS205-H_230824B : 197		R187581
Boron	0.10	mg/L		0.05		E200.7	08/23/23 18:30 / slj		ICP2-HE_230823B : 106		R187479
Cadmium	0.00398	mg/L		0.00003		E200.8	08/25/23 12:35 / dck		ICPMS205-H_230824B : 197		R187581
Cesium	ND	mg/L		0.01		E200.8	08/30/23 17:05 / dck		ICPMS206-H_230830B : 99		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-24C  
**Lab ID:** H23080811-012  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 14:33 **Date Received:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	126	mg/L		1		E200.7	08/23/23 18:30 / slj		ICP2-HE_230823B : 106		R187479
Chromium	ND	mg/L		0.005		E200.8	08/25/23 12:35 / dck		ICPMS205-H_230824B : 197		R187581
Cobalt	ND	mg/L		0.005		E200.8	08/25/23 12:35 / dck		ICPMS205-H_230824B : 197		R187581
Copper	0.055	mg/L		0.002		E200.8	08/25/23 12:35 / dck		ICPMS205-H_230824B : 197		R187581
Gallium	ND	mg/L		0.01		E200.8	08/30/23 17:05 / dck		ICPMS206-H_230830B : 99		R187736
Iron	ND	mg/L		0.02		E200.8	08/25/23 12:35 / dck		ICPMS205-H_230824B : 197		R187581
Lead	ND	mg/L		0.0003		E200.8	08/25/23 12:35 / dck		ICPMS205-H_230824B : 197		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 17:05 / dck		ICPMS206-H_230830B : 99		R187736
Lithium	0.3	mg/L		0.1		E200.8	08/25/23 12:35 / dck		ICPMS205-H_230824B : 197		R187581
Magnesium	23	mg/L		1		E200.7	08/25/23 01:57 / slj		ICP2-HE_230824B : 130		R187553
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 17:05 / dck		ICPMS206-H_230830B : 99		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 17:05 / dck		ICPMS206-H_230830B : 99		R187736
Manganese	ND	mg/L		0.001		E200.8	08/25/23 12:35 / dck		ICPMS205-H_230824B : 197		R187581
Molybdenum	0.003	mg/L		0.001		E200.8	08/25/23 12:35 / dck		ICPMS205-H_230824B : 197		R187581
Nickel	ND	mg/L		0.002		E200.8	08/25/23 12:35 / dck		ICPMS205-H_230824B : 197		R187581
Palladium	ND	mg/L		0.01		E200.8	08/27/23 19:31 / dck		ICPMS206-H_230827C : 72		R187693
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 17:05 / dck		ICPMS206-H_230830B : 99		R187736
Rubidium	0.01	mg/L		0.01		E200.8	08/30/23 17:05 / dck		ICPMS206-H_230830B : 99		R187736
Potassium	13	mg/L		1		E200.7	08/23/23 18:30 / slj		ICP2-HE_230823B : 106		R187479
Selenium	ND	mg/L		0.001		E200.8	08/25/23 12:35 / dck		ICPMS205-H_230824B : 197		R187581
Silver	ND	mg/L		0.0002		E200.8	08/25/23 12:35 / dck		ICPMS205-H_230824B : 197		R187581
Sodium	82	mg/L		1		E200.7	08/23/23 18:30 / slj		ICP2-HE_230823B : 106		R187479
Strontium	1.53	mg/L		0.01		E200.7	08/23/23 18:30 / slj		ICP2-HE_230823B : 106		R187479
Thallium	ND	mg/L		0.0002		E200.8	08/25/23 12:35 / dck		ICPMS205-H_230824B : 197		R187581
Thorium	ND	mg/L		0.005		E200.8	08/30/23 17:05 / dck		ICPMS206-H_230830B : 301		R187736
Tin	ND	mg/L		0.05		E200.8	08/25/23 12:35 / dck		ICPMS205-H_230824B : 197		R187581
Titanium	ND	mg/L		0.005		E200.8	08/25/23 12:35 / dck		ICPMS205-H_230824B : 197		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/27/23 19:31 / dck		ICPMS206-H_230827C : 72		R187693
Uranium	0.0026	mg/L		0.0002		E200.8	08/25/23 12:35 / dck		ICPMS205-H_230824B : 197		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/25/23 12:35 / dck		ICPMS205-H_230824B : 197		R187581
Zinc	0.436	mg/L		0.008		E200.8	08/25/23 12:35 / dck		ICPMS205-H_230824B : 197		R187581
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 17:05 / dck		ICPMS206-H_230830B : 99		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-24C  
**Lab ID:** H23080811-012  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 14:33      **DateReceived:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-2.37	%				A1030 E	08/28/23 10:26 / SR		CALC_230828A : 980		R187604

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-06B  
**Lab ID:** H23080811-013  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 14:42 **Date Received:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.0	s.u.	H	0.1		A4500-H B	08/22/23 12:34 / eek		PHSC_101-H_230822A : 33		R187393
pH Measurement Temp	14.7	°C				A4500-H B	08/22/23 12:34 / eek		PHSC_101-H_230822A : 33		R187393
Conductivity @ 25 C	1270	umhos/cm		5		A2510 B	08/22/23 12:34 / eek		PHSC_101-H_230822A : 34		R187393
Solids, Total Dissolved TDS @ 180 C	990	mg/L		20		A2540 C	08/23/23 14:42 / eek		124 (14410200)_230823B : 16		TDS230823A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	87	mg/L		4		A2320 B	08/23/23 11:27 / eek		PHSC_101-H_230823A : 36		R187444
Bicarbonate as HCO3	110	mg/L		4		A2320 B	08/23/23 11:27 / eek		PHSC_101-H_230823A : 36		R187444
Carbonate as CO3	ND	mg/L		4		A2320 B	08/23/23 11:27 / eek		PHSC_101-H_230823A : 36		R187444
Chloride	63	mg/L		1		E300.0	08/24/23 22:53 / SR		C METROHM_230823A : 121		R187509
Sulfate	476	mg/L		1		E300.0	08/24/23 22:53 / SR		C METROHM_230823A : 121		R187509
Bromide	ND	mg/L		0.5		E300.0	08/24/23 22:53 / SR		C METROHM_230823A : 121		R187509
Fluoride	0.4	mg/L		0.1		E300.0	08/24/23 22:53 / SR		C METROHM_230823A : 121		R187509
Hardness as CaCO3	508	mg/L		1		A2340 B	08/25/23 02:01 / SR		CALC_230828A : 993		R187604
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.8	mg/L		0.5		A5310 C	08/24/23 08:33 / eli-c		SUB-C298028 : 42		C_R298028
Organic Carbon, Total (TOC)	1.7	mg/L		0.5		A5310 C	08/24/23 00:48 / eli-c		SUB-C298028 : 21		C_R298028
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	10.2	mg/L		0.1		E353.2	08/28/23 19:26 / JAR		SEAL AA500_230828B : 91		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/29/23 18:06 / dck		ICPMS206-H_230829A : 51		R187694
Antimony	ND	mg/L		0.0005		E200.8	08/25/23 12:38 / dck		ICPMS205-H_230824B : 198		R187581
Arsenic	0.003	mg/L		0.001		E200.8	08/25/23 12:38 / dck		ICPMS205-H_230824B : 198		R187581
Barium	0.023	mg/L		0.003		E200.8	08/25/23 12:38 / dck		ICPMS205-H_230824B : 198		R187581
Beryllium	ND	mg/L		0.0008		E200.8	08/25/23 12:38 / dck		ICPMS205-H_230824B : 198		R187581
Boron	0.28	mg/L		0.05		E200.7	08/23/23 18:34 / slj		ICP2-HE_230823B : 107		R187479
Cadmium	0.0242	mg/L		0.00003		E200.8	08/25/23 12:38 / dck		ICPMS205-H_230824B : 198		R187581
Cesium	ND	mg/L		0.01		E200.8	08/30/23 17:07 / dck		ICPMS206-H_230830B : 100		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-06B  
**Lab ID:** H23080811-013  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 14:42 **Date Received:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	142	mg/L		1		E200.7	08/23/23 18:34 / slj		ICP2-HE_230823B : 107		R187479
Chromium	ND	mg/L		0.005		E200.8	08/25/23 12:38 / dck		ICPMS205-H_230824B : 198		R187581
Cobalt	0.014	mg/L		0.005		E200.8	08/25/23 12:38 / dck		ICPMS205-H_230824B : 198		R187581
Copper	0.529	mg/L		0.002		E200.8	08/25/23 12:38 / dck		ICPMS205-H_230824B : 198		R187581
Gallium	ND	mg/L		0.01		E200.8	08/30/23 17:07 / dck		ICPMS206-H_230830B : 100		R187736
Iron	ND	mg/L		0.02		E200.8	08/25/23 12:38 / dck		ICPMS205-H_230824B : 198		R187581
Lead	0.0006	mg/L		0.0003		E200.8	08/25/23 12:38 / dck		ICPMS205-H_230824B : 198		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 17:07 / dck		ICPMS206-H_230830B : 100		R187736
Lithium	0.3	mg/L		0.1		E200.8	08/25/23 12:38 / dck		ICPMS205-H_230824B : 198		R187581
Magnesium	37	mg/L		1		E200.7	08/25/23 02:01 / slj		ICP2-HE_230824B : 131		R187553
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 17:07 / dck		ICPMS206-H_230830B : 100		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 17:07 / dck		ICPMS206-H_230830B : 100		R187736
Manganese	11.1	mg/L		0.001		E200.7	08/23/23 18:34 / slj		ICP2-HE_230823B : 107		R187479
Molybdenum	ND	mg/L		0.001		E200.8	08/29/23 18:06 / dck		ICPMS206-H_230829A : 51		R187694
Nickel	0.036	mg/L		0.002		E200.8	08/25/23 12:38 / dck		ICPMS205-H_230824B : 198		R187581
Palladium	ND	mg/L		0.01		E200.8	08/27/23 19:34 / dck		ICPMS206-H_230827C : 73		R187693
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 17:07 / dck		ICPMS206-H_230830B : 100		R187736
Rubidium	0.01	mg/L		0.01		E200.8	08/30/23 17:07 / dck		ICPMS206-H_230830B : 100		R187736
Potassium	13	mg/L		1		E200.7	08/23/23 18:34 / slj		ICP2-HE_230823B : 107		R187479
Selenium	ND	mg/L		0.001		E200.8	08/25/23 12:38 / dck		ICPMS205-H_230824B : 198		R187581
Silver	0.0004	mg/L		0.0002		E200.8	08/25/23 12:38 / dck		ICPMS205-H_230824B : 198		R187581
Sodium	54	mg/L		1		E200.7	08/23/23 18:34 / slj		ICP2-HE_230823B : 107		R187479
Strontium	1.46	mg/L		0.01		E200.7	08/23/23 18:34 / slj		ICP2-HE_230823B : 107		R187479
Thallium	ND	mg/L		0.0002		E200.8	08/25/23 12:38 / dck		ICPMS205-H_230824B : 198		R187581
Thorium	ND	mg/L		0.005		E200.8	08/29/23 18:06 / dck		ICPMS206-H_230829A : 51		R187694
Tin	ND	mg/L		0.05		E200.8	08/25/23 12:38 / dck		ICPMS205-H_230824B : 198		R187581
Titanium	ND	mg/L		0.005		E200.8	08/25/23 12:38 / dck		ICPMS205-H_230824B : 198		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/27/23 19:34 / dck		ICPMS206-H_230827C : 73		R187693
Uranium	0.0009	mg/L		0.0002		E200.8	08/25/23 12:38 / dck		ICPMS205-H_230824B : 198		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/25/23 12:38 / dck		ICPMS205-H_230824B : 198		R187581
Zinc	7.25	mg/L		0.008		E200.7	08/23/23 18:34 / slj		ICP2-HE_230823B : 107		R187479
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 17:07 / dck		ICPMS206-H_230830B : 100		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-06B  
**Lab ID:** H23080811-013  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 14:42      **DateReceived:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-2.45	%				A1030 E	08/28/23 10:27 / SR		CALC_230828A : 991		R187604

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-3  
**Lab ID:** H23080811-014  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 10:30  
**Date Received:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>INORGANICS</b>											
Hardness as CaCO3	339	mg/L		1		A2340 B	09/05/23 09:27 / slj		WATERCALC_230905A : 1		R187839
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	1.28	mg/L		0.01		E353.2	08/28/23 19:27 / JAR		SEAL AA500_230828B : 92		R187633
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/25/23 13:47 / dck		ICPMS205-H_230824B : 211		R187581
Antimony	ND	mg/L		0.0005		E200.8	08/25/23 13:47 / dck		ICPMS205-H_230824B : 211		R187581
Arsenic	0.003	mg/L		0.001		E200.8	08/25/23 13:47 / dck		ICPMS205-H_230824B : 211		R187581
Barium	0.053	mg/L		0.003		E200.8	08/25/23 13:47 / dck		ICPMS205-H_230824B : 211		R187581
Beryllium	ND	mg/L		0.0008		E200.8	08/25/23 13:47 / dck		ICPMS205-H_230824B : 211		R187581
Boron	0.35	mg/L		0.05		E200.7	08/23/23 18:49 / slj		ICP2-HE_230823B : 111		R187479
Cadmium	0.00136	mg/L		0.00003		E200.8	08/25/23 13:47 / dck		ICPMS205-H_230824B : 211		R187581
Cesium	ND	mg/L		0.01		E200.8	08/27/23 18:21 / dck		ICPMS206-H_230827C : 47		R187693
Calcium	95	mg/L		1		E200.7	08/23/23 18:49 / slj		ICP2-HE_230823B : 111		R187479
Chromium	ND	mg/L		0.005		E200.8	08/25/23 13:47 / dck		ICPMS205-H_230824B : 211		R187581
Cobalt	ND	mg/L		0.005		E200.8	08/25/23 13:47 / dck		ICPMS205-H_230824B : 211		R187581
Copper	0.008	mg/L		0.002		E200.8	08/25/23 13:47 / dck		ICPMS205-H_230824B : 211		R187581
Gallium	ND	mg/L		0.01		E200.8	08/27/23 18:21 / dck		ICPMS206-H_230827C : 47		R187693
Iron	ND	mg/L		0.02		E200.8	08/25/23 13:47 / dck		ICPMS205-H_230824B : 211		R187581
Lead	ND	mg/L		0.0003		E200.8	08/25/23 13:47 / dck		ICPMS205-H_230824B : 211		R187581
Lanthanum	ND	mg/L		0.01		E200.8	08/27/23 18:21 / dck		ICPMS206-H_230827C : 47		R187693
Lithium	ND	mg/L		0.1		E200.8	08/25/23 13:47 / dck		ICPMS205-H_230824B : 211		R187581
Magnesium	25	mg/L		1		E200.7	08/25/23 02:05 / slj		ICP2-HE_230824B : 132		R187553
Neodymium	ND	mg/L		0.005		E200.8	08/27/23 18:21 / dck		ICPMS206-H_230827C : 47		R187693
Niobium	ND	mg/L		0.01		E200.8	08/30/23 17:09 / dck		ICPMS206-H_230830B : 101		R187736
Manganese	3.15	mg/L		0.001		E200.7	08/23/23 18:49 / slj		ICP2-HE_230823B : 111		R187479
Molybdenum	0.022	mg/L		0.001		E200.8	08/25/23 13:47 / dck		ICPMS205-H_230824B : 211		R187581
Nickel	0.006	mg/L		0.002		E200.8	08/25/23 13:47 / dck		ICPMS205-H_230824B : 211		R187581
Palladium	ND	mg/L		0.01		E200.8	08/27/23 18:21 / dck		ICPMS206-H_230827C : 47		R187693
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 17:09 / dck		ICPMS206-H_230830B : 101		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/27/23 18:21 / dck		ICPMS206-H_230827C : 47		R187693

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-3  
**Lab ID:** H23080811-014  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/17/23 10:30 **Date Received:** 08/21/23  
**Report Date:** 09/11/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Potassium	8	mg/L		1		E200.7	08/23/23 18:49 / slj		ICP2-HE_230823B : 111		R187479
Selenium	ND	mg/L		0.001		E200.8	08/25/23 13:47 / dck		ICPMS205-H_230824B : 211		R187581
Silver	ND	mg/L		0.0002		E200.8	08/25/23 13:47 / dck		ICPMS205-H_230824B : 211		R187581
Sodium	33	mg/L		1		E200.7	08/23/23 18:49 / slj		ICP2-HE_230823B : 111		R187479
Strontium	0.68	mg/L		0.01		E200.7	08/23/23 18:49 / slj		ICP2-HE_230823B : 111		R187479
Thallium	ND	mg/L		0.0002		E200.8	08/25/23 13:47 / dck		ICPMS205-H_230824B : 211		R187581
Thorium	ND	mg/L		0.005		E200.8	08/30/23 17:09 / dck		ICPMS206-H_230830B : 303		R187736
Tin	ND	mg/L		0.05		E200.8	08/25/23 13:47 / dck		ICPMS205-H_230824B : 211		R187581
Titanium	ND	mg/L		0.005		E200.8	08/25/23 13:47 / dck		ICPMS205-H_230824B : 211		R187581
Tungsten	ND	mg/L		0.1		E200.8	08/27/23 18:21 / dck		ICPMS206-H_230827C : 47		R187693
Uranium	0.0499	mg/L		0.0002		E200.8	08/25/23 13:47 / dck		ICPMS205-H_230824B : 211		R187581
Vanadium	ND	mg/L		0.01		E200.8	08/25/23 13:47 / dck		ICPMS205-H_230824B : 211		R187581
Zinc	0.314	mg/L		0.008		E200.8	08/25/23 13:47 / dck		ICPMS205-H_230824B : 211		R187581
Zirconium	ND	mg/L		0.005		E200.8	08/27/23 18:21 / dck		ICPMS206-H_230827C : 47		R187693

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: C\_R298028

Date: 13-Sep-23

Run ID :Run Order: <b>SUB-C298028: 1</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/23/23 17:45</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	ND	0.1									

Associated samples: H23080811-001D, H23080811-001E, H23080811-003D, H23080811-003E, H23080811-004D, H23080811-004E, H23080811-005D, H23080811-005E, H23080811-006D, H23080811-006E, H23080811-007D, H23080811-007E, H23080811-008D, H23080811-008E, H23080811-009D, H23080811-009E, H23080811-010D, H23080811-010E, H23080811-011D, H23080811-011E, H23080811-012D, H23080811-012E, H23080811-013D, H23080811-013E

Run ID :Run Order: <b>SUB-C298028: 2</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/23/23 18:05</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.02	0.50	5	0	100	90	111	0			

Associated samples: H23080811-001D, H23080811-001E, H23080811-003D, H23080811-003E, H23080811-004D, H23080811-004E, H23080811-005D, H23080811-005E, H23080811-006D, H23080811-006E, H23080811-007D, H23080811-007E, H23080811-008D, H23080811-008E, H23080811-009D, H23080811-009E, H23080811-010D, H23080811-010E, H23080811-011D, H23080811-011E, H23080811-012D, H23080811-012E, H23080811-013D, H23080811-013E

Run ID :Run Order: <b>SUB-C298028: 3</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/23/23 18:20</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.13	0.50	5	0	103	90	110	0			

Associated samples: H23080811-001D, H23080811-001E, H23080811-003D, H23080811-003E, H23080811-004D, H23080811-004E, H23080811-005D, H23080811-005E, H23080811-006D, H23080811-006E, H23080811-007D, H23080811-007E, H23080811-008D, H23080811-008E, H23080811-009D, H23080811-009E, H23080811-010D, H23080811-010E, H23080811-011D, H23080811-011E, H23080811-012D, H23080811-012E, H23080811-013D, H23080811-013E

Run ID :Run Order: <b>SUB-C298028: 5</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23080811-001E</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/23/23 19:29</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.62	0.50	5	0.4626	103	90	111	0			

Associated samples: H23080811-001D, H23080811-001E, H23080811-003D, H23080811-003E, H23080811-004D, H23080811-004E, H23080811-005D, H23080811-005E, H23080811-006D, H23080811-006E, H23080811-007D, H23080811-007E, H23080811-008D, H23080811-008E, H23080811-009D, H23080811-009E, H23080811-010D, H23080811-010E, H23080811-011D, H23080811-011E, H23080811-012D, H23080811-012E, H23080811-013D, H23080811-013E

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: C\_R298028

Date: 13-Sep-23

Run ID :Run Order: <b>SUB-C298028: 6</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23080811-001E</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/23/23 19:45</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.54	0.50	5	0.4626	<b>102</b>	90	111	5.62	<b>1.4</b>	20	
Associated samples: <b>H23080811-001D, H23080811-001E, H23080811-003D, H23080811-003E, H23080811-004D, H23080811-004E, H23080811-005D, H23080811-005E, H23080811-006D, H23080811-006E, H23080811-007D, H23080811-007E, H23080811-008D, H23080811-008E, H23080811-009D, H23080811-009E, H23080811-010D, H23080811-010E, H23080811-011D, H23080811-011E, H23080811-012D, H23080811-012E, H23080811-013D, H23080811-013E</b>											

Run ID :Run Order: <b>SUB-C298028: 14</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV-11940</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/23/23 22:14</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.07	0.50	5	0	<b>101</b>	90	110	0			
Associated samples: <b>H23080811-001D, H23080811-001E, H23080811-003D, H23080811-003E, H23080811-004D, H23080811-004E, H23080811-005D, H23080811-005E, H23080811-006D, H23080811-006E, H23080811-007D, H23080811-007E, H23080811-008D, H23080811-008E, H23080811-009D, H23080811-009E, H23080811-010D, H23080811-010E, H23080811-011D, H23080811-011E, H23080811-012D, H23080811-012E, H23080811-013D, H23080811-013E</b>											

Run ID :Run Order: <b>SUB-C298028: 16</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23080811-009E</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/23/23 23:11</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	6.64	0.50	5	1.765	<b>98</b>	90	111	0			
Associated samples: <b>H23080811-001D, H23080811-001E, H23080811-003D, H23080811-003E, H23080811-004D, H23080811-004E, H23080811-005D, H23080811-005E, H23080811-006D, H23080811-006E, H23080811-007D, H23080811-007E, H23080811-008D, H23080811-008E, H23080811-009D, H23080811-009E, H23080811-010D, H23080811-010E, H23080811-011D, H23080811-011E, H23080811-012D, H23080811-012E, H23080811-013D, H23080811-013E</b>											

Run ID :Run Order: <b>SUB-C298028: 17</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23080811-009E</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/23/23 23:28</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	6.90	0.50	5	1.765	<b>103</b>	90	111	6.64	<b>3.9</b>	20	
Associated samples: <b>H23080811-001D, H23080811-001E, H23080811-003D, H23080811-003E, H23080811-004D, H23080811-004E, H23080811-005D, H23080811-005E, H23080811-006D, H23080811-006E, H23080811-007D, H23080811-007E, H23080811-008D, H23080811-008E, H23080811-009D, H23080811-009E, H23080811-010D, H23080811-010E, H23080811-011D, H23080811-011E, H23080811-012D, H23080811-012E, H23080811-013D, H23080811-013E</b>											

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: C\_R298028

Date: 13-Sep-23

Run ID :Run Order: <b>SUB-C298028: 22</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS-11923</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/24/23 01:59</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.05	0.50	5	0	<b>101</b>	88	112	0			
Associated samples: <b>H23080811-001D, H23080811-001E, H23080811-003D, H23080811-003E, H23080811-004D, H23080811-004E, H23080811-005D, H23080811-005E, H23080811-006D, H23080811-006E, H23080811-007D, H23080811-007E, H23080811-008D, H23080811-008E, H23080811-009D, H23080811-009E, H23080811-010D, H23080811-010E, H23080811-011D, H23080811-011E, H23080811-012D, H23080811-012E, H23080811-013D, H23080811-013E</b>											

Run ID :Run Order: <b>SUB-C298028: 23</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/24/23 02:14</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	ND	0.1									
Associated samples: <b>H23080811-001D, H23080811-001E, H23080811-003D, H23080811-003E, H23080811-004D, H23080811-004E, H23080811-005D, H23080811-005E, H23080811-006D, H23080811-006E, H23080811-007D, H23080811-007E, H23080811-008D, H23080811-008E, H23080811-009D, H23080811-009E, H23080811-010D, H23080811-010E, H23080811-011D, H23080811-011E, H23080811-012D, H23080811-012E, H23080811-013D, H23080811-013E</b>											

Run ID :Run Order: <b>SUB-C298028: 24</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV-11940</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/24/23 02:33</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.05	0.50	5	0	<b>101</b>	90	110	0			
Associated samples: <b>H23080811-001D, H23080811-001E, H23080811-003D, H23080811-003E, H23080811-004D, H23080811-004E, H23080811-005D, H23080811-005E, H23080811-006D, H23080811-006E, H23080811-007D, H23080811-007E, H23080811-008D, H23080811-008E, H23080811-009D, H23080811-009E, H23080811-010D, H23080811-010E, H23080811-011D, H23080811-011E, H23080811-012D, H23080811-012E, H23080811-013D, H23080811-013E</b>											

Run ID :Run Order: <b>SUB-C298028: 26</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23080811-001D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/24/23 03:09</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.65	0.50	5	0.5933	<b>101</b>	88	112	0			
Associated samples: <b>H23080811-001D, H23080811-001E, H23080811-003D, H23080811-003E, H23080811-004D, H23080811-004E, H23080811-005D, H23080811-005E, H23080811-006D, H23080811-006E, H23080811-007D, H23080811-007E, H23080811-008D, H23080811-008E, H23080811-009D, H23080811-009E, H23080811-010D, H23080811-010E, H23080811-011D, H23080811-011E, H23080811-012D, H23080811-012E, H23080811-013D, H23080811-013E</b>											

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice  
**Work Order:** H23080811

Prepared by Helena, MT Branch  
**BatchID:** C\_R298028

**Date:** 13-Sep-23

Run ID :Run Order: <b>SUB-C298028: 27</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23080811-001D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/24/23 03:26</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.69	0.50	5	0.5933	<b>102</b>	88	112	5.647	<b>0.8</b>	20	
Associated samples: <b>H23080811-001D, H23080811-001E, H23080811-003D, H23080811-003E, H23080811-004D, H23080811-004E, H23080811-005D, H23080811-005E, H23080811-006D, H23080811-006E, H23080811-007D, H23080811-007E, H23080811-008D, H23080811-008E, H23080811-009D, H23080811-009E, H23080811-010D, H23080811-010E, H23080811-011D, H23080811-011E, H23080811-012D, H23080811-012E, H23080811-013D, H23080811-013E</b>											

Run ID :Run Order: <b>SUB-C298028: 37</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV-11940</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/24/23 06:41</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.02	0.50	5	0	<b>100</b>	90	110	0			
Associated samples: <b>H23080811-001D, H23080811-001E, H23080811-003D, H23080811-003E, H23080811-004D, H23080811-004E, H23080811-005D, H23080811-005E, H23080811-006D, H23080811-006E, H23080811-007D, H23080811-007E, H23080811-008D, H23080811-008E, H23080811-009D, H23080811-009E, H23080811-010D, H23080811-010E, H23080811-011D, H23080811-011E, H23080811-012D, H23080811-012E, H23080811-013D, H23080811-013E</b>											

Run ID :Run Order: <b>SUB-C298028: 39</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23080811-011D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/24/23 07:36</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	8.34	0.50	5	3.282	<b>101</b>	88	112	0			
Associated samples: <b>H23080811-001D, H23080811-001E, H23080811-003D, H23080811-003E, H23080811-004D, H23080811-004E, H23080811-005D, H23080811-005E, H23080811-006D, H23080811-006E, H23080811-007D, H23080811-007E, H23080811-008D, H23080811-008E, H23080811-009D, H23080811-009E, H23080811-010D, H23080811-010E, H23080811-011D, H23080811-011E, H23080811-012D, H23080811-012E, H23080811-013D, H23080811-013E</b>											

Run ID :Run Order: <b>SUB-C298028: 40</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23080811-011D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/24/23 07:55</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	8.33	0.50	5	3.282	<b>101</b>	88	112	8.339	<b>0.1</b>	20	
Associated samples: <b>H23080811-001D, H23080811-001E, H23080811-003D, H23080811-003E, H23080811-004D, H23080811-004E, H23080811-005D, H23080811-005E, H23080811-006D, H23080811-006E, H23080811-007D, H23080811-007E, H23080811-008D, H23080811-008E, H23080811-009D, H23080811-009E, H23080811-010D, H23080811-010E, H23080811-011D, H23080811-011E, H23080811-012D, H23080811-012E, H23080811-013D, H23080811-013E</b>											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080811

**BatchID:** C\_R298148

**Date:** 13-Sep-23

Run ID :Run Order: <b>SUB-C298148: 1</b>		SampType: <b>Laboratory Control Sample</b>			Lab ID: <b>LCS-11923</b>				Method: <b>A5310 C</b>			
Analysis Date: <b>08/28/23 23:41</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:				Prep Method:			
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)		4.87	0.50	5	0	97	88	112	0			

Associated samples: **H23080811-002D, H23080811-002E**

Run ID :Run Order: <b>SUB-C298148: 2</b>		SampType: <b>Method Blank</b>			Lab ID: <b>MBLK</b>				Method: <b>A5310 C</b>			
Analysis Date: <b>08/28/23 23:55</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:				Prep Method:			
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)		ND	0.1									

Associated samples: **H23080811-002D, H23080811-002E**

Run ID :Run Order: <b>SUB-C298148: 3</b>		SampType: <b>Continuing Calibration Verification Standard</b>			Lab ID: <b>CCV-11940</b>				Method: <b>A5310 C</b>			
Analysis Date: <b>08/29/23 00:10</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:				Prep Method:			
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)		4.82	0.50	5	0	97	90	110	0			

Associated samples: **H23080811-002D, H23080811-002E**

Run ID :Run Order: <b>SUB-C298148: 5</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23080917-001D</b>				Method: <b>A5310 C</b>			
Analysis Date: <b>08/29/23 02:32</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:				Prep Method:			
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)		15.8	0.50	5	10.16	113	88	112	0			S

Associated samples: **H23080811-002D, H23080811-002E**

Run ID :Run Order: <b>SUB-C298148: 6</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23080917-001D</b>				Method: <b>A5310 C</b>			
Analysis Date: <b>08/29/23 02:53</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:				Prep Method:			
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)		16.1	0.50	5	10.16	119	88	112	15.79	2.1	20	S

Associated samples: **H23080811-002D, H23080811-002E**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080811

**BatchID:** C\_R298148

**Date:** 13-Sep-23

Run ID :Run Order: <b>SUB-C298148: 7</b>		SampType: <b>Method Blank</b>			Lab ID: <b>MBLK</b>				Method: <b>A5310 C</b>			
Analysis Date: <b>08/28/23 13:06</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:				Prep Method:			
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)		ND	0.1									

Associated samples: **H23080811-002D, H23080811-002E**

Run ID :Run Order: <b>SUB-C298148: 8</b>		SampType: <b>Laboratory Control Sample</b>			Lab ID: <b>LCS</b>				Method: <b>A5310 C</b>			
Analysis Date: <b>08/28/23 13:25</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:				Prep Method:			
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)		4.68	0.50	5	0	<b>94</b>	90	111	0			

Associated samples: **H23080811-002D, H23080811-002E**

Run ID :Run Order: <b>SUB-C298148: 9</b>		SampType: <b>Continuing Calibration Verification Standard</b>			Lab ID: <b>CCV</b>				Method: <b>A5310 C</b>			
Analysis Date: <b>08/28/23 13:41</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:				Prep Method:			
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)		4.78	0.50	5	0	<b>96</b>	90	110	0			

Associated samples: **H23080811-002D, H23080811-002E**

Run ID :Run Order: <b>SUB-C298148: 14</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>C23081110-001GMS</b>				Method: <b>A5310 C</b>			
Analysis Date: <b>08/28/23 15:55</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:				Prep Method:			
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)		8.73	0.50	5	4.016	<b>94</b>	90	111	0			

Associated samples: **H23080811-002D, H23080811-002E**

Run ID :Run Order: <b>SUB-C298148: 15</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>C23081110-001GMSD</b>				Method: <b>A5310 C</b>			
Analysis Date: <b>08/28/23 16:11</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:				Prep Method:			
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)		8.05	0.50	5	4.016	<b>81</b>	90	111	8.729	<b>8.1</b>	20	S

Associated samples: **H23080811-002D, H23080811-002E**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187393

Date: 13-Sep-23

Run ID :Run Order: PHSC_101-H_230822A: 2	SampType: Initial Calibration Verification Standard				Lab ID: SC 150			Method: A2510 B			
Analysis Date: 08/22/23 09:05	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	153	5.0	150	0	102	90	110				
Associated samples: H23080811-001A, H23080811-002A, H23080811-003A, H23080811-004A, H23080811-005A, H23080811-006A, H23080811-007A, H23080811-008A, H23080811-009A, H23080811-010A, H23080811-011A, H23080811-012A, H23080811-013A											

Run ID :Run Order: PHSC_101-H_230822A: 3	SampType: Initial Calibration Verification Standard				Lab ID: SC 20000			Method: A2510 B			
Analysis Date: 08/22/23 09:07	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	19400	5.0	20000	0	97	90	110				
Associated samples: H23080811-001A, H23080811-002A, H23080811-003A, H23080811-004A, H23080811-005A, H23080811-006A, H23080811-007A, H23080811-008A, H23080811-009A, H23080811-010A, H23080811-011A, H23080811-012A, H23080811-013A											

Run ID :Run Order: PHSC_101-H_230822A: 4	SampType: Initial Calibration Verification Standard				Lab ID: SC 5000			Method: A2510 B			
Analysis Date: 08/22/23 09:09	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	4970	5.0	5000	0	99	90	110				
Associated samples: H23080811-001A, H23080811-002A, H23080811-003A, H23080811-004A, H23080811-005A, H23080811-006A, H23080811-007A, H23080811-008A, H23080811-009A, H23080811-010A, H23080811-011A, H23080811-012A, H23080811-013A											

Run ID :Run Order: PHSC_101-H_230822A: 5	SampType: Laboratory Control Sample				Lab ID: SC 1000			Method: A2510 B			
Analysis Date: 08/22/23 09:11	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1030	5.0	1000	0	103	90	110				
Associated samples: H23080811-001A, H23080811-002A, H23080811-003A, H23080811-004A, H23080811-005A, H23080811-006A, H23080811-007A, H23080811-008A, H23080811-009A, H23080811-010A, H23080811-011A, H23080811-012A, H23080811-013A											

Run ID :Run Order: PHSC_101-H_230822A: 6	SampType: Method Blank				Lab ID: MBLK			Method: A2510 B			
Analysis Date: 08/22/23 12:07	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	ND	5									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080811

**BatchID:** R187393

**Date:** 13-Sep-23

Run ID :Run Order: <b>PHSC_101-H_230822A: 6</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MBLK</b>	Method: <b>A2510 B</b>
Analysis Date: <b>08/22/23 12:07</b>	Units: <b>umhos/cm</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Associated samples: **H23080811-001A, H23080811-002A, H23080811-003A, H23080811-004A, H23080811-005A, H23080811-006A, H23080811-007A, H23080811-008A, H23080811-009A, H23080811-010A, H23080811-011A, H23080811-012A, H23080811-013A**

Run ID :Run Order: <b>PHSC_101-H_230822A: 10</b>	SampType: <b>Sample Duplicate</b>	Lab ID: <b>H23080811-001ADUP</b>	Method: <b>A2510 B</b>
Analysis Date: <b>08/22/23 12:11</b>	Units: <b>umhos/cm</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Conductivity @ 25 C	1610	5.0	0	1608	<b>0.3</b>	10
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Associated samples: **H23080811-001A, H23080811-002A, H23080811-003A, H23080811-004A, H23080811-005A, H23080811-006A, H23080811-007A, H23080811-008A, H23080811-009A, H23080811-010A, H23080811-011A, H23080811-012A, H23080811-013A**



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187393

Date: 13-Sep-23

Run ID :Run Order: PHSC_101-H_230822A: 1	SampType: Initial Calibration Verification Standard				Lab ID: pH 7				Method: A4500-H B		
Analysis Date: 08/22/23 09:00	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	21.8			0		0	0				

Associated samples: H23080811-001A, H23080811-002A, H23080811-003A, H23080811-004A, H23080811-005A, H23080811-006A, H23080811-007A, H23080811-008A, H23080811-009A, H23080811-010A, H23080811-011A, H23080811-012A, H23080811-013A

Run ID :Run Order: PHSC_101-H_230822A: 9	SampType: Sample Duplicate				Lab ID: H23080811-001ADUP				Method: A4500-H B		
Analysis Date: 08/22/23 12:11	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	6.4	0.1		0				6.35	0.5	3	H
pH Measurement Temp	14.5			0				15.1			

Associated samples: H23080811-001A, H23080811-002A, H23080811-003A, H23080811-004A, H23080811-005A, H23080811-006A, H23080811-007A, H23080811-008A, H23080811-009A, H23080811-010A, H23080811-011A, H23080811-012A, H23080811-013A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187444

Date: 13-Sep-23

Run ID :Run Order: PHSC_101-H_230823A: 7	SampType: Method Blank	Lab ID: MBLK	Method: A2320 B								
Analysis Date: 08/23/23 08:35	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									
Associated samples: H23080811-001A, H23080811-002A, H23080811-003A, H23080811-004A, H23080811-005A, H23080811-006A, H23080811-007A, H23080811-008A, H23080811-009A, H23080811-010A, H23080811-011A, H23080811-012A, H23080811-013A											

Run ID :Run Order: PHSC_101-H_230823A: 8	SampType: Laboratory Control Sample	Lab ID: LCS	Method: A2320 B								
Analysis Date: 08/23/23 08:41	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	580	4.0	600	0	96	90	110				
Associated samples: H23080811-001A, H23080811-002A, H23080811-003A, H23080811-004A, H23080811-005A, H23080811-006A, H23080811-007A, H23080811-008A, H23080811-009A, H23080811-010A, H23080811-011A, H23080811-012A, H23080811-013A											

Run ID :Run Order: PHSC_101-H_230823A: 12	SampType: Sample Duplicate	Lab ID: H23080811-001ADUP	Method: A2320 B								
Analysis Date: 08/23/23 10:04	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	60	4.0		0				57.85	3.1	10	
Bicarbonate as HCO3	72	4.0		0				69.97	3.1	10	
Carbonate as CO3	ND	4.0		0				0		10	
Associated samples: H23080811-001A, H23080811-002A, H23080811-003A, H23080811-004A, H23080811-005A, H23080811-006A, H23080811-007A, H23080811-008A, H23080811-009A, H23080811-010A, H23080811-011A, H23080811-012A, H23080811-013A											

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080811

**BatchID:** R187479

**Date:** 13-Sep-23

Run ID :Run Order: ICP2-HE_230823B: 6	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.7		
Analysis Date: 08/23/23 08:03	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>13</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3.96	0.10	4	0	99	95	105				
Arsenic	0.829	0.018	0.8	0	104	95	105				
Boron	0.817	0.10	0.8	0	102	95	105				
Calcium	39.7	1.0	40	0	99	95	105				
Copper	0.809	0.012	0.8	0	101	95	105				
Iron	3.95	0.020	4	0	99	95	105				
Lithium	0.796	0.10	0.8	0	100	95	105				
Magnesium	39.4	1.0	40	0	98	95	105				
Manganese	4.00	0.010	4	0	100	95	105				
Potassium	39.8	1.0	40	0	100	95	105				
Sodium	39.6	1.0	40	0	99	95	105				
Strontium	0.815	0.10	0.8	0	102	95	105				
Zinc	0.822	0.010	0.8	0	103	95	105				

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICP2-HE_230823B: 8	SampType: Continuing Calibration Verification Standard				Lab ID: CCV-1				Method: E200.7		
Analysis Date: 08/23/23 08:13	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>13</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.45	0.10	2.5	0	98	95	105				
Arsenic	2.59	0.018	2.5	0	104	95	105				
Boron	2.59	0.10	2.5	0	103	95	105				
Calcium	24.2	1.0	25	0	97	95	105				
Copper	2.53	0.012	2.5	0	101	95	105				
Iron	2.43	0.020	2.5	0	97	95	105				
Lithium	1.27	0.10	1.25	0	101	95	105				
Magnesium	25.1	1.0	25	0	101	95	105				
Manganese	2.52	0.010	2.5	0	101	95	105				
Potassium	25.6	1.0	25	0	102	95	105				
Sodium	24.5	1.0	25	0	98	95	105				
Strontium	2.53	0.10	2.5	0	101	95	105				
Zinc	2.61	0.010	2.5	0	104	95	105				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187479

Date: 13-Sep-23

Run ID :Run Order: ICP2-HE_230823B: 8	SampType: Continuing Calibration Verification Standard	Lab ID: CCV-1	Method: E200.7								
Analysis Date: 08/23/23 08:13	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICP2-HE_230823B: 14	SampType: Method Blank	Lab ID: MB	Method: E200.7								
Analysis Date: 08/23/23 08:36	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.03									
Arsenic	ND	0.02									
Boron	ND	0.004									
Calcium	ND	0.2									
Copper	ND	0.01									
Iron	ND	0.008									
Lithium	ND	0.002									
Magnesium	ND	0.05									
Manganese	ND	0.001									
Potassium	ND	0.06									
Sodium	ND	0.7									
Strontium	ND	0.0003									
Zinc	ND	0.003									

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICP2-HE_230823B: 15	SampType: Laboratory Fortified Blank	Lab ID: LFB	Method: E200.7								
Analysis Date: 08/23/23 08:40	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.19	0.10	5	0	104	85	115				
Arsenic	1.01	0.018	1	0	101	85	115				
Boron	0.998	0.10	1	0	100	85	115				
Calcium	50.0	1.0	50	0	100	85	115				
Copper	1.05	0.012	1	0	105	85	115				
Iron	5.04	0.020	5	0	101	85	115				
Lithium	1.02	0.10	1	0	102	85	115				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187479

Date: 13-Sep-23

Run ID :Run Order: ICP2-HE_230823B: 15	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.7		
Analysis Date: 08/23/23 08:40	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	51.7	1.0	50	0	103	85	115				
Manganese	5.20	0.010	5	0	104	85	115				
Potassium	51.4	1.0	50	0	103	85	115				
Sodium	50.6	1.0	50	0	101	85	115				
Strontium	1.05	0.10	1	0	105	85	115				
Zinc	1.02	0.010	1	0	102	85	115				

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICP2-HE_230823B: 71	SampType: Sample Matrix Spike				Lab ID: H23080771-003BMS2				Method: E200.7		
Analysis Date: 08/23/23 16:17	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	26.7	0.15	25	0	107	70	130				
Arsenic	5.23	0.092	5	0	105	70	130				
Boron	4.87	0.050	5	0.05434	96	70	130				
Calcium	787	1.0	250	468.5	127	70	130				
Copper	4.68	0.061	5	0	94	70	130				
Iron	32.7	0.041	25	6.684	104	70	130				
Lithium	4.08	0.10	5	0.08508	80	70	130				
Magnesium	451	1.0	250	255.5	78	70	130				
Manganese	32.1	0.0068	25	5.896	105	70	130				
Potassium	221	1.0	250	10.71	84	70	130				
Sodium	1460	3.6	250	1249		70	130				A
Strontium	11.2	0.010	5	6.73	89	70	130				
Zinc	5.23	0.014	5	0.01491	104	70	130				

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICP2-HE_230823B: 72	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080771-003BMSD2				Method: E200.7		
Analysis Date: 08/23/23 16:21	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	26.1	0.15	25	0	104	70	130	26.74	2.4	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187479

Date: 13-Sep-23

Run ID :Run Order: ICP2-HE_230823B: 72	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080771-003BMSD2				Method: E200.7		
Analysis Date: 08/23/23 16:21	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	5.15	0.092	5	0	103	70	130	5.229	1.5	20	
Boron	4.86	0.050	5	0.05434	96	70	130	4.866	0.2	20	
Calcium	762	1.0	250	468.5	117	70	130	787.2	3.3	20	
Copper	4.75	0.061	5	0	95	70	130	4.678	1.5	20	
Iron	32.1	0.041	25	6.684	102	70	130	32.72	1.8	20	
Lithium	4.29	0.10	5	0.08508	84	70	130	4.076	5.2	20	
Magnesium	454	1.0	250	255.5	79	70	130	451.4	0.5	20	
Manganese	31.6	0.0068	25	5.896	103	70	130	32.12	1.8	20	
Potassium	229	1.0	250	10.71	87	70	130	221	3.7	20	
Sodium	1480	3.6	250	1249		70	130	1457	1.3	20	A
Strontium	11.1	0.010	5	6.73	87	70	130	11.17	1.0	20	
Zinc	5.22	0.014	5	0.01491	104	70	130	5.232	0.2	20	

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICP2-HE_230823B: 88	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.7		
Analysis Date: 08/23/23 17:22	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.43	0.10	2.5	0	97	90	110				
Arsenic	2.49	0.018	2.5	0	99	90	110				
Boron	2.47	0.10	2.5	0	99	90	110				
Calcium	23.5	1.0	25	0	94	90	110				
Copper	2.49	0.012	2.5	0	100	90	110				
Iron	2.37	0.020	2.5	0	95	90	110				
Lithium	1.34	0.10	1.25	0	107	90	110				
Magnesium	25.0	1.0	25	0	100	90	110				
Manganese	2.41	0.010	2.5	0	97	90	110				
Potassium	26.6	1.0	25	0	106	90	110				
Sodium	25.7	1.0	25	0	103	90	110				
Strontium	2.47	0.10	2.5	0	99	90	110				
Zinc	2.49	0.010	2.5	0	100	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187479

Date: 13-Sep-23

Run ID :Run Order: ICP2-HE_230823B: 88	SampType: Continuing Calibration Verification Standard	Lab ID: CCV	Method: E200.7								
Analysis Date: 08/23/23 17:22	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICP2-HE_230823B: 94	SampType: Sample Matrix Spike	Lab ID: H23080811-003BMS2	Method: E200.7								
Analysis Date: 08/23/23 17:45	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.75	0.030	5	0	95	70	130				
Arsenic	0.979	0.018	1	0	98	70	130				
Boron	1.03	0.050	1	0.08303	95	70	130				
Calcium	131	1.0	50	79.99	102	70	130				
Copper	1.03	0.012	1	0	103	70	130				
Iron	5.01	0.020	5	0	100	70	130				
Lithium	1.08	0.10	1	0.07622	100	70	130				
Magnesium	72.2	1.0	50	22.89	99	70	130				
Manganese	5.11	0.0014	5	0	102	70	130				
Potassium	57.9	1.0	50	7.338	101	70	130				
Sodium	85.9	1.0	50	33.89	104	70	130				
Strontium	1.64	0.010	1	0.6293	101	70	130				
Zinc	1.29	0.010	1	0.2865	101	70	130				

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICP2-HE_230823B: 95	SampType: Sample Matrix Spike Duplicate	Lab ID: H23080811-003BMSD2	Method: E200.7								
Analysis Date: 08/23/23 17:49	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.61	0.030	5	0	92	70	130	4.748	2.9	20	
Arsenic	0.970	0.018	1	0	97	70	130	0.9791	0.9	20	
Boron	1.02	0.050	1	0.08303	94	70	130	1.034	1.0	20	
Calcium	128	1.0	50	79.99	95	70	130	131	2.5	20	
Copper	1.01	0.012	1	0	101	70	130	1.028	2.0	20	
Iron	4.85	0.020	5	0	97	70	130	5.011	3.3	20	
Lithium	1.08	0.10	1	0.07622	101	70	130	1.078	0.6	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187479

Date: 13-Sep-23

Run ID :Run Order: ICP2-HE_230823B: 95		SampType: Sample Matrix Spike Duplicate			Lab ID: H23080811-003BMSD2				Method: E200.7		
Analysis Date: 08/23/23 17:49		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	71.5	1.0	50	22.89	97	70	130	72.24	1.0	20	
Manganese	4.91	0.0014	5	0	98	70	130	5.106	3.8	20	
Potassium	58.0	1.0	50	7.338	101	70	130	57.9	0.2	20	
Sodium	85.1	1.0	50	33.89	102	70	130	85.95	1.0	20	
Strontium	1.61	0.010	1	0.6293	98	70	130	1.637	1.6	20	
Zinc	1.30	0.010	1	0.2865	101	70	130	1.294	0.4	20	

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICP2-HE_230823B: 109		SampType: Sample Matrix Spike			Lab ID: H23080811-013BMS2				Method: E200.7		
Analysis Date: 08/23/23 18:41		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.50	0.030	5	0	90	70	130				
Arsenic	0.936	0.018	1	0	94	70	130				
Boron	1.16	0.050	1	0.2764	88	70	130				
Calcium	180	1.0	50	142.2	75	70	130				
Copper	1.52	0.012	1	0.5847	93	70	130				
Iron	4.56	0.020	5	0	91	70	130				
Lithium	1.24	0.10	1	0.2707	97	70	130				
Magnesium	87.4	1.0	50	43.02	89	70	130				
Manganese	15.2	0.0014	5	11.14	81	70	130				
Potassium	61.8	1.0	50	12.68	98	70	130				
Sodium	101	1.0	50	53.75	95	70	130				
Strontium	2.31	0.010	1	1.456	85	70	130				
Zinc	7.83	0.010	1	7.252		70	130				A

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICP2-HE_230823B: 110		SampType: Sample Matrix Spike Duplicate			Lab ID: H23080811-013BMSD2				Method: E200.7		
Analysis Date: 08/23/23 18:45		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.65	0.030	5	0	93	70	130	4.495	3.4	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187479

Date: 13-Sep-23

Run ID :Run Order: ICP2-HE_230823B: 110	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080811-013BMSD2				Method: E200.7		
Analysis Date: 08/23/23 18:45	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 13	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1.00	0.018	1	0	100	70	130	0.9359	6.6	20	
Boron	1.21	0.050	1	0.2764	94	70	130	1.158	4.8	20	
Calcium	178	1.0	50	142.2	72	70	130	179.9	1.0	20	
Copper	1.66	0.012	1	0.5847	108	70	130	1.519	9.0	20	
Iron	4.99	0.020	5	0	100	70	130	4.561	8.9	20	
Lithium	1.39	0.10	1	0.2707	112	70	130	1.244	11	20	
Magnesium	91.6	1.0	50	43.02	97	70	130	87.43	4.7	20	
Manganese	15.4	0.0014	5	11.14	85	70	130	15.22	1.1	20	
Potassium	68.3	1.0	50	12.68	111	70	130	61.76	10	20	
Sodium	107	1.0	50	53.75	106	70	130	101.1	5.6	20	
Strontium	2.37	0.010	1	1.456	92	70	130	2.307	2.8	20	
Zinc	7.83	0.010	1	7.252		70	130	7.829	0.1	20	A

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187509

Date: 13-Sep-23

Run ID :Run Order: IC METROHM_230823A: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E300.0		
Analysis Date: 08/23/23 18:49	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	101	1.0	100	0	101	90	110				
Sulfate	404	1.0	400	0	101	90	110				
Bromide	5.07	0.50	5	0	101	90	110				
Fluoride	5.30	0.10	5	0	106	90	110				

Associated samples: H23080811-001A, H23080811-002A, H23080811-003A, H23080811-004A, H23080811-005A, H23080811-006A, H23080811-007A, H23080811-008A, H23080811-009A, H23080811-010A, H23080811-011A, H23080811-012A, H23080811-013A

Run ID :Run Order: IC METROHM_230823A: 13	SampType: Method Blank				Lab ID: ICB				Method: E300.0		
Analysis Date: 08/23/23 19:18	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.02									
Sulfate	ND	0.03									
Bromide	ND	0.001									
Fluoride	ND	0.01									

Associated samples: H23080811-001A, H23080811-002A, H23080811-003A, H23080811-004A, H23080811-005A, H23080811-006A, H23080811-007A, H23080811-008A, H23080811-009A, H23080811-010A, H23080811-011A, H23080811-012A, H23080811-013A

Run ID :Run Order: IC METROHM_230823A: 14	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E300.0		
Analysis Date: 08/23/23 19:32	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	25.0	1.0	25	0	100	90	110				
Sulfate	101	1.0	100	0	101	90	110				
Bromide	1.22	0.50	1.25	0	98	90	110				
Fluoride	1.26	0.10	1.25	0	101	90	110				

Associated samples: H23080811-001A, H23080811-002A, H23080811-003A, H23080811-004A, H23080811-005A, H23080811-006A, H23080811-007A, H23080811-008A, H23080811-009A, H23080811-010A, H23080811-011A, H23080811-012A, H23080811-013A

Run ID :Run Order: IC METROHM_230823A: 98	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E300.0		
Analysis Date: 08/24/23 16:53	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	52.4	1.0	50	0	105	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187509

Date: 13-Sep-23

Run ID :Run Order: IC METROHM_230823A: 98		SampType: Continuing Calibration Verification Standard			Lab ID: CCV				Method: E300.0		
Analysis Date: 08/24/23 16:53		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	208	1.0	200	0	104	90	110				
Bromide	2.47	0.50	2.5	0	99	90	110				
Fluoride	2.56	0.10	2.5	0	102	90	110				

Associated samples: H23080811-001A, H23080811-002A, H23080811-003A, H23080811-004A, H23080811-005A, H23080811-006A, H23080811-007A, H23080811-008A, H23080811-009A, H23080811-010A, H23080811-011A, H23080811-012A, H23080811-013A

Run ID :Run Order: IC METROHM_230823A: 110		SampType: Sample Matrix Spike			Lab ID: H23080811-005AMS				Method: E300.0		
Analysis Date: 08/24/23 20:00		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	171	1.0	125	46.98	99	90	110				
Sulfate	1570	1.0	500	1071	99	90	110				
Bromide	5.49	0.50	6.25	0.11	86	90	110				S
Fluoride	6.30	0.10	6.25	0.525	92	90	110				

Associated samples: H23080811-001A, H23080811-002A, H23080811-003A, H23080811-004A, H23080811-005A, H23080811-006A, H23080811-007A, H23080811-008A, H23080811-009A, H23080811-010A, H23080811-011A, H23080811-012A, H23080811-013A

Run ID :Run Order: IC METROHM_230823A: 111		SampType: Sample Matrix Spike Duplicate			Lab ID: H23080811-005AMSD				Method: E300.0		
Analysis Date: 08/24/23 20:15		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	171	1.0	125	46.98	99	90	110	170.8	0	20	
Sulfate	1570	1.0	500	1071	100	90	110	1566	0.4	20	
Bromide	5.50	0.50	6.25	0.11	86	90	110	5.489	0.2	20	S
Fluoride	6.32	0.10	6.25	0.525	93	90	110	6.297	0.3	20	

Associated samples: H23080811-001A, H23080811-002A, H23080811-003A, H23080811-004A, H23080811-005A, H23080811-006A, H23080811-007A, H23080811-008A, H23080811-009A, H23080811-010A, H23080811-011A, H23080811-012A, H23080811-013A

Run ID :Run Order: IC METROHM_230823A: 112		SampType: Continuing Calibration Verification Standard			Lab ID: CCV				Method: E300.0		
Analysis Date: 08/24/23 20:29		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	53.3	1.0	50	0	107	90	110				
Sulfate	210	1.0	200	0	105	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187509

Date: 13-Sep-23

Run ID :Run Order: IC METROHM_230823A: 112		SampType: Continuing Calibration Verification Standard				Lab ID: CCV			Method: E300.0		
Analysis Date: 08/24/23 20:29		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.48	0.50	2.5	0	99	90	110				
Fluoride	2.60	0.10	2.5	0	104	90	110				

Associated samples: H23080811-001A, H23080811-002A, H23080811-003A, H23080811-004A, H23080811-005A, H23080811-006A, H23080811-007A, H23080811-008A, H23080811-009A, H23080811-010A, H23080811-011A, H23080811-012A, H23080811-013A

Run ID :Run Order: IC METROHM_230823A: 123		SampType: Sample Matrix Spike				Lab ID: H23080812-001AMS			Method: E300.0		
Analysis Date: 08/24/23 23:22		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	25.8	1.0	25	0.804	100	90	110				
Sulfate	126	1.0	100	28.81	97	90	110				
Bromide	1.11	0.50	1.25	0	89	90	110				S
Fluoride	1.30	0.10	1.25	0.106	95	90	110				

Associated samples: H23080811-001A, H23080811-002A, H23080811-003A, H23080811-004A, H23080811-005A, H23080811-006A, H23080811-007A, H23080811-008A, H23080811-009A, H23080811-010A, H23080811-011A, H23080811-012A, H23080811-013A

Run ID :Run Order: IC METROHM_230823A: 124		SampType: Sample Matrix Spike Duplicate				Lab ID: H23080812-001AMSD			Method: E300.0		
Analysis Date: 08/24/23 23:36		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	25.8	1.0	25	0.804	100	90	110	25.78	0.1	20	
Sulfate	126	1.0	100	28.81	97	90	110	125.7	0.1	20	
Bromide	1.11	0.50	1.25	0	89	90	110	1.109	0.1	20	S
Fluoride	1.27	0.10	1.25	0.106	93	90	110	1.299	2.4	20	

Associated samples: H23080811-001A, H23080811-002A, H23080811-003A, H23080811-004A, H23080811-005A, H23080811-006A, H23080811-007A, H23080811-008A, H23080811-009A, H23080811-010A, H23080811-011A, H23080811-012A, H23080811-013A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187553

Date: 13-Sep-23

Run ID :Run Order: ICP2-HE_230824B: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.7		
Analysis Date: 08/24/23 09:40	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	40.3	1.0	40	0	101	95	105				
Magnesium	38.5	1.0	40	0	96	95	105				

Associated samples: H23080811-001B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICP2-HE_230824B: 13	SampType: Continuing Calibration Verification Standard				Lab ID: CCV-1				Method: E200.7		
Analysis Date: 08/24/23 09:44	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	25.4	1.0	25	0	102	95	105				
Magnesium	25.0	1.0	25	0	100	95	105				

Associated samples: H23080811-001B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICP2-HE_230824B: 19	SampType: Method Blank				Lab ID: MB				Method: E200.7		
Analysis Date: 08/24/23 10:07	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.2									
Magnesium	ND	0.05									

Associated samples: H23080811-001B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICP2-HE_230824B: 20	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.7		
Analysis Date: 08/24/23 10:11	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	53.1	1.0	50	0	106	85	115				
Magnesium	46.2	1.0	50	0	92	85	115				

Associated samples: H23080811-001B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICP2-HE_230824B: 102	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.7		
Analysis Date: 08/25/23 00:12	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	24.0	1.0	25	0	96	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice  
**Work Order:** H23080811

Prepared by Helena, MT Branch  
**BatchID:** R187553

**Date:** 13-Sep-23

Run ID :Run Order: <b>ICP2-HE_230824B: 102</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>	Method: <b>E200.7</b>					
Analysis Date: <b>08/25/23 00:12</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:	Prep Method:					
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	27.5	1.0	25	0	<b>110</b>	90	110				

Associated samples: H23080811-001B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: <b>ICP2-HE_230824B: 108</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23080722-001BMS2</b>	Method: <b>E200.7</b>					
Analysis Date: <b>08/25/23 00:34</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:	Prep Method:					
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	143	1.0	50	96.99	<b>93</b>	70	130				
Magnesium	66.5	1.0	50	7.248	<b>118</b>	70	130				

Associated samples: H23080811-001B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: <b>ICP2-HE_230824B: 109</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23080722-001BMSD2</b>	Method: <b>E200.7</b>					
Analysis Date: <b>08/25/23 00:38</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:	Prep Method:					
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	146	1.0	50	96.99	<b>98</b>	70	130	143.3	<b>1.8</b>	20	
Magnesium	67.4	1.0	50	7.248	<b>120</b>	70	130	66.46	<b>1.4</b>	20	

Associated samples: H23080811-001B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: <b>ICP2-HE_230824B: 114</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>	Method: <b>E200.7</b>					
Analysis Date: <b>08/25/23 00:57</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:	Prep Method:					
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	24.4	1.0	25	0	<b>97</b>	90	110				
Magnesium	29.0	1.0	25	0	<b>116</b>	90	110				S

Associated samples: H23080811-001B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: <b>ICP2-HE_230824B: 123</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23080811-008BMS2</b>	Method: <b>E200.7</b>					
Analysis Date: <b>08/25/23 01:31</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:	Prep Method:					
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	187	1.0	50	139.8	<b>95</b>	70	130				
Magnesium	72.1	1.0	50	30.73	<b>83</b>	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187553

Date: 13-Sep-23

Run ID :Run Order: ICP2-HE_230824B: 123	SampType: Sample Matrix Spike	Lab ID: H23080811-008BMS2	Method: E200.7								
Analysis Date: 08/25/23 01:31	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <u>2</u>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23080811-001B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICP2-HE_230824B: 124	SampType: Sample Matrix Spike Duplicate	Lab ID: H23080811-008BMSD2	Method: E200.7								
Analysis Date: 08/25/23 01:35	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <u>2</u>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	188	1.0	50	139.8	96	70	130	187	0.5	20	
Magnesium	76.0	1.0	50	30.73	91	70	130	72.11	5.3	20	

Associated samples: H23080811-001B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICP2-HE_230824B: 126	SampType: Continuing Calibration Verification Standard	Lab ID: CCV	Method: E200.7								
Analysis Date: 08/25/23 01:42	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <u>2</u>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	26.1	1.0	25	0	104	90	110				
Magnesium	23.6	1.0	25	0	94	90	110				

Associated samples: H23080811-001B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187581

Date: 13-Sep-23

Run ID :Run Order: ICPMS205-H_230824B: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 08/24/23 17:49	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.312	0.10	0.3	0	104	90	110				
Antimony	0.0615	0.050	0.06	0	103	90	110				
Arsenic	0.0612	0.0050	0.06	0	102	90	110				
Barium	0.0605	0.10	0.06	0	101	90	110				
Beryllium	0.0309	0.0010	0.03	0	103	90	110				
Cadmium	0.0309	0.0010	0.03	0	103	90	110				
Chromium	0.0602	0.010	0.06	0	100	90	110				
Cobalt	0.0610	0.010	0.06	0	102	90	110				
Copper	0.0617	0.010	0.06	0	103	90	110				
Iron	0.307	0.020	0.3	0	102	90	110				
Lead	0.0600	0.010	0.06	0	100	90	110				
Lithium	0.0630	0.10	0.06	0	105	90	110				
Magnesium	3.17	0.50	3	0	106	90	110				
Manganese	0.301	0.010	0.3	0	100	90	110				
Molybdenum	0.0592	0.0050	0.06	0	99	90	110				
Nickel	0.0615	0.010	0.06	0	103	90	110				
Selenium	0.0615	0.0050	0.06	0	102	90	110				
Silver	0.0308	0.0050	0.03	0	103	90	110				
Thallium	0.0598	0.10	0.06	0	100	90	110				
Tin	0.0622	0.10	0.06	0	104	90	110				
Titanium	0.0585	0.010	0.06	0	97	90	110				
Uranium	0.0602	0.00030	0.06	0	100	90	110				
Vanadium	0.0597	0.10	0.06	0	99	90	110				
Zinc	0.0623	0.010	0.06	0	104	90	110				

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICPMS205-H_230824B: 22	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 08/24/23 18:34	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	ND	0.0002									
Arsenic	ND	0.0002									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187581

Date: 13-Sep-23

Run ID :Run Order: ICPMS205-H_230824B: 22	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 08/24/23 18:34	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	0.0002									
Beryllium	ND	0.0002									
Cadmium	ND	0.00002									
Chromium	ND	0.0001									
Cobalt	ND	0.001									
Copper	ND	0.0001									
Iron	ND	0.004									
Lead	ND	0.0001									
Lithium	ND	0.001									
Magnesium	ND	0.01									
Manganese	ND	0.0003									
Molybdenum	ND	0.0003									
Nickel	ND	0.0002									
Selenium	ND	0.00007									
Silver	ND	0.00008									
Thallium	ND	0.00008									
Tin	ND	0.0002									
Titanium	ND	0.0005									
Uranium	ND	0.00002									
Vanadium	ND	0.0001									
Zinc	ND	0.001									

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICPMS205-H_230824B: 23	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.8		
Analysis Date: 08/24/23 18:37	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0465	0.10	0.05	0	93	85	115				
Antimony	0.0491	0.050	0.05	0	98	85	115				
Arsenic	0.0497	0.0050	0.05	0	99	85	115				
Barium	0.0484	0.10	0.05	0	97	85	115				
Beryllium	0.0512	0.0010	0.05	0	102	85	115				
Cadmium	0.0501	0.0010	0.05	0	100	85	115				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187581

Date: 13-Sep-23

Run ID :Run Order: ICPMS205-H_230824B: 23	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.8		
Analysis Date: 08/24/23 18:37	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.0483	0.010	0.05	0	97	85	115				
Cobalt	0.0492	0.010	0.05	0	98	85	115				
Copper	0.0490	0.010	0.05	0	98	85	115				
Iron	0.155	0.020	0.15	0	103	85	115				
Lead	0.0484	0.010	0.05	0	97	85	115				
Lithium	0.0553	0.10	0.05	0	111	85	115				
Magnesium	1.06	0.50	1	0	106	85	115				
Manganese	0.0499	0.010	0.05	0	100	85	115				
Molybdenum	0.0483	0.0050	0.05	0	97	85	115				
Nickel	0.0493	0.010	0.05	0	99	85	115				
Selenium	0.0486	0.0050	0.05	0	97	85	115				
Silver	0.0200	0.0050	0.02	0	100	85	115				
Thallium	0.0483	0.10	0.05	0	97	85	115				
Tin	0.0448	0.10	0.05	0	90	85	115				
Titanium	0.0471	0.010	0.05	0	94	85	115				
Uranium	0.0470	0.00030	0.05	0	94	85	115				
Vanadium	0.0483	0.10	0.05	0	97	85	115				
Zinc	0.0515	0.010	0.05	0	103	85	115				

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICPMS205-H_230824B: 178	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 08/25/23 11:32	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0500	0.10	0.05	0	100	90	110				
Antimony	0.0491	0.050	0.05	0	98	90	110				
Arsenic	0.0492	0.0050	0.05	0	98	90	110				
Barium	0.0495	0.10	0.05	0	99	90	110				
Beryllium	0.0498	0.0010	0.05	0	100	90	110				
Cadmium	0.0509	0.0010	0.05	0	102	90	110				
Chromium	0.0489	0.010	0.05	0	98	90	110				
Cobalt	0.0491	0.010	0.05	0	98	90	110				
Copper	0.0497	0.010	0.05	0	99	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187581

Date: 13-Sep-23

Run ID :Run Order: ICPMS205-H_230824B: 178	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 08/25/23 11:32	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.29	0.020	1.3	0	99	90	110				
Lead	0.0498	0.010	0.05	0	100	90	110				
Lithium	0.631	0.10	0.625	0	101	90	110				
Magnesium	13.1	0.50	12.5	0	105	90	110				
Manganese	0.0497	0.010	0.05	0	99	90	110				
Molybdenum	0.0498	0.0050	0.05	0	100	90	110				
Nickel	0.0498	0.010	0.05	0	100	90	110				
Selenium	0.0529	0.0050	0.05	0	106	90	110				
Silver	0.0203	0.0050	0.02	0	101	90	110				
Thallium	0.0495	0.10	0.05	0	99	90	110				
Tin	0.0500	0.10	0.05	0	100	90	110				
Titanium	0.0479	0.010	0.05	0	96	90	110				
Uranium	0.0503	0.00030	0.05	0	101	90	110				
Vanadium	0.0490	0.10	0.05	0	98	90	110				
Zinc	0.0511	0.010	0.05	0	102	90	110				

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICPMS205-H_230824B: 188	SampType: Sample Matrix Spike				Lab ID: H23080811-002BMS				Method: E200.8		
Analysis Date: 08/25/23 12:07	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0507	0.030	0.05	0	101	70	130				
Antimony	0.0494	0.0010	0.05	0	99	70	130				
Arsenic	0.0534	0.0010	0.05	0.002124	103	70	130				
Barium	0.0787	0.050	0.05	0.03053	96	70	130				
Beryllium	0.0564	0.0010	0.05	0	113	70	130				
Cadmium	0.0499	0.0010	0.05	0.0002339	99	70	130				
Chromium	0.0482	0.0050	0.05	0.0006497	95	70	130				
Cobalt	0.0483	0.0050	0.05	0	97	70	130				
Copper	0.0491	0.0050	0.05	0.000303	98	70	130				
Iron	0.146	0.020	0.15	0	98	70	130				
Lead	0.0506	0.0010	0.05	0	101	70	130				
Lithium	0.0704	0.10	0.05	0.009897	121	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187581

Date: 13-Sep-23

Run ID :Run Order: ICPMS205-H_230824B: 188		SampType: Sample Matrix Spike			Lab ID: H23080811-002BMS				Method: E200.8		
Analysis Date: 08/25/23 12:07		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	8.71	1.0	1	9.218		70	130				A
Manganese	0.0499	0.0010	0.05	0.0008024	98	70	130				
Molybdenum	0.0589	0.0010	0.05	0.01291	92	70	130				
Nickel	0.0487	0.0050	0.05	0.0002621	97	70	130				
Selenium	0.0542	0.0010	0.05	0.0002851	108	70	130				
Silver	0.0193	0.0010	0.02	0	97	70	130				
Thallium	0.0504	0.00050	0.05	0	101	70	130				
Tin	0.0409	0.050	0.05	0	82	70	130				
Titanium	0.0480	0.0050	0.05	0	96	70	130				
Uranium	0.0523	0.00030	0.05	0.003506	98	70	130				
Vanadium	0.0531	0.010	0.05	0.005314	95	70	130				
Zinc	0.0638	0.010	0.05	0.01306	101	70	130				

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICPMS205-H_230824B: 189		SampType: Sample Matrix Spike Duplicate			Lab ID: H23080811-002BMSD				Method: E200.8		
Analysis Date: 08/25/23 12:10		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0525	0.030	0.05	0	105	70	130	0.05071	3.5	20	
Antimony	0.0495	0.0010	0.05	0	99	70	130	0.04938	0.3	20	
Arsenic	0.0527	0.0010	0.05	0.002124	101	70	130	0.05341	1.4	20	
Barium	0.0775	0.050	0.05	0.03053	94	70	130	0.07871	1.5	20	
Beryllium	0.0562	0.0010	0.05	0	112	70	130	0.05639	0.3	20	
Cadmium	0.0497	0.0010	0.05	0.0002339	99	70	130	0.04993	0.5	20	
Chromium	0.0486	0.0050	0.05	0.0006497	96	70	130	0.04816	0.9	20	
Cobalt	0.0489	0.0050	0.05	0	98	70	130	0.04833	1.1	20	
Copper	0.0495	0.0050	0.05	0.000303	98	70	130	0.04913	0.7	20	
Iron	0.147	0.020	0.15	0	98	70	130	0.1464	0.5	20	
Lead	0.0510	0.0010	0.05	0	102	70	130	0.05064	0.6	20	
Lithium	0.0708	0.10	0.05	0.009897	122	70	130	0.07036		20	
Magnesium	8.61	1.0	1	9.218		70	130	8.713	1.2	20	A
Manganese	0.0511	0.0010	0.05	0.0008024	101	70	130	0.04992	2.4	20	
Molybdenum	0.0597	0.0010	0.05	0.01291	94	70	130	0.0589	1.3	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187581

Date: 13-Sep-23

Run ID :Run Order: ICPMS205-H_230824B: 189		SampType: Sample Matrix Spike Duplicate			Lab ID: H23080811-002BMSD				Method: E200.8		
Analysis Date: 08/25/23 12:10		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	0.0492	0.0050	0.05	0.0002621	98	70	130	0.04867	1.1	20	
Selenium	0.0540	0.0010	0.05	0.0002851	107	70	130	0.05418	0.3	20	
Silver	0.0195	0.0010	0.02	0	98	70	130	0.01931	1.0	20	
Thallium	0.0506	0.00050	0.05	0	101	70	130	0.0504	0.5	20	
Tin	0.0421	0.050	0.05	0	84	70	130	0.04093		20	
Titanium	0.0492	0.0050	0.05	0	98	70	130	0.04805	2.3	20	
Uranium	0.0526	0.00030	0.05	0.003506	98	70	130	0.05232	0.4	20	
Vanadium	0.0537	0.010	0.05	0.005314	97	70	130	0.05306	1.1	20	
Zinc	0.0641	0.010	0.05	0.01306	102	70	130	0.06376	0.6	20	

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICPMS205-H_230824B: 190		SampType: Continuing Calibration Verification Standard			Lab ID: CCV				Method: E200.8		
Analysis Date: 08/25/23 12:13		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0490	0.10	0.05	0	98	90	110				
Antimony	0.0496	0.050	0.05	0	99	90	110				
Arsenic	0.0500	0.0050	0.05	0	100	90	110				
Barium	0.0500	0.10	0.05	0	100	90	110				
Beryllium	0.0516	0.0010	0.05	0	103	90	110				
Cadmium	0.0509	0.0010	0.05	0	102	90	110				
Chromium	0.0495	0.010	0.05	0	99	90	110				
Cobalt	0.0495	0.010	0.05	0	99	90	110				
Copper	0.0498	0.010	0.05	0	100	90	110				
Iron	1.30	0.020	1.3	0	100	90	110				
Lead	0.0494	0.010	0.05	0	99	90	110				
Lithium	0.633	0.10	0.625	0	101	90	110				
Magnesium	12.8	0.50	12.5	0	103	90	110				
Manganese	0.0509	0.010	0.05	0	102	90	110				
Molybdenum	0.0495	0.0050	0.05	0	99	90	110				
Nickel	0.0501	0.010	0.05	0	100	90	110				
Selenium	0.0523	0.0050	0.05	0	105	90	110				
Silver	0.0198	0.0050	0.02	0	99	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187581

Date: 13-Sep-23

Run ID :Run Order: ICPMS205-H_230824B: 190		SampType: Continuing Calibration Verification Standard				Lab ID: CCV			Method: E200.8		
Analysis Date: 08/25/23 12:13		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	0.0489	0.10	0.05	0	98	90	110				
Tin	0.0504	0.10	0.05	0	101	90	110				
Titanium	0.0498	0.010	0.05	0	100	90	110				
Uranium	0.0497	0.00030	0.05	0	99	90	110				
Vanadium	0.0498	0.10	0.05	0	100	90	110				
Zinc	0.0511	0.010	0.05	0	102	90	110				

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICPMS205-H_230824B: 199		SampType: Sample Matrix Spike				Lab ID: H23080811-012BMS			Method: E200.8		
Analysis Date: 08/25/23 12:41		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0527	0.030	0.05	0	105	70	130				
Antimony	0.0487	0.0010	0.05	0	97	70	130				
Arsenic	0.0568	0.0010	0.05	0.007505	99	70	130				
Barium	0.0626	0.050	0.05	0.01416	97	70	130				
Beryllium	0.0550	0.0010	0.05	0	110	70	130				
Cadmium	0.0535	0.0010	0.05	0.003979	99	70	130				
Chromium	0.0474	0.0050	0.05	0.0001946	94	70	130				
Cobalt	0.0479	0.0050	0.05	0	96	70	130				
Copper	0.102	0.0050	0.05	0.05522	93	70	130				
Iron	0.146	0.020	0.15	0	97	70	130				
Lead	0.0504	0.0010	0.05	0	101	70	130				
Lithium	0.331	0.10	0.05	0.2962		70	130				A
Magnesium	26.9	1.0	1	27.27		70	130				A
Manganese	0.0514	0.0010	0.05	0.0009153	101	70	130				
Molybdenum	0.0507	0.0010	0.05	0.003114	95	70	130				
Nickel	0.0492	0.0050	0.05	0.001361	96	70	130				
Selenium	0.0530	0.0010	0.05	0.0001514	106	70	130				
Silver	0.0196	0.0010	0.02	0.00009206	97	70	130				
Thallium	0.0502	0.00050	0.05	0	100	70	130				
Tin	0.0424	0.050	0.05	0	85	70	130				
Titanium	0.0454	0.0050	0.05	0	91	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187581

Date: 13-Sep-23

Run ID :Run Order: ICPMS205-H_230824B: 199	SampType: Sample Matrix Spike				Lab ID: H23080811-012BMS				Method: E200.8		
Analysis Date: 08/25/23 12:41	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.0532	0.00030	0.05	0.00259	101	70	130				
Vanadium	0.0494	0.010	0.05	0.001838	95	70	130				
Zinc	0.478	0.010	0.05	0.4365		70	130				A

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICPMS205-H_230824B: 200	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080811-012BMSD				Method: E200.8		
Analysis Date: 08/25/23 12:44	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0536	0.030	0.05	0	107	70	130	0.05269	1.7	20	
Antimony	0.0487	0.0010	0.05	0	97	70	130	0.04867	0	20	
Arsenic	0.0573	0.0010	0.05	0.007505	100	70	130	0.05685	0.7	20	
Barium	0.0627	0.050	0.05	0.01416	97	70	130	0.06265	0	20	
Beryllium	0.0567	0.0010	0.05	0	113	70	130	0.05503	3.0	20	
Cadmium	0.0534	0.0010	0.05	0.003979	99	70	130	0.05349	0.1	20	
Chromium	0.0475	0.0050	0.05	0.0001946	95	70	130	0.04744	0.2	20	
Cobalt	0.0476	0.0050	0.05	0	95	70	130	0.04793	0.6	20	
Copper	0.102	0.0050	0.05	0.05522	95	70	130	0.1018	0.7	20	
Iron	0.148	0.020	0.15	0	99	70	130	0.1459	1.4	20	
Lead	0.0497	0.0010	0.05	0	99	70	130	0.05039	1.3	20	
Lithium	0.343	0.10	0.05	0.2962		70	130	0.3307	3.7	20	A
Magnesium	27.3	1.0	1	27.27		70	130	26.93	1.4	20	A
Manganese	0.0497	0.0010	0.05	0.0009153	98	70	130	0.05144	3.4	20	
Molybdenum	0.0514	0.0010	0.05	0.003114	97	70	130	0.0507	1.4	20	
Nickel	0.0494	0.0050	0.05	0.001361	96	70	130	0.04918	0.3	20	
Selenium	0.0533	0.0010	0.05	0.0001514	106	70	130	0.05303	0.5	20	
Silver	0.0196	0.0010	0.02	0.00009206	98	70	130	0.01956	0.5	20	
Thallium	0.0496	0.00050	0.05	0	99	70	130	0.05019	1.2	20	
Tin	0.0417	0.050	0.05	0	83	70	130	0.04238		20	
Titanium	0.0482	0.0050	0.05	0	96	70	130	0.04541	5.9	20	
Uranium	0.0518	0.00030	0.05	0.00259	98	70	130	0.05325	2.8	20	
Vanadium	0.0494	0.010	0.05	0.001838	95	70	130	0.04938	0	20	
Zinc	0.479	0.010	0.05	0.4365		70	130	0.4782	0.1	20	A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187581

Date: 13-Sep-23

Run ID :Run Order: <b>ICPMS205-H_230824B: 200</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23080811-012BMSD</b>	Method: <b>E200.8</b>								
Analysis Date: <b>08/25/23 12:44</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A**

Run ID :Run Order: <b>ICPMS205-H_230824B: 201</b>	SampType: <b>Continuing Calibration Verification Standard</b>	Lab ID: <b>CCV</b>	Method: <b>E200.8</b>								
Analysis Date: <b>08/25/23 12:47</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0504	0.10	0.05	0	101	90	110				
Antimony	0.0494	0.050	0.05	0	99	90	110				
Arsenic	0.0497	0.0050	0.05	0	99	90	110				
Barium	0.0513	0.10	0.05	0	103	90	110				
Beryllium	0.0506	0.0010	0.05	0	101	90	110				
Cadmium	0.0514	0.0010	0.05	0	103	90	110				
Chromium	0.0496	0.010	0.05	0	99	90	110				
Cobalt	0.0494	0.010	0.05	0	99	90	110				
Copper	0.0500	0.010	0.05	0	100	90	110				
Iron	1.31	0.020	1.3	0	101	90	110				
Lead	0.0497	0.010	0.05	0	99	90	110				
Lithium	0.633	0.10	0.625	0	101	90	110				
Magnesium	12.9	0.50	12.5	0	103	90	110				
Manganese	0.0504	0.010	0.05	0	101	90	110				
Molybdenum	0.0504	0.0050	0.05	0	101	90	110				
Nickel	0.0508	0.010	0.05	0	102	90	110				
Selenium	0.0535	0.0050	0.05	0	107	90	110				
Silver	0.0206	0.0050	0.02	0	103	90	110				
Thallium	0.0497	0.10	0.05	0	99	90	110				
Tin	0.0514	0.10	0.05	0	103	90	110				
Titanium	0.0526	0.010	0.05	0	105	90	110				
Uranium	0.0501	0.00030	0.05	0	100	90	110				
Vanadium	0.0498	0.10	0.05	0	100	90	110				
Zinc	0.0514	0.010	0.05	0	103	90	110				

Associated samples: **H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A**

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187633

Date: 13-Sep-23

Run ID :Run Order: <b>SEAL AA500_230828B: 12</b>	SampType: <b>Method Blank</b>				Lab ID: <b>ICB</b>				Method: <b>E353.2</b>		
Analysis Date: <b>08/28/23 18:03</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.01									
Associated samples: <b>H23080811-001C, H23080811-002C, H23080811-003C, H23080811-004C, H23080811-005C, H23080811-006C, H23080811-007C, H23080811-008C, H23080811-009C, H23080811-010C, H23080811-011C, H23080811-012C, H23080811-013C, H23080811-014B</b>											

Run ID :Run Order: <b>SEAL AA500_230828B: 14</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>				Method: <b>E353.2</b>		
Analysis Date: <b>08/28/23 18:05</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.01	0.010	1	0	<b>101</b>	90	110				
Associated samples: <b>H23080811-001C, H23080811-002C, H23080811-003C, H23080811-004C, H23080811-005C, H23080811-006C, H23080811-007C, H23080811-008C, H23080811-009C, H23080811-010C, H23080811-011C, H23080811-012C, H23080811-013C, H23080811-014B</b>											

Run ID :Run Order: <b>SEAL AA500_230828B: 15</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>				Method: <b>E353.2</b>		
Analysis Date: <b>08/28/23 18:06</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.998	0.011	1	0	<b>100</b>	90	110				
Associated samples: <b>H23080811-001C, H23080811-002C, H23080811-003C, H23080811-004C, H23080811-005C, H23080811-006C, H23080811-007C, H23080811-008C, H23080811-009C, H23080811-010C, H23080811-011C, H23080811-012C, H23080811-013C, H23080811-014B</b>											

Run ID :Run Order: <b>SEAL AA500_230828B: 57</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>E353.2</b>		
Analysis Date: <b>08/28/23 18:50</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.993	0.010	1	0	<b>99</b>	90	110				
Associated samples: <b>H23080811-001C, H23080811-002C, H23080811-003C, H23080811-004C, H23080811-005C, H23080811-006C, H23080811-007C, H23080811-008C, H23080811-009C, H23080811-010C, H23080811-011C, H23080811-012C, H23080811-013C, H23080811-014B</b>											

Run ID :Run Order: <b>SEAL AA500_230828B: 71</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>E353.2</b>		
Analysis Date: <b>08/28/23 19:04</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.994	0.010	1	0	<b>99</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187633

Date: 13-Sep-23

Run ID :Run Order: <b>SEAL AA500_230828B: 71</b>	SampType: <b>Continuing Calibration Verification Standard</b>	Lab ID: <b>CCV</b>	Method: <b>E353.2</b>
Analysis Date: <b>08/28/23 19:04</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
	HighLimit	RPD Ref Val	%RPD
	RPDLimit	Qual	

Associated samples: H23080811-001C, H23080811-002C, H23080811-003C, H23080811-004C, H23080811-005C, H23080811-006C, H23080811-007C, H23080811-008C, H23080811-009C, H23080811-010C, H23080811-011C, H23080811-012C, H23080811-013C, H23080811-014B

Run ID :Run Order: <b>SEAL AA500_230828B: 77</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23080811-004CMS</b>	Method: <b>E353.2</b>
Analysis Date: <b>08/28/23 19:12</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
	HighLimit	RPD Ref Val	%RPD
	RPDLimit	Qual	
Nitrogen, Nitrate+Nitrite as N	0.970	0.011	1
	0.0493	92	90
			110

Associated samples: H23080811-001C, H23080811-002C, H23080811-003C, H23080811-004C, H23080811-005C, H23080811-006C, H23080811-007C, H23080811-008C, H23080811-009C, H23080811-010C, H23080811-011C, H23080811-012C, H23080811-013C, H23080811-014B

Run ID :Run Order: <b>SEAL AA500_230828B: 78</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23080811-004CMSD</b>	Method: <b>E353.2</b>
Analysis Date: <b>08/28/23 19:13</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
	HighLimit	RPD Ref Val	%RPD
	RPDLimit	Qual	
Nitrogen, Nitrate+Nitrite as N	0.960	0.011	1
	0.0493	91	90
			110
		0.97	1.1
			10

Associated samples: H23080811-001C, H23080811-002C, H23080811-003C, H23080811-004C, H23080811-005C, H23080811-006C, H23080811-007C, H23080811-008C, H23080811-009C, H23080811-010C, H23080811-011C, H23080811-012C, H23080811-013C, H23080811-014B

Run ID :Run Order: <b>SEAL AA500_230828B: 86</b>	SampType: <b>Continuing Calibration Verification Standard</b>	Lab ID: <b>CCV</b>	Method: <b>E353.2</b>
Analysis Date: <b>08/28/23 19:21</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
	HighLimit	RPD Ref Val	%RPD
	RPDLimit	Qual	
Nitrogen, Nitrate+Nitrite as N	0.983	0.010	1
	0	98	90
			110

Associated samples: H23080811-001C, H23080811-002C, H23080811-003C, H23080811-004C, H23080811-005C, H23080811-006C, H23080811-007C, H23080811-008C, H23080811-009C, H23080811-010C, H23080811-011C, H23080811-012C, H23080811-013C, H23080811-014B

Run ID :Run Order: <b>SEAL AA500_230828B: 89</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23080811-012CMS</b>	Method: <b>E353.2</b>
Analysis Date: <b>08/28/23 19:24</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
	HighLimit	RPD Ref Val	%RPD
	RPDLimit	Qual	
Nitrogen, Nitrate+Nitrite as N	1.13	0.011	1
	0.1202	101	90
			110

Associated samples: H23080811-001C, H23080811-002C, H23080811-003C, H23080811-004C, H23080811-005C, H23080811-006C, H23080811-007C, H23080811-008C, H23080811-009C, H23080811-010C, H23080811-011C, H23080811-012C, H23080811-013C, H23080811-014B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080811

**BatchID:** R187633

**Date:** 13-Sep-23

Run ID :Run Order: <b>SEAL AA500_230828B: 90</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23080811-012CMSD</b>				Method: <b>E353.2</b>		
Analysis Date: <b>08/28/23 19:25</b>	Units: <b>mg/L</b>			Prep Info: Prep Date:				Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.14	0.011	1	0.1202	<b>102</b>	90	110	1.13	<b>0.5</b>	10	

Associated samples: **H23080811-001C, H23080811-002C, H23080811-003C, H23080811-004C, H23080811-005C, H23080811-006C, H23080811-007C, H23080811-008C, H23080811-009C, H23080811-010C, H23080811-011C, H23080811-012C, H23080811-013C, H23080811-014B**



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187693

Date: 13-Sep-23

Run ID :Run Order: ICPMS206-H_230827C: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 08/27/23 16:51	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0594	0.010	0.06	0	99	90	110				
Gallium	0.0606	0.010	0.06	0	101	90	110				
Lanthanum	0.0590	0.010	0.06	0	98	90	110				
Neodymium	0.0604	0.0050	0.06	0	101	90	110				
Palladium	0.0597	0.010	0.06	0	100	90	110				
Rubidium	0.0604	0.010	0.06	0	101	90	110				
Tungsten	0.0586	0.10	0.06	0	98	90	110				
Zirconium	0.0623	0.0050	0.06	0	104	90	110				

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICPMS206-H_230827C: 20	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 08/27/23 17:08	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0526	0.010	0.05	0	105	90	110				
Gallium	0.0517	0.010	0.05	0	103	90	110				
Lanthanum	0.0509	0.010	0.05	0	102	90	110				
Neodymium	0.0519	0.0050	0.05	0	104	90	110				
Palladium	0.0511	0.010	0.05	0	102	90	110				
Rubidium	0.0517	0.010	0.05	0	103	90	110				
Tungsten	0.0510	0.10	0.05	0	102	90	110				
Zirconium	0.0508	0.0050	0.05	0	102	90	110				

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICPMS206-H_230827C: 22	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 08/27/23 17:12	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	ND	0.0003									
Gallium	ND	0.00004									
Lanthanum	ND	0.00004									
Neodymium	ND	0.00004									

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187693

Date: 13-Sep-23

Run ID :Run Order: ICPMS206-H_230827C: 22		SampType: Method Blank			Lab ID: LRB				Method: E200.8		
Analysis Date: 08/27/23 17:12		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Palladium	ND	0.00004									
Rubidium	ND	0.00003									
Tungsten	ND	0.00003									
Zirconium	ND	0.00006									

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICPMS206-H_230827C: 23		SampType: Laboratory Fortified Blank			Lab ID: LFB				Method: E200.8		
Analysis Date: 08/27/23 17:14		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0483	0.010	0.05	0	97	85	115				
Gallium	0.0483	0.010	0.05	0	97	85	115				
Lanthanum	0.0492	0.010	0.05	0	98	85	115				
Neodymium	0.0487	0.0050	0.05	0	97	85	115				
Palladium	0.0488	0.010	0.05	0	98	85	115				
Rubidium	0.0482	0.010	0.05	0	96	85	115				
Tungsten	0.0488	0.10	0.05	0	98	85	115				
Zirconium	0.0484	0.0050	0.05	0	97	85	115				

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICPMS206-H_230827C: 38		SampType: Continuing Calibration Verification Standard			Lab ID: CCV				Method: E200.8		
Analysis Date: 08/27/23 17:55		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0519	0.010	0.05	0	104	90	110				
Gallium	0.0536	0.010	0.05	0	107	90	110				
Lanthanum	0.0522	0.010	0.05	0	104	90	110				
Neodymium	0.0532	0.0050	0.05	0	106	90	110				
Palladium	0.0503	0.010	0.05	0	101	90	110				
Rubidium	0.0542	0.010	0.05	0	108	90	110				
Tungsten	0.0510	0.10	0.05	0	102	90	110				
Zirconium	0.0538	0.0050	0.05	0	108	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187693

Date: 13-Sep-23

Run ID :Run Order: **ICPMS206-H\_230827C: 38**      SampType: **Continuing Calibration Verification Standard**      Lab ID: **CCV**      Method: **E200.8**  
 Analysis Date: **08/27/23 17:55**      Units: **mg/L**      Prep Info:      Prep Date:      Prep Method:  
 Analytes **8**      Result      PQL      SPK value      SPK Ref Val      %REC      LowLimit      HighLimit      RPD Ref Val      %RPD      RPDLimit      Qual

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: **ICPMS206-H\_230827C: 49**      SampType: **Sample Matrix Spike**      Lab ID: **H23080754-011BMS**      Method: **E200.8**  
 Analysis Date: **08/27/23 18:26**      Units: **mg/L**      Prep Info:      Prep Date:      Prep Method:  
 Analytes **8**      Result      PQL      SPK value      SPK Ref Val      %REC      LowLimit      HighLimit      RPD Ref Val      %RPD      RPDLimit      Qual

Analytes	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0525	0.010	0.05	0	105	70	130				
Gallium	0.0508	0.010	0.05	0	102	70	130				
Lanthanum	0.0540	0.010	0.05	0.00004227	108	70	130				
Neodymium	0.0524	0.0050	0.05	0	105	70	130				
Palladium	0.0489	0.010	0.05	0.00004949	98	70	130				
Rubidium	0.0524	0.010	0.05	0.001289	102	70	130				
Tungsten	0.0522	0.10	0.05	0.0006724	103	70	130				
Zirconium	0.0474	0.0050	0.05	0	95	70	130				

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: **ICPMS206-H\_230827C: 50**      SampType: **Sample Matrix Spike Duplicate**      Lab ID: **H23080754-011BMSD**      Method: **E200.8**  
 Analysis Date: **08/27/23 18:29**      Units: **mg/L**      Prep Info:      Prep Date:      Prep Method:  
 Analytes **8**      Result      PQL      SPK value      SPK Ref Val      %REC      LowLimit      HighLimit      RPD Ref Val      %RPD      RPDLimit      Qual

Analytes	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0529	0.010	0.05	0	106	70	130	0.05254	0.8	20	
Gallium	0.0517	0.010	0.05	0	103	70	130	0.0508	1.8	20	
Lanthanum	0.0524	0.010	0.05	0.00004227	105	70	130	0.05402	3.0	20	
Neodymium	0.0530	0.0050	0.05	0	106	70	130	0.05239	1.2	20	
Palladium	0.0497	0.010	0.05	0.00004949	99	70	130	0.04887	1.7	20	
Rubidium	0.0533	0.010	0.05	0.001289	104	70	130	0.05242	1.7	20	
Tungsten	0.0528	0.10	0.05	0.0006724	104	70	130	0.05218		20	
Zirconium	0.0484	0.0050	0.05	0	97	70	130	0.04735	2.2	20	

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080811

**BatchID:** R187693

**Date:** 13-Sep-23

Run ID :Run Order: ICPMS206-H_230827C: 51		SampType: Continuing Calibration Verification Standard				Lab ID: CCV			Method: E200.8		
Analysis Date: 08/27/23 18:32		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0537	0.010	0.05	0	107	90	110				
Gallium	0.0540	0.010	0.05	0	108	90	110				
Lanthanum	0.0546	0.010	0.05	0	109	90	110				
Neodymium	0.0539	0.0050	0.05	0	108	90	110				
Palladium	0.0518	0.010	0.05	0	104	90	110				
Rubidium	0.0542	0.010	0.05	0	108	90	110				
Tungsten	0.0528	0.10	0.05	0	106	90	110				
Zirconium	0.0540	0.0050	0.05	0	108	90	110				

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICPMS206-H_230827C: 63		SampType: Sample Matrix Spike				Lab ID: H23080754-021BMS			Method: E200.8		
Analysis Date: 08/27/23 19:06		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0507	0.010	0.05	0	101	70	130				
Gallium	0.0503	0.010	0.05	0	101	70	130				
Lanthanum	0.0530	0.010	0.05	0	106	70	130				
Neodymium	0.0525	0.0050	0.05	0	105	70	130				
Palladium	0.0475	0.010	0.05	0.0004915	94	70	130				
Rubidium	0.0648	0.010	0.05	0.01393	102	70	130				
Tungsten	0.0519	0.10	0.05	0.00003947	104	70	130				
Zirconium	0.0488	0.0050	0.05	0	97	70	130				

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICPMS206-H_230827C: 64		SampType: Sample Matrix Spike Duplicate				Lab ID: H23080754-021BMSD			Method: E200.8		
Analysis Date: 08/27/23 19:09		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0553	0.010	0.05	0	111	70	130	0.05072	8.7	20	
Gallium	0.0527	0.010	0.05	0	105	70	130	0.05026	4.8	20	
Lanthanum	0.0559	0.010	0.05	0	112	70	130	0.05297	5.3	20	
Neodymium	0.0560	0.0050	0.05	0	112	70	130	0.05252	6.4	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount

## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080811

**BatchID:** R187693

**Date:** 13-Sep-23

Run ID :Run Order: <b>ICPMS206-H_230827C: 64</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23080754-021BMSD</b>				Method: <b>E200.8</b>		
Analysis Date: <b>08/27/23 19:09</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:				Prep Method:		
Analytes <b>8</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Palladium	0.0506	0.010	0.05	0.0004915	<b>100</b>	70	130	0.04753	<b>6.3</b>	20	
Rubidium	0.0676	0.010	0.05	0.01393	<b>107</b>	70	130	0.06484	<b>4.1</b>	20	
Tungsten	0.0540	0.10	0.05	0.00003947	<b>108</b>	70	130	0.05192		20	
Zirconium	0.0514	0.0050	0.05	0	<b>103</b>	70	130	0.04875	<b>5.2</b>	20	

Associated samples: **H23080811-001B, H23080811-002B, H23080811-003B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A**

Run ID :Run Order: <b>ICPMS206-H_230827C: 65</b>		SampType: <b>Continuing Calibration Verification Standard</b>			Lab ID: <b>CCV</b>				Method: <b>E200.8</b>		
Analysis Date: <b>08/27/23 19:12</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Palladium	0.0522	0.010	0.05	0	<b>104</b>	90	110				
Tungsten	0.0544	0.10	0.05	0	<b>109</b>	90	110				

Associated samples: **H23080811-001B, H23080811-002B, H23080811-003B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A**

Run ID :Run Order: <b>ICPMS206-H_230827C: 74</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23080811-008BMS</b>				Method: <b>E200.8</b>		
Analysis Date: <b>08/27/23 19:37</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:				Prep Method:		
Analytes <b>8</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0555	0.010	0.05	0	<b>111</b>	70	130				
Gallium	0.0531	0.010	0.05	0	<b>106</b>	70	130				
Lanthanum	0.0546	0.010	0.05	0	<b>109</b>	70	130				
Neodymium	0.0556	0.0050	0.05	0	<b>111</b>	70	130				
Palladium	0.0501	0.010	0.05	0.0004469	<b>99</b>	70	130				
Rubidium	0.0715	0.010	0.05	0.01747	<b>108</b>	70	130				
Tungsten	0.0536	0.10	0.05	0.00004924	<b>107</b>	70	130				
Zirconium	0.0517	0.0050	0.05	0	<b>103</b>	70	130				

Associated samples: **H23080811-001B, H23080811-002B, H23080811-003B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187693

Date: 13-Sep-23

Run ID :Run Order: ICPMS206-H_230827C: 75	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080811-008BMSD				Method: E200.8		
Analysis Date: 08/27/23 19:40	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0557	0.010	0.05	0	111	70	130	0.05552	0.3	20	
Gallium	0.0530	0.010	0.05	0	106	70	130	0.05308	0.1	20	
Lanthanum	0.0572	0.010	0.05	0	114	70	130	0.05458	4.7	20	
Neodymium	0.0560	0.0050	0.05	0	112	70	130	0.05562	0.7	20	
Palladium	0.0504	0.010	0.05	0.0004469	100	70	130	0.05014	0.4	20	
Rubidium	0.0712	0.010	0.05	0.01747	107	70	130	0.07153	0.4	20	
Tungsten	0.0544	0.10	0.05	0.00004924	109	70	130	0.05359		20	
Zirconium	0.0516	0.0050	0.05	0	103	70	130	0.05166	0.1	20	

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187694

Date: 13-Sep-23

Run ID :Run Order: ICPMS206-H_230829A: 12		SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.8		
Analysis Date: 08/29/23 12:31		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.306	0.10	0.3	0	102	90	110				
Manganese	0.304	0.010	0.3	0	101	90	110				
Molybdenum	0.0583	0.0050	0.06	0	97	90	110				
Thorium	0.0621	0.0010	0.06	0	104	90	110				

Associated samples: H23080811-003B, H23080811-008B, H23080811-013B

Run ID :Run Order: ICPMS206-H_230829A: 23		SampType: Method Blank				Lab ID: LRB			Method: E200.8		
Analysis Date: 08/29/23 14:20		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.002									
Manganese	ND	0.00005									
Molybdenum	ND	7E-06									
Thorium	ND	4E-06									

Associated samples: H23080811-003B, H23080811-008B, H23080811-013B

Run ID :Run Order: ICPMS206-H_230829A: 24		SampType: Laboratory Fortified Blank				Lab ID: LFB			Method: E200.8		
Analysis Date: 08/29/23 14:23		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0478	0.10	0.05	0	96	85	115				
Manganese	0.0484	0.010	0.05	0	97	85	115				
Molybdenum	0.0475	0.0050	0.05	0	95	85	115				
Thorium	0.0462	0.0010	0.05	0	92	85	115				

Associated samples: H23080811-003B, H23080811-008B, H23080811-013B

Run ID :Run Order: ICPMS206-H_230829A: 45		SampType: Continuing Calibration Verification Standard				Lab ID: CCV			Method: E200.8		
Analysis Date: 08/29/23 17:44		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0509	0.10	0.05	0	102	90	110				
Manganese	0.0500	0.010	0.05	0	100	90	110				
Molybdenum	0.0485	0.0050	0.05	0	97	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187694

Date: 13-Sep-23

Run ID :Run Order: ICPMS206-H_230829A: 45	SampType: Continuing Calibration Verification Standard				Lab ID: CCV	Method: E200.8					
Analysis Date: 08/29/23 17:44	Units: mg/L				Prep Info:	Prep Date:			Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0500	0.0010	0.05	0	100	90	110				

Associated samples: H23080811-003B, H23080811-008B, H23080811-013B

Run ID :Run Order: ICPMS206-H_230829A: 53	SampType: Sample Matrix Spike				Lab ID: H23080811-008BMS	Method: E200.8					
Analysis Date: 08/29/23 18:13	Units: mg/L				Prep Info:	Prep Date:			Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0488	0.030	0.05	0	97	70	130				
Manganese	0.0492	0.0010	0.05	0.00279	93	70	130				
Molybdenum	0.0496	0.0010	0.05	0.001798	96	70	130				
Thorium	0.0499	0.0050	0.05	0.000004668	100	70	130				

Associated samples: H23080811-003B, H23080811-008B, H23080811-013B

Run ID :Run Order: ICPMS206-H_230829A: 54	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080811-008BMSD	Method: E200.8					
Analysis Date: 08/29/23 18:17	Units: mg/L				Prep Info:	Prep Date:			Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0514	0.030	0.05	0	103	70	130	0.04875	5.3	20	
Manganese	0.0505	0.0010	0.05	0.00279	95	70	130	0.04918	2.7	20	
Molybdenum	0.0507	0.0010	0.05	0.001798	98	70	130	0.04964	2.0	20	
Thorium	0.0527	0.0050	0.05	0.000004668	105	70	130	0.04989	5.5	20	

Associated samples: H23080811-003B, H23080811-008B, H23080811-013B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187736

Date: 13-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 22		SampType: Method Blank			Lab ID: LRB				Method: E200.8		
Analysis Date: 08/30/23 13:39		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	ND	0.0003									
Gallium	ND	0.00004									
Lanthanum	ND	0.00004									
Neodymium	ND	0.00004									
Niobium	0.00009	0.00004									
Palladium	ND	0.00004									
Praseodymium	ND	0.00005									
Rubidium	ND	0.00003									
Tungsten	ND	0.00003									
Zirconium	ND	0.00006									

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICPMS206-H_230830B: 23		SampType: Laboratory Fortified Blank			Lab ID: LFB				Method: E200.8		
Analysis Date: 08/30/23 13:41		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0515	0.010	0.05	0	103	85	115				
Gallium	0.0499	0.010	0.05	0	100	85	115				
Lanthanum	0.0500	0.010	0.05	0	100	85	115				
Neodymium	0.0505	0.0050	0.05	0	101	85	115				
Niobium	0.0526	0.0010	0.05	0	105	85	115				
Palladium	0.0503	0.010	0.05	0	101	85	115				
Praseodymium	0.0512	0.0010	0.05	0	102	85	115				
Rubidium	0.0494	0.010	0.05	0	99	85	115				
Tungsten	0.0516	0.10	0.05	0	103	85	115				
Zirconium	0.0526	0.0050	0.05	0	105	85	115				

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187736

Date: 13-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 59		SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.8		
Analysis Date: 08/30/23 15:31		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0604	0.010	0.06	0	101	90	110				
Gallium	0.0616	0.010	0.06	0	103	90	110				
Lanthanum	0.0606	0.010	0.06	0	101	90	110				
Neodymium	0.0602	0.0050	0.06	0	100	90	110				
Niobium	0.0603	0.0010	0.06	0	101	90	110				
Palladium	0.0599	0.010	0.06	0	100	90	110				
Praseodymium	0.0619	0.0010	0.06	0	103	90	110				
Rubidium	0.0603	0.010	0.06	0	101	90	110				
Tungsten	0.0592	0.10	0.06	0	99	90	110				
Zirconium	0.0633	0.0050	0.06	0	106	90	110				

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICPMS206-H_230830B: 79		SampType: Continuing Calibration Verification Standard				Lab ID: CCV			Method: E200.8		
Analysis Date: 08/30/23 16:24		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0487	0.010	0.05	0	97	90	110				
Gallium	0.0503	0.010	0.05	0	101	90	110				
Lanthanum	0.0502	0.010	0.05	0	100	90	110				
Neodymium	0.0500	0.0050	0.05	0	100	90	110				
Niobium	0.0508	0.0010	0.05	0	102	90	110				
Palladium	0.0490	0.010	0.05	0	98	90	110				
Praseodymium	0.0513	0.0010	0.05	0	103	90	110				
Rubidium	0.0497	0.010	0.05	0	99	90	110				
Tungsten	0.0506	0.10	0.05	0	101	90	110				
Zirconium	0.0473	0.0050	0.05	0	95	90	110				

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187736

Date: 13-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 90		SampType: Sample Matrix Spike			Lab ID: H23080754-022BMS				Method: E200.8		
Analysis Date: 08/30/23 16:47		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0507	0.010	0.05	0	101	70	130				
Gallium	0.0495	0.010	0.05	0.000202	99	70	130				
Lanthanum	0.0530	0.010	0.05	0.0015	103	70	130				
Neodymium	0.0507	0.0050	0.05	0.0003198	101	70	130				
Niobium	0.0504	0.0010	0.05	0.00071	99	70	130				
Palladium	0.0503	0.010	0.05	0.0004664	100	70	130				
Praseodymium	0.0536	0.0010	0.05	0	107	70	130				
Rubidium	0.0490	0.010	0.05	0.001389	95	70	130				
Tungsten	0.0526	0.10	0.05	0.0004584	104	70	130				
Zirconium	0.0502	0.0050	0.05	0	100	70	130				

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICPMS206-H_230830B: 91		SampType: Sample Matrix Spike Duplicate			Lab ID: H23080754-022BMSD				Method: E200.8		
Analysis Date: 08/30/23 16:49		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0509	0.010	0.05	0	102	70	130	0.0507	0.3	20	
Gallium	0.0500	0.010	0.05	0.000202	100	70	130	0.04949	1.0	20	
Lanthanum	0.0511	0.010	0.05	0.0015	99	70	130	0.05297	3.6	20	
Neodymium	0.0501	0.0050	0.05	0.0003198	100	70	130	0.05067	1.1	20	
Niobium	0.0512	0.0010	0.05	0.00071	101	70	130	0.05035			
Palladium	0.0499	0.010	0.05	0.0004664	99	70	130	0.05026	0.6	20	
Praseodymium	0.0515	0.0010	0.05	0	103	70	130	0.05357			
Rubidium	0.0496	0.010	0.05	0.001389	96	70	130	0.04895	1.3	20	
Tungsten	0.0545	0.10	0.05	0.0004584	108	70	130	0.05263			
Zirconium	0.0504	0.0050	0.05	0	101	70	130	0.05018	0.4	20	

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187736

Date: 13-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 92		SampType: Continuing Calibration Verification Standard				Lab ID: CCV			Method: E200.8		
Analysis Date: 08/30/23 16:51		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0513	0.010	0.05	0	103	90	110				
Gallium	0.0504	0.010	0.05	0	101	90	110				
Lanthanum	0.0516	0.010	0.05	0	103	90	110				
Neodymium	0.0498	0.0050	0.05	0	100	90	110				
Niobium	0.0505	0.0010	0.05	0	101	90	110				
Palladium	0.0511	0.010	0.05	0	102	90	110				
Praseodymium	0.0524	0.0010	0.05	0	105	90	110				
Rubidium	0.0493	0.010	0.05	0	99	90	110				
Tungsten	0.0524	0.10	0.05	0	105	90	110				
Zirconium	0.0467	0.0050	0.05	0	93	90	110				

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICPMS206-H_230830B: 102		SampType: Sample Matrix Spike				Lab ID: H23080811-009BMS			Method: E200.8		
Analysis Date: 08/30/23 17:12		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0487	0.010	0.05	0	97	70	130				
Gallium	0.0485	0.010	0.05	0.00003972	97	70	130				
Lanthanum	0.0495	0.010	0.05	0.00004281	99	70	130				
Neodymium	0.0497	0.0050	0.05	0	99	70	130				
Niobium	0.0502	0.0010	0.05	0.0001026	100	70	130				
Palladium	0.0488	0.010	0.05	0.0003109	97	70	130				
Praseodymium	0.0508	0.0010	0.05	0	102	70	130				
Rubidium	0.0583	0.010	0.05	0.01098	95	70	130				
Tungsten	0.0520	0.10	0.05	0.00004157	104	70	130				
Zirconium	0.0478	0.0050	0.05	0	96	70	130				

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187736

Date: 13-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 103	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080811-009BMSD				Method: E200.8		
Analysis Date: 08/30/23 17:14	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0502	0.010	0.05	0	100	70	130	0.04871	3.0	20	
Gallium	0.0485	0.010	0.05	0.00003972	97	70	130	0.0485	0	20	
Lanthanum	0.0504	0.010	0.05	0.00004281	101	70	130	0.04949	1.9	20	
Neodymium	0.0497	0.0050	0.05	0	99	70	130	0.04967	0.1	20	
Niobium	0.0497	0.0010	0.05	0.0001026	99	70	130	0.0502			
Palladium	0.0487	0.010	0.05	0.0003109	97	70	130	0.04878	0.2	20	
Praseodymium	0.0510	0.0010	0.05	0	102	70	130	0.05085			
Rubidium	0.0581	0.010	0.05	0.01098	94	70	130	0.05829	0.3	20	
Tungsten	0.0528	0.10	0.05	0.00004157	105	70	130	0.05199		20	
Zirconium	0.0477	0.0050	0.05	0	95	70	130	0.04777	0.1	20	

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICPMS206-H_230830B: 226	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.8		
Analysis Date: 08/30/23 13:41	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0487	0.0010	0.05	0	97	85	115				

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICPMS206-H_230830B: 280	SampType: Sample Matrix Spike				Lab ID: H23080754-012BMS				Method: E200.8		
Analysis Date: 08/30/23 16:20	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.234	0.0050	0.25	0	94	70	130				

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICPMS206-H_230830B: 281	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080754-012BMSD				Method: E200.8		
Analysis Date: 08/30/23 16:22	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.242	0.0050	0.25	0	97	70	130	0.2338	3.3	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080811

BatchID: R187736

Date: 13-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 281	SampType: Sample Matrix Spike Duplicate	Lab ID: H23080754-012BMSD	Method: E200.8								
Analysis Date: 08/30/23 16:22	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICPMS206-H_230830B: 292	SampType: Sample Matrix Spike	Lab ID: H23080754-022BMS	Method: E200.8								
Analysis Date: 08/30/23 16:47	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0507	0.0050	0.05	0	101	70	130				

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICPMS206-H_230830B: 293	SampType: Sample Matrix Spike Duplicate	Lab ID: H23080754-022BMSD	Method: E200.8								
Analysis Date: 08/30/23 16:49	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0519	0.0050	0.05	0	104	70	130	0.05074	2.2	20	

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICPMS206-H_230830B: 304	SampType: Sample Matrix Spike	Lab ID: H23080811-009BMS	Method: E200.8								
Analysis Date: 08/30/23 17:12	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0508	0.0050	0.05	0	102	70	130				

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Run ID :Run Order: ICPMS206-H_230830B: 305	SampType: Sample Matrix Spike Duplicate	Lab ID: H23080811-009BMSD	Method: E200.8								
Analysis Date: 08/30/23 17:14	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0512	0.0050	0.05	0	102	70	130	0.05085	0.8	20	

Associated samples: H23080811-001B, H23080811-002B, H23080811-003B, H23080811-004B, H23080811-005B, H23080811-006B, H23080811-007B, H23080811-008B, H23080811-009B, H23080811-010B, H23080811-011B, H23080811-012B, H23080811-013B, H23080811-014A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080811

**BatchID:** TDS230823A

**Date:** 13-Sep-23

Run ID :Run Order: <b>ACCU-124 (14410200)_230823B: 1</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MB-1_230823</b>	Method: <b>A2540 C</b>								
Analysis Date: <b>08/23/23 14:36</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	ND	7									

Associated samples: H23080811-001A, H23080811-002A, H23080811-003A, H23080811-004A, H23080811-005A, H23080811-006A, H23080811-007A, H23080811-008A, H23080811-009A, H23080811-010A, H23080811-011A, H23080811-012A, H23080811-013A

Run ID :Run Order: <b>ACCU-124 (14410200)_230823B: 2</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS-2_230823</b>	Method: <b>A2540 C</b>								
Analysis Date: <b>08/23/23 14:36</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	1970	50	2000	0	<b>98</b>	90	110				

Associated samples: H23080811-001A, H23080811-002A, H23080811-003A, H23080811-004A, H23080811-005A, H23080811-006A, H23080811-007A, H23080811-008A, H23080811-009A, H23080811-010A, H23080811-011A, H23080811-012A, H23080811-013A

Run ID :Run Order: <b>ACCU-124 (14410200)_230823B: 5</b>	SampType: <b>Sample Duplicate</b>	Lab ID: <b>H23080811-002A DUP</b>	Method: <b>A2540 C</b>								
Analysis Date: <b>08/23/23 14:37</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	212	25		0				214	<b>0.9</b>	10	

Associated samples: H23080811-001A, H23080811-002A, H23080811-003A, H23080811-004A, H23080811-005A, H23080811-006A, H23080811-007A, H23080811-008A, H23080811-009A, H23080811-010A, H23080811-011A, H23080811-012A, H23080811-013A



# Work Order Receipt Checklist

MT Dept of Justice

H23080811

Login completed by: Taylor K. Jones

Date Received: 8/21/2023

Reviewed by: wjohnson

Received by: RRS

Reviewed Date: 8/26/2023

Carrier name: Hand Deliver

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	1.3°C On Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

## Contact and Corrective Action Comments:

The Temperature Blank temperature for shipping container 1 was 1.3°C, shipping container 2 was 0.4°C, shipping container 3 was 0.1°C.

tj 8/21/23





# Chain of Custody & Analytical Request Record

[www.energylab.com](http://www.energylab.com)

### Account Information (Billing information)

Company/Name	MT DOJ / Natural Resource Damage Program	
Contact	Jim Ford	
Phone	(406) 439-2108	
Mailing Address	1720 9th Avenue	
City, State, Zip	Helena, Montana 59620-1425	
Email	jford@mt.gov	
Receive Invoice	<input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email
Purchase Order	Quote 2187	Bottle Order 44881 & 44883

### Report Information (if different than Account Information)

Company/Name	Water & Environmental Technologies	
Contact	Janelle Garza	
Phone	(406) 565-4291	
Mailing Address	480 East Park Street	
City, State, Zip	Butte, Montana 59701	
Email	jgarza@waterenvtech.com	
Receive Report	<input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	
Special Report/Formats	<input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC <input checked="" type="checkbox"/> EDD/EDT (contact laboratory) <input type="checkbox"/> Other	

### Comments

Please do not use any "EB" or "FB" samples for MS/MSD.

C1-1.3  
C2-0.4  
C3 0.1

### Project Information

Project Name, PWSID, Permit, etc.	NRDPM16 TO2 - Task 001	
Sampler Name	Janelle Garza	Sampler Phone (406) 599-6770
Sample Origin State	Montana	EPA/State Compliance <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>URANIUM MINING CLIENTS MUST indicate sample type</b> <input type="checkbox"/> Unprocessed Ore <input type="checkbox"/> Processed Ore (Ground or Refined) **CALL BEFORE SENDING <input type="checkbox"/> 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)		

### Matrix Codes

- A - Air
- W - Water
- S - Soils/Solids
- V - Vegetation
- B - Bioassay
- O - Oil
- DW - Drinking Water

### Analysis Requested

pH & pH Meas. Temp A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353.2	Dissolved Metals E200.7/8	See Attached
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

All turnaround times are standard unless marked as RUSH.  
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page

	Sample Identification <small>(Name, Location, Interval, etc.)</small>	Collection		Number of Containers	Matrix <small>(See Codes Above)</small>	Analysis Requested									See Attached	RUSH TAT	ELI LAB ID <small>Laboratory Use Only</small>
		Date	Time			pH & pH Meas. Temp A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353.2	Dissolved Metals E200.7/8			
C3	1 PMP-08B	08/18/2023	10:45 am	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		H23080811	
C3	2 GS-28B	08/18/2023	11:00 am	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
C3	3 PMP-08A2	08/18/2023	11:10 am	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
C3	4 PMP-05BR	08/18/2023	11:22 am	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
C2	5 BPS11-17C	08/18/2023	11:59 am	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
C2	6 BPS11-10A	08/18/2023	12:43 pm	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
C2	7 MF-07	08/18/2023	1:06 pm	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
C2	8 BPS11-10B	08/18/2023	1:15 pm	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
C1	9 MF-07B	08/18/2023	1:39 pm	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print) Janelle Garza	Date/Time 8-21-23 / 1330	Signature <i>Janelle Garza</i>	Received by (print) Grace Mulholland	Date/Time 8-21-23 / 1330	Signature <i>Grace Mulholland</i>			
	Relinquished by (print) Grace Mulholland	Date/Time 8-21-23 / 1502	Signature <i>Grace Mulholland</i>	Received by Laboratory (print) R SPONHOLZ	Date/Time 08/21/23 1502	Signature <i>R Sponholz</i>			
<b>LABORATORY USE ONLY</b>									
Shipped By HAND	Cooler ID(s) Y	Custody Seals Y <input checked="" type="checkbox"/> N <input type="checkbox"/> C <input type="checkbox"/> B	Intact Y <input type="checkbox"/> N <input type="checkbox"/>	Receipt Temp TOP °C	Temp Blank Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	On Ice Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	Payment Type CC Cash Check	Amount \$	Receipt Number <small>(cash/check only)</small>

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.





Trust our People. Trust our Data.

# Chain of Custody & Analytical Request Record

www.energylab.com

### Account Information (Billing information)

Company/Name MT DOJ / Natural Resource Damage Program		
Contact Jim Ford		
Phone (406) 439-2108		
Mailing Address 1720 9th Avenue		
City, State, Zip Helena, Montana 59620-1425		
Email jford@mt.gov		
Receive Invoice <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	
Purchase Order	Quote 2187	Bottle Order 44881 & 44883

### Report Information (if different than Account Information)

Company/Name Water & Environmental Technologies		
Contact Janelle Garza		
Phone (406) 565-4291		
Mailing Address 480 East Park Street		
City, State, Zip Butte, Montana 59701		
Email jgarza@waterenvtech.com		
Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email		
Special Report/Formats:		
<input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC <input checked="" type="checkbox"/> EDD/EDT (contact laboratory) <input type="checkbox"/> Other		

### Comments

Please do not use any "EB" or "FB" samples for MS/MSD.  
 DUP-3 from the COC delivered on 8/18 had mis-preserved Nitrate+Nitrite and Dissolved Metals containers. The well was re-sampled for these analyses, but the shipment was sent before the containers could be switched out. They are included on this COC.  
 C1-1.3 C3-0.1  
 C2-0.4

### Project Information

Project Name, PWSID, Permit, etc. NRDP16 TO2 - Task 001	
Sampler Name Janelle Garza	Sampler Phone (406) 599-6770
Sample Origin State Montana	EPA/State Compliance <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
URANIUM MINING CLIENTS MUST indicate sample type	
<input type="checkbox"/> Unprocessed Ore	
<input type="checkbox"/> Processed Ore (Ground or Refined) **CALL BEFORE SENDING	
<input type="checkbox"/> 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)	

### Matrix Codes

- A - Air
- W - Water
- S - Soils/Solids
- V - Vegetation
- B - Bioassay
- O - Oil
- DW - Drinking Water

### Analysis Requested

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
pH & pH Meas. Temp A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353.2	Dissolved Metals E200.7/8	See Attached							

All turnaround times are standard unless marked as RUSH.  
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C1  
C1  
C3  
C1  
C1

Sample Identification <small>(Name, Location, Interval, etc.)</small>	Collection		Number of Containers	Matrix <small>(See Codes Above)</small>	pH & pH Meas. Temp A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353.2	Dissolved Metals E200.7/8	See Attached	RUSH TAT	ELI LAB ID <small>Laboratory Use Only</small>
	Date	Time														
1 BPS11-10C	08/18/2023	1:52 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		H23080811
2 PMP-06A	08/18/2023	2:10 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
3 AMC-24C	08/18/2023	2:33 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
4 PMP-06B	08/18/2023	2:42 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
5 DUP-3	08/17/2023	10:30 am	2	W						✓		✓	✓			
6																
7																
8																
9																

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Custody Record MUST be signed	Relinquished by (print) Janelle Garza	Date/Time 8-21-23 / 1330	Signature <i>JG</i>	Received by (print) Grace Mulholland	Date/Time 8-21-23 / 1330	Signature <i>Grace Mulholland</i>			
	Relinquished by (print) Grace Mulholland	Date/Time 8-21-23 / 1502	Signature <i>Grace Mulholland</i>	Received by Laboratory (print) R SPONHOLZ	Date/Time 082123 1502	Signature <i>R Sponholz</i>			
LABORATORY USE ONLY									
Shipped By HAND	Cooler ID(s) Y	Custody Seals Y <input checked="" type="checkbox"/> N <input type="checkbox"/> C <input type="checkbox"/> B <input type="checkbox"/>	Intact Y <input type="checkbox"/> N <input type="checkbox"/>	Receipt Temp TOP °C	Temp Blank Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	On Ice Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	Payment Type CC Cash Check	Amount \$	Receipt Number (cash/check only)

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.



# ANALYTICAL SUMMARY REPORT

September 19, 2023

MT Dept of Justice  
Natural Resource Damage Program  
Helena, MT 59620-1425

Work Order: H23080897      Quote ID: H2187

Project Name: NRDPM16 TO2-Task 001

Energy Laboratories Inc Helena MT received the following 20 samples for MT Dept of Justice on 8/22/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H23080897-001	BPS07-11A	08/21/23 9:47	08/22/23	Groundwater	Rare Earth Metals, Dissolved Metals by ICP/ICPMS, Dissolved Alkalinity to pH 4.5 Anion - Cation Balance Carbon, Dissolved Organic Conductivity Carbon, Total Organic Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Solids, Total Dissolved
H23080897-002	BPS11-11A1	08/21/23 9:53	08/22/23	Groundwater	Same As Above
H23080897-003	BPS07-11B	08/21/23 10:12	08/22/23	Groundwater	Same As Above
H23080897-004	BPS11-11A2	08/21/23 10:15	08/22/23	Groundwater	Same As Above
H23080897-005	BPS11-11B	08/21/23 10:52	08/22/23	Groundwater	Same As Above
H23080897-006	DUP-2	08/21/23 10:53	08/22/23	Groundwater	Same As Above
H23080897-007	FB-2	08/21/23 11:20	08/22/23	Groundwater	Same As Above
H23080897-008	BPS11-11C	08/21/23 11:40	08/22/23	Groundwater	Same As Above
H23080897-009	FB-1	08/21/23 11:45	08/22/23	Groundwater	Same As Above
H23080897-010	PMP-01B	08/21/23 11:59	08/22/23	Groundwater	Same As Above
H23080897-011	GS-40R	08/21/23 13:19	08/22/23	Groundwater	Same As Above
H23080897-012	AMC-23B	08/21/23 13:25	08/22/23	Groundwater	Same As Above
H23080897-013	PMP-10B	08/21/23 14:10	08/22/23	Groundwater	Same As Above
H23080897-014	AMW-09	08/21/23 14:26	08/22/23	Groundwater	Same As Above
H23080897-015	PMP-10A	08/21/23 14:33	08/22/23	Groundwater	Same As Above
H23080897-016	BPS11-14A	08/21/23 15:07	08/22/23	Groundwater	Same As Above
H23080897-017	EB-2	08/21/23 15:20	08/22/23	Groundwater	Same As Above
H23080897-018	BPS11-14B	08/21/23 15:44	08/22/23	Groundwater	Same As Above
H23080897-019	PMP-09B	08/18/23 16:10	08/22/23	Groundwater	Same As Above
H23080897-020	GS-28	08/18/23 16:35	08/22/23	Groundwater	Same As Above



## ANALYTICAL SUMMARY REPORT

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

  
Login

Digitally signed by  
Jessica C. Smith  
Date: 2023.09.19 13:08:21 -06:00





**CLIENT:** MT Dept of Justice  
**Project:** NRDPM16 TO2-Task 001  
**Work Order:** H23080897

**Report Date:** 09/19/23

## **CASE NARRATIVE**

---

Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002.



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-11A  
**Lab ID:** H23080897-001  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 09:47 **Date Received:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.2	s.u.	H	0.1		A4500-H B	08/23/23 17:38 / eek		PHSC_101-H_230823A : 145		R187444
pH Measurement Temp	19.1	°C				A4500-H B	08/23/23 17:38 / eek		PHSC_101-H_230823A : 145		R187444
Conductivity @ 25 C	497	umhos/cm		5		A2510 B	08/23/23 17:38 / eek		PHSC_101-H_230823A : 146		R187444
Solids, Total Dissolved TDS @ 180 C	377	mg/L		20		A2540 C	08/24/23 12:31 / eek		-124 (14410200)_230824B : 9		TDS230824A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	13	mg/L		4		A2320 B	08/24/23 18:40 / eek		PHSC_101-H_230824A : 214		R187507
Bicarbonate as HCO3	15	mg/L		4		A2320 B	08/24/23 18:40 / eek		PHSC_101-H_230824A : 214		R187507
Carbonate as CO3	ND	mg/L		4		A2320 B	08/24/23 18:40 / eek		PHSC_101-H_230824A : 214		R187507
Chloride	35	mg/L		1		E300.0	08/26/23 07:31 / SR		C METROHM_230823A : 253		R187509
Sulfate	157	mg/L		1		E300.0	08/26/23 07:31 / SR		C METROHM_230823A : 253		R187509
Bromide	ND	mg/L		0.5		E300.0	08/26/23 07:31 / SR		C METROHM_230823A : 253		R187509
Fluoride	0.5	mg/L		0.1		E300.0	08/26/23 07:31 / SR		C METROHM_230823A : 253		R187509
Hardness as CaCO3	145	mg/L		1		A2340 B	08/30/23 22:01 / SR		CALC_230905B : 905		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.3	mg/L		0.5		A5310 C	08/31/23 04:31 / eli-c		SUB-C298265 : 32		C_R298265
Organic Carbon, Total (TOC)	1.2	mg/L		0.5		A5310 C	08/30/23 17:10 / eli-c		SUB-C298265 : 4		C_R298265
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	1.48	mg/L		0.02		E353.2	08/30/23 18:26 / JAR		SEAL AA500_230830A : 108		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	0.413	mg/L		0.009		E200.8	08/30/23 22:01 / dck		ICPMS205-H_230829C : 202		R187753
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 22:01 / dck		ICPMS205-H_230829C : 202		R187753
Arsenic	ND	mg/L		0.001		E200.8	08/30/23 22:01 / dck		ICPMS205-H_230829C : 202		R187753
Barium	0.027	mg/L		0.003		E200.8	08/30/23 22:01 / dck		ICPMS205-H_230829C : 202		R187753
Beryllium	0.0010	mg/L		0.0008		E200.8	09/06/23 01:51 / dck		ICPMS206-H_230905A : 137		R187884
Boron	0.24	mg/L		0.05		E200.7	08/26/23 01:12 / slj		ICP2-HE_230825B : 109		R187602
Cadmium	0.0263	mg/L		0.00003		E200.8	08/30/23 22:01 / dck		ICPMS205-H_230829C : 202		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 19:16 / dck		ICPMS206-H_230830B : 124		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-11A  
**Lab ID:** H23080897-001  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 09:47 **Date Received:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	44	mg/L		1		E200.7	08/26/23 01:12 / slj		ICP2-HE_230825B : 109		R187602
Chromium	ND	mg/L		0.005		E200.8	08/30/23 22:01 / dck		ICPMS205-H_230829C : 202		R187753
Cobalt	0.022	mg/L		0.005		E200.8	08/30/23 22:01 / dck		ICPMS205-H_230829C : 202		R187753
Copper	0.285	mg/L		0.002		E200.8	08/30/23 22:01 / dck		ICPMS205-H_230829C : 202		R187753
Gallium	ND	mg/L		0.01		E200.8	08/30/23 19:16 / dck		ICPMS206-H_230830B : 124		R187736
Iron	ND	mg/L		0.02		E200.8	08/30/23 22:01 / dck		ICPMS205-H_230829C : 202		R187753
Lead	ND	mg/L		0.0003		E200.8	08/30/23 22:01 / dck		ICPMS205-H_230829C : 202		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 19:16 / dck		ICPMS206-H_230830B : 124		R187736
Lithium	ND	mg/L		0.1		E200.7	08/26/23 01:12 / slj		ICP2-HE_230825B : 109		R187602
Magnesium	8	mg/L		1		E200.8	08/30/23 22:01 / dck		ICPMS205-H_230829C : 202		R187753
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 19:16 / dck		ICPMS206-H_230830B : 124		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 19:16 / dck		ICPMS206-H_230830B : 124		R187736
Manganese	5.07	mg/L		0.001		E200.7	08/26/23 01:12 / slj		ICP2-HE_230825B : 109		R187602
Molybdenum	ND	mg/L		0.001		E200.8	08/30/23 22:01 / dck		ICPMS205-H_230829C : 202		R187753
Nickel	0.014	mg/L		0.002		E200.8	08/30/23 22:01 / dck		ICPMS205-H_230829C : 202		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 19:16 / dck		ICPMS206-H_230830B : 124		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 19:16 / dck		ICPMS206-H_230830B : 124		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 19:16 / dck		ICPMS206-H_230830B : 124		R187736
Potassium	4	mg/L		1		E200.7	08/26/23 01:12 / slj		ICP2-HE_230825B : 109		R187602
Selenium	ND	mg/L		0.001		E200.8	08/30/23 22:01 / dck		ICPMS205-H_230829C : 202		R187753
Silver	0.0003	mg/L		0.0002		E200.8	08/30/23 22:01 / dck		ICPMS205-H_230829C : 202		R187753
Sodium	23	mg/L		1		E200.8	08/30/23 22:01 / dck		ICPMS205-H_230829C : 202		R187753
Strontium	0.33	mg/L		0.01		E200.7	08/26/23 01:12 / slj		ICP2-HE_230825B : 109		R187602
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 22:01 / dck		ICPMS205-H_230829C : 202		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 19:16 / dck		ICPMS206-H_230830B : 325		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 22:01 / dck		ICPMS205-H_230829C : 202		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 22:01 / dck		ICPMS205-H_230829C : 202		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 19:16 / dck		ICPMS206-H_230830B : 124		R187736
Uranium	0.0007	mg/L		0.0002		E200.8	08/30/23 22:01 / dck		ICPMS205-H_230829C : 202		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 22:01 / dck		ICPMS205-H_230829C : 202		R187753
Zinc	3.53	mg/L		0.008		E200.8	08/30/23 22:01 / dck		ICPMS205-H_230829C : 202		R187753
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 19:16 / dck		ICPMS206-H_230830B : 124		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

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### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-11A  
**Lab ID:** H23080897-001  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 09:47      **Date Received:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.49	%				A1030 E	09/05/23 14:57 / SR		CALC_230905B : 903		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11A1  
**Lab ID:** H23080897-002  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 09:53 **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.9	s.u.	H	0.1		A4500-H B	08/23/23 17:40 / eek		PHSC_101-H_230823A : 147		R187444
pH Measurement Temp	19.3	°C				A4500-H B	08/23/23 17:40 / eek		PHSC_101-H_230823A : 147		R187444
Conductivity @ 25 C	417	umhos/cm		5		A2510 B	08/23/23 17:40 / eek		PHSC_101-H_230823A : 148		R187444
Solids, Total Dissolved TDS @ 180 C	272	mg/L		20		A2540 C	08/24/23 12:32 / eek		124 (14410200)_230824B : 10		TDS230824A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	08/24/23 18:46 / eek		PHSC_101-H_230824A : 216		R187507
Bicarbonate as HCO3	130	mg/L		4		A2320 B	08/24/23 18:46 / eek		PHSC_101-H_230824A : 216		R187507
Carbonate as CO3	ND	mg/L		4		A2320 B	08/24/23 18:46 / eek		PHSC_101-H_230824A : 216		R187507
Chloride	22	mg/L		1		E300.0	08/26/23 07:46 / SR		C METROHM_230823A : 254		R187509
Sulfate	54	mg/L		1		E300.0	08/26/23 07:46 / SR		C METROHM_230823A : 254		R187509
Bromide	ND	mg/L		0.5		E300.0	08/26/23 07:46 / SR		C METROHM_230823A : 254		R187509
Fluoride	0.5	mg/L		0.1		E300.0	08/26/23 07:46 / SR		C METROHM_230823A : 254		R187509
Hardness as CaCO3	156	mg/L		1		A2340 B	08/26/23 01:16 / SR		CALC_230905B : 80		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	3.0	mg/L		0.5		A5310 C	08/31/23 05:25 / eli-c		SUB-C298265 : 35		C_R298265
Organic Carbon, Total (TOC)	3.0	mg/L		0.5		A5310 C	08/30/23 19:57 / eli-c		SUB-C298265 : 7		C_R298265
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	3.12	mg/L		0.05		E353.2	08/30/23 18:27 / JAR		SEAL AA500_230830A : 109		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/30/23 18:52 / dck		ICPMS205-H_230829C : 146		R187753
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 18:52 / dck		ICPMS205-H_230829C : 146		R187753
Arsenic	0.002	mg/L		0.001		E200.8	08/30/23 18:52 / dck		ICPMS205-H_230829C : 146		R187753
Barium	0.022	mg/L		0.003		E200.8	08/30/23 18:52 / dck		ICPMS205-H_230829C : 146		R187753
Beryllium	ND	mg/L		0.0008		E200.8	09/05/23 22:40 / dck		ICPMS206-H_230905A : 85		R187884
Boron	0.07	mg/L		0.05		E200.7	08/26/23 01:16 / slj		ICP2-HE_230825B : 110		R187602
Cadmium	0.00053	mg/L		0.00003		E200.8	08/30/23 18:52 / dck		ICPMS205-H_230829C : 146		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 19:18 / dck		ICPMS206-H_230830B : 125		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11A1  
**Lab ID:** H23080897-002  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 09:53 **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	46	mg/L		1		E200.7	08/26/23 01:16 / slj		ICP2-HE_230825B : 110		R187602
Chromium	ND	mg/L		0.005		E200.8	08/30/23 18:52 / dck		ICPMS205-H_230829C : 146		R187753
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 18:52 / dck		ICPMS205-H_230829C : 146		R187753
Copper	0.006	mg/L		0.002		E200.8	08/30/23 18:52 / dck		ICPMS205-H_230829C : 146		R187753
Gallium	ND	mg/L		0.01		E200.8	08/30/23 19:18 / dck		ICPMS206-H_230830B : 125		R187736
Iron	ND	mg/L		0.02		E200.8	08/30/23 18:52 / dck		ICPMS205-H_230829C : 146		R187753
Lead	ND	mg/L		0.0003		E200.8	08/30/23 18:52 / dck		ICPMS205-H_230829C : 146		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 19:18 / dck		ICPMS206-H_230830B : 125		R187736
Lithium	ND	mg/L		0.1		E200.7	08/26/23 01:16 / slj		ICP2-HE_230825B : 110		R187602
Magnesium	10	mg/L		1		E200.7	08/26/23 01:16 / slj		ICP2-HE_230825B : 110		R187602
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 19:18 / dck		ICPMS206-H_230830B : 125		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 19:18 / dck		ICPMS206-H_230830B : 125		R187736
Manganese	0.051	mg/L		0.001		E200.8	08/30/23 18:52 / dck		ICPMS205-H_230829C : 146		R187753
Molybdenum	0.013	mg/L		0.001		E200.8	08/30/23 18:52 / dck		ICPMS205-H_230829C : 146		R187753
Nickel	ND	mg/L		0.002		E200.8	08/30/23 18:52 / dck		ICPMS205-H_230829C : 146		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 19:18 / dck		ICPMS206-H_230830B : 125		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 19:18 / dck		ICPMS206-H_230830B : 125		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 19:18 / dck		ICPMS206-H_230830B : 125		R187736
Potassium	5	mg/L		1		E200.7	08/26/23 01:16 / slj		ICP2-HE_230825B : 110		R187602
Selenium	ND	mg/L		0.001		E200.8	08/30/23 18:52 / dck		ICPMS205-H_230829C : 146		R187753
Silver	ND	mg/L		0.0002		E200.8	08/30/23 18:52 / dck		ICPMS205-H_230829C : 146		R187753
Sodium	20	mg/L		1		E200.7	08/26/23 01:16 / slj		ICP2-HE_230825B : 110		R187602
Strontium	0.27	mg/L		0.01		E200.7	08/26/23 01:16 / slj		ICP2-HE_230825B : 110		R187602
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 18:52 / dck		ICPMS205-H_230829C : 146		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 19:18 / dck		ICPMS206-H_230830B : 326		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 18:52 / dck		ICPMS205-H_230829C : 146		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 18:52 / dck		ICPMS205-H_230829C : 146		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 19:18 / dck		ICPMS206-H_230830B : 125		R187736
Uranium	0.0043	mg/L		0.0002		E200.8	08/30/23 18:52 / dck		ICPMS205-H_230829C : 146		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 18:52 / dck		ICPMS205-H_230829C : 146		R187753
Zinc	0.057	mg/L		0.008		E200.8	08/30/23 18:52 / dck		ICPMS205-H_230829C : 146		R187753
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 19:18 / dck		ICPMS206-H_230830B : 125		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11A1  
**Lab ID:** H23080897-002  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 09:53    **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.05	%				A1030 E	09/05/23 14:14 / SR		CALC_230905B : 78		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-11B  
**Lab ID:** H23080897-003  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 10:12 **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.1	s.u.	H	0.1		A4500-H B	08/23/23 17:42 / eek		PHSC_101-H_230823A : 149		R187444
pH Measurement Temp	19.3	°C				A4500-H B	08/23/23 17:42 / eek		PHSC_101-H_230823A : 149		R187444
Conductivity @ 25 C	1500	umhos/cm		5		A2510 B	08/23/23 17:42 / eek		PHSC_101-H_230823A : 150		R187444
Solids, Total Dissolved TDS @ 180 C	1280	mg/L		20		A2540 C	08/24/23 12:32 / eek		124 (14410200)_230824B : 11		TDS230824A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	7	mg/L		4		A2320 B	08/24/23 18:53 / eek		PHSC_101-H_230824A : 218		R187507
Bicarbonate as HCO3	8	mg/L		4		A2320 B	08/24/23 18:53 / eek		PHSC_101-H_230824A : 218		R187507
Carbonate as CO3	ND	mg/L		4		A2320 B	08/24/23 18:53 / eek		PHSC_101-H_230824A : 218		R187507
Chloride	73	mg/L		1		E300.0	08/26/23 08:00 / SR		C METROHM_230823A : 255		R187509
Sulfate	749	mg/L		1		E300.0	08/26/23 08:00 / SR		C METROHM_230823A : 255		R187509
Bromide	ND	mg/L		0.5		E300.0	08/26/23 08:00 / SR		C METROHM_230823A : 255		R187509
Fluoride	0.4	mg/L		0.1		E300.0	08/26/23 08:00 / SR		C METROHM_230823A : 255		R187509
Hardness as CaCO3	626	mg/L		1		A2340 B	08/26/23 01:20 / SR		CALC_230905B : 916		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.2	mg/L		0.5		A5310 C	08/31/23 05:42 / eli-c		SUB-C298265 : 36		C_R298265
Organic Carbon, Total (TOC)	1.1	mg/L		0.5		A5310 C	08/30/23 20:14 / eli-c		SUB-C298265 : 8		C_R298265
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	08/30/23 18:28 / JAR		SEAL AA500_230830A : 110		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	0.322	mg/L		0.009		E200.8	08/30/23 22:07 / dck		ICPMS205-H_230829C : 204		R187753
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 22:07 / dck		ICPMS205-H_230829C : 204		R187753
Arsenic	ND	mg/L		0.001		E200.8	08/30/23 22:07 / dck		ICPMS205-H_230829C : 204		R187753
Barium	0.013	mg/L		0.003		E200.8	08/30/23 22:07 / dck		ICPMS205-H_230829C : 204		R187753
Beryllium	0.0009	mg/L		0.0008		E200.8	09/06/23 01:55 / dck		ICPMS206-H_230905A : 138		R187884
Boron	0.13	mg/L		0.05		E200.7	08/26/23 01:20 / slj		ICP2-HE_230825B : 111		R187602
Cadmium	0.0850	mg/L		0.00003		E200.8	08/30/23 22:07 / dck		ICPMS205-H_230829C : 204		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 19:20 / dck		ICPMS206-H_230830B : 126		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-11B  
**Lab ID:** H23080897-003  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 10:12 **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	171	mg/L		1		E200.7	08/26/23 01:20 / slj		ICP2-HE_230825B : 111		R187602
Chromium	ND	mg/L		0.005		E200.8	08/30/23 22:07 / dck		ICPMS205-H_230829C : 204		R187753
Cobalt	0.313	mg/L		0.005		E200.8	08/30/23 22:07 / dck		ICPMS205-H_230829C : 204		R187753
Copper	0.743	mg/L		0.002		E200.8	08/30/23 22:07 / dck		ICPMS205-H_230829C : 204		R187753
Gallium	ND	mg/L		0.01		E200.8	08/30/23 19:20 / dck		ICPMS206-H_230830B : 126		R187736
Iron	23.0	mg/L		0.02		E200.7	08/26/23 01:20 / slj		ICP2-HE_230825B : 111		R187602
Lead	0.0021	mg/L		0.0003		E200.8	08/30/23 22:07 / dck		ICPMS205-H_230829C : 204		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 19:20 / dck		ICPMS206-H_230830B : 126		R187736
Lithium	0.2	mg/L		0.1		E200.7	08/26/23 01:20 / slj		ICP2-HE_230825B : 111		R187602
Magnesium	48	mg/L		1		E200.7	08/26/23 01:20 / slj		ICP2-HE_230825B : 111		R187602
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 19:20 / dck		ICPMS206-H_230830B : 126		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 19:20 / dck		ICPMS206-H_230830B : 126		R187736
Manganese	32.7	mg/L		0.001		E200.7	08/26/23 01:20 / slj		ICP2-HE_230825B : 111		R187602
Molybdenum	ND	mg/L		0.001		E200.8	08/30/23 22:07 / dck		ICPMS205-H_230829C : 204		R187753
Nickel	0.084	mg/L		0.002		E200.8	08/30/23 22:07 / dck		ICPMS205-H_230829C : 204		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 19:20 / dck		ICPMS206-H_230830B : 126		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 19:20 / dck		ICPMS206-H_230830B : 126		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 19:20 / dck		ICPMS206-H_230830B : 126		R187736
Potassium	12	mg/L		1		E200.7	08/26/23 01:20 / slj		ICP2-HE_230825B : 111		R187602
Selenium	ND	mg/L		0.001		E200.8	08/30/23 22:07 / dck		ICPMS205-H_230829C : 204		R187753
Silver	0.0002	mg/L		0.0002		E200.8	08/30/23 22:07 / dck		ICPMS205-H_230829C : 204		R187753
Sodium	42	mg/L		1		E200.7	08/26/23 01:20 / slj		ICP2-HE_230825B : 111		R187602
Strontium	0.95	mg/L		0.01		E200.7	08/26/23 01:20 / slj		ICP2-HE_230825B : 111		R187602
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 22:07 / dck		ICPMS205-H_230829C : 204		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 19:20 / dck		ICPMS206-H_230830B : 327		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 22:07 / dck		ICPMS205-H_230829C : 204		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 22:07 / dck		ICPMS205-H_230829C : 204		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 19:20 / dck		ICPMS206-H_230830B : 126		R187736
Uranium	0.0008	mg/L		0.0002		E200.8	08/30/23 22:07 / dck		ICPMS205-H_230829C : 204		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 22:07 / dck		ICPMS205-H_230829C : 204		R187753
Zinc	18.8	mg/L		0.008		E200.7	08/28/23 20:14 / slj		ICP2-HE_230828B : 36		R187634
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 19:20 / dck		ICPMS206-H_230830B : 126		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-11B  
**Lab ID:** H23080897-003  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 10:12    **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-2.60	%				A1030 E	09/05/23 14:58 / SR		CALC_230905B : 914		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11A2  
**Lab ID:** H23080897-004  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 10:15 **Date Received:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.2	s.u.	H	0.1		A4500-H B	08/23/23 17:44 / eek		PHSC_101-H_230823A : 151		R187444
pH Measurement Temp	19.4	°C				A4500-H B	08/23/23 17:44 / eek		PHSC_101-H_230823A : 151		R187444
Conductivity @ 25 C	340	umhos/cm		5		A2510 B	08/23/23 17:44 / eek		PHSC_101-H_230823A : 152		R187444
Solids, Total Dissolved TDS @ 180 C	227	mg/L		20		A2540 C	08/24/23 12:32 / eek		124 (14410200)_230824B : 12		TDS230824A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	89	mg/L		4		A2320 B	08/24/23 18:59 / eek		PHSC_101-H_230824A : 220		R187507
Bicarbonate as HCO3	110	mg/L		4		A2320 B	08/24/23 18:59 / eek		PHSC_101-H_230824A : 220		R187507
Carbonate as CO3	ND	mg/L		4		A2320 B	08/24/23 18:59 / eek		PHSC_101-H_230824A : 220		R187507
Chloride	6	mg/L		1		E300.0	08/26/23 08:15 / SR		C METROHM_230823A : 256		R187509
Sulfate	70	mg/L		1		E300.0	08/26/23 08:15 / SR		C METROHM_230823A : 256		R187509
Bromide	ND	mg/L		0.5		E300.0	08/26/23 08:15 / SR		C METROHM_230823A : 256		R187509
Fluoride	0.4	mg/L		0.1		E300.0	08/26/23 08:15 / SR		C METROHM_230823A : 256		R187509
Hardness as CaCO3	123	mg/L		1		A2340 B	08/26/23 01:23 / SR		CALC_230905B : 91		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	08/31/23 05:58 / eli-c		SUB-C298265 : 37		C_R298265
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	08/30/23 20:34 / eli-c		SUB-C298265 : 9		C_R298265
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.35	mg/L		0.01		E353.2	08/30/23 18:29 / JAR		SEAL AA500_230830A : 111		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/30/23 18:55 / dck		ICPMS205-H_230829C : 147		R187753
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 18:55 / dck		ICPMS205-H_230829C : 147		R187753
Arsenic	0.002	mg/L		0.001		E200.8	08/30/23 18:55 / dck		ICPMS205-H_230829C : 147		R187753
Barium	0.014	mg/L		0.003		E200.8	08/30/23 18:55 / dck		ICPMS205-H_230829C : 147		R187753
Beryllium	ND	mg/L		0.0008		E200.8	09/05/23 22:43 / dck		ICPMS206-H_230905A : 86		R187884
Boron	ND	mg/L		0.05		E200.7	08/26/23 01:23 / slj		ICP2-HE_230825B : 112		R187602
Cadmium	0.00039	mg/L		0.00003		E200.8	08/30/23 18:55 / dck		ICPMS205-H_230829C : 147		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 19:22 / dck		ICPMS206-H_230830B : 127		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11A2  
**Lab ID:** H23080897-004  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 10:15 **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	36	mg/L		1		E200.7	08/26/23 01:23 / slj		ICP2-HE_230825B : 112		R187602
Chromium	ND	mg/L		0.005		E200.8	08/30/23 18:55 / dck		ICPMS205-H_230829C : 147		R187753
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 18:55 / dck		ICPMS205-H_230829C : 147		R187753
Copper	ND	mg/L		0.002		E200.8	08/30/23 18:55 / dck		ICPMS205-H_230829C : 147		R187753
Gallium	ND	mg/L		0.01		E200.8	08/30/23 19:22 / dck		ICPMS206-H_230830B : 127		R187736
Iron	ND	mg/L		0.02		E200.8	08/30/23 18:55 / dck		ICPMS205-H_230829C : 147		R187753
Lead	ND	mg/L		0.0003		E200.8	08/30/23 18:55 / dck		ICPMS205-H_230829C : 147		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 19:22 / dck		ICPMS206-H_230830B : 127		R187736
Lithium	ND	mg/L		0.1		E200.7	08/26/23 01:23 / slj		ICP2-HE_230825B : 112		R187602
Magnesium	8	mg/L		1		E200.7	08/26/23 01:23 / slj		ICP2-HE_230825B : 112		R187602
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 19:22 / dck		ICPMS206-H_230830B : 127		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 19:22 / dck		ICPMS206-H_230830B : 127		R187736
Manganese	ND	mg/L		0.001		E200.8	08/30/23 18:55 / dck		ICPMS205-H_230829C : 147		R187753
Molybdenum	0.023	mg/L		0.001		E200.8	08/30/23 18:55 / dck		ICPMS205-H_230829C : 147		R187753
Nickel	ND	mg/L		0.002		E200.8	08/30/23 18:55 / dck		ICPMS205-H_230829C : 147		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 19:22 / dck		ICPMS206-H_230830B : 127		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 19:22 / dck		ICPMS206-H_230830B : 127		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 19:22 / dck		ICPMS206-H_230830B : 127		R187736
Potassium	3	mg/L		1		E200.7	08/26/23 01:23 / slj		ICP2-HE_230825B : 112		R187602
Selenium	ND	mg/L		0.001		E200.8	08/30/23 18:55 / dck		ICPMS205-H_230829C : 147		R187753
Silver	ND	mg/L		0.0002		E200.8	08/30/23 18:55 / dck		ICPMS205-H_230829C : 147		R187753
Sodium	18	mg/L		1		E200.7	08/26/23 01:23 / slj		ICP2-HE_230825B : 112		R187602
Strontium	0.23	mg/L		0.01		E200.7	08/26/23 01:23 / slj		ICP2-HE_230825B : 112		R187602
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 18:55 / dck		ICPMS205-H_230829C : 147		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 19:22 / dck		ICPMS206-H_230830B : 328		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 18:55 / dck		ICPMS205-H_230829C : 147		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 18:55 / dck		ICPMS205-H_230829C : 147		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 19:22 / dck		ICPMS206-H_230830B : 127		R187736
Uranium	0.0055	mg/L		0.0002		E200.8	08/30/23 18:55 / dck		ICPMS205-H_230829C : 147		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 18:55 / dck		ICPMS205-H_230829C : 147		R187753
Zinc	0.017	mg/L		0.008		E200.8	08/30/23 18:55 / dck		ICPMS205-H_230829C : 147		R187753
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 19:22 / dck		ICPMS206-H_230830B : 127		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11A2  
**Lab ID:** H23080897-004  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 10:15      **Date Received:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.62	%				A1030 E	09/05/23 14:15 / SR		CALC_230905B : 89		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11B  
**Lab ID:** H23080897-005  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 10:52 **Date Received:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.7	s.u.	H	0.1		A4500-H B	08/23/23 17:46 / eek		PHSC_101-H_230823A : 153		R187444
pH Measurement Temp	19.4	°C				A4500-H B	08/23/23 17:46 / eek		PHSC_101-H_230823A : 153		R187444
Conductivity @ 25 C	944	umhos/cm		5		A2510 B	08/23/23 17:46 / eek		PHSC_101-H_230823A : 154		R187444
Solids, Total Dissolved TDS @ 180 C	706	mg/L		20		A2540 C	08/24/23 12:33 / eek		124 (14410200)_230824B : 13		TDS230824A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	56	mg/L		4		A2320 B	08/24/23 19:06 / eek		PHSC_101-H_230824A : 222		R187507
Bicarbonate as HCO3	67	mg/L		4		A2320 B	08/24/23 19:06 / eek		PHSC_101-H_230824A : 222		R187507
Carbonate as CO3	ND	mg/L		4		A2320 B	08/24/23 19:06 / eek		PHSC_101-H_230824A : 222		R187507
Chloride	12	mg/L		1		E300.0	08/26/23 08:29 / SR		C METROHM_230823A : 257		R187509
Sulfate	426	mg/L		1		E300.0	08/26/23 08:29 / SR		C METROHM_230823A : 257		R187509
Bromide	ND	mg/L		0.5		E300.0	08/26/23 08:29 / SR		C METROHM_230823A : 257		R187509
Fluoride	0.5	mg/L		0.1		E300.0	08/26/23 08:29 / SR		C METROHM_230823A : 257		R187509
Hardness as CaCO3	373	mg/L		1		A2340 B	08/26/23 02:06 / SR		CALC_230905B : 102		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	08/31/23 06:18 / eli-c		SUB-C298265 : 38		C_R298265
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	08/30/23 20:54 / eli-c		SUB-C298265 : 10		C_R298265
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.20	mg/L		0.01		E353.2	08/30/23 18:30 / JAR		SEAL AA500_230830A : 112		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/30/23 18:58 / dck		ICPMS205-H_230829C : 148		R187753
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 18:58 / dck		ICPMS205-H_230829C : 148		R187753
Arsenic	0.003	mg/L		0.001		E200.8	08/30/23 18:58 / dck		ICPMS205-H_230829C : 148		R187753
Barium	0.012	mg/L		0.003		E200.8	08/30/23 18:58 / dck		ICPMS205-H_230829C : 148		R187753
Beryllium	ND	mg/L		0.0008		E200.8	09/05/23 22:47 / dck		ICPMS206-H_230905A : 87		R187884
Boron	ND	mg/L		0.05		E200.7	08/26/23 02:06 / slj		ICP2-HE_230825B : 123		R187602
Cadmium	0.00238	mg/L		0.00003		E200.8	08/30/23 18:58 / dck		ICPMS205-H_230829C : 148		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 19:24 / dck		ICPMS206-H_230830B : 128		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11B  
**Lab ID:** H23080897-005  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 10:52 **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	108	mg/L		1		E200.7	08/26/23 02:06 / slj		ICP2-HE_230825B : 123		R187602
Chromium	ND	mg/L		0.005		E200.8	08/30/23 18:58 / dck		ICPMS205-H_230829C : 148		R187753
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 18:58 / dck		ICPMS205-H_230829C : 148		R187753
Copper	0.010	mg/L		0.002		E200.8	08/30/23 18:58 / dck		ICPMS205-H_230829C : 148		R187753
Gallium	ND	mg/L		0.01		E200.8	08/30/23 19:24 / dck		ICPMS206-H_230830B : 128		R187736
Iron	ND	mg/L		0.02		E200.8	08/30/23 18:58 / dck		ICPMS205-H_230829C : 148		R187753
Lead	ND	mg/L		0.0003		E200.8	08/30/23 18:58 / dck		ICPMS205-H_230829C : 148		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 19:24 / dck		ICPMS206-H_230830B : 128		R187736
Lithium	ND	mg/L		0.1		E200.7	08/26/23 02:06 / slj		ICP2-HE_230825B : 123		R187602
Magnesium	25	mg/L		1		E200.7	08/26/23 02:06 / slj		ICP2-HE_230825B : 123		R187602
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 19:24 / dck		ICPMS206-H_230830B : 128		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 19:24 / dck		ICPMS206-H_230830B : 128		R187736
Manganese	ND	mg/L		0.001		E200.8	08/30/23 18:58 / dck		ICPMS205-H_230829C : 148		R187753
Molybdenum	0.053	mg/L		0.001		E200.8	08/30/23 18:58 / dck		ICPMS205-H_230829C : 148		R187753
Nickel	ND	mg/L		0.002		E200.8	08/30/23 18:58 / dck		ICPMS205-H_230829C : 148		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 19:24 / dck		ICPMS206-H_230830B : 128		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 19:24 / dck		ICPMS206-H_230830B : 128		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 19:24 / dck		ICPMS206-H_230830B : 128		R187736
Potassium	9	mg/L		1		E200.7	08/26/23 02:06 / slj		ICP2-HE_230825B : 123		R187602
Selenium	ND	mg/L		0.001		E200.8	08/30/23 18:58 / dck		ICPMS205-H_230829C : 148		R187753
Silver	ND	mg/L		0.0002		E200.8	08/30/23 18:58 / dck		ICPMS205-H_230829C : 148		R187753
Sodium	45	mg/L		1		E200.7	08/26/23 02:06 / slj		ICP2-HE_230825B : 123		R187602
Strontium	0.75	mg/L		0.01		E200.7	08/26/23 02:06 / slj		ICP2-HE_230825B : 123		R187602
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 18:58 / dck		ICPMS205-H_230829C : 148		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 19:24 / dck		ICPMS206-H_230830B : 329		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 18:58 / dck		ICPMS205-H_230829C : 148		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 18:58 / dck		ICPMS205-H_230829C : 148		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 19:24 / dck		ICPMS206-H_230830B : 128		R187736
Uranium	0.0014	mg/L		0.0002		E200.8	08/30/23 18:58 / dck		ICPMS205-H_230829C : 148		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 18:58 / dck		ICPMS205-H_230829C : 148		R187753
Zinc	0.188	mg/L		0.008		E200.8	08/30/23 18:58 / dck		ICPMS205-H_230829C : 148		R187753
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 19:24 / dck		ICPMS206-H_230830B : 128		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11B  
**Lab ID:** H23080897-005  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 10:52      **Date Received:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-3.73	%				A1030 E	09/05/23 14:15 / SR		CALC_230905B : 100		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-2  
**Lab ID:** H23080897-006  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 10:53 **Date Received:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.6	s.u.	H	0.1		A4500-H B	08/23/23 17:48 / eek		PHSC_101-H_230823A : 155		R187444
pH Measurement Temp	19.6	°C				A4500-H B	08/23/23 17:48 / eek		PHSC_101-H_230823A : 155		R187444
Conductivity @ 25 C	951	umhos/cm		5		A2510 B	08/23/23 17:48 / eek		PHSC_101-H_230823A : 156		R187444
Solids, Total Dissolved TDS @ 180 C	716	mg/L		20		A2540 C	08/24/23 12:40 / eek		124 (14410200)_230824B : 14		TDS230824A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	55	mg/L		4		A2320 B	08/24/23 19:12 / eek		PHSC_101-H_230824A : 224		R187507
Bicarbonate as HCO3	67	mg/L		4		A2320 B	08/24/23 19:12 / eek		PHSC_101-H_230824A : 224		R187507
Carbonate as CO3	ND	mg/L		4		A2320 B	08/24/23 19:12 / eek		PHSC_101-H_230824A : 224		R187507
Chloride	12	mg/L		1		E300.0	08/26/23 08:43 / SR		C METROHM_230823A : 258		R187509
Sulfate	430	mg/L		1		E300.0	08/26/23 08:43 / SR		C METROHM_230823A : 258		R187509
Bromide	ND	mg/L		0.5		E300.0	08/26/23 08:43 / SR		C METROHM_230823A : 258		R187509
Fluoride	0.5	mg/L		0.1		E300.0	08/26/23 08:43 / SR		C METROHM_230823A : 258		R187509
Hardness as CaCO3	382	mg/L		1		A2340 B	08/26/23 02:09 / SR		CALC_230905B : 113		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	08/31/23 06:37 / eli-c		SUB-C298265 : 39		C_R298265
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	08/30/23 21:13 / eli-c		SUB-C298265 : 11		C_R298265
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.21	mg/L		0.01		E353.2	08/30/23 18:31 / JAR		SEAL AA500_230830A : 113		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/30/23 19:01 / dck		ICPMS205-H_230829C : 149		R187753
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 19:01 / dck		ICPMS205-H_230829C : 149		R187753
Arsenic	0.003	mg/L		0.001		E200.8	08/30/23 19:01 / dck		ICPMS205-H_230829C : 149		R187753
Barium	0.012	mg/L		0.003		E200.8	08/30/23 19:01 / dck		ICPMS205-H_230829C : 149		R187753
Beryllium	ND	mg/L		0.0008		E200.8	09/05/23 22:51 / dck		ICPMS206-H_230905A : 88		R187884
Boron	ND	mg/L		0.05		E200.7	08/26/23 02:09 / slj		ICP2-HE_230825B : 124		R187602
Cadmium	0.00248	mg/L		0.00003		E200.8	08/30/23 19:01 / dck		ICPMS205-H_230829C : 149		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 19:26 / dck		ICPMS206-H_230830B : 129		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-2  
**Lab ID:** H23080897-006  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 10:53 **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	111	mg/L		1		E200.7	08/26/23 02:09 / slj		ICP2-HE_230825B : 124		R187602
Chromium	ND	mg/L		0.005		E200.8	08/30/23 19:01 / dck		ICPMS205-H_230829C : 149		R187753
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 19:01 / dck		ICPMS205-H_230829C : 149		R187753
Copper	0.010	mg/L		0.002		E200.8	08/30/23 19:01 / dck		ICPMS205-H_230829C : 149		R187753
Gallium	ND	mg/L		0.01		E200.8	08/30/23 19:26 / dck		ICPMS206-H_230830B : 129		R187736
Iron	ND	mg/L		0.02		E200.8	08/30/23 19:01 / dck		ICPMS205-H_230829C : 149		R187753
Lead	ND	mg/L		0.0003		E200.8	08/30/23 19:01 / dck		ICPMS205-H_230829C : 149		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 19:26 / dck		ICPMS206-H_230830B : 129		R187736
Lithium	ND	mg/L		0.1		E200.7	08/26/23 02:09 / slj		ICP2-HE_230825B : 124		R187602
Magnesium	26	mg/L		1		E200.7	08/26/23 02:09 / slj		ICP2-HE_230825B : 124		R187602
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 19:26 / dck		ICPMS206-H_230830B : 129		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 19:26 / dck		ICPMS206-H_230830B : 129		R187736
Manganese	ND	mg/L		0.001		E200.8	08/30/23 19:01 / dck		ICPMS205-H_230829C : 149		R187753
Molybdenum	0.055	mg/L		0.001		E200.8	08/30/23 19:01 / dck		ICPMS205-H_230829C : 149		R187753
Nickel	ND	mg/L		0.002		E200.8	08/30/23 19:01 / dck		ICPMS205-H_230829C : 149		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 19:26 / dck		ICPMS206-H_230830B : 129		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 19:26 / dck		ICPMS206-H_230830B : 129		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 19:26 / dck		ICPMS206-H_230830B : 129		R187736
Potassium	9	mg/L		1		E200.7	08/26/23 02:09 / slj		ICP2-HE_230825B : 124		R187602
Selenium	ND	mg/L		0.001		E200.8	08/30/23 19:01 / dck		ICPMS205-H_230829C : 149		R187753
Silver	ND	mg/L		0.0002		E200.8	08/30/23 19:01 / dck		ICPMS205-H_230829C : 149		R187753
Sodium	46	mg/L		1		E200.7	08/25/23 03:49 / slj		ICP2-HE_230824B : 159		R187553
Strontium	0.76	mg/L		0.01		E200.7	08/26/23 02:09 / slj		ICP2-HE_230825B : 124		R187602
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 19:01 / dck		ICPMS205-H_230829C : 149		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 19:26 / dck		ICPMS206-H_230830B : 330		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 19:01 / dck		ICPMS205-H_230829C : 149		R187753
Titanium	ND	mg/L		0.005		E200.7	08/25/23 03:49 / slj		ICP2-HE_230824B : 159		R187553
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 19:26 / dck		ICPMS206-H_230830B : 129		R187736
Uranium	0.0015	mg/L		0.0002		E200.8	08/30/23 19:01 / dck		ICPMS205-H_230829C : 149		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 19:01 / dck		ICPMS205-H_230829C : 149		R187753
Zinc	0.188	mg/L		0.008		E200.8	08/30/23 19:01 / dck		ICPMS205-H_230829C : 149		R187753
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 19:26 / dck		ICPMS206-H_230830B : 129		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-2  
**Lab ID:** H23080897-006  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 10:53      **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-2.79	%				A1030 E	09/05/23 14:15 / SR		CALC_230905B : 111		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-2  
**Lab ID:** H23080897-007  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 11:20 **Date Received:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.8	s.u.	H	0.1		A4500-H B	08/23/23 17:50 / eek		PHSC_101-H_230823A : 157		R187444
pH Measurement Temp	19.6	°C				A4500-H B	08/23/23 17:50 / eek		PHSC_101-H_230823A : 157		R187444
Conductivity @ 25 C	ND	umhos/cm		5		A2510 B	08/23/23 17:50 / eek		PHSC_101-H_230823A : 158		R187444
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	L	20		A2540 C	08/24/23 12:40 / eek		124 (14410200)_230824B : 15		TDS230824A
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.											
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	08/24/23 19:19 / eek		PHSC_101-H_230824A : 226		R187507
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	08/24/23 19:19 / eek		PHSC_101-H_230824A : 226		R187507
Carbonate as CO3	ND	mg/L		4		A2320 B	08/24/23 19:19 / eek		PHSC_101-H_230824A : 226		R187507
Chloride	ND	mg/L		1		E300.0	08/26/23 08:58 / SR		C METROHM_230823A : 259		R187509
Sulfate	ND	mg/L		1		E300.0	08/26/23 08:58 / SR		C METROHM_230823A : 259		R187509
Bromide	ND	mg/L		0.5		E300.0	08/26/23 08:58 / SR		C METROHM_230823A : 259		R187509
Fluoride	ND	mg/L		0.1		E300.0	08/26/23 08:58 / SR		C METROHM_230823A : 259		R187509
Hardness as CaCO3	ND	mg/L		1		A2340 B	08/26/23 02:13 / SR		CALC_230905B : 124		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	08/31/23 06:57 / eli-c		SUB-C298265 : 40		C_R298265
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	08/30/23 21:33 / eli-c		SUB-C298265 : 12		C_R298265
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	08/30/23 18:32 / JAR		SEAL AA500_230830A : 114		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/30/23 19:04 / dck		ICPMS205-H_230829C : 150		R187753
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 19:04 / dck		ICPMS205-H_230829C : 150		R187753
Arsenic	ND	mg/L		0.001		E200.8	08/30/23 19:04 / dck		ICPMS205-H_230829C : 150		R187753
Barium	ND	mg/L		0.003		E200.8	08/30/23 19:04 / dck		ICPMS205-H_230829C : 150		R187753
Beryllium	ND	mg/L		0.0008		E200.8	09/05/23 22:54 / dck		ICPMS206-H_230905A : 89		R187884
Boron	ND	mg/L		0.05		E200.7	08/26/23 02:13 / slj		ICP2-HE_230825B : 125		R187602
Cadmium	ND	mg/L		0.00003		E200.8	08/30/23 19:04 / dck		ICPMS205-H_230829C : 150		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 19:28 / dck		ICPMS206-H_230830B : 130		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time

L - Lowest available reporting limit for the analytical method used



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-2  
**Lab ID:** H23080897-007  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 11:20 **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	ND	mg/L		1		E200.7	08/26/23 02:13 / slj		ICP2-HE_230825B : 125		R187602
Chromium	ND	mg/L		0.005		E200.8	08/30/23 19:04 / dck		ICPMS205-H_230829C : 150		R187753
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 19:04 / dck		ICPMS205-H_230829C : 150		R187753
Copper	ND	mg/L		0.002		E200.8	08/30/23 19:04 / dck		ICPMS205-H_230829C : 150		R187753
Gallium	ND	mg/L		0.01		E200.8	08/30/23 19:28 / dck		ICPMS206-H_230830B : 130		R187736
Iron	ND	mg/L		0.02		E200.8	08/30/23 19:04 / dck		ICPMS205-H_230829C : 150		R187753
Lead	ND	mg/L		0.0003		E200.8	08/30/23 19:04 / dck		ICPMS205-H_230829C : 150		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 19:28 / dck		ICPMS206-H_230830B : 130		R187736
Lithium	ND	mg/L		0.1		E200.7	08/26/23 02:13 / slj		ICP2-HE_230825B : 125		R187602
Magnesium	ND	mg/L		1		E200.7	08/26/23 02:13 / slj		ICP2-HE_230825B : 125		R187602
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 19:28 / dck		ICPMS206-H_230830B : 130		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 19:28 / dck		ICPMS206-H_230830B : 130		R187736
Manganese	ND	mg/L		0.001		E200.8	08/30/23 19:04 / dck		ICPMS205-H_230829C : 150		R187753
Molybdenum	ND	mg/L		0.001		E200.8	08/30/23 19:04 / dck		ICPMS205-H_230829C : 150		R187753
Nickel	ND	mg/L		0.002		E200.8	08/30/23 19:04 / dck		ICPMS205-H_230829C : 150		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 19:28 / dck		ICPMS206-H_230830B : 130		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 19:28 / dck		ICPMS206-H_230830B : 130		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 19:28 / dck		ICPMS206-H_230830B : 130		R187736
Potassium	ND	mg/L		1		E200.7	08/26/23 02:13 / slj		ICP2-HE_230825B : 125		R187602
Selenium	ND	mg/L		0.001		E200.8	08/30/23 19:04 / dck		ICPMS205-H_230829C : 150		R187753
Silver	ND	mg/L		0.0002		E200.8	08/30/23 19:04 / dck		ICPMS205-H_230829C : 150		R187753
Sodium	ND	mg/L		1		E200.7	08/25/23 03:53 / slj		ICP2-HE_230824B : 160		R187553
Strontium	ND	mg/L		0.01		E200.7	08/26/23 02:13 / slj		ICP2-HE_230825B : 125		R187602
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 19:04 / dck		ICPMS205-H_230829C : 150		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 19:28 / dck		ICPMS206-H_230830B : 331		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 19:04 / dck		ICPMS205-H_230829C : 150		R187753
Titanium	ND	mg/L		0.005		E200.7	08/25/23 03:53 / slj		ICP2-HE_230824B : 160		R187553
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 19:28 / dck		ICPMS206-H_230830B : 130		R187736
Uranium	ND	mg/L		0.0002		E200.8	08/30/23 19:04 / dck		ICPMS205-H_230829C : 150		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 19:04 / dck		ICPMS205-H_230829C : 150		R187753
Zinc	ND	mg/L		0.008		E200.8	08/30/23 19:04 / dck		ICPMS205-H_230829C : 150		R187753
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 19:28 / dck		ICPMS206-H_230830B : 130		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-2  
**Lab ID:** H23080897-007  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 11:20    **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-100	%				A1030 E	09/05/23 14:15 / SR		CALC_230905B : 122		R187859
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11C  
**Lab ID:** H23080897-008  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 11:40 **Date Received:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.9	s.u.	H	0.1		A4500-H B	08/23/23 17:52 / eek		PHSC_101-H_230823A : 159		R187444
pH Measurement Temp	19.6	°C				A4500-H B	08/23/23 17:52 / eek		PHSC_101-H_230823A : 159		R187444
Conductivity @ 25 C	906	umhos/cm		5		A2510 B	08/23/23 17:52 / eek		PHSC_101-H_230823A : 160		R187444
Solids, Total Dissolved TDS @ 180 C	647	mg/L		20		A2540 C	08/24/23 12:41 / eek		124 (14410200)_230824B : 16		TDS230824A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	73	mg/L		4		A2320 B	08/24/23 19:25 / eek		PHSC_101-H_230824A : 228		R187507
Bicarbonate as HCO3	89	mg/L		4		A2320 B	08/24/23 19:25 / eek		PHSC_101-H_230824A : 228		R187507
Carbonate as CO3	ND	mg/L		4		A2320 B	08/24/23 19:25 / eek		PHSC_101-H_230824A : 228		R187507
Chloride	9	mg/L		1		E300.0	08/26/23 09:12 / SR		C METROHM_230823A : 260		R187509
Sulfate	365	mg/L		1		E300.0	08/26/23 09:12 / SR		C METROHM_230823A : 260		R187509
Bromide	ND	mg/L		0.5		E300.0	08/26/23 09:12 / SR		C METROHM_230823A : 260		R187509
Fluoride	2.1	mg/L		0.1		E300.0	08/26/23 09:12 / SR		C METROHM_230823A : 260		R187509
Hardness as CaCO3	244	mg/L		1		A2340 B	08/26/23 02:17 / SR		CALC_230905B : 135		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	08/31/23 07:12 / eli-c		SUB-C298265 : 41		C_R298265
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	08/30/23 21:48 / eli-c		SUB-C298265 : 13		C_R298265
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.04	mg/L		0.01		E353.2	08/30/23 18:35 / JAR		SEAL AA500_230830A : 117		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/30/23 19:07 / dck		ICPMS205-H_230829C : 151		R187753
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 19:07 / dck		ICPMS205-H_230829C : 151		R187753
Arsenic	0.003	mg/L		0.001		E200.8	08/30/23 19:07 / dck		ICPMS205-H_230829C : 151		R187753
Barium	0.011	mg/L		0.003		E200.8	08/30/23 19:07 / dck		ICPMS205-H_230829C : 151		R187753
Beryllium	ND	mg/L		0.0008		E200.8	09/05/23 22:58 / dck		ICPMS206-H_230905A : 90		R187884
Boron	0.08	mg/L		0.05		E200.7	08/26/23 02:17 / slj		ICP2-HE_230825B : 126		R187602
Cadmium	0.00046	mg/L		0.00003		E200.8	08/30/23 19:07 / dck		ICPMS205-H_230829C : 151		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 19:30 / dck		ICPMS206-H_230830B : 131		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11C  
**Lab ID:** H23080897-008  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 11:40 **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	69	mg/L		1		E200.7	08/26/23 02:17 / slj		ICP2-HE_230825B : 126		R187602
Chromium	ND	mg/L		0.005		E200.8	08/30/23 19:07 / dck		ICPMS205-H_230829C : 151		R187753
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 19:07 / dck		ICPMS205-H_230829C : 151		R187753
Copper	ND	mg/L		0.002		E200.8	08/30/23 19:07 / dck		ICPMS205-H_230829C : 151		R187753
Gallium	ND	mg/L		0.01		E200.8	08/30/23 19:30 / dck		ICPMS206-H_230830B : 131		R187736
Iron	0.05	mg/L		0.02		E200.8	08/30/23 19:07 / dck		ICPMS205-H_230829C : 151		R187753
Lead	ND	mg/L		0.0003		E200.8	08/30/23 19:07 / dck		ICPMS205-H_230829C : 151		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 19:30 / dck		ICPMS206-H_230830B : 131		R187736
Lithium	0.1	mg/L		0.1		E200.7	08/26/23 02:17 / slj		ICP2-HE_230825B : 126		R187602
Magnesium	17	mg/L		1		E200.7	08/26/23 02:17 / slj		ICP2-HE_230825B : 126		R187602
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 19:30 / dck		ICPMS206-H_230830B : 131		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 19:30 / dck		ICPMS206-H_230830B : 131		R187736
Manganese	0.057	mg/L		0.001		E200.8	08/30/23 19:07 / dck		ICPMS205-H_230829C : 151		R187753
Molybdenum	0.160	mg/L		0.001		E200.8	08/30/23 19:07 / dck		ICPMS205-H_230829C : 151		R187753
Nickel	ND	mg/L		0.002		E200.8	08/30/23 19:07 / dck		ICPMS205-H_230829C : 151		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 19:30 / dck		ICPMS206-H_230830B : 131		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 19:30 / dck		ICPMS206-H_230830B : 131		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 19:30 / dck		ICPMS206-H_230830B : 131		R187736
Potassium	11	mg/L		1		E200.7	08/26/23 02:17 / slj		ICP2-HE_230825B : 126		R187602
Selenium	ND	mg/L		0.001		E200.8	08/30/23 19:07 / dck		ICPMS205-H_230829C : 151		R187753
Silver	ND	mg/L		0.0002		E200.8	08/30/23 19:07 / dck		ICPMS205-H_230829C : 151		R187753
Sodium	88	mg/L		1		E200.7	08/25/23 03:57 / slj		ICP2-HE_230824B : 161		R187553
Strontium	0.71	mg/L		0.01		E200.7	08/26/23 02:17 / slj		ICP2-HE_230825B : 126		R187602
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 19:07 / dck		ICPMS205-H_230829C : 151		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 19:30 / dck		ICPMS206-H_230830B : 332		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 19:07 / dck		ICPMS205-H_230829C : 151		R187753
Titanium	ND	mg/L		0.005		E200.7	08/25/23 03:57 / slj		ICP2-HE_230824B : 161		R187553
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 19:30 / dck		ICPMS206-H_230830B : 131		R187736
Uranium	0.0017	mg/L		0.0002		E200.8	08/30/23 19:07 / dck		ICPMS205-H_230829C : 151		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 19:07 / dck		ICPMS205-H_230829C : 151		R187753
Zinc	0.014	mg/L		0.008		E200.8	08/30/23 19:07 / dck		ICPMS205-H_230829C : 151		R187753
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 19:30 / dck		ICPMS206-H_230830B : 131		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11C  
**Lab ID:** H23080897-008  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 11:40    **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-2.39	%				A1030 E	09/05/23 14:16 / SR		CALC_230905B : 133		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-1  
**Lab ID:** H23080897-009  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 11:45 **Date Received:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.7	s.u.	H	0.1		A4500-H B	08/23/23 17:54 / eek		PHSC_101-H_230823A : 161		R187444
pH Measurement Temp	19.7	°C				A4500-H B	08/23/23 17:54 / eek		PHSC_101-H_230823A : 161		R187444
Conductivity @ 25 C	5	umhos/cm		5		A2510 B	08/23/23 17:54 / eek		PHSC_101-H_230823A : 162		R187444
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	L	20		A2540 C	08/24/23 12:41 / eek		124 (14410200)_230824B : 17		TDS230824A
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.											
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	08/24/23 19:56 / eek		PHSC_101-H_230824A : 234		R187507
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	08/24/23 19:56 / eek		PHSC_101-H_230824A : 234		R187507
Carbonate as CO3	ND	mg/L		4		A2320 B	08/24/23 19:56 / eek		PHSC_101-H_230824A : 234		R187507
Chloride	ND	mg/L		1		E300.0	08/26/23 09:26 / SR		C METROHM_230823A : 261		R187509
Sulfate	ND	mg/L		1		E300.0	08/26/23 09:26 / SR		C METROHM_230823A : 261		R187509
Bromide	ND	mg/L		0.5		E300.0	08/26/23 09:26 / SR		C METROHM_230823A : 261		R187509
Fluoride	ND	mg/L		0.1		E300.0	08/26/23 09:26 / SR		C METROHM_230823A : 261		R187509
Hardness as CaCO3	ND	mg/L		1		A2340 B	08/26/23 02:32 / SR		CALC_230905B : 146		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	08/31/23 07:32 / eli-c		SUB-C298265 : 42		C_R298265
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	08/30/23 22:08 / eli-c		SUB-C298265 : 14		C_R298265
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.03	mg/L		0.01		E353.2	08/30/23 18:38 / JAR		SEAL AA500_230830A : 120		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/30/23 19:10 / dck		ICPMS205-H_230829C : 152		R187753
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 19:10 / dck		ICPMS205-H_230829C : 152		R187753
Arsenic	ND	mg/L		0.001		E200.8	08/30/23 19:10 / dck		ICPMS205-H_230829C : 152		R187753
Barium	ND	mg/L		0.003		E200.8	08/30/23 19:10 / dck		ICPMS205-H_230829C : 152		R187753
Beryllium	ND	mg/L		0.0008		E200.8	09/05/23 23:02 / dck		ICPMS206-H_230905A : 91		R187884
Boron	ND	mg/L		0.05		E200.7	08/26/23 02:32 / slj		ICP2-HE_230825B : 130		R187602
Cadmium	ND	mg/L		0.00003		E200.8	08/30/23 19:10 / dck		ICPMS205-H_230829C : 152		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 19:33 / dck		ICPMS206-H_230830B : 132		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time

L - Lowest available reporting limit for the analytical method used



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-1  
**Lab ID:** H23080897-009  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 11:45 **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	ND	mg/L		1		E200.7	08/26/23 02:32 / slj		ICP2-HE_230825B : 130		R187602
Chromium	ND	mg/L		0.005		E200.8	08/30/23 19:10 / dck		ICPMS205-H_230829C : 152		R187753
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 19:10 / dck		ICPMS205-H_230829C : 152		R187753
Copper	0.010	mg/L		0.002		E200.8	08/30/23 19:10 / dck		ICPMS205-H_230829C : 152		R187753
Gallium	ND	mg/L		0.01		E200.8	08/30/23 19:33 / dck		ICPMS206-H_230830B : 132		R187736
Iron	ND	mg/L		0.02		E200.8	08/30/23 19:10 / dck		ICPMS205-H_230829C : 152		R187753
Lead	ND	mg/L		0.0003		E200.8	08/30/23 19:10 / dck		ICPMS205-H_230829C : 152		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 19:33 / dck		ICPMS206-H_230830B : 132		R187736
Lithium	ND	mg/L		0.1		E200.7	08/26/23 02:32 / slj		ICP2-HE_230825B : 130		R187602
Magnesium	ND	mg/L		1		E200.7	08/26/23 02:32 / slj		ICP2-HE_230825B : 130		R187602
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 19:33 / dck		ICPMS206-H_230830B : 132		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 19:33 / dck		ICPMS206-H_230830B : 132		R187736
Manganese	ND	mg/L		0.001		E200.8	08/30/23 19:10 / dck		ICPMS205-H_230829C : 152		R187753
Molybdenum	ND	mg/L		0.001		E200.8	08/30/23 19:10 / dck		ICPMS205-H_230829C : 152		R187753
Nickel	ND	mg/L		0.002		E200.8	08/30/23 19:10 / dck		ICPMS205-H_230829C : 152		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 19:33 / dck		ICPMS206-H_230830B : 132		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 19:33 / dck		ICPMS206-H_230830B : 132		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 19:33 / dck		ICPMS206-H_230830B : 132		R187736
Potassium	ND	mg/L		1		E200.7	08/26/23 02:32 / slj		ICP2-HE_230825B : 130		R187602
Selenium	ND	mg/L		0.001		E200.8	08/30/23 19:10 / dck		ICPMS205-H_230829C : 152		R187753
Silver	ND	mg/L		0.0002		E200.8	08/30/23 19:10 / dck		ICPMS205-H_230829C : 152		R187753
Sodium	ND	mg/L		1		E200.7	08/25/23 04:12 / slj		ICP2-HE_230824B : 165		R187553
Strontium	ND	mg/L		0.01		E200.7	08/26/23 02:32 / slj		ICP2-HE_230825B : 130		R187602
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 19:10 / dck		ICPMS205-H_230829C : 152		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 19:33 / dck		ICPMS206-H_230830B : 333		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 19:10 / dck		ICPMS205-H_230829C : 152		R187753
Titanium	ND	mg/L		0.005		E200.7	08/25/23 04:12 / slj		ICP2-HE_230824B : 165		R187553
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 19:33 / dck		ICPMS206-H_230830B : 132		R187736
Uranium	ND	mg/L		0.0002		E200.8	08/30/23 19:10 / dck		ICPMS205-H_230829C : 152		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 19:10 / dck		ICPMS205-H_230829C : 152		R187753
Zinc	ND	mg/L		0.008		E200.8	08/30/23 19:10 / dck		ICPMS205-H_230829C : 152		R187753
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 19:33 / dck		ICPMS206-H_230830B : 132		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-1  
**Lab ID:** H23080897-009  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 11:45    **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-94.3	%				A1030 E	09/05/23 14:16 / SR		CALC_230905B : 144		R187859
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-01B  
**Lab ID:** H23080897-010  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 11:59 **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.8	s.u.	H	0.1		A4500-H B	08/23/23 17:56 / eek		PHSC_101-H_230823A : 163		R187444
pH Measurement Temp	19.7	°C				A4500-H B	08/23/23 17:56 / eek		PHSC_101-H_230823A : 163		R187444
Conductivity @ 25 C	1680	umhos/cm		5		A2510 B	08/23/23 17:56 / eek		PHSC_101-H_230823A : 164		R187444
Solids, Total Dissolved TDS @ 180 C	1380	mg/L		20		A2540 C	08/24/23 12:41 / eek		124 (14410200)_230824B : 18		TDS230824A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	58	mg/L		4		A2320 B	08/24/23 20:02 / eek		PHSC_101-H_230824A : 236		R187507
Bicarbonate as HCO3	71	mg/L		4		A2320 B	08/24/23 20:02 / eek		PHSC_101-H_230824A : 236		R187507
Carbonate as CO3	ND	mg/L		4		A2320 B	08/24/23 20:02 / eek		PHSC_101-H_230824A : 236		R187507
Chloride	69	mg/L		1		E300.0	08/26/23 09:41 / SR		C METROHM_230823A : 262		R187509
Sulfate	788	mg/L		1		E300.0	08/26/23 09:41 / SR		C METROHM_230823A : 262		R187509
Bromide	ND	mg/L		0.5		E300.0	08/26/23 09:41 / SR		C METROHM_230823A : 262		R187509
Fluoride	0.2	mg/L		0.1		E300.0	08/26/23 09:41 / SR		C METROHM_230823A : 262		R187509
Hardness as CaCO3	602	mg/L		1		A2340 B	08/26/23 02:36 / SR		CALC_230905B : 927		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.7	mg/L		0.5		A5310 C	08/31/23 07:48 / eli-c		SUB-C298265 : 43		C_R298265
Organic Carbon, Total (TOC)	1.6	mg/L		0.5		A5310 C	08/30/23 22:24 / eli-c		SUB-C298265 : 15		C_R298265
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	5.74	mg/L		0.05		E353.2	08/30/23 18:39 / JAR		SEAL AA500_230830A : 121		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	0.034	mg/L		0.009		E200.8	08/30/23 22:13 / dck		ICPMS205-H_230829C : 206		R187753
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 22:13 / dck		ICPMS205-H_230829C : 206		R187753
Arsenic	0.006	mg/L		0.001		E200.8	08/30/23 22:13 / dck		ICPMS205-H_230829C : 206		R187753
Barium	0.012	mg/L		0.003		E200.8	08/30/23 22:13 / dck		ICPMS205-H_230829C : 206		R187753
Beryllium	ND	mg/L		0.0008		E200.8	09/06/23 01:58 / dck		ICPMS206-H_230905A : 139		R187884
Boron	0.34	mg/L		0.05		E200.7	08/26/23 02:36 / slj		ICP2-HE_230825B : 131		R187602
Cadmium	0.168	mg/L		0.00003		E200.8	08/30/23 22:13 / dck		ICPMS205-H_230829C : 206		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 19:35 / dck		ICPMS206-H_230830B : 133		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-01B  
**Lab ID:** H23080897-010  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 11:59 **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	167	mg/L		1		E200.7	08/26/23 02:36 / slj		ICP2-HE_230825B : 131		R187602
Chromium	ND	mg/L		0.005		E200.8	08/30/23 22:13 / dck		ICPMS205-H_230829C : 206		R187753
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 22:13 / dck		ICPMS205-H_230829C : 206		R187753
Copper	1.94	mg/L		0.01		E200.7	08/26/23 02:36 / slj		ICP2-HE_230825B : 131		R187602
Gallium	ND	mg/L		0.01		E200.8	08/30/23 19:35 / dck		ICPMS206-H_230830B : 133		R187736
Iron	ND	mg/L		0.02		E200.8	08/30/23 22:13 / dck		ICPMS205-H_230829C : 206		R187753
Lead	ND	mg/L		0.0003		E200.8	08/30/23 22:13 / dck		ICPMS205-H_230829C : 206		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 19:35 / dck		ICPMS206-H_230830B : 133		R187736
Lithium	0.2	mg/L		0.1		E200.7	08/26/23 02:36 / slj		ICP2-HE_230825B : 131		R187602
Magnesium	45	mg/L		1		E200.7	08/26/23 02:36 / slj		ICP2-HE_230825B : 131		R187602
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 19:35 / dck		ICPMS206-H_230830B : 133		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 19:35 / dck		ICPMS206-H_230830B : 133		R187736
Manganese	38.5	mg/L		0.001		E200.7	08/26/23 02:36 / slj		ICP2-HE_230825B : 131		R187602
Molybdenum	ND	mg/L		0.001		E200.8	08/30/23 22:13 / dck		ICPMS205-H_230829C : 206		R187753
Nickel	0.099	mg/L		0.002		E200.8	08/30/23 22:13 / dck		ICPMS205-H_230829C : 206		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 19:35 / dck		ICPMS206-H_230830B : 133		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 19:35 / dck		ICPMS206-H_230830B : 133		R187736
Rubidium	0.02	mg/L		0.01		E200.8	08/30/23 19:35 / dck		ICPMS206-H_230830B : 133		R187736
Potassium	11	mg/L		1		E200.7	08/26/23 02:36 / slj		ICP2-HE_230825B : 131		R187602
Selenium	ND	mg/L		0.001		E200.8	09/06/23 01:58 / dck		ICPMS206-H_230905A : 139		R187884
Silver	0.0003	mg/L		0.0002		E200.8	08/30/23 22:13 / dck		ICPMS205-H_230829C : 206		R187753
Sodium	111	mg/L		1		E200.7	08/25/23 04:16 / slj		ICP2-HE_230824B : 166		R187553
Strontium	1.23	mg/L		0.01		E200.7	08/26/23 02:36 / slj		ICP2-HE_230825B : 131		R187602
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 22:13 / dck		ICPMS205-H_230829C : 206		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 19:35 / dck		ICPMS206-H_230830B : 334		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 22:13 / dck		ICPMS205-H_230829C : 206		R187753
Titanium	ND	mg/L		0.005		E200.7	08/25/23 04:16 / slj		ICP2-HE_230824B : 166		R187553
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 19:35 / dck		ICPMS206-H_230830B : 133		R187736
Uranium	0.0013	mg/L		0.0002		E200.8	08/30/23 22:13 / dck		ICPMS205-H_230829C : 206		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 22:13 / dck		ICPMS205-H_230829C : 206		R187753
Zinc	27.1	mg/L		0.008		E200.7	08/26/23 02:36 / slj		ICP2-HE_230825B : 131		R187602
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 19:35 / dck		ICPMS206-H_230830B : 133		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-01B  
**Lab ID:** H23080897-010  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 11:59      **Date Received:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-3.65	%				A1030 E	09/05/23 14:58 / SR		CALC_230905B : 925		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-40R  
**Lab ID:** H23080897-011  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 13:19 **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.0	s.u.	H	0.1		A4500-H B	08/23/23 17:58 / eek		PHSC_101-H_230823A : 165		R187444
pH Measurement Temp	19.6	°C				A4500-H B	08/23/23 17:58 / eek		PHSC_101-H_230823A : 165		R187444
Conductivity @ 25 C	2340	umhos/cm		5		A2510 B	08/23/23 17:58 / eek		PHSC_101-H_230823A : 166		R187444
Solids, Total Dissolved TDS @ 180 C	2400	mg/L		50		A2540 C	08/25/23 14:36 / eek		124 (14410200)_230825B : 35		TDS230825B
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	08/24/23 20:15 / eek		PHSC_101-H_230824A : 240		R187507
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	08/24/23 20:15 / eek		PHSC_101-H_230824A : 240		R187507
Carbonate as CO3	ND	mg/L		4		A2320 B	08/24/23 20:15 / eek		PHSC_101-H_230824A : 240		R187507
Chloride	19	mg/L		1		E300.0	08/26/23 10:53 / SR		C METROHM_230823A : 267		R187509
Sulfate	1570	mg/L		1		E300.0	08/26/23 10:53 / SR		C METROHM_230823A : 267		R187509
Bromide	ND	mg/L		0.5		E300.0	08/26/23 10:53 / SR		C METROHM_230823A : 267		R187509
Fluoride	1.6	mg/L		0.1		E300.0	08/26/23 10:53 / SR		C METROHM_230823A : 267		R187509
Hardness as CaCO3	1070	mg/L		1		A2340 B	08/26/23 02:47 / SR		CALC_230905B : 938		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.6	mg/L		0.5		A5310 C	08/31/23 08:39 / eli-c		SUB-C298265 : 45		C_R298265
Organic Carbon, Total (TOC)	1.3	mg/L		0.5		A5310 C	08/30/23 23:19 / eli-c		SUB-C298265 : 17		C_R298265
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	08/30/23 18:40 / JAR		SEAL AA500_230830A : 122		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	0.495	mg/L		0.009		E200.8	08/30/23 22:19 / dck		ICPMS205-H_230829C : 208		R187753
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 22:19 / dck		ICPMS205-H_230829C : 208		R187753
Arsenic	ND	mg/L		0.001		E200.8	08/30/23 22:19 / dck		ICPMS205-H_230829C : 208		R187753
Barium	0.007	mg/L		0.003		E200.8	08/30/23 22:19 / dck		ICPMS205-H_230829C : 208		R187753
Beryllium	0.0011	mg/L		0.0008		E200.8	09/06/23 02:06 / dck		ICPMS206-H_230905A : 141		R187884
Boron	0.08	mg/L		0.05		E200.7	08/26/23 02:47 / slj		ICP2-HE_230825B : 134		R187602
Cadmium	0.097	mg/L		0.003		E200.7	08/26/23 02:47 / slj		ICP2-HE_230825B : 134		R187602
Cesium	ND	mg/L		0.01		E200.8	08/30/23 19:45 / dck		ICPMS206-H_230830B : 138		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-40R  
**Lab ID:** H23080897-011  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 13:19 **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	307	mg/L		1		E200.7	08/25/23 04:20 / slj		ICP2-HE_230824B : 167		R187553
Chromium	ND	mg/L		0.005		E200.8	08/30/23 22:19 / dck		ICPMS205-H_230829C : 208		R187753
Cobalt	0.329	mg/L		0.005		E200.8	08/30/23 22:19 / dck		ICPMS205-H_230829C : 208		R187753
Copper	0.170	mg/L		0.002		E200.8	08/30/23 22:19 / dck		ICPMS205-H_230829C : 208		R187753
Gallium	ND	mg/L		0.01		E200.8	08/30/23 19:45 / dck		ICPMS206-H_230830B : 138		R187736
Iron	90.2	mg/L		0.02		E200.7	08/26/23 02:47 / slj		ICP2-HE_230825B : 134		R187602
Lead	0.0013	mg/L		0.0003		E200.8	08/30/23 22:19 / dck		ICPMS205-H_230829C : 208		R187753
Lanthanum	0.01	mg/L		0.01		E200.8	08/30/23 19:45 / dck		ICPMS206-H_230830B : 138		R187736
Lithium	0.3	mg/L		0.1		E200.7	08/26/23 02:47 / slj		ICP2-HE_230825B : 134		R187602
Magnesium	73	mg/L		1		E200.7	08/26/23 02:47 / slj		ICP2-HE_230825B : 134		R187602
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 19:45 / dck		ICPMS206-H_230830B : 138		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 19:45 / dck		ICPMS206-H_230830B : 138		R187736
Manganese	76.6	mg/L		0.001		E200.7	08/26/23 02:47 / slj		ICP2-HE_230825B : 134		R187602
Molybdenum	0.001	mg/L		0.001		E200.8	08/30/23 22:19 / dck		ICPMS205-H_230829C : 208		R187753
Nickel	0.192	mg/L		0.002		E200.8	08/30/23 22:19 / dck		ICPMS205-H_230829C : 208		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 19:45 / dck		ICPMS206-H_230830B : 138		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/31/23 11:49 / dck		ICPMS206-H_230831A : 24		R187811
Rubidium	0.08	mg/L		0.01		E200.8	08/30/23 19:45 / dck		ICPMS206-H_230830B : 138		R187736
Potassium	19	mg/L		1		E200.7	08/26/23 02:47 / slj		ICP2-HE_230825B : 134		R187602
Selenium	ND	mg/L		0.001		E200.8	09/06/23 02:06 / dck		ICPMS206-H_230905A : 141		R187884
Silver	ND	mg/L		0.0002		E200.8	08/30/23 22:19 / dck		ICPMS205-H_230829C : 208		R187753
Sodium	41	mg/L		1		E200.7	08/25/23 04:20 / slj		ICP2-HE_230824B : 167		R187553
Strontium	2.01	mg/L		0.01		E200.7	08/26/23 02:47 / slj		ICP2-HE_230825B : 134		R187602
Thallium	0.0007	mg/L		0.0002		E200.8	08/30/23 22:19 / dck		ICPMS205-H_230829C : 208		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 19:45 / dck		ICPMS206-H_230830B : 339		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 22:19 / dck		ICPMS205-H_230829C : 208		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 22:19 / dck		ICPMS205-H_230829C : 208		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 19:45 / dck		ICPMS206-H_230830B : 138		R187736
Uranium	0.0012	mg/L		0.0002		E200.8	08/30/23 22:19 / dck		ICPMS205-H_230829C : 208		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 22:19 / dck		ICPMS205-H_230829C : 208		R187753
Zinc	40.2	mg/L		0.008		E200.7	08/26/23 02:47 / slj		ICP2-HE_230825B : 134		R187602
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 19:45 / dck		ICPMS206-H_230830B : 138		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-40R  
**Lab ID:** H23080897-011  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 13:19    **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.58	%				A1030 E	09/05/23 15:00 / SR		CALC_230905B : 936		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-23B  
**Lab ID:** H23080897-012  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 13:25 **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.7	s.u.	H	0.1		A4500-H B	08/24/23 09:46 / eek		PHSC_101-H_230824A : 7		R187507
pH Measurement Temp	11.5	°C				A4500-H B	08/24/23 09:46 / eek		PHSC_101-H_230824A : 7		R187507
Conductivity @ 25 C	1300	umhos/cm		5		A2510 B	08/24/23 09:46 / eek		PHSC_101-H_230824A : 8		R187507
Solids, Total Dissolved TDS @ 180 C	970	mg/L		20		A2540 C	08/24/23 12:42 / eek		124 (14410200)_230824B : 20		TDS230824A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	92	mg/L		4		A2320 B	08/24/23 20:19 / eek		PHSC_101-H_230824A : 242		R187507
Bicarbonate as HCO3	110	mg/L		4		A2320 B	08/24/23 20:19 / eek		PHSC_101-H_230824A : 242		R187507
Carbonate as CO3	ND	mg/L		4		A2320 B	08/24/23 20:19 / eek		PHSC_101-H_230824A : 242		R187507
Chloride	39	mg/L		1		E300.0	08/26/23 11:07 / SR		C METROHM_230823A : 268		R187509
Sulfate	523	mg/L		1		E300.0	08/26/23 11:07 / SR		C METROHM_230823A : 268		R187509
Bromide	ND	mg/L		0.5		E300.0	08/26/23 11:07 / SR		C METROHM_230823A : 268		R187509
Fluoride	1.0	mg/L		0.1		E300.0	08/26/23 11:07 / SR		C METROHM_230823A : 268		R187509
Hardness as CaCO3	432	mg/L		1		A2340 B	08/26/23 02:51 / SR		CALC_230905B : 157		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.6	mg/L		0.5		A5310 C	08/31/23 09:28 / eli-c		SUB-C298265 : 48		C_R298265
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	08/31/23 00:08 / eli-c		SUB-C298265 : 20		C_R298265
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	2.94	mg/L		0.01		E353.2	08/30/23 18:41 / JAR		SEAL AA500_230830A : 123		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/30/23 19:14 / dck		ICPMS205-H_230829C : 153		R187753
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 19:14 / dck		ICPMS205-H_230829C : 153		R187753
Arsenic	0.009	mg/L		0.001		E200.8	08/30/23 19:14 / dck		ICPMS205-H_230829C : 153		R187753
Barium	0.022	mg/L		0.003		E200.8	08/30/23 19:14 / dck		ICPMS205-H_230829C : 153		R187753
Beryllium	ND	mg/L		0.0008		E200.8	09/05/23 23:05 / dck		ICPMS206-H_230905A : 92		R187884
Boron	0.13	mg/L		0.05		E200.7	08/26/23 02:51 / slj		ICP2-HE_230825B : 135		R187602
Cadmium	0.0102	mg/L		0.00003		E200.8	08/30/23 19:14 / dck		ICPMS205-H_230829C : 153		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 19:47 / dck		ICPMS206-H_230830B : 139		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-23B  
**Lab ID:** H23080897-012  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 13:25 **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	129	mg/L		1		E200.7	08/26/23 02:51 / slj		ICP2-HE_230825B : 135		R187602
Chromium	ND	mg/L		0.005		E200.8	08/30/23 19:14 / dck		ICPMS205-H_230829C : 153		R187753
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 19:14 / dck		ICPMS205-H_230829C : 153		R187753
Copper	0.003	mg/L		0.002		E200.8	08/30/23 19:14 / dck		ICPMS205-H_230829C : 153		R187753
Gallium	ND	mg/L		0.01		E200.8	08/30/23 19:47 / dck		ICPMS206-H_230830B : 139		R187736
Iron	ND	mg/L		0.02		E200.8	08/30/23 19:14 / dck		ICPMS205-H_230829C : 153		R187753
Lead	ND	mg/L		0.0003		E200.8	08/30/23 19:14 / dck		ICPMS205-H_230829C : 153		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 19:47 / dck		ICPMS206-H_230830B : 139		R187736
Lithium	0.4	mg/L		0.1		E200.7	08/26/23 02:51 / slj		ICP2-HE_230825B : 135		R187602
Magnesium	27	mg/L		1		E200.7	08/26/23 02:51 / slj		ICP2-HE_230825B : 135		R187602
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 19:47 / dck		ICPMS206-H_230830B : 139		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 19:47 / dck		ICPMS206-H_230830B : 139		R187736
Manganese	0.003	mg/L		0.001		E200.8	08/30/23 19:14 / dck		ICPMS205-H_230829C : 153		R187753
Molybdenum	0.003	mg/L		0.001		E200.8	09/05/23 23:05 / dck		ICPMS206-H_230905A : 92		R187884
Nickel	0.003	mg/L		0.002		E200.8	09/06/23 17:17 / dck		ICPMS206-H_230906B : 30		R187919
Palladium	ND	mg/L		0.01		E200.8	08/30/23 19:47 / dck		ICPMS206-H_230830B : 139		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/31/23 11:51 / dck		ICPMS206-H_230831A : 25		R187811
Rubidium	0.01	mg/L		0.01		E200.8	08/30/23 19:47 / dck		ICPMS206-H_230830B : 139		R187736
Potassium	12	mg/L		1		E200.7	08/26/23 02:51 / slj		ICP2-HE_230825B : 135		R187602
Selenium	ND	mg/L		0.001		E200.8	08/30/23 19:14 / dck		ICPMS205-H_230829C : 153		R187753
Silver	ND	mg/L		0.0002		E200.8	08/30/23 19:14 / dck		ICPMS205-H_230829C : 153		R187753
Sodium	95	mg/L		1		E200.7	08/25/23 04:23 / slj		ICP2-HE_230824B : 168		R187553
Strontium	1.93	mg/L		0.01		E200.7	08/26/23 02:51 / slj		ICP2-HE_230825B : 135		R187602
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 19:14 / dck		ICPMS205-H_230829C : 153		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 19:47 / dck		ICPMS206-H_230830B : 340		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 19:14 / dck		ICPMS205-H_230829C : 153		R187753
Titanium	ND	mg/L		0.005		E200.7	08/25/23 04:23 / slj		ICP2-HE_230824B : 168		R187553
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 19:47 / dck		ICPMS206-H_230830B : 139		R187736
Uranium	0.0047	mg/L		0.0002		E200.8	08/30/23 19:14 / dck		ICPMS205-H_230829C : 153		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 19:14 / dck		ICPMS205-H_230829C : 153		R187753
Zinc	0.808	mg/L		0.008		E200.8	08/30/23 19:14 / dck		ICPMS205-H_230829C : 153		R187753
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 19:47 / dck		ICPMS206-H_230830B : 139		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-23B  
**Lab ID:** H23080897-012  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 13:25    **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-3.73	%				A1030 E	09/05/23 14:16 / SR		CALC_230905B : 155		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-10B  
**Lab ID:** H23080897-013  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 14:10 **Date Received:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.0	s.u.	H	0.1		A4500-H B	08/24/23 09:50 / eek		PHSC_101-H_230824A : 11		R187507
pH Measurement Temp	10.9	°C				A4500-H B	08/24/23 09:50 / eek		PHSC_101-H_230824A : 11		R187507
Conductivity @ 25 C	594	umhos/cm		5		A2510 B	08/24/23 09:50 / eek		PHSC_101-H_230824A : 12		R187507
Solids, Total Dissolved TDS @ 180 C	406	mg/L		20		A2540 C	08/24/23 12:43 / eek		124 (14410200)_230824B : 21		TDS230824A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	77	mg/L		4		A2320 B	08/24/23 20:26 / eek		PHSC_101-H_230824A : 244		R187507
Bicarbonate as HCO3	94	mg/L		4		A2320 B	08/24/23 20:26 / eek		PHSC_101-H_230824A : 244		R187507
Carbonate as CO3	ND	mg/L		4		A2320 B	08/24/23 20:26 / eek		PHSC_101-H_230824A : 244		R187507
Chloride	13	mg/L		1		E300.0	08/26/23 11:21 / SR		C METROHM_230823A : 269		R187509
Sulfate	192	mg/L		1		E300.0	08/26/23 11:21 / SR		C METROHM_230823A : 269		R187509
Bromide	ND	mg/L		0.5		E300.0	08/26/23 11:21 / SR		C METROHM_230823A : 269		R187509
Fluoride	0.4	mg/L		0.1		E300.0	08/26/23 11:21 / SR		C METROHM_230823A : 269		R187509
Hardness as CaCO3	202	mg/L		1		A2340 B	08/26/23 02:55 / SR		CALC_230905B : 168		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	08/31/23 09:49 / eli-c		SUB-C298265 : 49		C_R298265
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	08/31/23 00:28 / eli-c		SUB-C298265 : 21		C_R298265
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.35	mg/L		0.01		E353.2	08/30/23 18:42 / JAR		SEAL AA500_230830A : 124		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/30/23 19:17 / dck		ICPMS205-H_230829C : 154		R187753
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 19:17 / dck		ICPMS205-H_230829C : 154		R187753
Arsenic	0.002	mg/L		0.001		E200.8	08/30/23 19:17 / dck		ICPMS205-H_230829C : 154		R187753
Barium	0.018	mg/L		0.003		E200.8	08/30/23 19:17 / dck		ICPMS205-H_230829C : 154		R187753
Beryllium	ND	mg/L		0.0008		E200.8	09/05/23 23:09 / dck		ICPMS206-H_230905A : 93		R187884
Boron	ND	mg/L		0.05		E200.7	08/26/23 02:55 / slj		ICP2-HE_230825B : 136		R187602
Cadmium	0.00138	mg/L		0.00003		E200.8	08/30/23 19:17 / dck		ICPMS205-H_230829C : 154		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 19:49 / dck		ICPMS206-H_230830B : 140		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-10B  
**Lab ID:** H23080897-013  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 14:10 **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	57	mg/L		1		E200.7	08/26/23 02:55 / slj		ICP2-HE_230825B : 136		R187602
Chromium	ND	mg/L		0.005		E200.8	08/30/23 19:17 / dck		ICPMS205-H_230829C : 154		R187753
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 19:17 / dck		ICPMS205-H_230829C : 154		R187753
Copper	ND	mg/L		0.002		E200.8	08/30/23 19:17 / dck		ICPMS205-H_230829C : 154		R187753
Gallium	ND	mg/L		0.01		E200.8	08/30/23 19:49 / dck		ICPMS206-H_230830B : 140		R187736
Iron	ND	mg/L		0.02		E200.8	08/30/23 19:17 / dck		ICPMS205-H_230829C : 154		R187753
Lead	ND	mg/L		0.0003		E200.8	08/30/23 19:17 / dck		ICPMS205-H_230829C : 154		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 19:49 / dck		ICPMS206-H_230830B : 140		R187736
Lithium	ND	mg/L		0.1		E200.7	08/26/23 02:55 / slj		ICP2-HE_230825B : 136		R187602
Magnesium	14	mg/L		1		E200.7	08/26/23 02:55 / slj		ICP2-HE_230825B : 136		R187602
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 19:49 / dck		ICPMS206-H_230830B : 140		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 19:49 / dck		ICPMS206-H_230830B : 140		R187736
Manganese	0.005	mg/L		0.001		E200.8	08/30/23 19:17 / dck		ICPMS205-H_230829C : 154		R187753
Molybdenum	0.035	mg/L		0.001		E200.8	08/30/23 19:17 / dck		ICPMS205-H_230829C : 154		R187753
Nickel	ND	mg/L		0.002		E200.8	08/30/23 19:17 / dck		ICPMS205-H_230829C : 154		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 19:49 / dck		ICPMS206-H_230830B : 140		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/31/23 11:53 / dck		ICPMS206-H_230831A : 26		R187811
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 19:49 / dck		ICPMS206-H_230830B : 140		R187736
Potassium	6	mg/L		1		E200.7	08/26/23 02:55 / slj		ICP2-HE_230825B : 136		R187602
Selenium	ND	mg/L		0.001		E200.8	08/30/23 19:17 / dck		ICPMS205-H_230829C : 154		R187753
Silver	ND	mg/L		0.0002		E200.8	08/30/23 19:17 / dck		ICPMS205-H_230829C : 154		R187753
Sodium	31	mg/L		1		E200.7	08/26/23 02:55 / slj		ICP2-HE_230825B : 136		R187602
Strontium	0.44	mg/L		0.01		E200.7	08/26/23 02:55 / slj		ICP2-HE_230825B : 136		R187602
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 19:17 / dck		ICPMS205-H_230829C : 154		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 19:49 / dck		ICPMS206-H_230830B : 341		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 19:17 / dck		ICPMS205-H_230829C : 154		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 19:17 / dck		ICPMS205-H_230829C : 154		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 19:49 / dck		ICPMS206-H_230830B : 140		R187736
Uranium	0.0025	mg/L		0.0002		E200.8	08/30/23 19:17 / dck		ICPMS205-H_230829C : 154		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 19:17 / dck		ICPMS205-H_230829C : 154		R187753
Zinc	0.085	mg/L		0.008		E200.8	08/30/23 19:17 / dck		ICPMS205-H_230829C : 154		R187753
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 19:49 / dck		ICPMS206-H_230830B : 140		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-10B  
**Lab ID:** H23080897-013  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 14:10    **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-3.94	%				A1030 E	09/05/23 14:17 / SR		CALC_230905B : 166		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-09  
**Lab ID:** H23080897-014  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 14:26 **Date Received:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.3	s.u.	H	0.1		A4500-H B	08/24/23 09:52 / eek		PHSC_101-H_230824A : 13		R187507
pH Measurement Temp	11.2	°C				A4500-H B	08/24/23 09:52 / eek		PHSC_101-H_230824A : 13		R187507
Conductivity @ 25 C	1280	umhos/cm		5		A2510 B	08/24/23 09:52 / eek		PHSC_101-H_230824A : 14		R187507
Solids, Total Dissolved TDS @ 180 C	1110	mg/L		20		A2540 C	08/24/23 12:44 / eek		124 (14410200)_230824B : 24		TDS230824A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	08/24/23 20:33 / eek		PHSC_101-H_230824A : 246		R187507
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	08/24/23 20:33 / eek		PHSC_101-H_230824A : 246		R187507
Carbonate as CO3	ND	mg/L		4		A2320 B	08/24/23 20:33 / eek		PHSC_101-H_230824A : 246		R187507
Chloride	30	mg/L		1		E300.0	08/26/23 11:36 / SR		C METROHM_230823A : 270		R187509
Sulfate	631	mg/L		1		E300.0	09/05/23 23:09 / SR		IC METROHM_230905A : 36		R187869
Bromide	ND	mg/L		0.5		E300.0	08/26/23 11:36 / SR		C METROHM_230823A : 270		R187509
Fluoride	2.6	mg/L		0.1		E300.0	08/26/23 11:36 / SR		C METROHM_230823A : 270		R187509
Hardness as CaCO3	490	mg/L		1		A2340 B	09/06/23 02:09 / SR		CALC_230907A : 432		R187942
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.9	mg/L		0.5		A5310 C	08/31/23 10:09 / eli-c		SUB-C298265 : 50		C_R298265
Organic Carbon, Total (TOC)	0.9	mg/L		0.5		A5310 C	08/31/23 00:49 / eli-c		SUB-C298265 : 22		C_R298265
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	1.85	mg/L		0.01		E353.2	08/30/23 18:43 / JAR		SEAL AA500_230830A : 125		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	3.83	mg/L		0.009		E200.8	08/30/23 22:26 / dck		ICPMS205-H_230829C : 210		R187753
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 22:26 / dck		ICPMS205-H_230829C : 210		R187753
Arsenic	ND	mg/L		0.001		E200.8	08/30/23 22:26 / dck		ICPMS205-H_230829C : 210		R187753
Barium	0.008	mg/L		0.003		E200.8	08/30/23 22:26 / dck		ICPMS205-H_230829C : 210		R187753
Beryllium	0.0101	mg/L		0.0008		E200.8	09/06/23 02:09 / dck		ICPMS206-H_230905A : 142		R187884
Boron	0.12	mg/L		0.05		E200.7	08/26/23 02:59 / slj		ICP2-HE_230825B : 137		R187602
Cadmium	0.0804	mg/L		0.00003		E200.8	08/30/23 22:26 / dck		ICPMS205-H_230829C : 210		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 19:51 / dck		ICPMS206-H_230830B : 141		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-09  
**Lab ID:** H23080897-014  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 14:26 **Date Received:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	140	mg/L		1		E200.8	09/06/23 02:09 / dck		ICPMS206-H_230905A : 142		R187884
Chromium	ND	mg/L		0.005		E200.8	08/30/23 22:26 / dck		ICPMS205-H_230829C : 210		R187753
Cobalt	0.159	mg/L		0.005		E200.8	08/30/23 22:26 / dck		ICPMS205-H_230829C : 210		R187753
Copper	8.92	mg/L		0.01		E200.7	08/26/23 02:59 / slj		ICP2-HE_230825B : 137		R187602
Gallium	ND	mg/L		0.01		E200.8	08/30/23 19:51 / dck		ICPMS206-H_230830B : 141		R187736
Iron	0.11	mg/L		0.02		E200.8	08/30/23 22:26 / dck		ICPMS205-H_230829C : 210		R187753
Lead	0.0026	mg/L		0.0003		E200.8	08/30/23 22:26 / dck		ICPMS205-H_230829C : 210		R187753
Lanthanum	0.03	mg/L		0.01		E200.8	08/30/23 19:51 / dck		ICPMS206-H_230830B : 141		R187736
Lithium	0.2	mg/L		0.1		E200.7	08/26/23 02:59 / slj		ICP2-HE_230825B : 137		R187602
Magnesium	34	mg/L		1		E200.8	08/30/23 22:26 / dck		ICPMS205-H_230829C : 210		R187753
Neodymium	0.019	mg/L		0.005		E200.8	08/30/23 19:51 / dck		ICPMS206-H_230830B : 141		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 19:51 / dck		ICPMS206-H_230830B : 141		R187736
Manganese	25.4	mg/L		0.001		E200.8	09/06/23 02:09 / dck		ICPMS206-H_230905A : 142		R187884
Molybdenum	ND	mg/L		0.001		E200.8	08/30/23 22:26 / dck		ICPMS205-H_230829C : 210		R187753
Nickel	0.079	mg/L		0.002		E200.8	08/30/23 22:26 / dck		ICPMS205-H_230829C : 210		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 19:51 / dck		ICPMS206-H_230830B : 141		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/31/23 11:55 / dck		ICPMS206-H_230831A : 27		R187811
Rubidium	0.02	mg/L		0.01		E200.8	08/30/23 19:51 / dck		ICPMS206-H_230830B : 141		R187736
Potassium	11	mg/L		1		E200.7	08/28/23 20:18 / slj		ICP2-HE_230828B : 37		R187634
Selenium	ND	mg/L		0.001		E200.8	09/06/23 02:09 / dck		ICPMS206-H_230905A : 142		R187884
Silver	ND	mg/L		0.0002		E200.8	08/30/23 22:26 / dck		ICPMS205-H_230829C : 210		R187753
Sodium	35	mg/L		1		E200.8	08/30/23 22:26 / dck		ICPMS205-H_230829C : 210		R187753
Strontium	0.77	mg/L		0.01		E200.7	08/26/23 02:59 / slj		ICP2-HE_230825B : 137		R187602
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 22:26 / dck		ICPMS205-H_230829C : 210		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 19:51 / dck		ICPMS206-H_230830B : 342		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 22:26 / dck		ICPMS205-H_230829C : 210		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 22:26 / dck		ICPMS205-H_230829C : 210		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 19:51 / dck		ICPMS206-H_230830B : 141		R187736
Uranium	0.0131	mg/L		0.0002		E200.8	08/30/23 22:26 / dck		ICPMS205-H_230829C : 210		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 22:26 / dck		ICPMS205-H_230829C : 210		R187753
Zinc	26.5	mg/L		0.008		E200.7	08/26/23 02:59 / slj		ICP2-HE_230825B : 137		R187602
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 19:51 / dck		ICPMS206-H_230830B : 141		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-09  
**Lab ID:** H23080897-014  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 14:26    **Date Received:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.85	%				A1030 E	09/07/23 15:48 / SR		CALC_230907A : 430		R187942

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-10A  
**Lab ID:** H23080897-015  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 14:33 **Date Received:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.0	s.u.	H	0.1		A4500-H B	08/24/23 09:54 / eek		PHSC_101-H_230824A : 15		R187507
pH Measurement Temp	11.6	°C				A4500-H B	08/24/23 09:54 / eek		PHSC_101-H_230824A : 15		R187507
Conductivity @ 25 C	366	umhos/cm		5		A2510 B	08/24/23 09:54 / eek		PHSC_101-H_230824A : 16		R187507
Solids, Total Dissolved TDS @ 180 C	234	mg/L		20		A2540 C	08/24/23 12:45 / eek		124 (14410200)_230824B : 26		TDS230824A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	95	mg/L		4		A2320 B	08/24/23 20:36 / eek		PHSC_101-H_230824A : 248		R187507
Bicarbonate as HCO3	120	mg/L		4		A2320 B	08/24/23 20:36 / eek		PHSC_101-H_230824A : 248		R187507
Carbonate as CO3	ND	mg/L		4		A2320 B	08/24/23 20:36 / eek		PHSC_101-H_230824A : 248		R187507
Chloride	20	mg/L		1		E300.0	08/26/23 11:50 / SR		C METROHM_230823A : 271		R187509
Sulfate	47	mg/L		1		E300.0	08/26/23 11:50 / SR		C METROHM_230823A : 271		R187509
Bromide	ND	mg/L		0.5		E300.0	08/26/23 11:50 / SR		C METROHM_230823A : 271		R187509
Fluoride	0.5	mg/L		0.1		E300.0	08/26/23 11:50 / SR		C METROHM_230823A : 271		R187509
Hardness as CaCO3	127	mg/L		1		A2340 B	08/26/23 03:02 / SR		CALC_230905B : 949		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.9	mg/L		0.5		A5310 C	08/31/23 10:24 / eli-c		SUB-C298265 : 51		C_R298265
Organic Carbon, Total (TOC)	0.8	mg/L		0.5		A5310 C	08/31/23 01:04 / eli-c		SUB-C298265 : 23		C_R298265
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	1.84	mg/L		0.02		E353.2	08/30/23 18:44 / JAR		SEAL AA500_230830A : 126		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/30/23 19:20 / dck		ICPMS205-H_230829C : 155		R187753
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 19:20 / dck		ICPMS205-H_230829C : 155		R187753
Arsenic	0.002	mg/L		0.001		E200.8	08/30/23 19:20 / dck		ICPMS205-H_230829C : 155		R187753
Barium	0.031	mg/L		0.003		E200.8	08/30/23 19:20 / dck		ICPMS205-H_230829C : 155		R187753
Beryllium	ND	mg/L		0.0008		E200.8	09/05/23 23:31 / dck		ICPMS206-H_230905A : 99		R187884
Boron	ND	mg/L		0.05		E200.7	08/26/23 03:02 / slj		ICP2-HE_230825B : 138		R187602
Cadmium	0.00028	mg/L		0.00003		E200.8	08/30/23 19:20 / dck		ICPMS205-H_230829C : 155		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 19:53 / dck		ICPMS206-H_230830B : 142		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-10A  
**Lab ID:** H23080897-015  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 14:33 **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	39	mg/L		1		E200.7	08/25/23 04:42 / slj		ICP2-HE_230824B : 173		R187553
Chromium	ND	mg/L		0.005		E200.8	08/30/23 19:20 / dck		ICPMS205-H_230829C : 155		R187753
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 19:20 / dck		ICPMS205-H_230829C : 155		R187753
Copper	ND	mg/L		0.002		E200.8	08/30/23 19:20 / dck		ICPMS205-H_230829C : 155		R187753
Gallium	ND	mg/L		0.01		E200.8	08/30/23 19:53 / dck		ICPMS206-H_230830B : 142		R187736
Iron	ND	mg/L		0.02		E200.8	08/30/23 19:20 / dck		ICPMS205-H_230829C : 155		R187753
Lead	ND	mg/L		0.0003		E200.8	08/30/23 19:20 / dck		ICPMS205-H_230829C : 155		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 19:53 / dck		ICPMS206-H_230830B : 142		R187736
Lithium	ND	mg/L		0.1		E200.7	08/26/23 03:02 / slj		ICP2-HE_230825B : 138		R187602
Magnesium	7	mg/L		1		E200.7	08/26/23 03:02 / slj		ICP2-HE_230825B : 138		R187602
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 19:53 / dck		ICPMS206-H_230830B : 142		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 19:53 / dck		ICPMS206-H_230830B : 142		R187736
Manganese	0.060	mg/L		0.001		E200.8	08/30/23 19:20 / dck		ICPMS205-H_230829C : 155		R187753
Molybdenum	0.012	mg/L		0.001		E200.8	08/30/23 19:20 / dck		ICPMS205-H_230829C : 155		R187753
Nickel	ND	mg/L		0.002		E200.8	08/30/23 19:20 / dck		ICPMS205-H_230829C : 155		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 19:53 / dck		ICPMS206-H_230830B : 142		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/31/23 11:57 / dck		ICPMS206-H_230831A : 28		R187811
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 19:53 / dck		ICPMS206-H_230830B : 142		R187736
Potassium	4	mg/L		1		E200.7	08/26/23 03:02 / slj		ICP2-HE_230825B : 138		R187602
Selenium	ND	mg/L		0.001		E200.8	08/30/23 19:20 / dck		ICPMS205-H_230829C : 155		R187753
Silver	ND	mg/L		0.0002		E200.8	08/30/23 19:20 / dck		ICPMS205-H_230829C : 155		R187753
Sodium	20	mg/L		1		E200.7	08/26/23 03:02 / slj		ICP2-HE_230825B : 138		R187602
Strontium	0.21	mg/L		0.01		E200.7	08/26/23 03:02 / slj		ICP2-HE_230825B : 138		R187602
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 19:20 / dck		ICPMS205-H_230829C : 155		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 19:53 / dck		ICPMS206-H_230830B : 343		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 19:20 / dck		ICPMS205-H_230829C : 155		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 19:20 / dck		ICPMS205-H_230829C : 155		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 19:53 / dck		ICPMS206-H_230830B : 142		R187736
Uranium	0.0026	mg/L		0.0002		E200.8	08/30/23 19:20 / dck		ICPMS205-H_230829C : 155		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 19:20 / dck		ICPMS205-H_230829C : 155		R187753
Zinc	0.080	mg/L		0.008		E200.8	08/30/23 19:20 / dck		ICPMS205-H_230829C : 155		R187753
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 19:53 / dck		ICPMS206-H_230830B : 142		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-10A  
**Lab ID:** H23080897-015  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 14:33    **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-1.51	%				A1030 E	09/05/23 15:02 / SR		CALC_230905B : 947		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-14A  
**Lab ID:** H23080897-016  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 15:07 **Date Received:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.7	s.u.	H	0.1		A4500-H B	08/24/23 09:56 / eek		PHSC_101-H_230824A : 17		R187507
pH Measurement Temp	12.0	°C				A4500-H B	08/24/23 09:56 / eek		PHSC_101-H_230824A : 17		R187507
Conductivity @ 25 C	566	umhos/cm		5		A2510 B	08/24/23 09:56 / eek		PHSC_101-H_230824A : 18		R187507
Solids, Total Dissolved TDS @ 180 C	377	mg/L		20		A2540 C	08/24/23 12:45 / eek		124 (14410200)_230824B : 27		TDS230824A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	08/24/23 20:43 / eek		PHSC_101-H_230824A : 250		R187507
Bicarbonate as HCO3	140	mg/L		4		A2320 B	08/24/23 20:43 / eek		PHSC_101-H_230824A : 250		R187507
Carbonate as CO3	ND	mg/L		4		A2320 B	08/24/23 20:43 / eek		PHSC_101-H_230824A : 250		R187507
Chloride	27	mg/L		1		E300.0	08/26/23 12:05 / SR		C METROHM_230823A : 272		R187509
Sulfate	111	mg/L		1		E300.0	08/26/23 12:05 / SR		C METROHM_230823A : 272		R187509
Bromide	ND	mg/L		0.5		E300.0	08/26/23 12:05 / SR		C METROHM_230823A : 272		R187509
Fluoride	0.4	mg/L		0.1		E300.0	08/26/23 12:05 / SR		C METROHM_230823A : 272		R187509
Hardness as CaCO3	200	mg/L		1		A2340 B	08/26/23 03:06 / SR		CALC_230905B : 179		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.3	mg/L		0.5		A5310 C	08/31/23 10:45 / eli-c		SUB-C298265 : 52		C_R298265
Organic Carbon, Total (TOC)	1.2	mg/L		0.5		A5310 C	08/31/23 01:24 / eli-c		SUB-C298265 : 24		C_R298265
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	3.56	mg/L		0.02		E353.2	08/30/23 18:45 / JAR		SEAL AA500_230830A : 127		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	09/05/23 23:35 / dck		ICPMS206-H_230905A : 100		R187884
Antimony	ND	mg/L		0.0005		E200.8	09/05/23 23:35 / dck		ICPMS206-H_230905A : 100		R187884
Arsenic	0.001	mg/L		0.001		E200.8	09/05/23 23:35 / dck		ICPMS206-H_230905A : 100		R187884
Barium	0.028	mg/L		0.003		E200.8	09/05/23 23:35 / dck		ICPMS206-H_230905A : 100		R187884
Beryllium	ND	mg/L		0.0008		E200.8	09/05/23 23:35 / dck		ICPMS206-H_230905A : 100		R187884
Boron	0.11	mg/L		0.05		E200.7	08/26/23 03:06 / slj		ICP2-HE_230825B : 139		R187602
Cadmium	0.00020	mg/L		0.00003		E200.8	09/05/23 23:35 / dck		ICPMS206-H_230905A : 100		R187884
Cesium	ND	mg/L		0.01		E200.8	08/30/23 19:55 / dck		ICPMS206-H_230830B : 143		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-14A  
**Lab ID:** H23080897-016  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 15:07 **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	53	mg/L		1		E200.7	08/26/23 03:06 / slj		ICP2-HE_230825B : 139		R187602
Chromium	ND	mg/L		0.005		E200.8	09/06/23 17:20 / dck		ICPMS206-H_230906B : 31		R187919
Cobalt	ND	mg/L		0.005		E200.8	09/05/23 23:35 / dck		ICPMS206-H_230905A : 100		R187884
Copper	0.002	mg/L		0.002		E200.8	09/05/23 23:35 / dck		ICPMS206-H_230905A : 100		R187884
Gallium	ND	mg/L		0.01		E200.8	08/30/23 19:55 / dck		ICPMS206-H_230830B : 143		R187736
Iron	ND	mg/L		0.02		E200.8	09/07/23 11:18 / dck		ICPMS206-H_230906B : 281		R187919
Lead	ND	mg/L		0.0003		E200.8	09/05/23 23:35 / dck		ICPMS206-H_230905A : 100		R187884
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 19:55 / dck		ICPMS206-H_230830B : 143		R187736
Lithium	ND	mg/L		0.1		E200.7	08/26/23 03:06 / slj		ICP2-HE_230825B : 139		R187602
Magnesium	17	mg/L		1		E200.7	08/26/23 03:06 / slj		ICP2-HE_230825B : 139		R187602
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 19:55 / dck		ICPMS206-H_230830B : 143		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 19:55 / dck		ICPMS206-H_230830B : 143		R187736
Manganese	0.004	mg/L		0.001		E200.8	09/05/23 23:35 / dck		ICPMS206-H_230905A : 100		R187884
Molybdenum	0.005	mg/L		0.001		E200.8	09/05/23 23:35 / dck		ICPMS206-H_230905A : 100		R187884
Nickel	ND	mg/L		0.002		E200.8	09/06/23 17:20 / dck		ICPMS206-H_230906B : 31		R187919
Palladium	ND	mg/L		0.01		E200.8	08/30/23 19:55 / dck		ICPMS206-H_230830B : 143		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/31/23 12:00 / dck		ICPMS206-H_230831A : 29		R187811
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 19:55 / dck		ICPMS206-H_230830B : 143		R187736
Potassium	6	mg/L		1		E200.7	08/26/23 03:06 / slj		ICP2-HE_230825B : 139		R187602
Selenium	ND	mg/L		0.001		E200.8	09/05/23 23:35 / dck		ICPMS206-H_230905A : 100		R187884
Silver	ND	mg/L		0.0002		E200.8	09/05/23 23:35 / dck		ICPMS206-H_230905A : 100		R187884
Sodium	25	mg/L		1		E200.7	08/26/23 03:06 / slj		ICP2-HE_230825B : 139		R187602
Strontium	0.37	mg/L		0.01		E200.7	08/26/23 03:06 / slj		ICP2-HE_230825B : 139		R187602
Thallium	ND	mg/L		0.0002		E200.8	09/05/23 23:35 / dck		ICPMS206-H_230905A : 100		R187884
Thorium	ND	mg/L		0.005		E200.8	08/30/23 19:55 / dck		ICPMS206-H_230830B : 344		R187736
Tin	ND	mg/L		0.05		E200.8	09/05/23 23:35 / dck		ICPMS206-H_230905A : 100		R187884
Titanium	ND	mg/L		0.005		E200.8	09/05/23 23:35 / dck		ICPMS206-H_230905A : 100		R187884
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 19:55 / dck		ICPMS206-H_230830B : 143		R187736
Uranium	0.0082	mg/L		0.0002		E200.8	09/05/23 23:35 / dck		ICPMS206-H_230905A : 100		R187884
Vanadium	ND	mg/L		0.01		E200.8	09/05/23 23:35 / dck		ICPMS206-H_230905A : 100		R187884
Zinc	0.018	mg/L		0.008		E200.8	09/05/23 23:35 / dck		ICPMS206-H_230905A : 100		R187884
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 19:55 / dck		ICPMS206-H_230830B : 143		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-14A  
**Lab ID:** H23080897-016  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 15:07      **Date Received:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-4.16	%				A1030 E	09/05/23 14:17 / SR		CALC_230905B : 177		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-2  
**Lab ID:** H23080897-017  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 15:20 **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.2	s.u.	H	0.1		A4500-H B	08/25/23 12:53 / SR		PHSC_101-H_230825A : 107		R187549
pH Measurement Temp	13.8	°C				A4500-H B	08/25/23 12:53 / SR		PHSC_101-H_230825A : 107		R187549
Conductivity @ 25 C	36	umhos/cm		5		A2510 B	08/25/23 12:53 / SR		PHSC_101-H_230825A : 108		R187549
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	L	100		A2540 C	08/24/23 12:46 / eek		124 (14410200)_230824B : 28		TDS230824A
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.											
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	08/24/23 20:50 / eek		PHSC_101-H_230824A : 252		R187507
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	08/24/23 20:50 / eek		PHSC_101-H_230824A : 252		R187507
Carbonate as CO3	ND	mg/L		4		A2320 B	08/24/23 20:50 / eek		PHSC_101-H_230824A : 252		R187507
Chloride	3	mg/L		1		E300.0	08/26/23 12:19 / SR		C METROHM_230823A : 273		R187509
Sulfate	ND	mg/L		1		E300.0	08/26/23 12:19 / SR		C METROHM_230823A : 273		R187509
Bromide	ND	mg/L		0.5		E300.0	08/26/23 12:19 / SR		C METROHM_230823A : 273		R187509
Fluoride	ND	mg/L		0.1		E300.0	08/26/23 12:19 / SR		C METROHM_230823A : 273		R187509
Hardness as CaCO3	ND	mg/L		1		A2340 B	08/26/23 03:10 / SR		CALC_230905B : 190		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.6	mg/L		0.5		A5310 C	08/31/23 11:00 / eli-c		SUB-C298265 : 53		C_R298265
Organic Carbon, Total (TOC)	0.6	mg/L		0.5		A5310 C	08/31/23 01:45 / eli-c		SUB-C298265 : 25		C_R298265
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	08/30/23 18:46 / JAR		SEAL AA500_230830A : 128		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/30/23 19:54 / dck		ICPMS205-H_230829C : 161		R187753
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 19:54 / dck		ICPMS205-H_230829C : 161		R187753
Arsenic	ND	mg/L		0.001		E200.8	08/30/23 19:54 / dck		ICPMS205-H_230829C : 161		R187753
Barium	ND	mg/L		0.003		E200.8	08/30/23 19:54 / dck		ICPMS205-H_230829C : 161		R187753
Beryllium	ND	mg/L		0.0008		E200.8	09/05/23 23:39 / dck		ICPMS206-H_230905A : 101		R187884
Boron	ND	mg/L		0.05		E200.7	08/26/23 03:10 / slj		ICP2-HE_230825B : 140		R187602
Cadmium	0.00004	mg/L		0.00003		E200.8	09/05/23 23:39 / dck		ICPMS206-H_230905A : 101		R187884
Cesium	ND	mg/L		0.01		E200.8	08/30/23 19:59 / dck		ICPMS206-H_230830B : 145		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time

L - Lowest available reporting limit for the analytical method used



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-2  
**Lab ID:** H23080897-017  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 15:20 **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	ND	mg/L		1		E200.7	08/26/23 03:10 / slj		ICP2-HE_230825B : 140		R187602
Chromium	ND	mg/L		0.005		E200.8	08/30/23 19:54 / dck		ICPMS205-H_230829C : 161		R187753
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 19:54 / dck		ICPMS205-H_230829C : 161		R187753
Copper	ND	mg/L		0.002		E200.8	08/30/23 19:54 / dck		ICPMS205-H_230829C : 161		R187753
Gallium	ND	mg/L		0.01		E200.8	08/30/23 19:59 / dck		ICPMS206-H_230830B : 145		R187736
Iron	ND	mg/L		0.02		E200.8	08/30/23 19:54 / dck		ICPMS205-H_230829C : 161		R187753
Lead	ND	mg/L		0.0003		E200.8	08/30/23 19:54 / dck		ICPMS205-H_230829C : 161		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 19:59 / dck		ICPMS206-H_230830B : 145		R187736
Lithium	ND	mg/L		0.1		E200.7	08/26/23 03:10 / slj		ICP2-HE_230825B : 140		R187602
Magnesium	ND	mg/L		1		E200.7	08/26/23 03:10 / slj		ICP2-HE_230825B : 140		R187602
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 19:59 / dck		ICPMS206-H_230830B : 145		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 19:59 / dck		ICPMS206-H_230830B : 145		R187736
Manganese	ND	mg/L		0.001		E200.8	09/05/23 23:39 / dck		ICPMS206-H_230905A : 101		R187884
Molybdenum	ND	mg/L		0.001		E200.8	08/30/23 19:54 / dck		ICPMS205-H_230829C : 161		R187753
Nickel	ND	mg/L		0.002		E200.8	08/30/23 19:54 / dck		ICPMS205-H_230829C : 161		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 19:59 / dck		ICPMS206-H_230830B : 145		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/31/23 12:02 / dck		ICPMS206-H_230831A : 30		R187811
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 19:59 / dck		ICPMS206-H_230830B : 145		R187736
Potassium	ND	mg/L		1		E200.7	08/26/23 03:10 / slj		ICP2-HE_230825B : 140		R187602
Selenium	ND	mg/L		0.001		E200.8	08/30/23 19:54 / dck		ICPMS205-H_230829C : 161		R187753
Silver	ND	mg/L		0.0002		E200.8	08/30/23 19:54 / dck		ICPMS205-H_230829C : 161		R187753
Sodium	ND	mg/L		1		E200.7	08/26/23 03:10 / slj		ICP2-HE_230825B : 140		R187602
Strontium	ND	mg/L		0.01		E200.7	08/26/23 03:10 / slj		ICP2-HE_230825B : 140		R187602
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 19:54 / dck		ICPMS205-H_230829C : 161		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 19:59 / dck		ICPMS206-H_230830B : 346		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 19:54 / dck		ICPMS205-H_230829C : 161		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 19:54 / dck		ICPMS205-H_230829C : 161		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 19:59 / dck		ICPMS206-H_230830B : 145		R187736
Uranium	ND	mg/L		0.0002		E200.8	08/30/23 19:54 / dck		ICPMS205-H_230829C : 161		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 19:54 / dck		ICPMS205-H_230829C : 161		R187753
Zinc	ND	mg/L		0.008		E200.8	09/05/23 23:39 / dck		ICPMS206-H_230905A : 101		R187884
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 19:59 / dck		ICPMS206-H_230830B : 145		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-2  
**Lab ID:** H23080897-017  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 15:20    **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-47.6	%				A1030 E	09/05/23 14:17 / SR		CALC_230905B : 188		R187859
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-14B  
**Lab ID:** H23080897-018  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 15:44 **Date Received:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.3	s.u.	H	0.1		A4500-H B	08/24/23 10:00 / eek		PHSC_101-H_230824A : 21		R187507
pH Measurement Temp	12.8	°C				A4500-H B	08/24/23 10:00 / eek		PHSC_101-H_230824A : 21		R187507
Conductivity @ 25 C	2100	umhos/cm		5		A2510 B	08/24/23 10:00 / eek		PHSC_101-H_230824A : 22		R187507
Solids, Total Dissolved TDS @ 180 C	1800	mg/L		20		A2540 C	08/24/23 12:51 / eek		124 (14410200)_230824B : 29		TDS230824A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	60	mg/L		4		A2320 B	08/24/23 20:54 / eek		PHSC_101-H_230824A : 254		R187507
Bicarbonate as HCO3	72	mg/L		4		A2320 B	08/24/23 20:54 / eek		PHSC_101-H_230824A : 254		R187507
Carbonate as CO3	ND	mg/L		4		A2320 B	08/24/23 20:54 / eek		PHSC_101-H_230824A : 254		R187507
Chloride	30	mg/L		1		E300.0	08/26/23 12:33 / SR		C METROHM_230823A : 274		R187509
Sulfate	1150	mg/L		1		E300.0	08/26/23 12:33 / SR		C METROHM_230823A : 274		R187509
Bromide	ND	mg/L		0.5		E300.0	08/26/23 12:33 / SR		C METROHM_230823A : 274		R187509
Fluoride	0.4	mg/L		0.1		E300.0	08/26/23 12:33 / SR		C METROHM_230823A : 274		R187509
Hardness as CaCO3	960	mg/L		1		A2340 B	08/26/23 03:14 / SR		CALC_230905B : 960		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.7	mg/L		0.5		A5310 C	08/31/23 11:15 / eli-c		SUB-C298265 : 54		C_R298265
Organic Carbon, Total (TOC)	0.5	mg/L		0.5		A5310 C	08/31/23 02:04 / eli-c		SUB-C298265 : 26		C_R298265
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.27	mg/L		0.01		E353.2	08/30/23 18:52 / JAR		SEAL AA500_230830A : 132		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/30/23 19:57 / dck		ICPMS205-H_230829C : 162		R187753
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 19:57 / dck		ICPMS205-H_230829C : 162		R187753
Arsenic	0.002	mg/L		0.001		E200.8	08/30/23 19:57 / dck		ICPMS205-H_230829C : 162		R187753
Barium	0.026	mg/L		0.003		E200.8	08/30/23 19:57 / dck		ICPMS205-H_230829C : 162		R187753
Beryllium	ND	mg/L		0.0008		E200.8	09/05/23 23:42 / dck		ICPMS206-H_230905A : 102		R187884
Boron	0.11	mg/L		0.05		E200.7	08/26/23 03:14 / slj		ICP2-HE_230825B : 141		R187602
Cadmium	0.0116	mg/L		0.00003		E200.8	08/30/23 19:57 / dck		ICPMS205-H_230829C : 162		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 20:02 / dck		ICPMS206-H_230830B : 146		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-14B  
**Lab ID:** H23080897-018  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 15:44 **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	282	mg/L		1		E200.7	08/25/23 04:54 / slj		ICP2-HE_230824B : 176		R187553
Chromium	ND	mg/L		0.005		E200.8	08/30/23 19:57 / dck		ICPMS205-H_230829C : 162		R187753
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 19:57 / dck		ICPMS205-H_230829C : 162		R187753
Copper	0.230	mg/L		0.002		E200.8	08/30/23 19:57 / dck		ICPMS205-H_230829C : 162		R187753
Gallium	ND	mg/L		0.01		E200.8	08/30/23 20:02 / dck		ICPMS206-H_230830B : 146		R187736
Iron	ND	mg/L		0.02		E200.8	08/30/23 19:57 / dck		ICPMS205-H_230829C : 162		R187753
Lead	ND	mg/L		0.0003		E200.8	08/30/23 19:57 / dck		ICPMS205-H_230829C : 162		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 20:02 / dck		ICPMS206-H_230830B : 146		R187736
Lithium	0.3	mg/L		0.1		E200.7	08/26/23 03:14 / slj		ICP2-HE_230825B : 141		R187602
Magnesium	62	mg/L		1		E200.7	08/26/23 03:14 / slj		ICP2-HE_230825B : 141		R187602
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 20:02 / dck		ICPMS206-H_230830B : 146		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 20:02 / dck		ICPMS206-H_230830B : 146		R187736
Manganese	0.016	mg/L		0.001		E200.8	09/05/23 23:42 / dck		ICPMS206-H_230905A : 102		R187884
Molybdenum	0.002	mg/L		0.001		E200.8	09/05/23 23:42 / dck		ICPMS206-H_230905A : 102		R187884
Nickel	0.012	mg/L		0.002		E200.8	08/30/23 19:57 / dck		ICPMS205-H_230829C : 162		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 20:02 / dck		ICPMS206-H_230830B : 146		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/31/23 12:04 / dck		ICPMS206-H_230831A : 31		R187811
Rubidium	0.02	mg/L		0.01		E200.8	08/30/23 20:02 / dck		ICPMS206-H_230830B : 146		R187736
Potassium	15	mg/L		1		E200.7	08/26/23 03:14 / slj		ICP2-HE_230825B : 141		R187602
Selenium	ND	mg/L		0.001		E200.8	08/30/23 19:57 / dck		ICPMS205-H_230829C : 162		R187753
Silver	ND	mg/L		0.0002		E200.8	08/30/23 19:57 / dck		ICPMS205-H_230829C : 162		R187753
Sodium	115	mg/L		1		E200.7	08/26/23 03:14 / slj		ICP2-HE_230825B : 141		R187602
Strontium	3.41	mg/L		0.01		E200.7	08/26/23 03:14 / slj		ICP2-HE_230825B : 141		R187602
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 19:57 / dck		ICPMS205-H_230829C : 162		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 20:02 / dck		ICPMS206-H_230830B : 347		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 19:57 / dck		ICPMS205-H_230829C : 162		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 19:57 / dck		ICPMS205-H_230829C : 162		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 20:02 / dck		ICPMS206-H_230830B : 146		R187736
Uranium	0.0017	mg/L		0.0002		E200.8	08/30/23 19:57 / dck		ICPMS205-H_230829C : 162		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 19:57 / dck		ICPMS205-H_230829C : 162		R187753
Zinc	2.51	mg/L		0.008		E200.7	08/26/23 03:14 / slj		ICP2-HE_230825B : 141		R187602
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 20:02 / dck		ICPMS206-H_230830B : 146		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-14B  
**Lab ID:** H23080897-018  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/21/23 15:44      **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-2.67	%				A1030 E	09/05/23 15:03 / SR		CALC_230905B : 958		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-09B  
**Lab ID:** H23080897-019  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 16:10 **Date Received:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.8	s.u.	H	0.1		A4500-H B	08/24/23 10:01 / eek		PHSC_101-H_230824A : 23		R187507
pH Measurement Temp	12.5	°C				A4500-H B	08/24/23 10:01 / eek		PHSC_101-H_230824A : 23		R187507
Conductivity @ 25 C	1470	umhos/cm		5		A2510 B	08/24/23 10:01 / eek		PHSC_101-H_230824A : 24		R187507
Solids, Total Dissolved TDS @ 180 C	1110	mg/L		20		A2540 C	08/24/23 12:53 / eek		124 (14410200)_230824B : 30		TDS230824A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	08/24/23 21:01 / eek		PHSC_101-H_230824A : 256		R187507
Bicarbonate as HCO3	140	mg/L		4		A2320 B	08/24/23 21:01 / eek		PHSC_101-H_230824A : 256		R187507
Carbonate as CO3	ND	mg/L		4		A2320 B	08/24/23 21:01 / eek		PHSC_101-H_230824A : 256		R187507
Chloride	71	mg/L		1		E300.0	08/26/23 12:48 / SR		C METROHM_230823A : 275		R187509
Sulfate	559	mg/L		1		E300.0	08/26/23 12:48 / SR		C METROHM_230823A : 275		R187509
Bromide	ND	mg/L		0.5		E300.0	08/26/23 12:48 / SR		C METROHM_230823A : 275		R187509
Fluoride	0.7	mg/L		0.1		E300.0	08/26/23 12:48 / SR		C METROHM_230823A : 275		R187509
Hardness as CaCO3	603	mg/L		1		A2340 B	08/26/23 03:36 / SR		CALC_230905B : 201		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.7	mg/L		0.5		A5310 C	08/31/23 11:36 / eli-c		SUB-C298265 : 55		C_R298265
Organic Carbon, Total (TOC)	0.6	mg/L		0.5		A5310 C	08/31/23 02:24 / eli-c		SUB-C298265 : 27		C_R298265
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	5.58	mg/L		0.02		E353.2	08/30/23 18:53 / JAR		SEAL AA500_230830A : 133		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/30/23 20:00 / dck		ICPMS205-H_230829C : 163		R187753
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 20:00 / dck		ICPMS205-H_230829C : 163		R187753
Arsenic	0.012	mg/L		0.001		E200.8	08/30/23 20:00 / dck		ICPMS205-H_230829C : 163		R187753
Barium	0.034	mg/L		0.003		E200.8	08/30/23 20:00 / dck		ICPMS205-H_230829C : 163		R187753
Beryllium	ND	mg/L		0.0008		E200.8	09/05/23 23:46 / dck		ICPMS206-H_230905A : 103		R187884
Boron	0.08	mg/L		0.05		E200.7	08/26/23 03:36 / slj		ICP2-HE_230825B : 147		R187602
Cadmium	0.0162	mg/L		0.00003		E200.8	08/30/23 20:00 / dck		ICPMS205-H_230829C : 163		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 20:04 / dck		ICPMS206-H_230830B : 147		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-09B  
**Lab ID:** H23080897-019  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 16:10 **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	177	mg/L		1		E200.7	08/26/23 03:36 / slj		ICP2-HE_230825B : 147		R187602
Chromium	ND	mg/L		0.005		E200.8	08/30/23 20:00 / dck		ICPMS205-H_230829C : 163		R187753
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 20:00 / dck		ICPMS205-H_230829C : 163		R187753
Copper	0.006	mg/L		0.002		E200.8	08/30/23 20:00 / dck		ICPMS205-H_230829C : 163		R187753
Gallium	ND	mg/L		0.01		E200.8	08/30/23 20:04 / dck		ICPMS206-H_230830B : 147		R187736
Iron	ND	mg/L		0.02		E200.8	08/30/23 20:00 / dck		ICPMS205-H_230829C : 163		R187753
Lead	ND	mg/L		0.0003		E200.8	08/30/23 20:00 / dck		ICPMS205-H_230829C : 163		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 20:04 / dck		ICPMS206-H_230830B : 147		R187736
Lithium	0.3	mg/L		0.1		E200.7	08/26/23 03:36 / slj		ICP2-HE_230825B : 147		R187602
Magnesium	39	mg/L		1		E200.7	08/26/23 03:36 / slj		ICP2-HE_230825B : 147		R187602
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 20:04 / dck		ICPMS206-H_230830B : 147		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 20:04 / dck		ICPMS206-H_230830B : 147		R187736
Manganese	0.040	mg/L		0.001		E200.8	09/05/23 23:46 / dck		ICPMS206-H_230905A : 103		R187884
Molybdenum	0.003	mg/L		0.001		E200.8	09/05/23 23:46 / dck		ICPMS206-H_230905A : 103		R187884
Nickel	0.007	mg/L		0.002		E200.8	08/30/23 20:00 / dck		ICPMS205-H_230829C : 163		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 20:04 / dck		ICPMS206-H_230830B : 147		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/31/23 12:06 / dck		ICPMS206-H_230831A : 32		R187811
Rubidium	0.01	mg/L		0.01		E200.8	08/30/23 20:04 / dck		ICPMS206-H_230830B : 147		R187736
Potassium	13	mg/L		1		E200.7	08/26/23 03:36 / slj		ICP2-HE_230825B : 147		R187602
Selenium	ND	mg/L		0.001		E200.8	08/30/23 20:00 / dck		ICPMS205-H_230829C : 163		R187753
Silver	ND	mg/L		0.0002		E200.8	08/30/23 20:00 / dck		ICPMS205-H_230829C : 163		R187753
Sodium	66	mg/L		1		E200.7	08/26/23 03:36 / slj		ICP2-HE_230825B : 147		R187602
Strontium	2.64	mg/L		0.01		E200.7	08/26/23 03:36 / slj		ICP2-HE_230825B : 147		R187602
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 20:00 / dck		ICPMS205-H_230829C : 163		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 20:04 / dck		ICPMS206-H_230830B : 348		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 20:00 / dck		ICPMS205-H_230829C : 163		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 20:00 / dck		ICPMS205-H_230829C : 163		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 20:04 / dck		ICPMS206-H_230830B : 147		R187736
Uranium	0.0163	mg/L		0.0002		E200.8	08/30/23 20:00 / dck		ICPMS205-H_230829C : 163		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 20:00 / dck		ICPMS205-H_230829C : 163		R187753
Zinc	1.82	mg/L		0.008		E200.8	09/05/23 23:46 / dck		ICPMS206-H_230905A : 103		R187884
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 20:04 / dck		ICPMS206-H_230830B : 147		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-09B  
**Lab ID:** H23080897-019  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 16:10    **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-3.80	%				A1030 E	09/05/23 14:18 / SR		CALC_230905B : 199		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-28  
**Lab ID:** H23080897-020  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 16:35 **Date Received:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.0	s.u.	H	0.1		A4500-H B	08/24/23 10:03 / eek		PHSC_101-H_230824A : 25		R187507
pH Measurement Temp	12.2	°C				A4500-H B	08/24/23 10:03 / eek		PHSC_101-H_230824A : 25		R187507
Conductivity @ 25 C	385	umhos/cm		5		A2510 B	08/24/23 10:03 / eek		PHSC_101-H_230824A : 26		R187507
Solids, Total Dissolved TDS @ 180 C	235	mg/L		20		A2540 C	08/24/23 12:53 / eek		124 (14410200)_230824B : 31		TDS230824A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	160	mg/L		4		A2320 B	08/24/23 21:07 / eek		PHSC_101-H_230824A : 258		R187507
Bicarbonate as HCO3	200	mg/L		4		A2320 B	08/24/23 21:07 / eek		PHSC_101-H_230824A : 258		R187507
Carbonate as CO3	ND	mg/L		4		A2320 B	08/24/23 21:07 / eek		PHSC_101-H_230824A : 258		R187507
Chloride	9	mg/L		1		E300.0	08/26/23 13:02 / SR		C METROHM_230823A : 276		R187509
Sulfate	23	mg/L		1		E300.0	08/26/23 13:02 / SR		C METROHM_230823A : 276		R187509
Bromide	ND	mg/L		0.5		E300.0	08/26/23 13:02 / SR		C METROHM_230823A : 276		R187509
Fluoride	0.5	mg/L		0.1		E300.0	08/26/23 13:02 / SR		C METROHM_230823A : 276		R187509
Hardness as CaCO3	139	mg/L		1		A2340 B	08/26/23 03:40 / SR		CALC_230905B : 212		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.0	mg/L		0.5		A5310 C	08/31/23 11:57 / eli-c		SUB-C298265 : 56		C_R298265
Organic Carbon, Total (TOC)	1.6	mg/L		0.5		A5310 C	08/31/23 02:45 / eli-c		SUB-C298265 : 28		C_R298265
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	08/30/23 18:54 / JAR		SEAL AA500_230830A : 134		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/30/23 20:03 / dck		ICPMS205-H_230829C : 164		R187753
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 20:03 / dck		ICPMS205-H_230829C : 164		R187753
Arsenic	0.014	mg/L		0.001		E200.8	08/30/23 20:03 / dck		ICPMS205-H_230829C : 164		R187753
Barium	0.071	mg/L		0.003		E200.8	08/30/23 20:03 / dck		ICPMS205-H_230829C : 164		R187753
Beryllium	ND	mg/L		0.0008		E200.8	09/05/23 23:50 / dck		ICPMS206-H_230905A : 104		R187884
Boron	ND	mg/L		0.05		E200.7	08/26/23 03:40 / slj		ICP2-HE_230825B : 148		R187602
Cadmium	ND	mg/L		0.00003		E200.8	08/30/23 20:03 / dck		ICPMS205-H_230829C : 164		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 20:06 / dck		ICPMS206-H_230830B : 148		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-28  
**Lab ID:** H23080897-020  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 16:35 **Date Received:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	37	mg/L		1		E200.7	08/26/23 03:40 / slj		ICP2-HE_230825B : 148		R187602
Chromium	ND	mg/L		0.005		E200.8	08/30/23 20:03 / dck		ICPMS205-H_230829C : 164		R187753
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 20:03 / dck		ICPMS205-H_230829C : 164		R187753
Copper	ND	mg/L		0.002		E200.8	08/30/23 20:03 / dck		ICPMS205-H_230829C : 164		R187753
Gallium	ND	mg/L		0.01		E200.8	08/30/23 20:06 / dck		ICPMS206-H_230830B : 148		R187736
Iron	3.19	mg/L		0.04		E200.7	08/26/23 03:40 / slj		ICP2-HE_230825B : 148		R187602
Lead	ND	mg/L		0.0003		E200.8	08/30/23 20:03 / dck		ICPMS205-H_230829C : 164		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 20:06 / dck		ICPMS206-H_230830B : 148		R187736
Lithium	ND	mg/L		0.1		E200.7	08/26/23 03:40 / slj		ICP2-HE_230825B : 148		R187602
Magnesium	11	mg/L		1		E200.7	08/26/23 03:40 / slj		ICP2-HE_230825B : 148		R187602
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 20:06 / dck		ICPMS206-H_230830B : 148		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 20:06 / dck		ICPMS206-H_230830B : 148		R187736
Manganese	0.314	mg/L		0.001		E200.8	09/05/23 23:50 / dck		ICPMS206-H_230905A : 104		R187884
Molybdenum	0.024	mg/L		0.001		E200.8	08/30/23 20:03 / dck		ICPMS205-H_230829C : 164		R187753
Nickel	ND	mg/L		0.002		E200.8	08/30/23 20:03 / dck		ICPMS205-H_230829C : 164		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 20:06 / dck		ICPMS206-H_230830B : 148		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/31/23 12:08 / dck		ICPMS206-H_230831A : 33		R187811
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 20:06 / dck		ICPMS206-H_230830B : 148		R187736
Potassium	5	mg/L		1		E200.7	08/26/23 03:40 / slj		ICP2-HE_230825B : 148		R187602
Selenium	ND	mg/L		0.001		E200.8	08/30/23 20:03 / dck		ICPMS205-H_230829C : 164		R187753
Silver	ND	mg/L		0.0002		E200.8	08/30/23 20:03 / dck		ICPMS205-H_230829C : 164		R187753
Sodium	23	mg/L		1		E200.7	08/26/23 03:40 / slj		ICP2-HE_230825B : 148		R187602
Strontium	0.33	mg/L		0.01		E200.7	08/26/23 03:40 / slj		ICP2-HE_230825B : 148		R187602
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 20:03 / dck		ICPMS205-H_230829C : 164		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 20:06 / dck		ICPMS206-H_230830B : 349		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 20:03 / dck		ICPMS205-H_230829C : 164		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 20:03 / dck		ICPMS205-H_230829C : 164		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 20:06 / dck		ICPMS206-H_230830B : 148		R187736
Uranium	0.0061	mg/L		0.0002		E200.8	08/30/23 20:03 / dck		ICPMS205-H_230829C : 164		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 20:03 / dck		ICPMS205-H_230829C : 164		R187753
Zinc	ND	mg/L		0.008		E200.8	09/07/23 11:22 / dck		ICPMS206-H_230906B : 282		R187919
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 20:06 / dck		ICPMS206-H_230830B : 148		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-28  
**Lab ID:** H23080897-020  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/18/23 16:35    **DateReceived:** 08/22/23  
**Report Date:** 09/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.33	%				A1030 E	09/05/23 14:18 / SR		CALC_230905B : 210		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: C\_R298265

Date: 19-Sep-23

Run ID :Run Order: <b>SUB-C298265: 1</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/30/23 15:52</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	ND	0.1									

Associated samples: H23080897-001D, H23080897-001E, H23080897-002D, H23080897-002E, H23080897-003D, H23080897-003E, H23080897-004D, H23080897-004E, H23080897-005D, H23080897-005E, H23080897-006D, H23080897-006E, H23080897-007D, H23080897-007E, H23080897-008D, H23080897-008E, H23080897-009D, H23080897-009E, H23080897-010D, H23080897-010E, H23080897-011D, H23080897-011E, H23080897-012D, H23080897-012E, H23080897-013D, H23080897-013E, H23080897-014D, H23080897-014E, H23080897-015D, H23080897-015E, H23080897-016D, H23080897-016E, H23080897-017D, H23080897-017E, H23080897-018D, H23080897-018E, H23080897-019D, H23080897-019E, H23080897-020D, H23080897-020E

Run ID :Run Order: <b>SUB-C298265: 2</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/30/23 16:37</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.09	0.50	5	0	<b>102</b>	90	111	0			

Associated samples: H23080897-001D, H23080897-001E, H23080897-002D, H23080897-002E, H23080897-003D, H23080897-003E, H23080897-004D, H23080897-004E, H23080897-005D, H23080897-005E, H23080897-006D, H23080897-006E, H23080897-007D, H23080897-007E, H23080897-008D, H23080897-008E, H23080897-009D, H23080897-009E, H23080897-010D, H23080897-010E, H23080897-011D, H23080897-011E, H23080897-012D, H23080897-012E, H23080897-013D, H23080897-013E, H23080897-014D, H23080897-014E, H23080897-015D, H23080897-015E, H23080897-016D, H23080897-016E, H23080897-017D, H23080897-017E, H23080897-018D, H23080897-018E, H23080897-019D, H23080897-019E, H23080897-020D, H23080897-020E

Run ID :Run Order: <b>SUB-C298265: 3</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/30/23 16:54</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.08	0.50	5	0	<b>102</b>	90	110	0			

Associated samples: H23080897-001D, H23080897-001E, H23080897-002D, H23080897-002E, H23080897-003D, H23080897-003E, H23080897-004D, H23080897-004E, H23080897-005D, H23080897-005E, H23080897-006D, H23080897-006E, H23080897-007D, H23080897-007E, H23080897-008D, H23080897-008E, H23080897-009D, H23080897-009E, H23080897-010D, H23080897-010E, H23080897-011D, H23080897-011E, H23080897-012D, H23080897-012E, H23080897-013D, H23080897-013E, H23080897-014D, H23080897-014E, H23080897-015D, H23080897-015E, H23080897-016D, H23080897-016E, H23080897-017D, H23080897-017E, H23080897-018D, H23080897-018E, H23080897-019D, H23080897-019E, H23080897-020D, H23080897-020E

Run ID :Run Order: <b>SUB-C298265: 5</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>C23081150-001EMS</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/30/23 17:31</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	6.19	0.50	5	1.183	<b>100</b>	90	111	0			

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: C\_R298265

Date: 19-Sep-23

Run ID :Run Order: SUB-C298265: 5	SampType: Sample Matrix Spike	Lab ID: C23081150-001EMS	Method: A5310 C								
Analysis Date: 08/30/23 17:31	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Associated samples: H23080897-001D, H23080897-001E, H23080897-002D, H23080897-002E, H23080897-003D, H23080897-003E, H23080897-004D, H23080897-004E, H23080897-005D, H23080897-005E, H23080897-006D, H23080897-006E, H23080897-007D, H23080897-007E, H23080897-008D, H23080897-008E, H23080897-009D, H23080897-009E, H23080897-010D, H23080897-010E, H23080897-011D, H23080897-011E, H23080897-012D, H23080897-012E, H23080897-013D, H23080897-013E, H23080897-014D, H23080897-014E, H23080897-015D, H23080897-015E, H23080897-016D, H23080897-016E, H23080897-017D, H23080897-017E, H23080897-018D, H23080897-018E, H23080897-019D, H23080897-019E, H23080897-020D, H23080897-020E											

Run ID :Run Order: SUB-C298265: 6	SampType: Sample Matrix Spike Duplicate	Lab ID: C23081150-001EMSD	Method: A5310 C								
Analysis Date: 08/30/23 19:41	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	6.15	0.50	5	1.183	99	90	111	6.19	0.6	20	
Associated samples: H23080897-001D, H23080897-001E, H23080897-002D, H23080897-002E, H23080897-003D, H23080897-003E, H23080897-004D, H23080897-004E, H23080897-005D, H23080897-005E, H23080897-006D, H23080897-006E, H23080897-007D, H23080897-007E, H23080897-008D, H23080897-008E, H23080897-009D, H23080897-009E, H23080897-010D, H23080897-010E, H23080897-011D, H23080897-011E, H23080897-012D, H23080897-012E, H23080897-013D, H23080897-013E, H23080897-014D, H23080897-014E, H23080897-015D, H23080897-015E, H23080897-016D, H23080897-016E, H23080897-017D, H23080897-017E, H23080897-018D, H23080897-018E, H23080897-019D, H23080897-019E, H23080897-020D, H23080897-020E											

Run ID :Run Order: SUB-C298265: 16	SampType: Continuing Calibration Verification Standar	Lab ID: CCV-11940	Method: A5310 C								
Analysis Date: 08/30/23 22:45	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.07	0.50	5	0	101	90	110	0			
Associated samples: H23080897-001D, H23080897-001E, H23080897-002D, H23080897-002E, H23080897-003D, H23080897-003E, H23080897-004D, H23080897-004E, H23080897-005D, H23080897-005E, H23080897-006D, H23080897-006E, H23080897-007D, H23080897-007E, H23080897-008D, H23080897-008E, H23080897-009D, H23080897-009E, H23080897-010D, H23080897-010E, H23080897-011D, H23080897-011E, H23080897-012D, H23080897-012E, H23080897-013D, H23080897-013E, H23080897-014D, H23080897-014E, H23080897-015D, H23080897-015E, H23080897-016D, H23080897-016E, H23080897-017D, H23080897-017E, H23080897-018D, H23080897-018E, H23080897-019D, H23080897-019E, H23080897-020D, H23080897-020E											

Run ID :Run Order: SUB-C298265: 18	SampType: Sample Matrix Spike	Lab ID: C23081150-011EMS	Method: A5310 C								
Analysis Date: 08/30/23 23:36	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	6.33	0.50	5	1.264	101	90	111	0			

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: C\_R298265

Date: 19-Sep-23

Run ID :Run Order: SUB-C298265: 18	SampType: Sample Matrix Spike	Lab ID: C23081150-011EMS	Method: A5310 C								
Analysis Date: 08/30/23 23:36	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23080897-001D, H23080897-001E, H23080897-002D, H23080897-002E, H23080897-003D, H23080897-003E, H23080897-004D, H23080897-004E, H23080897-005D, H23080897-005E, H23080897-006D, H23080897-006E, H23080897-007D, H23080897-007E, H23080897-008D, H23080897-008E, H23080897-009D, H23080897-009E, H23080897-010D, H23080897-010E, H23080897-011D, H23080897-011E, H23080897-012D, H23080897-012E, H23080897-013D, H23080897-013E, H23080897-014D, H23080897-014E, H23080897-015D, H23080897-015E, H23080897-016D, H23080897-016E, H23080897-017D, H23080897-017E, H23080897-018D, H23080897-018E, H23080897-019D, H23080897-019E, H23080897-020D, H23080897-020E

Run ID :Run Order: SUB-C298265: 19	SampType: Sample Matrix Spike Duplicate	Lab ID: C23081150-011EMSD	Method: A5310 C								
Analysis Date: 08/30/23 23:53	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	6.35	0.50	5	1.264	102	90	111	6.326	0.3	20
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Associated samples: H23080897-001D, H23080897-001E, H23080897-002D, H23080897-002E, H23080897-003D, H23080897-003E, H23080897-004D, H23080897-004E, H23080897-005D, H23080897-005E, H23080897-006D, H23080897-006E, H23080897-007D, H23080897-007E, H23080897-008D, H23080897-008E, H23080897-009D, H23080897-009E, H23080897-010D, H23080897-010E, H23080897-011D, H23080897-011E, H23080897-012D, H23080897-012E, H23080897-013D, H23080897-013E, H23080897-014D, H23080897-014E, H23080897-015D, H23080897-015E, H23080897-016D, H23080897-016E, H23080897-017D, H23080897-017E, H23080897-018D, H23080897-018E, H23080897-019D, H23080897-019E, H23080897-020D, H23080897-020E

Run ID :Run Order: SUB-C298265: 29	SampType: Laboratory Control Sample	Lab ID: LCS-11923	Method: A5310 C								
Analysis Date: 08/31/23 03:41	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Dissolved (DOC)	5.06	0.50	5	0	101	88	112	0
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Associated samples: H23080897-001D, H23080897-001E, H23080897-002D, H23080897-002E, H23080897-003D, H23080897-003E, H23080897-004D, H23080897-004E, H23080897-005D, H23080897-005E, H23080897-006D, H23080897-006E, H23080897-007D, H23080897-007E, H23080897-008D, H23080897-008E, H23080897-009D, H23080897-009E, H23080897-010D, H23080897-010E, H23080897-011D, H23080897-011E, H23080897-012D, H23080897-012E, H23080897-013D, H23080897-013E, H23080897-014D, H23080897-014E, H23080897-015D, H23080897-015E, H23080897-016D, H23080897-016E, H23080897-017D, H23080897-017E, H23080897-018D, H23080897-018E, H23080897-019D, H23080897-019E, H23080897-020D, H23080897-020E

Run ID :Run Order: SUB-C298265: 30	SampType: Method Blank	Lab ID: MBLK	Method: A5310 C								
Analysis Date: 08/31/23 03:56	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Dissolved (DOC)	ND	0.1
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: C\_R298265

Date: 19-Sep-23

Run ID :Run Order: SUB-C298265: 30	SampType: Method Blank	Lab ID: MBLK	Method: A5310 C								
Analysis Date: 08/31/23 03:56	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Associated samples: H23080897-001D, H23080897-001E, H23080897-002D, H23080897-002E, H23080897-003D, H23080897-003E, H23080897-004D, H23080897-004E, H23080897-005D, H23080897-005E, H23080897-006D, H23080897-006E, H23080897-007D, H23080897-007E, H23080897-008D, H23080897-008E, H23080897-009D, H23080897-009E, H23080897-010D, H23080897-010E, H23080897-011D, H23080897-011E, H23080897-012D, H23080897-012E, H23080897-013D, H23080897-013E, H23080897-014D, H23080897-014E, H23080897-015D, H23080897-015E, H23080897-016D, H23080897-016E, H23080897-017D, H23080897-017E, H23080897-018D, H23080897-018E, H23080897-019D, H23080897-019E, H23080897-020D, H23080897-020E											

Run ID :Run Order: SUB-C298265: 31	SampType: Continuing Calibration Verification Standar	Lab ID: CCV-11940	Method: A5310 C								
Analysis Date: 08/31/23 04:16	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.01	0.50	5	0	100	90	110	0			
Associated samples: H23080897-001D, H23080897-001E, H23080897-002D, H23080897-002E, H23080897-003D, H23080897-003E, H23080897-004D, H23080897-004E, H23080897-005D, H23080897-005E, H23080897-006D, H23080897-006E, H23080897-007D, H23080897-007E, H23080897-008D, H23080897-008E, H23080897-009D, H23080897-009E, H23080897-010D, H23080897-010E, H23080897-011D, H23080897-011E, H23080897-012D, H23080897-012E, H23080897-013D, H23080897-013E, H23080897-014D, H23080897-014E, H23080897-015D, H23080897-015E, H23080897-016D, H23080897-016E, H23080897-017D, H23080897-017E, H23080897-018D, H23080897-018E, H23080897-019D, H23080897-019E, H23080897-020D, H23080897-020E											

Run ID :Run Order: SUB-C298265: 33	SampType: Sample Matrix Spike	Lab ID: H23080897-001D	Method: A5310 C								
Analysis Date: 08/31/23 04:52	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	6.22	0.50	5	1.297	98	88	112	0			
Associated samples: H23080897-001D, H23080897-001E, H23080897-002D, H23080897-002E, H23080897-003D, H23080897-003E, H23080897-004D, H23080897-004E, H23080897-005D, H23080897-005E, H23080897-006D, H23080897-006E, H23080897-007D, H23080897-007E, H23080897-008D, H23080897-008E, H23080897-009D, H23080897-009E, H23080897-010D, H23080897-010E, H23080897-011D, H23080897-011E, H23080897-012D, H23080897-012E, H23080897-013D, H23080897-013E, H23080897-014D, H23080897-014E, H23080897-015D, H23080897-015E, H23080897-016D, H23080897-016E, H23080897-017D, H23080897-017E, H23080897-018D, H23080897-018E, H23080897-019D, H23080897-019E, H23080897-020D, H23080897-020E											

Run ID :Run Order: SUB-C298265: 34	SampType: Sample Matrix Spike Duplicate	Lab ID: H23080897-001D	Method: A5310 C								
Analysis Date: 08/31/23 05:09	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	6.27	0.50	5	1.297	99	88	112	6.216	0.8	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: C\_R298265

Date: 19-Sep-23

Run ID :Run Order: <b>SUB-C298265: 34</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23080897-001D</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>08/31/23 05:09</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Associated samples: <b>H23080897-001D, H23080897-001E, H23080897-002D, H23080897-002E, H23080897-003D, H23080897-003E, H23080897-004D, H23080897-004E, H23080897-005D, H23080897-005E, H23080897-006D, H23080897-006E, H23080897-007D, H23080897-007E, H23080897-008D, H23080897-008E, H23080897-009D, H23080897-009E, H23080897-010D, H23080897-010E, H23080897-011D, H23080897-011E, H23080897-012D, H23080897-012E, H23080897-013D, H23080897-013E, H23080897-014D, H23080897-014E, H23080897-015D, H23080897-015E, H23080897-016D, H23080897-016E, H23080897-017D, H23080897-017E, H23080897-018D, H23080897-018E, H23080897-019D, H23080897-019E, H23080897-020D, H23080897-020E</b>											

Run ID :Run Order: <b>SUB-C298265: 44</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV-11940</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>08/31/23 08:04</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.03	0.50	5	0	<b>101</b>	90	110	0			
Associated samples: <b>H23080897-001D, H23080897-001E, H23080897-002D, H23080897-002E, H23080897-003D, H23080897-003E, H23080897-004D, H23080897-004E, H23080897-005D, H23080897-005E, H23080897-006D, H23080897-006E, H23080897-007D, H23080897-007E, H23080897-008D, H23080897-008E, H23080897-009D, H23080897-009E, H23080897-010D, H23080897-010E, H23080897-011D, H23080897-011E, H23080897-012D, H23080897-012E, H23080897-013D, H23080897-013E, H23080897-014D, H23080897-014E, H23080897-015D, H23080897-015E, H23080897-016D, H23080897-016E, H23080897-017D, H23080897-017E, H23080897-018D, H23080897-018E, H23080897-019D, H23080897-019E, H23080897-020D, H23080897-020E</b>											

Run ID :Run Order: <b>SUB-C298265: 46</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>C23081150-011DMS</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>08/31/23 08:56</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	6.52	0.50	5	1.575	<b>99</b>	88	112	0			
Associated samples: <b>H23080897-001D, H23080897-001E, H23080897-002D, H23080897-002E, H23080897-003D, H23080897-003E, H23080897-004D, H23080897-004E, H23080897-005D, H23080897-005E, H23080897-006D, H23080897-006E, H23080897-007D, H23080897-007E, H23080897-008D, H23080897-008E, H23080897-009D, H23080897-009E, H23080897-010D, H23080897-010E, H23080897-011D, H23080897-011E, H23080897-012D, H23080897-012E, H23080897-013D, H23080897-013E, H23080897-014D, H23080897-014E, H23080897-015D, H23080897-015E, H23080897-016D, H23080897-016E, H23080897-017D, H23080897-017E, H23080897-018D, H23080897-018E, H23080897-019D, H23080897-019E, H23080897-020D, H23080897-020E</b>											

Run ID :Run Order: <b>SUB-C298265: 47</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>C23081150-011DMSD</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>08/31/23 09:13</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	6.53	0.50	5	1.575	<b>99</b>	88	112	6.523	<b>0.2</b>	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080897

**BatchID:** C\_R298265

**Date:** 19-Sep-23

Run ID :Run Order: <b>SUB-C298265: 47</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>C23081150-011DMSD</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>08/31/23 09:13</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23080897-001D, H23080897-001E, H23080897-002D, H23080897-002E, H23080897-003D, H23080897-003E, H23080897-004D, H23080897-004E, H23080897-005D, H23080897-005E, H23080897-006D, H23080897-006E, H23080897-007D, H23080897-007E, H23080897-008D, H23080897-008E, H23080897-009D, H23080897-009E, H23080897-010D, H23080897-010E, H23080897-011D, H23080897-011E, H23080897-012D, H23080897-012E, H23080897-013D, H23080897-013E, H23080897-014D, H23080897-014E, H23080897-015D, H23080897-015E, H23080897-016D, H23080897-016E, H23080897-017D, H23080897-017E, H23080897-018D, H23080897-018E, H23080897-019D, H23080897-019E, H23080897-020D, H23080897-020E



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187444

Date: 19-Sep-23

Run ID :Run Order: PHSC_101-H_230823A: 2	SampType: Initial Calibration Verification Standard				Lab ID: SC 150			Method: A2510 B			
Analysis Date: 08/23/23 07:45	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	153	5.0	150	0	102	90	110				
Associated samples: H23080897-001A, H23080897-002A, H23080897-003A, H23080897-004A, H23080897-005A, H23080897-006A, H23080897-007A, H23080897-008A, H23080897-009A, H23080897-010A, H23080897-011A											

Run ID :Run Order: PHSC_101-H_230823A: 3	SampType: Initial Calibration Verification Standard				Lab ID: SC 20000			Method: A2510 B			
Analysis Date: 08/23/23 07:46	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	19500	5.0	20000	0	97	90	110				
Associated samples: H23080897-001A, H23080897-002A, H23080897-003A, H23080897-004A, H23080897-005A, H23080897-006A, H23080897-007A, H23080897-008A, H23080897-009A, H23080897-010A, H23080897-011A											

Run ID :Run Order: PHSC_101-H_230823A: 4	SampType: Initial Calibration Verification Standard				Lab ID: SC 5000			Method: A2510 B			
Analysis Date: 08/23/23 07:48	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	4970	5.0	5000	0	99	90	110				
Associated samples: H23080897-001A, H23080897-002A, H23080897-003A, H23080897-004A, H23080897-005A, H23080897-006A, H23080897-007A, H23080897-008A, H23080897-009A, H23080897-010A, H23080897-011A											

Run ID :Run Order: PHSC_101-H_230823A: 77	SampType: Method Blank				Lab ID: MBLK			Method: A2510 B			
Analysis Date: 08/23/23 16:24	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	ND	5									
Associated samples: H23080897-001A, H23080897-002A, H23080897-003A, H23080897-004A, H23080897-005A, H23080897-006A, H23080897-007A, H23080897-008A, H23080897-009A, H23080897-010A, H23080897-011A											

Run ID :Run Order: PHSC_101-H_230823A: 123	SampType: Continuing Calibration Verification Standar				Lab ID: CCV - SC 1413			Method: A2510 B			
Analysis Date: 08/23/23 17:12	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1410	5.0	1413	0	100	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080897

**BatchID:** R187444

**Date:** 19-Sep-23

Run ID :Run Order: <b>PHSC_101-H_230823A: 123</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV - SC 1413</b>	Method: <b>A2510 B</b>
Analysis Date: <b>08/23/23 17:12</b>	Units: <b>umhos/cm</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
		LowLimit	HighLimit
		RPD Ref Val	%RPD
			RPDLimit
			Qual

Associated samples: **H23080897-001A, H23080897-002A, H23080897-003A, H23080897-004A, H23080897-005A, H23080897-006A, H23080897-007A, H23080897-008A, H23080897-009A, H23080897-010A, H23080897-011A**

Run ID :Run Order: <b>PHSC_101-H_230823A: 168</b>	SampType: <b>Sample Duplicate</b>	Lab ID: <b>H23080897-011ADUP</b>	Method: <b>A2510 B</b>
Analysis Date: <b>08/23/23 18:00</b>	Units: <b>umhos/cm</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
		LowLimit	HighLimit
		RPD Ref Val	%RPD
			RPDLimit
			Qual

Conductivity @ 25 C	2340	5.0	0	2345	<b>0.1</b>	10
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Associated samples: **H23080897-001A, H23080897-002A, H23080897-003A, H23080897-004A, H23080897-005A, H23080897-006A, H23080897-007A, H23080897-008A, H23080897-009A, H23080897-010A, H23080897-011A**



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187444

Date: 19-Sep-23

Run ID :Run Order: PHSC_101-H_230823A: 1	SampType: Initial Calibration Verification Standard				Lab ID: pH 7				Method: A4500-H B		
Analysis Date: 08/23/23 07:40	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	21.5			0		0	0				

Associated samples: H23080897-001A, H23080897-002A, H23080897-003A, H23080897-004A, H23080897-005A, H23080897-006A, H23080897-007A, H23080897-008A, H23080897-009A, H23080897-010A, H23080897-011A

Run ID :Run Order: PHSC_101-H_230823A: 122	SampType: Continuing Calibration Verification Standar				Lab ID: CCV - pH 7				Method: A4500-H B		
Analysis Date: 08/23/23 17:09	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	21.3			0		0	0				

Associated samples: H23080897-001A, H23080897-002A, H23080897-003A, H23080897-004A, H23080897-005A, H23080897-006A, H23080897-007A, H23080897-008A, H23080897-009A, H23080897-010A, H23080897-011A

Run ID :Run Order: PHSC_101-H_230823A: 167	SampType: Sample Duplicate				Lab ID: H23080897-011ADUP				Method: A4500-H B		
Analysis Date: 08/23/23 18:00	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	5.0	0.1		0				4.99	0.4	3	H
pH Measurement Temp	19.7			0				19.6			

Associated samples: H23080897-001A, H23080897-002A, H23080897-003A, H23080897-004A, H23080897-005A, H23080897-006A, H23080897-007A, H23080897-008A, H23080897-009A, H23080897-010A, H23080897-011A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187507

Date: 19-Sep-23

Run ID :Run Order: PHSC_101-H_230824A: 186	SampType: Method Blank	Lab ID: MBLK	Method: A2320 B								
Analysis Date: 08/24/23 14:59	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									
Associated samples: H23080897-001A, H23080897-002A, H23080897-003A, H23080897-004A, H23080897-005A, H23080897-006A, H23080897-007A, H23080897-008A, H23080897-009A, H23080897-010A, H23080897-011A, H23080897-012A, H23080897-013A, H23080897-014A, H23080897-015A, H23080897-016A, H23080897-017A, H23080897-018A, H23080897-019A, H23080897-020A											

Run ID :Run Order: PHSC_101-H_230824A: 187	SampType: Laboratory Control Sample	Lab ID: LCS	Method: A2320 B								
Analysis Date: 08/24/23 15:03	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	600	4.0	600	0	100	90	110				
Associated samples: H23080897-001A, H23080897-002A, H23080897-003A, H23080897-004A, H23080897-005A, H23080897-006A, H23080897-007A, H23080897-008A, H23080897-009A, H23080897-010A, H23080897-011A, H23080897-012A, H23080897-013A, H23080897-014A, H23080897-015A, H23080897-016A, H23080897-017A, H23080897-018A, H23080897-019A, H23080897-020A											

Run ID :Run Order: PHSC_101-H_230824A: 230	SampType: Sample Duplicate	Lab ID: H23080897-008ADUP	Method: A2320 B								
Analysis Date: 08/24/23 19:32	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	73	4.0		0				73.35	0.1	10	
Bicarbonate as HCO3	89	4.0		0				88.88	0.1	10	
Carbonate as CO3	ND	4.0		0				0		10	
Associated samples: H23080897-001A, H23080897-002A, H23080897-003A, H23080897-004A, H23080897-005A, H23080897-006A, H23080897-007A, H23080897-008A, H23080897-009A, H23080897-010A, H23080897-011A, H23080897-012A, H23080897-013A, H23080897-014A, H23080897-015A, H23080897-016A, H23080897-017A, H23080897-018A, H23080897-019A, H23080897-020A											

Run ID :Run Order: PHSC_101-H_230824A: 238	SampType: Sample Duplicate	Lab ID: H23080897-010ADUP	Method: A2320 B								
Analysis Date: 08/24/23 20:09	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	56	4.0		0				58.35	3.4	10	
Bicarbonate as HCO3	68	4.0		0				70.58	3.4	10	
Carbonate as CO3	ND	4.0		0				0		10	
Associated samples: H23080897-001A, H23080897-002A, H23080897-003A, H23080897-004A, H23080897-005A, H23080897-006A, H23080897-007A, H23080897-008A, H23080897-009A, H23080897-010A, H23080897-011A, H23080897-012A, H23080897-013A, H23080897-014A, H23080897-015A, H23080897-016A, H23080897-017A, H23080897-018A, H23080897-019A, H23080897-020A											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187507

Date: 19-Sep-23

Run ID :Run Order: PHSC_101-H_230824A: 2	SampType: Initial Calibration Verification Standard				Lab ID: SC 150			Method: A2510 B			
Analysis Date: 08/24/23 08:58	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	152	5.0	150	0	101	90	110				

Associated samples: H23080897-001A, H23080897-002A, H23080897-003A, H23080897-004A, H23080897-005A, H23080897-006A, H23080897-007A, H23080897-008A, H23080897-009A, H23080897-010A, H23080897-011A, H23080897-012A, H23080897-013A, H23080897-014A, H23080897-015A, H23080897-016A, H23080897-017A, H23080897-018A, H23080897-019A, H23080897-020A

Run ID :Run Order: PHSC_101-H_230824A: 3	SampType: Initial Calibration Verification Standard				Lab ID: SC 20000			Method: A2510 B			
Analysis Date: 08/24/23 09:00	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	19400	5.0	20000	0	97	90	110				

Associated samples: H23080897-001A, H23080897-002A, H23080897-003A, H23080897-004A, H23080897-005A, H23080897-006A, H23080897-007A, H23080897-008A, H23080897-009A, H23080897-010A, H23080897-011A, H23080897-012A, H23080897-013A, H23080897-014A, H23080897-015A, H23080897-016A, H23080897-017A, H23080897-018A, H23080897-019A, H23080897-020A

Run ID :Run Order: PHSC_101-H_230824A: 4	SampType: Initial Calibration Verification Standard				Lab ID: SC 5000			Method: A2510 B			
Analysis Date: 08/24/23 09:02	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	4960	5.0	5000	0	99	90	110				

Associated samples: H23080897-001A, H23080897-002A, H23080897-003A, H23080897-004A, H23080897-005A, H23080897-006A, H23080897-007A, H23080897-008A, H23080897-009A, H23080897-010A, H23080897-011A, H23080897-012A, H23080897-013A, H23080897-014A, H23080897-015A, H23080897-016A, H23080897-017A, H23080897-018A, H23080897-019A, H23080897-020A

Run ID :Run Order: PHSC_101-H_230824A: 5	SampType: Laboratory Control Sample				Lab ID: SC 1000			Method: A2510 B			
Analysis Date: 08/24/23 09:04	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	995	5.0	1000	0	99	90	110				

Associated samples: H23080897-012A, H23080897-013A, H23080897-014A, H23080897-015A, H23080897-016A, H23080897-018A, H23080897-019A, H23080897-020A

Run ID :Run Order: PHSC_101-H_230824A: 6	SampType: Method Blank				Lab ID: MBLK			Method: A2510 B			
Analysis Date: 08/24/23 09:39	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	ND	5									

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187507

Date: 19-Sep-23

Run ID :Run Order: PHSC_101-H_230824A: 6	SampType: Method Blank	Lab ID: MBLK	Method: A2510 B								
Analysis Date: 08/24/23 09:39	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23080897-012A, H23080897-013A, H23080897-014A, H23080897-015A, H23080897-016A, H23080897-018A, H23080897-019A, H23080897-020A

Run ID :Run Order: PHSC_101-H_230824A: 10	SampType: Sample Duplicate	Lab ID: H23080897-012ADUP	Method: A2510 B								
Analysis Date: 08/24/23 09:48	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1310	5.0		0				1304	0.4	10	

Associated samples: H23080897-012A, H23080897-013A, H23080897-014A, H23080897-015A, H23080897-016A, H23080897-018A, H23080897-019A, H23080897-020A

Run ID :Run Order: PHSC_101-H_230824A: 52	SampType: Continuing Calibration Verification Standar	Lab ID: CCV - SC 1413	Method: A2510 B								
Analysis Date: 08/24/23 10:31	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1410	5.0	1413	0	100	90	110				

Associated samples: H23080897-001A, H23080897-002A, H23080897-003A, H23080897-004A, H23080897-005A, H23080897-006A, H23080897-007A, H23080897-008A, H23080897-009A, H23080897-010A, H23080897-011A, H23080897-012A, H23080897-013A, H23080897-014A, H23080897-015A, H23080897-016A, H23080897-017A, H23080897-018A, H23080897-019A, H23080897-020A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187507

Date: 19-Sep-23

Run ID :Run Order: PHSC_101-H_230824A: 1	SampType: Initial Calibration Verification Standard				Lab ID: pH 7			Method: A4500-H B			
Analysis Date: 08/24/23 08:53	Units: s.u.				Prep Info: Prep Date:			Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	21.5			0		0	0				

Associated samples: H23080897-001A, H23080897-002A, H23080897-003A, H23080897-004A, H23080897-005A, H23080897-006A, H23080897-007A, H23080897-008A, H23080897-009A, H23080897-010A, H23080897-011A, H23080897-012A, H23080897-013A, H23080897-014A, H23080897-015A, H23080897-016A, H23080897-017A, H23080897-018A, H23080897-019A, H23080897-020A

Run ID :Run Order: PHSC_101-H_230824A: 9	SampType: Sample Duplicate				Lab ID: H23080897-012ADUP			Method: A4500-H B			
Analysis Date: 08/24/23 09:48	Units: s.u.				Prep Info: Prep Date:			Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	6.8	0.1		0				6.73	0.6	3	H
pH Measurement Temp	10.8			0				11.5			

Associated samples: H23080897-012A, H23080897-013A, H23080897-014A, H23080897-015A, H23080897-016A, H23080897-018A, H23080897-019A, H23080897-020A

Run ID :Run Order: PHSC_101-H_230824A: 51	SampType: Continuing Calibration Verification Standar				Lab ID: CCV - pH 7			Method: A4500-H B			
Analysis Date: 08/24/23 10:28	Units: s.u.				Prep Info: Prep Date:			Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	20.0			0		0	0				

Associated samples: H23080897-001A, H23080897-002A, H23080897-003A, H23080897-004A, H23080897-005A, H23080897-006A, H23080897-007A, H23080897-008A, H23080897-009A, H23080897-010A, H23080897-011A, H23080897-012A, H23080897-013A, H23080897-014A, H23080897-015A, H23080897-016A, H23080897-017A, H23080897-018A, H23080897-019A, H23080897-020A

Run ID :Run Order: PHSC_101-H_230824A: 184	SampType: Continuing Calibration Verification Standar				Lab ID: CCV - pH 7			Method: A4500-H B			
Analysis Date: 08/24/23 13:45	Units: s.u.				Prep Info: Prep Date:			Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	21.0			0		0	0				

Associated samples: H23080897-001A, H23080897-002A, H23080897-003A, H23080897-004A, H23080897-005A, H23080897-006A, H23080897-007A, H23080897-008A, H23080897-009A, H23080897-010A, H23080897-011A, H23080897-012A, H23080897-013A, H23080897-014A, H23080897-015A, H23080897-016A, H23080897-017A, H23080897-018A, H23080897-019A, H23080897-020A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187509

Date: 19-Sep-23

Run ID :Run Order: IC METROHM_230823A: 12		SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E300.0		
Analysis Date: 08/23/23 18:49		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	101	1.0	100	0	101	90	110				
Sulfate	404	1.0	400	0	101	90	110				
Bromide	5.07	0.50	5	0	101	90	110				
Fluoride	5.30	0.10	5	0	106	90	110				

Associated samples: H23080897-001A, H23080897-002A, H23080897-003A, H23080897-004A, H23080897-005A, H23080897-006A, H23080897-007A, H23080897-008A, H23080897-009A, H23080897-010A, H23080897-011A, H23080897-012A, H23080897-013A, H23080897-014A, H23080897-015A, H23080897-016A, H23080897-017A, H23080897-018A, H23080897-019A, H23080897-020A

Run ID :Run Order: IC METROHM_230823A: 13		SampType: Method Blank				Lab ID: ICB			Method: E300.0		
Analysis Date: 08/23/23 19:18		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.02									
Sulfate	ND	0.03									
Bromide	ND	0.001									
Fluoride	ND	0.01									

Associated samples: H23080897-001A, H23080897-002A, H23080897-003A, H23080897-004A, H23080897-005A, H23080897-006A, H23080897-007A, H23080897-008A, H23080897-009A, H23080897-010A, H23080897-011A, H23080897-012A, H23080897-013A, H23080897-014A, H23080897-015A, H23080897-016A, H23080897-017A, H23080897-018A, H23080897-019A, H23080897-020A

Run ID :Run Order: IC METROHM_230823A: 14		SampType: Laboratory Fortified Blank				Lab ID: LFB			Method: E300.0		
Analysis Date: 08/23/23 19:32		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	25.0	1.0	25	0	100	90	110				
Sulfate	101	1.0	100	0	101	90	110				
Bromide	1.22	0.50	1.25	0	98	90	110				
Fluoride	1.26	0.10	1.25	0	101	90	110				

Associated samples: H23080897-001A, H23080897-002A, H23080897-003A, H23080897-004A, H23080897-005A, H23080897-006A, H23080897-007A, H23080897-008A, H23080897-009A, H23080897-010A, H23080897-011A, H23080897-012A, H23080897-013A, H23080897-014A, H23080897-015A, H23080897-016A, H23080897-017A, H23080897-018A, H23080897-019A, H23080897-020A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187509

Date: 19-Sep-23

Run ID :Run Order: IC METROHM_230823A: 251		SampType: Continuing Calibration Verification Standar			Lab ID: CCV				Method: E300.0		
Analysis Date: 08/26/23 07:03		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	51.1	1.0	50	0	102	90	110				
Sulfate	199	1.0	200	0	100	90	110				
Bromide	2.38	0.50	2.5	0	95	90	110				
Fluoride	2.44	0.10	2.5	0	97	90	110				

Associated samples: H23080897-001A, H23080897-002A, H23080897-003A, H23080897-004A, H23080897-005A, H23080897-006A, H23080897-007A, H23080897-008A, H23080897-009A, H23080897-010A, H23080897-011A, H23080897-012A, H23080897-013A, H23080897-014A, H23080897-015A, H23080897-016A, H23080897-017A, H23080897-018A, H23080897-019A, H23080897-020A

Run ID :Run Order: IC METROHM_230823A: 263		SampType: Sample Matrix Spike			Lab ID: H23080897-010AMS				Method: E300.0		
Analysis Date: 08/26/23 09:55		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	120	1.0	50	69.07	102	90	110				
Sulfate	1010	1.0	200	787.9	111	90	110				S
Bromide	2.50	0.50	2.5	0.248	90	90	110				
Fluoride	2.63	0.10	2.5	0.2	97	90	110				

Associated samples: H23080897-001A, H23080897-002A, H23080897-003A, H23080897-004A, H23080897-005A, H23080897-006A, H23080897-007A, H23080897-008A, H23080897-009A, H23080897-010A, H23080897-011A, H23080897-012A, H23080897-013A, H23080897-014A, H23080897-015A, H23080897-016A, H23080897-017A, H23080897-018A, H23080897-019A, H23080897-020A

Run ID :Run Order: IC METROHM_230823A: 264		SampType: Sample Matrix Spike Duplicate			Lab ID: H23080897-010AMSD				Method: E300.0		
Analysis Date: 08/26/23 10:10		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	120	1.0	50	69.07	102	90	110	119.9	0.1	20	
Sulfate	1010	1.0	200	787.9	111	90	110	1010	0.1	20	S
Bromide	2.51	0.50	2.5	0.248	91	90	110	2.5	0.6	20	
Fluoride	2.65	0.10	2.5	0.2	98	90	110	2.63	0.8	20	

Associated samples: H23080897-001A, H23080897-002A, H23080897-003A, H23080897-004A, H23080897-005A, H23080897-006A, H23080897-007A, H23080897-008A, H23080897-009A, H23080897-010A, H23080897-011A, H23080897-012A, H23080897-013A, H23080897-014A, H23080897-015A, H23080897-016A, H23080897-017A, H23080897-018A, H23080897-019A, H23080897-020A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187509

Date: 19-Sep-23

Run ID :Run Order: <b>IC METROHM_230823A: 265</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>				Method: <b>E300.0</b>		
Analysis Date: <b>08/26/23 10:24</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	51.3	1.0	50	0	<b>103</b>	90	110				
Sulfate	203	1.0	200	0	<b>101</b>	90	110				
Bromide	2.39	0.50	2.5	0	<b>96</b>	90	110				
Fluoride	2.49	0.10	2.5	0	<b>100</b>	90	110				

Associated samples: H23080897-001A, H23080897-002A, H23080897-003A, H23080897-004A, H23080897-005A, H23080897-006A, H23080897-007A, H23080897-008A, H23080897-009A, H23080897-010A, H23080897-011A, H23080897-012A, H23080897-013A, H23080897-014A, H23080897-015A, H23080897-016A, H23080897-017A, H23080897-018A, H23080897-019A, H23080897-020A

Run ID :Run Order: <b>IC METROHM_230823A: 277</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23080897-020AMS</b>				Method: <b>E300.0</b>		
Analysis Date: <b>08/26/23 13:17</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	34.6	1.0	25	8.669	<b>104</b>	90	110				
Sulfate	123	1.0	100	23.02	<b>100</b>	90	110				
Bromide	1.20	0.50	1.25	0.075	<b>90</b>	90	110				
Fluoride	1.78	0.10	1.25	0.52	<b>101</b>	90	110				

Associated samples: H23080897-001A, H23080897-002A, H23080897-003A, H23080897-004A, H23080897-005A, H23080897-006A, H23080897-007A, H23080897-008A, H23080897-009A, H23080897-010A, H23080897-011A, H23080897-012A, H23080897-013A, H23080897-014A, H23080897-015A, H23080897-016A, H23080897-017A, H23080897-018A, H23080897-019A, H23080897-020A

Run ID :Run Order: <b>IC METROHM_230823A: 278</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23080897-020AMSD</b>				Method: <b>E300.0</b>		
Analysis Date: <b>08/26/23 13:31</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	34.6	1.0	25	8.669	<b>104</b>	90	110	34.63	<b>0.2</b>	20	
Sulfate	123	1.0	100	23.02	<b>100</b>	90	110	122.9	<b>0</b>	20	
Bromide	1.20	0.50	1.25	0.075	<b>90</b>	90	110	1.203	<b>0.4</b>	20	
Fluoride	1.74	0.10	1.25	0.52	<b>97</b>	90	110	1.78	<b>2.6</b>	20	

Associated samples: H23080897-001A, H23080897-002A, H23080897-003A, H23080897-004A, H23080897-005A, H23080897-006A, H23080897-007A, H23080897-008A, H23080897-009A, H23080897-010A, H23080897-011A, H23080897-012A, H23080897-013A, H23080897-014A, H23080897-015A, H23080897-016A, H23080897-017A, H23080897-018A, H23080897-019A, H23080897-020A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187549

Date: 19-Sep-23

Run ID :Run Order: PHSC_101-H_230825A: 2	SampType: Initial Calibration Verification Standard				Lab ID: SC 150			Method: A2510 B			
Analysis Date: 08/25/23 08:51	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	151	5.0	150	0	101	90	110				

Associated samples: H23080897-017A

Run ID :Run Order: PHSC_101-H_230825A: 3	SampType: Initial Calibration Verification Standard				Lab ID: SC 20000			Method: A2510 B			
Analysis Date: 08/25/23 08:53	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	19300	5.0	20000	0	96	90	110				

Associated samples: H23080897-017A

Run ID :Run Order: PHSC_101-H_230825A: 4	SampType: Initial Calibration Verification Standard				Lab ID: SC 5000			Method: A2510 B			
Analysis Date: 08/25/23 08:55	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	4970	5.0	5000	0	99	90	110				

Associated samples: H23080897-017A

Run ID :Run Order: PHSC_101-H_230825A: 5	SampType: Laboratory Control Sample				Lab ID: SC 1000			Method: A2510 B			
Analysis Date: 08/25/23 08:57	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1010	5.0	1000	0	101	90	110				

Associated samples: H23080897-017A

Run ID :Run Order: PHSC_101-H_230825A: 6	SampType: Method Blank				Lab ID: MBLK			Method: A2510 B			
Analysis Date: 08/25/23 10:32	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	ND	5									

Associated samples: H23080897-017A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080897

**BatchID:** R187549

**Date:** 19-Sep-23

Run ID :Run Order: <b>PHSC_101-H_230825A: 10</b>	SampType: <b>Sample Duplicate</b>				Lab ID: <b>H23080921-001BDUP</b>				Method: <b>A2510 B</b>		
Analysis Date: <b>08/25/23 11:03</b>	Units: <b>umhos/cm</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	40.7	5.0		0				40.6	<b>0.2</b>	10	

Associated samples: **H23080897-017A**

Run ID :Run Order: <b>PHSC_101-H_230825A: 99</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV - SC 1413</b>				Method: <b>A2510 B</b>		
Analysis Date: <b>08/25/23 12:39</b>	Units: <b>umhos/cm</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1400	5.0	1413	0	<b>99</b>	90	110				

Associated samples: **H23080897-017A**

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187549

Date: 19-Sep-23

Run ID :Run Order: PHSC_101-H_230825A: 1	SampType: Initial Calibration Verification Standard				Lab ID: pH 7			Method: A4500-H B			
Analysis Date: 08/25/23 08:46	Units: s.u.		Prep Info:			Prep Date:		Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	21.3			0		0	0				

Associated samples: H23080897-017A

Run ID :Run Order: PHSC_101-H_230825A: 98	SampType: Continuing Calibration Verification Standar				Lab ID: CCV - pH 7			Method: A4500-H B			
Analysis Date: 08/25/23 12:36	Units: s.u.		Prep Info:			Prep Date:		Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	20.5			0		0	0				

Associated samples: H23080897-017A

Run ID :Run Order: PHSC_101-H_230825A: 103	SampType: Sample Duplicate				Lab ID: H23080962-019ADUP			Method: A4500-H B			
Analysis Date: 08/25/23 12:49	Units: s.u.		Prep Info:			Prep Date:		Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	6.3	0.1		0				6.24	0.5	3	H
pH Measurement Temp	17.4			0				17.6			

Associated samples: H23080897-017A



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080897

**BatchID:** R187553

**Date:** 19-Sep-23

Run ID :Run Order: <b>ICP2-HE_230824B: 12</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E200.7</b>			
Analysis Date: <b>08/24/23 09:40</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	40.3	1.0	40	0	<b>101</b>	95	105				
Sodium	40.0	1.0	40	0	<b>100</b>	95	105				
Titanium	0.824	0.10	0.8	0	<b>103</b>	95	105				

Associated samples: **H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-015B, H23080897-018B**

Run ID :Run Order: <b>ICP2-HE_230824B: 13</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV-1</b>			Method: <b>E200.7</b>			
Analysis Date: <b>08/24/23 09:44</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	25.4	1.0	25	0	<b>102</b>	95	105				
Sodium	26.0	1.0	25	0	<b>104</b>	95	105				
Titanium	2.60	0.10	2.5	0	<b>104</b>	95	105				

Associated samples: **H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-015B, H23080897-018B**

Run ID :Run Order: <b>ICP2-HE_230824B: 19</b>		SampType: <b>Method Blank</b>			Lab ID: <b>MB</b>			Method: <b>E200.7</b>			
Analysis Date: <b>08/24/23 10:07</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.2									
Sodium	ND	0.7									
Titanium	ND	0.002									

Associated samples: **H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-015B, H23080897-018B**

Run ID :Run Order: <b>ICP2-HE_230824B: 20</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E200.7</b>			
Analysis Date: <b>08/24/23 10:11</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	53.1	1.0	50	0	<b>106</b>	85	115				
Sodium	48.3	1.0	50	0	<b>97</b>	85	115				
Titanium	1.05	0.10	1	0	<b>105</b>	85	115				

Associated samples: **H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-015B, H23080897-018B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187553

Date: 19-Sep-23

Run ID :Run Order: ICP2-HE_230824B: 145	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.7								
Analysis Date: 08/25/23 02:56	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	24.6	1.0	25	0	98	90	110				

Associated samples: H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-015B, H23080897-018B

Run ID :Run Order: ICP2-HE_230824B: 157	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.7								
Analysis Date: 08/25/23 03:41	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	26.7	1.0	25	0	107	90	110				
Sodium	26.5	1.0	25	0	106	90	110				
Titanium	2.75	0.10	2.5	0	110	90	110				

Associated samples: H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-015B, H23080897-018B

Run ID :Run Order: ICP2-HE_230824B: 163	SampType: Sample Matrix Spike	Lab ID: H23080897-008BMS2	Method: E200.7								
Analysis Date: 08/25/23 04:04	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	109	1.0	50	70.4	77	70	130				
Sodium	147	1.0	50	88.22	117	70	130				
Titanium	1.05	0.0050	1	0.00261	104	70	130				

Associated samples: H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-015B, H23080897-018B

Run ID :Run Order: ICP2-HE_230824B: 164	SampType: Sample Matrix Spike Duplicate	Lab ID: H23080897-008BMSD2	Method: E200.7								
Analysis Date: 08/25/23 04:08	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	112	1.0	50	70.4	83	70	130	109	2.8	20	
Sodium	141	1.0	50	88.22	106	70	130	146.6	3.9	20	
Titanium	1.04	0.0050	1	0.00261	104	70	130	1.046	0.7	20	

Associated samples: H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-015B, H23080897-018B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080897

**BatchID:** R187553

**Date:** 19-Sep-23

Run ID :Run Order: <b>ICP2-HE_230824B: 169</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>				Method: <b>E200.7</b>		
Analysis Date: <b>08/25/23 04:27</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	24.7	1.0	25	0	<b>99</b>	90	110				
Sodium	26.3	1.0	25	0	<b>105</b>	90	110				
Titanium	2.75	0.10	2.5	0	<b>110</b>	90	110				

Associated samples: **H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-015B, H23080897-018B**

Run ID :Run Order: <b>ICP2-HE_230824B: 178</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23080897-018BMS2</b>				Method: <b>E200.7</b>		
Analysis Date: <b>08/25/23 05:02</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	345	1.0	50	282.5		70	130				A
Sodium	172	1.0	50	116.5	<b>110</b>	70	130				
Titanium	1.14	0.0050	1	0.00502	<b>114</b>	70	130				

Associated samples: **H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-015B, H23080897-018B**

Run ID :Run Order: <b>ICP2-HE_230824B: 179</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23080897-018BMSD2</b>				Method: <b>E200.7</b>		
Analysis Date: <b>08/25/23 05:05</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	301	1.0	50	282.5		70	130	345.3	<b>14</b>	20	A
Sodium	172	1.0	50	116.5	<b>111</b>	70	130	171.5	<b>0.3</b>	20	
Titanium	1.07	0.0050	1	0.00502	<b>106</b>	70	130	1.144	<b>6.8</b>	20	

Associated samples: **H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-015B, H23080897-018B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount

## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080897

**BatchID:** R187602

**Date:** 19-Sep-23

Run ID :Run Order: ICP2-HE_230825B: 6	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.7			
Analysis Date: 08/25/23 12:26	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <span style="color: red;">12</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.775	0.10	0.8	0	97	95	105				
Cadmium	0.397	0.0027	0.4	0	99	95	105				
Calcium	39.3	1.0	40	0	98	95	105				
Copper	0.804	0.012	0.8	0	100	95	105				
Iron	3.95	0.020	4	0	99	95	105				
Lithium	0.799	0.10	0.8	0	100	95	105				
Magnesium	38.9	1.0	40	0	97	95	105				
Manganese	4.02	0.010	4	0	100	95	105				
Potassium	39.7	1.0	40	0	99	95	105				
Sodium	39.6	1.0	40	0	99	95	105				
Strontium	0.811	0.10	0.8	0	101	95	105				
Zinc	0.810	0.010	0.8	0	101	95	105				

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICP2-HE_230825B: 8	SampType: Continuing Calibration Verification Standar				Lab ID: CCV-1			Method: E200.7			
Analysis Date: 08/25/23 12:34	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <span style="color: red;">12</span>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.52	0.10	2.5	0	101	95	105				
Cadmium	2.58	0.0027	2.5	0	103	95	105				
Calcium	25.2	1.0	25	0	101	95	105				
Copper	2.52	0.012	2.5	0	101	95	105				
Iron	2.51	0.020	2.5	0	100	95	105				
Lithium	1.24	0.10	1.25	0	99	95	105				
Magnesium	24.6	1.0	25	0	98	95	105				
Manganese	2.54	0.010	2.5	0	102	95	105				
Potassium	25.2	1.0	25	0	101	95	105				
Sodium	24.8	1.0	25	0	99	95	105				
Strontium	2.55	0.10	2.5	0	102	95	105				
Zinc	2.63	0.010	2.5	0	105	95	105				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187602

Date: 19-Sep-23

Run ID :Run Order: ICP2-HE_230825B: 8	SampType: Continuing Calibration Verification Standar	Lab ID: CCV-1	Method: E200.7								
Analysis Date: 08/25/23 12:34	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICP2-HE_230825B: 15	SampType: Method Blank	Lab ID: MB	Method: E200.7								
Analysis Date: 08/25/23 13:03	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.004									
Cadmium	ND	0.003									
Calcium	ND	0.2									
Copper	ND	0.01									
Iron	ND	0.008									
Lithium	ND	0.002									
Magnesium	ND	0.05									
Manganese	ND	0.001									
Potassium	0.1	0.06									
Sodium	0.09	0.03									
Strontium	ND	0.0003									
Zinc	ND	0.003									

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICP2-HE_230825B: 16	SampType: Laboratory Fortified Blank	Lab ID: LFB	Method: E200.7								
Analysis Date: 08/25/23 13:07	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.960	0.10	1	0	96	85	115				
Cadmium	0.496	0.0028	0.5	0	99	85	115				
Calcium	49.3	1.0	50	0	99	85	115				
Copper	1.03	0.012	1	0	103	85	115				
Iron	5.00	0.020	5	0	100	85	115				
Lithium	1.03	0.10	1	0	103	85	115				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187602

Date: 19-Sep-23

Run ID :Run Order: ICP2-HE_230825B: 16	SampType: Laboratory Fortified Blank				Lab ID: LFB			Method: E200.7			
Analysis Date: 08/25/23 13:07	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	48.9	1.0	50	0	98	85	115				
Manganese	5.08	0.010	5	0	102	85	115				
Potassium	50.7	1.0	50	0	101	85	115				
Sodium	50.6	1.0	50	0	101	85	115				
Strontium	1.03	0.10	1	0	103	85	115				
Zinc	1.03	0.010	1	0	103	85	115				

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICP2-HE_230825B: 101	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.7			
Analysis Date: 08/26/23 00:41	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.56	0.10	2.5	0	103	90	110				
Cadmium	2.73	0.0027	2.5	0	109	90	110				
Calcium	26.8	1.0	25	0	107	90	110				
Copper	2.55	0.012	2.5	0	102	90	110				
Iron	2.65	0.020	2.5	0	106	90	110				
Lithium	1.27	0.10	1.25	0	101	90	110				
Magnesium	25.9	1.0	25	0	104	90	110				
Manganese	2.63	0.010	2.5	0	105	90	110				
Potassium	26.0	1.0	25	0	104	90	110				
Sodium	25.6	1.0	25	0	103	90	110				
Strontium	2.57	0.10	2.5	0	103	90	110				
Zinc	2.77	0.010	2.5	0	111	90	110				S

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080897

**BatchID:** R187602

**Date:** 19-Sep-23

Run ID :Run Order: ICP2-HE_230825B: 120	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 08/26/23 01:54	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.59	0.10	2.5	0	104	90	110				
Cadmium	2.60	0.0027	2.5	0	104	90	110				
Calcium	25.8	1.0	25	0	103	90	110				
Copper	2.58	0.012	2.5	0	103	90	110				
Iron	2.56	0.020	2.5	0	102	90	110				
Lithium	1.31	0.10	1.25	0	105	90	110				
Magnesium	25.2	1.0	25	0	101	90	110				
Manganese	2.58	0.010	2.5	0	103	90	110				
Potassium	26.8	1.0	25	0	107	90	110				
Sodium	26.4	1.0	25	0	106	90	110				
Strontium	2.59	0.10	2.5	0	104	90	110				
Zinc	2.68	0.010	2.5	0	107	90	110				

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICP2-HE_230825B: 128	SampType: Sample Matrix Spike				Lab ID: H23080897-008BMS2				Method: E200.7		
Analysis Date: 08/26/23 02:25	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.08	0.050	1	0.08037	100	70	130				
Cadmium	0.506	0.0028	0.5	0	101	70	130				
Calcium	123	1.0	50	68.78	108	70	130				
Copper	1.02	0.012	1	0	102	70	130				
Iron	5.13	0.020	5	0.0528	101	70	130				
Lithium	1.12	0.10	1	0.1325	99	70	130				
Magnesium	67.3	1.0	50	17.48	100	70	130				
Manganese	5.15	0.0014	5	0.05892	102	70	130				
Potassium	60.2	1.0	50	10.58	99	70	130				
Sodium	137	1.0	50	90.33	94	70	130				
Strontium	1.70	0.010	1	0.708	99	70	130				
Zinc	1.07	0.010	1	0.01687	106	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080897

**BatchID:** R187602

**Date:** 19-Sep-23

Run ID :Run Order: <b>ICP2-HE_230825B: 128</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23080897-008BMS2</b>	Method: <b>E200.7</b>								
Analysis Date: <b>08/26/23 02:25</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B**

Run ID :Run Order: <b>ICP2-HE_230825B: 129</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23080897-008BMSD2</b>	Method: <b>E200.7</b>								
Analysis Date: <b>08/26/23 02:28</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.05	0.050	1	0.08037	97	70	130	1.076	2.4	20	
Cadmium	0.491	0.0028	0.5	0	98	70	130	0.506	3.0	20	
Calcium	118	1.0	50	68.78	98	70	130	123	4.1	20	
Copper	0.996	0.012	1	0	100	70	130	1.02	2.4	20	
Iron	4.97	0.020	5	0.0528	98	70	130	5.126	3.0	20	
Lithium	1.12	0.10	1	0.1325	99	70	130	1.125	0	20	
Magnesium	65.0	1.0	50	17.48	95	70	130	67.3	3.5	20	
Manganese	4.97	0.0014	5	0.05892	98	70	130	5.154	3.6	20	
Potassium	59.5	1.0	50	10.58	98	70	130	60.23	1.2	20	
Sodium	136	1.0	50	90.33	91	70	130	137.4	1.0	20	
Strontium	1.65	0.010	1	0.708	94	70	130	1.696	2.9	20	
Zinc	1.05	0.010	1	0.01687	103	70	130	1.073	2.5	20	

Associated samples: **H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B**

Run ID :Run Order: <b>ICP2-HE_230825B: 132</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E200.7</b>								
Analysis Date: <b>08/26/23 02:40</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.59	0.10	2.5	0	104	90	110				
Cadmium	2.47	0.0027	2.5	0	99	90	110				
Calcium	24.6	1.0	25	0	98	90	110				
Copper	2.60	0.012	2.5	0	104	90	110				
Iron	2.52	0.020	2.5	0	101	90	110				
Lithium	1.27	0.10	1.25	0	102	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187602

Date: 19-Sep-23

Run ID :Run Order: ICP2-HE_230825B: 132	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 08/26/23 02:40	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	24.8	1.0	25	0	99	90	110				
Manganese	2.51	0.010	2.5	0	100	90	110				
Potassium	25.3	1.0	25	0	101	90	110				
Sodium	25.2	1.0	25	0	101	90	110				
Strontium	2.56	0.10	2.5	0	103	90	110				
Zinc	2.66	0.010	2.5	0	106	90	110				

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICP2-HE_230825B: 143	SampType: Sample Matrix Spike				Lab ID: H23080897-018BMS2				Method: E200.7		
Analysis Date: 08/26/23 03:22	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.08	0.050	1	0.1116	97	70	130				
Cadmium	0.432	0.0028	0.5	0.01005	84	70	130				
Calcium	293	1.0	50	251.4		70	130				A
Copper	1.28	0.012	1	0.2505	103	70	130				
Iron	4.56	0.020	5	0	91	70	130				
Lithium	1.39	0.10	1	0.3278	106	70	130				
Magnesium	109	1.0	50	61.94	95	70	130				
Manganese	4.61	0.0014	5	0.01454	92	70	130				
Potassium	65.9	1.0	50	15.26	101	70	130				
Sodium	169	1.0	50	115.1	109	70	130				
Strontium	4.34	0.010	1	3.407	93	70	130				
Zinc	3.39	0.010	1	2.515	88	70	130				

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187602

Date: 19-Sep-23

Run ID :Run Order: ICP2-HE_230825B: 144	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 08/26/23 03:25	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.51	0.10	2.5	0	101	90	110				
Cadmium	2.26	0.0027	2.5	0	90	90	110				
Calcium	22.5	1.0	25	0	90	90	110				
Copper	2.64	0.012	2.5	0	106	90	110				
Iron	2.41	0.020	2.5	0	97	90	110				
Lithium	1.38	0.10	1.25	0	110	90	110				
Magnesium	24.4	1.0	25	0	98	90	110				
Manganese	2.48	0.010	2.5	0	99	90	110				
Potassium	26.8	1.0	25	0	107	90	110				
Sodium	26.8	1.0	25	0	107	90	110				
Strontium	2.56	0.10	2.5	0	102	90	110				
Zinc	2.50	0.010	2.5	0	100	90	110				

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICP2-HE_230825B: 146	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080897-018BMSD2				Method: E200.7		
Analysis Date: 08/26/23 03:33	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.10	0.050	1	0.1116	99	70	130	1.079	1.8	20	
Cadmium	0.438	0.0028	0.5	0.01005	86	70	130	0.4318	1.4	20	
Calcium	297	1.0	50	251.4		70	130	292.6	1.6	20	A
Copper	1.27	0.012	1	0.2505	102	70	130	1.277	0.6	20	
Iron	4.58	0.020	5	0	92	70	130	4.565	0.2	20	
Lithium	1.37	0.10	1	0.3278	104	70	130	1.391	1.4	20	
Magnesium	110	1.0	50	61.94	96	70	130	109.2	0.5	20	
Manganese	4.63	0.0014	5	0.01454	92	70	130	4.608	0.5	20	
Potassium	65.5	1.0	50	15.26	101	70	130	65.89	0.5	20	
Sodium	168	1.0	50	115.1	106	70	130	169.3	0.9	20	
Strontium	4.35	0.010	1	3.407	95	70	130	4.336	0.4	20	
Zinc	3.44	0.010	1	2.515	93	70	130	3.394	1.4	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080897

**BatchID:** R187602

**Date:** 19-Sep-23

Run ID :Run Order: ICP2-HE_230825B: 146	SampType: Sample Matrix Spike Duplicate	Lab ID: H23080897-018BMSD2	Method: E200.7								
Analysis Date: 08/26/23 03:33	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B





## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080897

**BatchID:** R187634

**Date:** 19-Sep-23

Run ID :Run Order: <b>ICP2-HE_230828B: 6</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E200.7</b>			
Analysis Date: <b>08/28/23 10:40</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	38.3	1.0	40	0	<b>96</b>	95	105				
Zinc	0.792	0.010	0.8	0	<b>99</b>	95	105				

Associated samples: **H23080897-003B, H23080897-014B**

Run ID :Run Order: <b>ICP2-HE_230828B: 7</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV-1</b>			Method: <b>E200.7</b>			
Analysis Date: <b>08/28/23 10:44</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	24.6	1.0	25	0	<b>99</b>	95	105				
Zinc	2.56	0.010	2.5	0	<b>102</b>	95	105				

Associated samples: **H23080897-003B, H23080897-014B**

Run ID :Run Order: <b>ICP2-HE_230828B: 13</b>		SampType: <b>Method Blank</b>			Lab ID: <b>MB</b>			Method: <b>E200.7</b>			
Analysis Date: <b>08/28/23 11:07</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	ND	0.06									
Zinc	ND	0.003									

Associated samples: **H23080897-003B, H23080897-014B**

Run ID :Run Order: <b>ICP2-HE_230828B: 14</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E200.7</b>			
Analysis Date: <b>08/28/23 11:11</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	50.7	1.0	50	0	<b>101</b>	85	115				
Zinc	0.988	0.010	1	0	<b>99</b>	85	115				

Associated samples: **H23080897-003B, H23080897-014B**

Run ID :Run Order: <b>ICP2-HE_230828B: 29</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E200.7</b>			
Analysis Date: <b>08/28/23 19:37</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	25.9	1.0	25	0	<b>104</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187634

Date: 19-Sep-23

Run ID :Run Order: ICP2-HE_230828B: 29	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.7			
Analysis Date: 08/28/23 19:37	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	2.42	0.010	2.5	0	97	90	110				

Associated samples: H23080897-003B, H23080897-014B

Run ID :Run Order: ICP2-HE_230828B: 34	SampType: Sample Matrix Spike				Lab ID: H23080897-002BMS2			Method: E200.7			
Analysis Date: 08/28/23 20:07	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	57.5	1.0	50	4.92	105	70	130				
Zinc	1.00	0.010	1	0.05553	95	70	130				

Associated samples: H23080897-003B, H23080897-014B

Run ID :Run Order: ICP2-HE_230828B: 35	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080897-002BMSD2			Method: E200.7			
Analysis Date: 08/28/23 20:10	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	58.7	1.0	50	4.92	108	70	130	57.5	2.0	20	
Zinc	0.976	0.010	1	0.05553	92	70	130	1.004	2.8	20	

Associated samples: H23080897-003B, H23080897-014B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187736

Date: 19-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 08/30/23 12:46	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0612	0.010	0.06	0	102	90	110				
Gallium	0.0608	0.010	0.06	0	101	90	110				
Lanthanum	0.0625	0.010	0.06	0	104	90	110				
Neodymium	0.0623	0.0050	0.06	0	104	90	110				
Niobium	0.0607	0.0010	0.06	0	101	90	110				
Palladium	0.0619	0.010	0.06	0	103	90	110				
Praseodymium	0.0618	0.0010	0.06	0	103	90	110				
Rubidium	0.0602	0.010	0.06	0	100	90	110				
Tungsten	0.0588	0.10	0.06	0	98	90	110				
Zirconium	0.0644	0.0050	0.06	0	107	90	110				

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICPMS206-H_230830B: 22	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 08/30/23 13:39	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	ND	0.0003									
Gallium	ND	0.00004									
Lanthanum	ND	0.00004									
Neodymium	ND	0.00004									
Niobium	0.00009	0.00004									
Palladium	ND	0.00004									
Praseodymium	ND	0.00005									
Rubidium	ND	0.00003									
Tungsten	ND	0.00003									
Zirconium	ND	0.00006									

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187736

Date: 19-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 23	SampType: Laboratory Fortified Blank				Lab ID: LFB			Method: E200.8			
Analysis Date: 08/30/23 13:41	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0515	0.010	0.05	0	103	85	115				
Gallium	0.0499	0.010	0.05	0	100	85	115				
Lanthanum	0.0500	0.010	0.05	0	100	85	115				
Neodymium	0.0505	0.0050	0.05	0	101	85	115				
Niobium	0.0526	0.0010	0.05	0	105	85	115				
Palladium	0.0503	0.010	0.05	0	101	85	115				
Praseodymium	0.0512	0.0010	0.05	0	102	85	115				
Rubidium	0.0494	0.010	0.05	0	99	85	115				
Tungsten	0.0516	0.10	0.05	0	103	85	115				
Zirconium	0.0526	0.0050	0.05	0	105	85	115				

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICPMS206-H_230830B: 59	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.8			
Analysis Date: 08/30/23 15:31	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0604	0.010	0.06	0	101	90	110				
Gallium	0.0616	0.010	0.06	0	103	90	110				
Lanthanum	0.0606	0.010	0.06	0	101	90	110				
Neodymium	0.0602	0.0050	0.06	0	100	90	110				
Niobium	0.0603	0.0010	0.06	0	101	90	110				
Palladium	0.0599	0.010	0.06	0	100	90	110				
Praseodymium	0.0619	0.0010	0.06	0	103	90	110				
Rubidium	0.0603	0.010	0.06	0	101	90	110				
Tungsten	0.0592	0.10	0.06	0	99	90	110				
Zirconium	0.0633	0.0050	0.06	0	106	90	110				

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187736

Date: 19-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 116	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.8			
Analysis Date: 08/30/23 18:37	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0601	0.010	0.06	0	100	90	110				
Gallium	0.0610	0.010	0.06	0	102	90	110				
Lanthanum	0.0598	0.010	0.06	0	100	90	110				
Neodymium	0.0597	0.0050	0.06	0	99	90	110				
Niobium	0.0591	0.0010	0.06	0	98	90	110				
Palladium	0.0590	0.010	0.06	0	98	90	110				
Praseodymium	0.0612	0.0010	0.06	0	102	90	110				
Rubidium	0.0592	0.010	0.06	0	99	90	110				
Tungsten	0.0590	0.10	0.06	0	98	90	110				
Zirconium	0.0662	0.0050	0.06	0	110	90	110				

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICPMS206-H_230830B: 121	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 08/30/23 18:47	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0507	0.010	0.05	0	101	90	110				
Gallium	0.0507	0.010	0.05	0	101	90	110				
Lanthanum	0.0517	0.010	0.05	0	103	90	110				
Neodymium	0.0508	0.0050	0.05	0	102	90	110				
Niobium	0.0498	0.0010	0.05	0	100	90	110				
Palladium	0.0507	0.010	0.05	0	101	90	110				
Praseodymium	0.0521	0.0010	0.05	0	104	90	110				
Rubidium	0.0493	0.010	0.05	0	99	90	110				
Tungsten	0.0509	0.10	0.05	0	102	90	110				
Zirconium	0.0496	0.0050	0.05	0	99	90	110				

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187736

Date: 19-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 134	SampType: Sample Matrix Spike				Lab ID: H23080897-001BMS				Method: E200.8		
Analysis Date: 08/30/23 19:37	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0505	0.010	0.05	0	101	70	130				
Gallium	0.0497	0.010	0.05	0	99	70	130				
Lanthanum	0.0524	0.010	0.05	0.0004766	104	70	130				
Neodymium	0.0512	0.0050	0.05	0.0002888	102	70	130				
Niobium	0.0504	0.0010	0.05	0	101	70	130				
Palladium	0.0495	0.010	0.05	0.0000976	99	70	130				
Praseodymium	0.0532	0.0010	0.05	0.00008236	106	70	130				
Rubidium	0.0490	0.010	0.05	0.00008331	98	70	130				
Tungsten	0.0532	0.10	0.05	0	106	70	130				
Zirconium	0.0512	0.0050	0.05	0	102	70	130				

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICPMS206-H_230830B: 135	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080897-001BMSD				Method: E200.8		
Analysis Date: 08/30/23 19:39	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0507	0.010	0.05	0	101	70	130	0.05053	0.4	20	
Gallium	0.0494	0.010	0.05	0	99	70	130	0.04974	0.6	20	
Lanthanum	0.0525	0.010	0.05	0.0004766	104	70	130	0.05237	0.2	20	
Neodymium	0.0516	0.0050	0.05	0.0002888	103	70	130	0.05124	0.8	20	
Niobium	0.0512	0.0010	0.05	0	102	70	130	0.05035			
Palladium	0.0501	0.010	0.05	0.0000976	100	70	130	0.04952	1.2	20	
Praseodymium	0.0534	0.0010	0.05	0.00008236	107	70	130	0.05321			
Rubidium	0.0486	0.010	0.05	0.00008331	97	70	130	0.04895	0.8	20	
Tungsten	0.0530	0.10	0.05	0	106	70	130	0.05322		20	
Zirconium	0.0512	0.0050	0.05	0	102	70	130	0.05117	0.1	20	

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187736

Date: 19-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 136	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 08/30/23 19:41	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0511	0.010	0.05	0	102	90	110				
Gallium	0.0510	0.010	0.05	0	102	90	110				
Lanthanum	0.0517	0.010	0.05	0	103	90	110				
Neodymium	0.0506	0.0050	0.05	0	101	90	110				
Niobium	0.0508	0.0010	0.05	0	102	90	110				
Palladium	0.0505	0.010	0.05	0	101	90	110				
Praseodymium	0.0522	0.0010	0.05	0	104	90	110				
Rubidium	0.0497	0.010	0.05	0	99	90	110				
Tungsten	0.0512	0.10	0.05	0	102	90	110				
Zirconium	0.0497	0.0050	0.05	0	99	90	110				

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICPMS206-H_230830B: 149	SampType: Sample Matrix Spike				Lab ID: H23080897-011BMS			Method: E200.8			
Analysis Date: 08/30/23 20:08	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0537	0.010	0.05	0	107	70	130				
Gallium	0.0485	0.010	0.05	0.0002508	96	70	130				
Lanthanum	0.0660	0.010	0.05	0.01188	108	70	130				
Neodymium	0.0557	0.0050	0.05	0.003225	105	70	130				
Niobium	0.0496	0.0010	0.05	0.0002529	99	70	130				
Palladium	0.0510	0.010	0.05	0.000549	101	70	130				
Praseodymium	0.0561	0.0010	0.05	0.001026	110	70	130				
Rubidium	0.123	0.010	0.05	0.07708	91	70	130				E
Tungsten	0.0539	0.10	0.05	0	108	70	130				
Zirconium	0.0509	0.0050	0.05	0.000272	101	70	130				

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187736

Date: 19-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 150		SampType: Sample Matrix Spike Duplicate			Lab ID: H23080897-011BMSD				Method: E200.8		
Analysis Date: 08/30/23 20:10		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0526	0.010	0.05	0	105	70	130	0.05373	2.1	20	
Gallium	0.0482	0.010	0.05	0.0002508	96	70	130	0.04849	0.6	20	
Lanthanum	0.0661	0.010	0.05	0.01188	108	70	130	0.06595	0.2	20	
Neodymium	0.0545	0.0050	0.05	0.003225	103	70	130	0.05568	2.1	20	
Niobium	0.0498	0.0010	0.05	0.0002529	99	70	130	0.04964			
Palladium	0.0501	0.010	0.05	0.000549	99	70	130	0.051	1.7	20	
Praseodymium	0.0553	0.0010	0.05	0.001026	109	70	130	0.05613			
Rubidium	0.122	0.010	0.05	0.07708	90	70	130	0.1226	0.2	20	E
Tungsten	0.0526	0.10	0.05	0	105	70	130	0.05388		20	
Zirconium	0.0506	0.0050	0.05	0.000272	101	70	130	0.05092	0.7	20	

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICPMS206-H_230830B: 215		SampType: Initial Calibration Verification Standard			Lab ID: ICV				Method: E200.8		
Analysis Date: 08/30/23 12:46		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0604	0.0010	0.06	0	101	90	110				

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICPMS206-H_230830B: 262		SampType: Initial Calibration Verification Standard			Lab ID: ICV				Method: E200.8		
Analysis Date: 08/30/23 15:31		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0603	0.0010	0.06	0	101	90	110				

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187736

Date: 19-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 317	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 08/30/23 18:37	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0597	0.0010	0.06	0	100	90	110				

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICPMS206-H_230830B: 322	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 08/30/23 18:47	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0511	0.0010	0.05	0	102	90	110				

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICPMS206-H_230830B: 335	SampType: Sample Matrix Spike				Lab ID: H23080897-001BMS				Method: E200.8		
Analysis Date: 08/30/23 19:37	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0509	0.0050	0.05	0	102	70	130				

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICPMS206-H_230830B: 336	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080897-001BMSD				Method: E200.8		
Analysis Date: 08/30/23 19:39	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0511	0.0050	0.05	0	102	70	130	0.05094	0.3	20	

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187736

Date: 19-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 337	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.8								
Analysis Date: 08/30/23 19:41	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0510	0.0010	0.05	0	102	90	110				

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICPMS206-H_230830B: 350	SampType: Sample Matrix Spike	Lab ID: H23080897-011BMS	Method: E200.8								
Analysis Date: 08/30/23 20:08	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0528	0.0050	0.05	0	106	70	130				

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICPMS206-H_230830B: 351	SampType: Sample Matrix Spike Duplicate	Lab ID: H23080897-011BMSD	Method: E200.8								
Analysis Date: 08/30/23 20:10	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0511	0.0050	0.05	0	102	70	130	0.05276	3.1	20	

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187741

Date: 19-Sep-23

Run ID :Run Order: <b>SEAL AA500_230830A: 12</b>	SampType: <b>Method Blank</b>	Lab ID: <b>ICB</b>	Method: <b>E353.2</b>								
Analysis Date: <b>08/30/23 16:46</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.01									

Associated samples: H23080897-001C, H23080897-002C, H23080897-003C, H23080897-004C, H23080897-005C, H23080897-006C, H23080897-007C, H23080897-008C, H23080897-009C, H23080897-010C, H23080897-011C, H23080897-012C, H23080897-013C, H23080897-014C, H23080897-015C, H23080897-016C, H23080897-017C, H23080897-018C, H23080897-019C, H23080897-020C

Run ID :Run Order: <b>SEAL AA500_230830A: 14</b>	SampType: <b>Initial Calibration Verification Standard</b>	Lab ID: <b>ICV</b>	Method: <b>E353.2</b>								
Analysis Date: <b>08/30/23 16:48</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.07	0.010	1	0	<b>107</b>	90	110				

Associated samples: H23080897-001C, H23080897-002C, H23080897-003C, H23080897-004C, H23080897-005C, H23080897-006C, H23080897-007C, H23080897-008C, H23080897-009C, H23080897-010C, H23080897-011C, H23080897-012C, H23080897-013C, H23080897-014C, H23080897-015C, H23080897-016C, H23080897-017C, H23080897-018C, H23080897-019C, H23080897-020C

Run ID :Run Order: <b>SEAL AA500_230830A: 15</b>	SampType: <b>Laboratory Fortified Blank</b>	Lab ID: <b>LFB</b>	Method: <b>E353.2</b>								
Analysis Date: <b>08/30/23 16:49</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.02	0.011	1	0	<b>102</b>	90	110				

Associated samples: H23080897-001C, H23080897-002C, H23080897-003C, H23080897-004C, H23080897-005C, H23080897-006C, H23080897-007C, H23080897-008C, H23080897-009C, H23080897-010C, H23080897-011C, H23080897-012C, H23080897-013C, H23080897-014C, H23080897-015C, H23080897-016C, H23080897-017C, H23080897-018C, H23080897-019C, H23080897-020C

Run ID :Run Order: <b>SEAL AA500_230830A: 101</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E353.2</b>								
Analysis Date: <b>08/30/23 18:19</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.967	0.010	1	0	<b>97</b>	90	110				

Associated samples: H23080897-001C, H23080897-002C, H23080897-003C, H23080897-004C, H23080897-005C, H23080897-006C, H23080897-007C, H23080897-008C, H23080897-009C, H23080897-010C, H23080897-011C, H23080897-012C, H23080897-013C, H23080897-014C, H23080897-015C, H23080897-016C, H23080897-017C, H23080897-018C, H23080897-019C, H23080897-020C

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187741

Date: 19-Sep-23

Run ID :Run Order: <b>SEAL AA500_230830A: 115</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E353.2</b>								
Analysis Date: <b>08/30/23 18:33</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.969	0.010	1	0	<b>97</b>	90	110				

Associated samples: H23080897-001C, H23080897-002C, H23080897-003C, H23080897-004C, H23080897-005C, H23080897-006C, H23080897-007C, H23080897-008C, H23080897-009C, H23080897-010C, H23080897-011C, H23080897-012C, H23080897-013C, H23080897-014C, H23080897-015C, H23080897-016C, H23080897-017C, H23080897-018C, H23080897-019C, H23080897-020C

Run ID :Run Order: <b>SEAL AA500_230830A: 118</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23080897-008CMS</b>	Method: <b>E353.2</b>								
Analysis Date: <b>08/30/23 18:36</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.03	0.011	1	0.036	<b>99</b>	90	110				

Associated samples: H23080897-001C, H23080897-002C, H23080897-003C, H23080897-004C, H23080897-005C, H23080897-006C, H23080897-007C, H23080897-008C, H23080897-009C, H23080897-010C, H23080897-011C, H23080897-012C, H23080897-013C, H23080897-014C, H23080897-015C, H23080897-016C, H23080897-017C, H23080897-018C, H23080897-019C, H23080897-020C

Run ID :Run Order: <b>SEAL AA500_230830A: 119</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23080897-008CMSD</b>	Method: <b>E353.2</b>								
Analysis Date: <b>08/30/23 18:37</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.01	0.011	1	0.036	<b>97</b>	90	110	1.026	<b>2.0</b>	10	

Associated samples: H23080897-001C, H23080897-002C, H23080897-003C, H23080897-004C, H23080897-005C, H23080897-006C, H23080897-007C, H23080897-008C, H23080897-009C, H23080897-010C, H23080897-011C, H23080897-012C, H23080897-013C, H23080897-014C, H23080897-015C, H23080897-016C, H23080897-017C, H23080897-018C, H23080897-019C, H23080897-020C

Run ID :Run Order: <b>SEAL AA500_230830A: 129</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E353.2</b>								
Analysis Date: <b>08/30/23 18:47</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.01	0.010	1	0	<b>101</b>	90	110				

Associated samples: H23080897-001C, H23080897-002C, H23080897-003C, H23080897-004C, H23080897-005C, H23080897-006C, H23080897-007C, H23080897-008C, H23080897-009C, H23080897-010C, H23080897-011C, H23080897-012C, H23080897-013C, H23080897-014C, H23080897-015C, H23080897-016C, H23080897-017C, H23080897-018C, H23080897-019C, H23080897-020C

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080897

**BatchID:** R187753

**Date:** 19-Sep-23

Run ID :Run Order: ICPMS205-H_230829C: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 08/30/23 08:20	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.317	0.10	0.3	0	106	90	110				
Antimony	0.0613	0.050	0.06	0	102	90	110				
Arsenic	0.0618	0.0050	0.06	0	103	90	110				
Barium	0.0596	0.10	0.06	0	99	90	110				
Cadmium	0.0307	0.0010	0.03	0	102	90	110				
Chromium	0.0610	0.010	0.06	0	102	90	110				
Cobalt	0.0611	0.010	0.06	0	102	90	110				
Copper	0.0620	0.010	0.06	0	103	90	110				
Iron	0.308	0.020	0.3	0	103	90	110				
Lead	0.0603	0.010	0.06	0	101	90	110				
Magnesium	3.16	0.50	3	0	105	90	110				
Manganese	0.310	0.010	0.3	0	103	90	110				
Molybdenum	0.0591	0.0050	0.06	0	98	90	110				
Nickel	0.0614	0.010	0.06	0	102	90	110				
Selenium	0.0628	0.0050	0.06	0	105	90	110				
Silver	0.0306	0.0050	0.03	0	102	90	110				
Sodium	3.11	0.50	3	0	104	90	110				
Thallium	0.0603	0.10	0.06	0	100	90	110				
Tin	0.0631	0.10	0.06	0	105	90	110				
Titanium	0.0635	0.010	0.06	0	106	90	110				
Uranium	0.0603	0.00030	0.06	0	100	90	110				
Vanadium	0.0605	0.10	0.06	0	101	90	110				
Zinc	0.0630	0.010	0.06	0	105	90	110				

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICPMS205-H_230829C: 22	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 08/30/23 11:42	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	ND	0.0002									
Arsenic	ND	0.0002									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187753

Date: 19-Sep-23

Run ID :Run Order: ICPMS205-H_230829C: 22	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 08/30/23 11:42	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	0.0002									
Cadmium	ND	0.00002									
Chromium	ND	0.0001									
Cobalt	ND	0.001									
Copper	ND	0.0001									
Iron	ND	0.004									
Lead	ND	0.0001									
Magnesium	ND	0.01									
Manganese	ND	0.0003									
Molybdenum	ND	0.0003									
Nickel	ND	0.0002									
Selenium	ND	0.00007									
Silver	ND	0.00008									
Sodium	ND	0.04									
Thallium	ND	0.00008									
Tin	ND	0.0002									
Titanium	ND	0.0005									
Uranium	ND	0.00002									
Vanadium	ND	0.0001									
Zinc	ND	0.001									

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICPMS205-H_230829C: 23	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.8		
Analysis Date: 08/30/23 11:45	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0497	0.10	0.05	0	99	85	115				
Antimony	0.0493	0.050	0.05	0	99	85	115				
Arsenic	0.0494	0.0050	0.05	0	99	85	115				
Barium	0.0492	0.10	0.05	0	98	85	115				
Cadmium	0.0497	0.0010	0.05	0	99	85	115				
Chromium	0.0491	0.010	0.05	0	98	85	115				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080897

**BatchID:** R187753

**Date:** 19-Sep-23

Run ID :Run Order: ICPMS205-H_230829C: 23	SampType: Laboratory Fortified Blank				Lab ID: LFB			Method: E200.8			
Analysis Date: 08/30/23 11:45	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>23</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	0.0494	0.010	0.05	0	99	85	115				
Copper	0.0492	0.010	0.05	0	98	85	115				
Iron	0.150	0.020	0.15	0	100	85	115				
Lead	0.0496	0.010	0.05	0	99	85	115				
Magnesium	1.14	0.50	1	0	114	85	115				
Manganese	0.0509	0.010	0.05	0	102	85	115				
Molybdenum	0.0475	0.0050	0.05	0	95	85	115				
Nickel	0.0468	0.010	0.05	0	94	85	115				
Selenium	0.0504	0.0050	0.05	0	101	85	115				
Silver	0.0195	0.0050	0.02	0	97	85	115				
Sodium	1.12	0.50	1	0	112	85	115				
Thallium	0.0502	0.10	0.05	0	100	85	115				
Tin	0.0440	0.10	0.05	0	88	85	115				
Titanium	0.0484	0.010	0.05	0	97	85	115				
Uranium	0.0484	0.00030	0.05	0	97	85	115				
Vanadium	0.0481	0.10	0.05	0	96	85	115				
Zinc	0.0516	0.010	0.05	0	103	85	115				

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICPMS205-H_230829C: 122	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.8			
Analysis Date: 08/30/23 17:23	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>23</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.319	0.10	0.3	0	106	90	110				
Antimony	0.0612	0.050	0.06	0	102	90	110				
Arsenic	0.0603	0.0050	0.06	0	101	90	110				
Barium	0.0595	0.10	0.06	0	99	90	110				
Cadmium	0.0308	0.0010	0.03	0	103	90	110				
Chromium	0.0600	0.010	0.06	0	100	90	110				
Cobalt	0.0610	0.010	0.06	0	102	90	110				
Copper	0.0611	0.010	0.06	0	102	90	110				
Iron	0.300	0.020	0.3	0	100	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187753

Date: 19-Sep-23

Run ID :Run Order: ICPMS205-H_230829C: 122	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.8			
Analysis Date: 08/30/23 17:23	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.0601	0.010	0.06	0	100	90	110				
Magnesium	3.07	0.50	3	0	102	90	110				
Manganese	0.304	0.010	0.3	0	101	90	110				
Molybdenum	0.0588	0.0050	0.06	0	98	90	110				
Nickel	0.0613	0.010	0.06	0	102	90	110				
Selenium	0.0620	0.0050	0.06	0	103	90	110				
Silver	0.0307	0.0050	0.03	0	102	90	110				
Sodium	2.99	0.50	3	0	100	90	110				
Thallium	0.0603	0.10	0.06	0	100	90	110				
Tin	0.0616	0.10	0.06	0	103	90	110				
Titanium	0.0602	0.010	0.06	0	100	90	110				
Uranium	0.0591	0.00030	0.06	0	98	90	110				
Vanadium	0.0602	0.10	0.06	0	100	90	110				
Zinc	0.0615	0.010	0.06	0	102	90	110				

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICPMS205-H_230829C: 144	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 08/30/23 18:46	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0541	0.10	0.05	0	108	90	110				
Antimony	0.0508	0.050	0.05	0	102	90	110				
Arsenic	0.0512	0.0050	0.05	0	102	90	110				
Barium	0.0502	0.10	0.05	0	100	90	110				
Cadmium	0.0513	0.0010	0.05	0	103	90	110				
Chromium	0.0510	0.010	0.05	0	102	90	110				
Cobalt	0.0514	0.010	0.05	0	103	90	110				
Copper	0.0515	0.010	0.05	0	103	90	110				
Iron	1.34	0.020	1.3	0	103	90	110				
Lead	0.0512	0.010	0.05	0	102	90	110				
Magnesium	12.6	0.50	12.5	0	100	90	110				
Manganese	0.0512	0.010	0.05	0	102	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
 Page 109 of 137



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187753

Date: 19-Sep-23

Run ID :Run Order: ICPMS205-H_230829C: 144	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 08/30/23 18:46	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.0508	0.0050	0.05	0	102	90	110				
Nickel	0.0519	0.010	0.05	0	104	90	110				
Selenium	0.0512	0.0050	0.05	0	102	90	110				
Silver	0.0204	0.0050	0.02	0	102	90	110				
Sodium	12.7	0.50	12.5	0	102	90	110				
Thallium	0.0511	0.10	0.05	0	102	90	110				
Tin	0.0506	0.10	0.05	0	101	90	110				
Titanium	0.0497	0.010	0.05	0	99	90	110				
Uranium	0.0500	0.00030	0.05	0	100	90	110				
Vanadium	0.0508	0.10	0.05	0	102	90	110				
Zinc	0.0513	0.010	0.05	0	103	90	110				

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICPMS205-H_230829C: 159	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 08/30/23 19:48	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0504	0.10	0.05	0	101	90	110				
Antimony	0.0503	0.050	0.05	0	101	90	110				
Arsenic	0.0513	0.0050	0.05	0	103	90	110				
Barium	0.0512	0.10	0.05	0	102	90	110				
Cadmium	0.0518	0.0010	0.05	0	104	90	110				
Chromium	0.0512	0.010	0.05	0	102	90	110				
Cobalt	0.0513	0.010	0.05	0	103	90	110				
Copper	0.0518	0.010	0.05	0	104	90	110				
Iron	1.33	0.020	1.3	0	103	90	110				
Lead	0.0512	0.010	0.05	0	102	90	110				
Magnesium	12.9	0.50	12.5	0	103	90	110				
Manganese	0.0510	0.010	0.05	0	102	90	110				
Molybdenum	0.0505	0.0050	0.05	0	101	90	110				
Nickel	0.0522	0.010	0.05	0	104	90	110				
Selenium	0.0500	0.0050	0.05	0	100	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080897

**BatchID:** R187753

**Date:** 19-Sep-23

Run ID :Run Order: ICPMS205-H_230829C: 159	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8			
Analysis Date: 08/30/23 19:48	Units: mg/L				Prep Info: Prep Date:				Prep Method:			
Analytes <b>23</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Silver	0.0209	0.0050	0.02	0	104	90	110					
Sodium	13.1	0.50	12.5	0	105	90	110					
Thallium	0.0502	0.10	0.05	0	100	90	110					
Tin	0.0497	0.10	0.05	0	99	90	110					
Titanium	0.0523	0.010	0.05	0	105	90	110					
Uranium	0.0495	0.00030	0.05	0	99	90	110					
Vanadium	0.0510	0.10	0.05	0	102	90	110					
Zinc	0.0522	0.010	0.05	0	104	90	110					

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICPMS205-H_230829C: 170	SampType: Sample Matrix Spike				Lab ID: H23080897-011BMS				Method: E200.8			
Analysis Date: 08/30/23 20:22	Units: mg/L				Prep Info: Prep Date:				Prep Method:			
Analytes <b>23</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Aluminum	0.504	0.030	0.05	0.4953		70	130				A	
Antimony	0.0504	0.0010	0.05	0	101	70	130					
Arsenic	0.0511	0.0010	0.05	0.0004679	101	70	130					
Barium	0.0574	0.050	0.05	0.006574	102	70	130					
Cadmium	0.154	0.0010	0.05	0.1044	100	70	130					
Chromium	0.0498	0.0050	0.05	0	100	70	130					
Cobalt	0.385	0.0050	0.05	0.3289		70	130				A	
Copper	0.221	0.0050	0.05	0.1697	102	70	130					
Iron	97.2	0.020	0.15	96.55		70	130				AE	
Lead	0.0553	0.0010	0.05	0.001261	108	70	130					
Magnesium	75.8	1.0	1	82.88		70	130				A	
Manganese	84.9	0.0010	0.05	84.83		70	130				AE	
Molybdenum	0.0505	0.0010	0.05	0.001251	98	70	130					
Nickel	0.242	0.0050	0.05	0.1923	100	70	130					
Selenium	0.0496	0.0010	0.05	0.0001112	99	70	130					
Silver	0.0197	0.0010	0.02	0	98	70	130					
Sodium	40.4	1.0	1	43.78		70	130				A	
Thallium	0.0546	0.00050	0.05	0.0007018	108	70	130					

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080897

**BatchID:** R187753

**Date:** 19-Sep-23

Run ID :Run Order: ICPMS205-H_230829C: 170	SampType: Sample Matrix Spike				Lab ID: H23080897-011BMS				Method: E200.8		
Analysis Date: 08/30/23 20:22	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tin	0.0443	0.050	0.05	0	89	70	130				
Titanium	0.0514	0.0050	0.05	0	103	70	130				
Uranium	0.0546	0.00030	0.05	0.001199	107	70	130				
Vanadium	0.0508	0.010	0.05	0	102	70	130				
Zinc	40.5	0.010	0.05	40.39		70	130				AE

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICPMS205-H_230829C: 171	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080897-011BMSD				Method: E200.8		
Analysis Date: 08/30/23 20:25	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.502	0.030	0.05	0.4953		70	130	0.5041	0.4	20	A
Antimony	0.0510	0.0010	0.05	0	102	70	130	0.05044	1.0	20	
Arsenic	0.0517	0.0010	0.05	0.0004679	103	70	130	0.05106	1.3	20	
Barium	0.0568	0.050	0.05	0.006574	101	70	130	0.05737	0.9	20	
Cadmium	0.154	0.0010	0.05	0.1044	100	70	130	0.1543	0.0	20	
Chromium	0.0506	0.0050	0.05	0	101	70	130	0.04981	1.6	20	
Cobalt	0.385	0.0050	0.05	0.3289		70	130	0.3846	0.1	20	A
Copper	0.222	0.0050	0.05	0.1697	105	70	130	0.2206	0.8	20	
Iron	96.7	0.020	0.15	96.55		70	130	97.2	0.5	20	AE
Lead	0.0557	0.0010	0.05	0.001261	109	70	130	0.05526	0.8	20	
Magnesium	75.8	1.0	1	82.88		70	130	75.75	0	20	A
Manganese	84.5	0.0010	0.05	84.83		70	130	84.93	0.6	20	AE
Molybdenum	0.0517	0.0010	0.05	0.001251	101	70	130	0.0505	2.4	20	
Nickel	0.246	0.0050	0.05	0.1923	108	70	130	0.2423	1.7	20	
Selenium	0.0505	0.0010	0.05	0.0001112	101	70	130	0.04956	2.0	20	
Silver	0.0198	0.0010	0.02	0	99	70	130	0.01967	0.9	20	
Sodium	40.6	1.0	1	43.78		70	130	40.44	0.4	20	A
Thallium	0.0549	0.00050	0.05	0.0007018	108	70	130	0.05463	0.6	20	
Tin	0.0458	0.050	0.05	0	92	70	130	0.04429		20	
Titanium	0.0525	0.0050	0.05	0	105	70	130	0.05144	2.1	20	
Uranium	0.0554	0.00030	0.05	0.001199	108	70	130	0.05456	1.5	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187753

Date: 19-Sep-23

Run ID :Run Order: ICPMS205-H_230829C: 171	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080897-011BMSD				Method: E200.8		
Analysis Date: 08/30/23 20:25	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	0.0517	0.010	0.05	0	103	70	130	0.05082	1.7	20	
Zinc	40.7	0.010	0.05	40.39		70	130	40.5	0.5	20	AE

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICPMS205-H_230829C: 200	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 08/30/23 21:55	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0512	0.10	0.05	0	102	90	110				
Antimony	0.0499	0.050	0.05	0	100	90	110				
Arsenic	0.0501	0.0050	0.05	0	100	90	110				
Barium	0.0506	0.10	0.05	0	101	90	110				
Cadmium	0.0518	0.0010	0.05	0	103	90	110				
Chromium	0.0502	0.010	0.05	0	100	90	110				
Cobalt	0.0509	0.010	0.05	0	102	90	110				
Copper	0.0511	0.010	0.05	0	102	90	110				
Iron	1.32	0.020	1.3	0	102	90	110				
Lead	0.0505	0.010	0.05	0	101	90	110				
Magnesium	12.6	0.50	12.5	0	101	90	110				
Manganese	0.0514	0.010	0.05	0	103	90	110				
Molybdenum	0.0502	0.0050	0.05	0	100	90	110				
Nickel	0.0504	0.010	0.05	0	101	90	110				
Selenium	0.0501	0.0050	0.05	0	100	90	110				
Silver	0.0206	0.0050	0.02	0	103	90	110				
Sodium	12.9	0.50	12.5	0	103	90	110				
Thallium	0.0495	0.10	0.05	0	99	90	110				
Tin	0.0506	0.10	0.05	0	101	90	110				
Titanium	0.0512	0.010	0.05	0	102	90	110				
Uranium	0.0489	0.00030	0.05	0	98	90	110				
Vanadium	0.0505	0.10	0.05	0	101	90	110				
Zinc	0.0535	0.010	0.05	0	107	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187753

Date: 19-Sep-23

Run ID :Run Order: ICPMS205-H_230829C: 200	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.8								
Analysis Date: 08/30/23 21:55	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICPMS205-H_230829C: 212	SampType: Sample Matrix Spike	Lab ID: H23080897-001BMS	Method: E200.8								
Analysis Date: 08/30/23 22:32	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.448	0.030	0.05	0.4133		70	130				A
Antimony	0.0500	0.0010	0.05	0	100	70	130				
Arsenic	0.0517	0.0010	0.05	0.0004683	103	70	130				
Barium	0.0768	0.050	0.05	0.02716	99	70	130				
Cadmium	0.0772	0.0010	0.05	0.02627	102	70	130				
Chromium	0.0496	0.0050	0.05	0	99	70	130				
Cobalt	0.0715	0.0050	0.05	0.02164	100	70	130				
Copper	0.332	0.0050	0.05	0.2846		70	130				A
Iron	0.145	0.020	0.15	0	97	70	130				
Lead	0.0497	0.0010	0.05	0	99	70	130				
Magnesium	8.95	1.0	1	8.364		70	130				A
Manganese	5.27	0.0010	0.05	5.307		70	130				A
Molybdenum	0.0482	0.0010	0.05	0	96	70	130				
Nickel	0.0650	0.0050	0.05	0.01439	101	70	130				
Selenium	0.0515	0.0010	0.05	0.0002885	102	70	130				
Silver	0.0208	0.0010	0.02	0.0003275	102	70	130				
Sodium	22.7	1.0	1	22.84		70	130				A
Thallium	0.0491	0.00050	0.05	0	98	70	130				
Tin	0.0406	0.050	0.05	0	81	70	130				
Titanium	0.0488	0.0050	0.05	0	98	70	130				
Uranium	0.0466	0.00030	0.05	0.0007492	92	70	130				
Vanadium	0.0498	0.010	0.05	0	99	70	130				
Zinc	3.49	0.010	0.05	3.534		70	130				A

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187753

Date: 19-Sep-23

Run ID :Run Order: ICPMS205-H_230829C: 214	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080897-001BMSD				Method: E200.8		
Analysis Date: 08/30/23 22:38	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.455	0.030	0.05	0.4133		70	130	0.4478	1.7	20	A
Antimony	0.0509	0.0010	0.05	0	102	70	130	0.05001	1.7	20	
Arsenic	0.0523	0.0010	0.05	0.0004683	104	70	130	0.05174	1.2	20	
Barium	0.0767	0.050	0.05	0.02716	99	70	130	0.07685	0.2	20	
Cadmium	0.0779	0.0010	0.05	0.02627	103	70	130	0.07716	1.0	20	
Chromium	0.0503	0.0050	0.05	0	101	70	130	0.04959	1.4	20	
Cobalt	0.0725	0.0050	0.05	0.02164	102	70	130	0.07152	1.4	20	
Copper	0.331	0.0050	0.05	0.2846		70	130	0.3319	0.2	20	A
Iron	0.148	0.020	0.15	0	99	70	130	0.1452	2.1	20	
Lead	0.0522	0.0010	0.05	0	104	70	130	0.04966	4.9	20	
Magnesium	9.13	1.0	1	8.364		70	130	8.954	1.9	20	A
Manganese	5.23	0.0010	0.05	5.307		70	130	5.269	0.7	20	A
Molybdenum	0.0497	0.0010	0.05	0	99	70	130	0.04825	3.0	20	
Nickel	0.0655	0.0050	0.05	0.01439	102	70	130	0.06499	0.8	20	
Selenium	0.0519	0.0010	0.05	0.0002885	103	70	130	0.05152	0.7	20	
Silver	0.0210	0.0010	0.02	0.0003275	104	70	130	0.02078	1.2	20	
Sodium	23.0	1.0	1	22.84		70	130	22.71	1.2	20	A
Thallium	0.0520	0.00050	0.05	0	104	70	130	0.04914	5.8	20	
Tin	0.0425	0.050	0.05	0	85	70	130	0.04063		20	
Titanium	0.0524	0.0050	0.05	0	105	70	130	0.04881	7.0	20	
Uranium	0.0497	0.00030	0.05	0.0007492	98	70	130	0.04658	6.6	20	
Vanadium	0.0505	0.010	0.05	0	101	70	130	0.04975	1.5	20	
Zinc	3.48	0.010	0.05	3.534		70	130	3.487	0.1	20	A

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187811

Date: 19-Sep-23

Run ID :Run Order: ICPMS206-H_230831A: 14	SampType: Initial Calibration Verification Standard	Lab ID: ICV	Method: E200.8								
Analysis Date: 08/31/23 11:04	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Praseodymium	0.0608	0.0010	0.06	0	101	90	110				
Associated samples: H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B											

Run ID :Run Order: ICPMS206-H_230831A: 19	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.8								
Analysis Date: 08/31/23 11:20	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Praseodymium	0.0514	0.0010	0.05	0	103	90	110				
Associated samples: H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B											

Run ID :Run Order: ICPMS206-H_230831A: 21	SampType: Method Blank	Lab ID: LRB	Method: E200.8								
Analysis Date: 08/31/23 11:43	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Praseodymium	ND	0.00005									
Associated samples: H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B											

Run ID :Run Order: ICPMS206-H_230831A: 22	SampType: Laboratory Fortified Blank	Lab ID: LFB	Method: E200.8								
Analysis Date: 08/31/23 11:45	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Praseodymium	0.0510	0.0010	0.05	0	102	85	115				
Associated samples: H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B											

Run ID :Run Order: ICPMS206-H_230831A: 34	SampType: Sample Matrix Spike	Lab ID: H23080897-011BMS	Method: E200.8								
Analysis Date: 08/31/23 12:10	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Praseodymium	0.263	0.0010	0.25	0.001043	105	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187811

Date: 19-Sep-23

Run ID :Run Order: ICPMS206-H_230831A: 34	SampType: Sample Matrix Spike	Lab ID: H23080897-011BMS	Method: E200.8								
Analysis Date: 08/31/23 12:10	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICPMS206-H_230831A: 35	SampType: Sample Matrix Spike Duplicate	Lab ID: H23080897-011BMSD	Method: E200.8								
Analysis Date: 08/31/23 12:12	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Praseodymium 0.265 0.0010 0.25 0.001043 106 70 130 0.2631

Associated samples: H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICPMS206-H_230831A: 45	SampType: Initial Calibration Verification Standard	Lab ID: ICV	Method: E200.8								
Analysis Date: 08/31/23 12:43	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Praseodymium 0.0606 0.0010 0.06 0 101 90 110

Associated samples: H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080897

**BatchID:** R187869

**Date:** 19-Sep-23

Run ID :Run Order: <b>IC METROHM_230905A: 2</b>		SampType: <b>Method Blank</b>			Lab ID: <b>ICB</b>			Method: <b>E300.0</b>			
Analysis Date: <b>09/05/23 13:53</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.03									

Associated samples: **H23080897-014A**

Run ID :Run Order: <b>IC METROHM_230905A: 3</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>09/05/23 14:07</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	390	1.0	400	0	<b>97</b>	90	110				

Associated samples: **H23080897-014A**

Run ID :Run Order: <b>IC METROHM_230905A: 4</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E300.0</b>			
Analysis Date: <b>09/05/23 14:22</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	100	1.0	100	0	<b>100</b>	90	110				

Associated samples: **H23080897-014A**

Run ID :Run Order: <b>IC METROHM_230905A: 26</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>09/05/23 20:45</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	197	1.0	200	0	<b>98</b>	90	110				

Associated samples: **H23080897-014A**

Run ID :Run Order: <b>IC METROHM_230905A: 34</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23080753-002AMS</b>			Method: <b>E300.0</b>			
Analysis Date: <b>09/05/23 22:40</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	224	1.0	200	25.89	<b>99</b>	90	110				

Associated samples: **H23080897-014A**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080897

**BatchID:** R187869

**Date:** 19-Sep-23

Run ID :Run Order: <b>IC METROHM_230905A: 35</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23080753-002AMSD</b>				Method: <b>E300.0</b>		
Analysis Date: <b>09/05/23 22:55</b>	Units: <b>mg/L</b>			Prep Info: Prep Date:				Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	227	1.0	200	25.89	<b>100</b>	90	110	224.1	<b>1.1</b>	20	

Associated samples: **H23080897-014A**

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080897

**BatchID:** R187884

**Date:** 19-Sep-23

Run ID :Run Order: ICPMS206-H_230905A: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.8			
Analysis Date: 09/05/23 12:21	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>20</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.295	0.10	0.3	0	98	90	110				
Antimony	0.0623	0.050	0.06	0	104	90	110				
Arsenic	0.0604	0.0050	0.06	0	101	90	110				
Barium	0.0603	0.10	0.06	0	101	90	110				
Beryllium	0.0297	0.0010	0.03	0	99	90	110				
Cadmium	0.0305	0.0010	0.03	0	102	90	110				
Calcium	2.98	0.50	3	0	99	90	110				
Cobalt	0.0598	0.010	0.06	0	100	90	110				
Copper	0.0602	0.010	0.06	0	100	90	110				
Lead	0.0583	0.010	0.06	0	97	90	110				
Manganese	0.298	0.010	0.3	0	99	90	110				
Molybdenum	0.0582	0.0050	0.06	0	97	90	110				
Selenium	0.0618	0.0050	0.06	0	103	90	110				
Silver	0.0301	0.0050	0.03	0	100	90	110				
Thallium	0.0585	0.10	0.06	0	97	90	110				
Tin	0.0606	0.10	0.06	0	101	90	110				
Titanium	0.0592	0.010	0.06	0	99	90	110				
Uranium	0.0578	0.00030	0.06	0	96	90	110				
Vanadium	0.0595	0.10	0.06	0	99	90	110				
Zinc	0.0599	0.010	0.06	0	100	90	110				

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICPMS206-H_230905A: 24	SampType: Laboratory Fortified Blank				Lab ID: LFB			Method: E200.8			
Analysis Date: 09/05/23 18:52	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>20</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0478	0.10	0.05	0	96	85	115				
Antimony	0.0475	0.050	0.05	0	95	85	115				
Arsenic	0.0494	0.0050	0.05	0	99	85	115				
Barium	0.0486	0.10	0.05	0	97	85	115				
Beryllium	0.0457	0.0010	0.05	0	91	85	115				
Cadmium	0.0499	0.0010	0.05	0	100	85	115				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080897

**BatchID:** R187884

**Date:** 19-Sep-23

Run ID :Run Order: ICPMS206-H_230905A: 24	SampType: Laboratory Fortified Blank				Lab ID: LFB			Method: E200.8			
Analysis Date: 09/05/23 18:52	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>20</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	1.02	0.50	1	0	102	85	115				
Cobalt	0.0491	0.010	0.05	0	98	85	115				
Copper	0.0492	0.010	0.05	0	98	85	115				
Lead	0.0466	0.010	0.05	0	93	85	115				
Manganese	0.0492	0.010	0.05	0	98	85	115				
Molybdenum	0.0488	0.0050	0.05	0	98	85	115				
Selenium	0.0558	0.0050	0.05	0	112	85	115				
Silver	0.0197	0.0050	0.02	0	98	85	115				
Thallium	0.0464	0.10	0.05	0	93	85	115				
Tin	0.0491	0.10	0.05	0	98	85	115				
Titanium	0.0520	0.010	0.05	0	104	85	115				
Uranium	0.0449	0.00030	0.05	0	90	85	115				
Vanadium	0.0484	0.10	0.05	0	97	85	115				
Zinc	0.0528	0.010	0.05	0	106	85	115				

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICPMS206-H_230905A: 74	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.8			
Analysis Date: 09/05/23 21:59	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>20</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.292	0.10	0.3	0	97	90	110				
Antimony	0.0624	0.050	0.06	0	104	90	110				
Arsenic	0.0614	0.0050	0.06	0	102	90	110				
Barium	0.0606	0.10	0.06	0	101	90	110				
Beryllium	0.0306	0.0010	0.03	0	102	90	110				
Cadmium	0.0305	0.0010	0.03	0	102	90	110				
Calcium	3.00	0.50	3	0	100	90	110				
Cobalt	0.0603	0.010	0.06	0	100	90	110				
Copper	0.0608	0.010	0.06	0	101	90	110				
Lead	0.0601	0.010	0.06	0	100	90	110				
Manganese	0.301	0.010	0.3	0	100	90	110				
Molybdenum	0.0579	0.0050	0.06	0	96	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187884

Date: 19-Sep-23

Run ID :Run Order: ICPMS206-H_230905A: 74	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.8			
Analysis Date: 09/05/23 21:59	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.0622	0.0050	0.06	0	104	90	110				
Silver	0.0301	0.0050	0.03	0	100	90	110				
Thallium	0.0606	0.10	0.06	0	101	90	110				
Tin	0.0614	0.10	0.06	0	102	90	110				
Titanium	0.0593	0.010	0.06	0	99	90	110				
Uranium	0.0585	0.00030	0.06	0	98	90	110				
Vanadium	0.0598	0.10	0.06	0	100	90	110				
Zinc	0.0615	0.010	0.06	0	103	90	110				

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICPMS206-H_230905A: 82	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 09/05/23 22:29	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0496	0.10	0.05	0	99	90	110				
Antimony	0.0466	0.050	0.05	0	93	90	110				
Arsenic	0.0512	0.0050	0.05	0	102	90	110				
Barium	0.0497	0.10	0.05	0	99	90	110				
Beryllium	0.0485	0.0010	0.05	0	97	90	110				
Cadmium	0.0497	0.0010	0.05	0	99	90	110				
Calcium	12.3	0.50	12.5	0	98	90	110				
Cobalt	0.0499	0.010	0.05	0	100	90	110				
Copper	0.0499	0.010	0.05	0	100	90	110				
Lead	0.0503	0.010	0.05	0	101	90	110				
Manganese	0.0494	0.010	0.05	0	99	90	110				
Molybdenum	0.0489	0.0050	0.05	0	98	90	110				
Selenium	0.0515	0.0050	0.05	0	103	90	110				
Silver	0.0201	0.0050	0.02	0	100	90	110				
Thallium	0.0504	0.10	0.05	0	101	90	110				
Tin	0.0497	0.10	0.05	0	99	90	110				
Titanium	0.0492	0.010	0.05	0	98	90	110				
Uranium	0.0484	0.00030	0.05	0	97	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187884

Date: 19-Sep-23

Run ID :Run Order: ICPMS206-H_230905A: 82	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 09/05/23 22:29	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	0.0490	0.10	0.05	0	98	90	110				
Zinc	0.0514	0.010	0.05	0	103	90	110				

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICPMS206-H_230905A: 84	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 09/05/23 22:36	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.002									
Antimony	ND	0.00002									
Arsenic	ND	6E-06									
Barium	ND	0.0003									
Beryllium	0.00006	0.00003									
Cadmium	ND	7E-06									
Calcium	ND	0.07									
Cobalt	ND	0.00001									
Copper	0.00006	0.00004									
Lead	ND	0.00002									
Manganese	ND	0.00005									
Molybdenum	0.00002	7E-06									
Selenium	ND	0.00002									
Silver	ND	3E-06									
Thallium	ND	7E-06									
Tin	ND	0.0003									
Titanium	ND	0.0002									
Uranium	ND	3E-06									
Vanadium	ND	0.00001									
Zinc	ND	0.0007									

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187884

Date: 19-Sep-23

Run ID :Run Order: ICPMS206-H_230905A: 94	SampType: Sample Matrix Spike				Lab ID: H23080897-013BMS				Method: E200.8		
Analysis Date: 09/05/23 23:13	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.237	0.030	0.25	0	95	70	130				
Antimony	0.235	0.0010	0.25	0	94	70	130				
Arsenic	0.247	0.0010	0.25	0.002204	98	70	130				
Barium	0.264	0.050	0.25	0.01995	98	70	130				
Beryllium	0.248	0.0010	0.25	0.0003338	99	70	130				
Cadmium	0.246	0.0010	0.25	0.001504	98	70	130				
Calcium	68.3	1.0	5	65.35		70	130				A
Cobalt	0.245	0.0050	0.25	0.0003012	98	70	130				
Lead	0.248	0.0010	0.25	0	99	70	130				
Manganese	0.251	0.0010	0.25	0.00734	98	70	130				
Molybdenum	0.277	0.0010	0.25	0.03832	96	70	130				
Selenium	0.252	0.0010	0.25	0	101	70	130				
Silver	0.0975	0.0010	0.1	0	97	70	130				
Thallium	0.246	0.00050	0.25	0	98	70	130				
Tin	0.245	0.050	0.25	0	98	70	130				
Titanium	0.242	0.0050	0.25	0	97	70	130				
Uranium	0.238	0.00030	0.25	0.00265	94	70	130				
Vanadium	0.245	0.010	0.25	0.001342	97	70	130				
Zinc	0.348	0.010	0.25	0.0929	102	70	130				

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICPMS206-H_230905A: 95	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080897-013BMSD				Method: E200.8		
Analysis Date: 09/05/23 23:16	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.250	0.030	0.25	0	100	70	130	0.2372	5.1	20	
Antimony	0.248	0.0010	0.25	0	99	70	130	0.235	5.4	20	
Arsenic	0.253	0.0010	0.25	0.002204	100	70	130	0.247	2.5	20	
Barium	0.276	0.050	0.25	0.01995	102	70	130	0.2644	4.3	20	
Beryllium	0.259	0.0010	0.25	0.0003338	104	70	130	0.2484	4.2	20	
Cadmium	0.259	0.0010	0.25	0.001504	103	70	130	0.2462	5.1	20	
Calcium	70.0	1.0	5	65.35		70	130	68.3	2.5	20	A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187884

Date: 19-Sep-23

Run ID :Run Order: ICPMS206-H_230905A: 95	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080897-013BMSD				Method: E200.8		
Analysis Date: 09/05/23 23:16	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	0.257	0.0050	0.25	0.0003012	103	70	130	0.2454	4.7	20	
Lead	0.257	0.0010	0.25	0	103	70	130	0.248	3.5	20	
Manganese	0.263	0.0010	0.25	0.00734	102	70	130	0.2513	4.5	20	
Molybdenum	0.294	0.0010	0.25	0.03832	102	70	130	0.2774	5.7	20	
Selenium	0.271	0.0010	0.25	0	108	70	130	0.2522	7.3	20	
Silver	0.102	0.0010	0.1	0	102	70	130	0.0975	4.9	20	
Thallium	0.256	0.00050	0.25	0	102	70	130	0.246	4.0	20	
Tin	0.260	0.050	0.25	0	104	70	130	0.2447	6.1	20	
Titanium	0.251	0.0050	0.25	0	101	70	130	0.242	3.8	20	
Uranium	0.246	0.00030	0.25	0.00265	98	70	130	0.2378	3.6	20	
Vanadium	0.255	0.010	0.25	0.001342	101	70	130	0.2448	4.1	20	
Zinc	0.356	0.010	0.25	0.0929	105	70	130	0.3476	2.4	20	

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICPMS206-H_230905A: 96	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 09/05/23 23:20	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0485	0.10	0.05	0	97	90	110				
Antimony	0.0465	0.050	0.05	0	93	90	110				
Arsenic	0.0506	0.0050	0.05	0	101	90	110				
Barium	0.0494	0.10	0.05	0	99	90	110				
Beryllium	0.0483	0.0010	0.05	0	97	90	110				
Cadmium	0.0498	0.0010	0.05	0	100	90	110				
Calcium	12.2	0.50	12.5	0	97	90	110				
Cobalt	0.0499	0.010	0.05	0	100	90	110				
Copper	0.0500	0.010	0.05	0	100	90	110				
Lead	0.0505	0.010	0.05	0	101	90	110				
Manganese	0.0497	0.010	0.05	0	99	90	110				
Molybdenum	0.0488	0.0050	0.05	0	98	90	110				
Selenium	0.0514	0.0050	0.05	0	103	90	110				
Silver	0.0200	0.0050	0.02	0	100	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187884

Date: 19-Sep-23

Run ID :Run Order: ICPMS206-H_230905A: 96	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 09/05/23 23:20	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	0.0506	0.10	0.05	0	101	90	110				
Tin	0.0499	0.10	0.05	0	100	90	110				
Titanium	0.0492	0.010	0.05	0	98	90	110				
Uranium	0.0481	0.00030	0.05	0	96	90	110				
Vanadium	0.0496	0.10	0.05	0	99	90	110				
Zinc	0.0510	0.010	0.05	0	102	90	110				

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICPMS206-H_230905A: 135	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 09/06/23 01:44	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0490	0.10	0.05	0	98	90	110				
Antimony	0.0470	0.050	0.05	0	94	90	110				
Arsenic	0.0503	0.0050	0.05	0	101	90	110				
Barium	0.0491	0.10	0.05	0	98	90	110				
Beryllium	0.0491	0.0010	0.05	0	98	90	110				
Cadmium	0.0493	0.0010	0.05	0	99	90	110				
Calcium	12.3	0.50	12.5	0	98	90	110				
Cobalt	0.0499	0.010	0.05	0	100	90	110				
Copper	0.0501	0.010	0.05	0	100	90	110				
Lead	0.0495	0.010	0.05	0	99	90	110				
Manganese	0.0498	0.010	0.05	0	100	90	110				
Molybdenum	0.0490	0.0050	0.05	0	98	90	110				
Selenium	0.0516	0.0050	0.05	0	103	90	110				
Silver	0.0200	0.0050	0.02	0	100	90	110				
Thallium	0.0494	0.10	0.05	0	99	90	110				
Tin	0.0496	0.10	0.05	0	99	90	110				
Titanium	0.0494	0.010	0.05	0	99	90	110				
Uranium	0.0473	0.00030	0.05	0	95	90	110				
Vanadium	0.0494	0.10	0.05	0	99	90	110				
Zinc	0.0514	0.010	0.05	0	103	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187884

Date: 19-Sep-23

Run ID :Run Order: ICPMS206-H_230905A: 135	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.8
Analysis Date: 09/06/23 01:44	Units: mg/L	Prep Info: Prep Date:	Prep Method:
Analytes <b>20</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
		LowLimit	HighLimit
		RPD Ref Val	%RPD
		RPDLimit	Qual

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Run ID :Run Order: ICPMS206-H_230905A: 143	SampType: Sample Matrix Spike	Lab ID: H23080897-003BMS	Method: E200.8
Analysis Date: 09/06/23 02:13	Units: mg/L	Prep Info: Prep Date:	Prep Method:
Analytes <b>20</b>	Result	PQL	SPK value
		SPK Ref Val	%REC
		LowLimit	HighLimit
		RPD Ref Val	%RPD
		RPDLimit	Qual

Aluminum	0.558	0.030	0.25	0.3002	<b>103</b>	70	130			
Antimony	0.273	0.0010	0.25	0	<b>109</b>	70	130			
Arsenic	0.270	0.0010	0.25	0.0003264	<b>108</b>	70	130			
Barium	0.282	0.050	0.25	0.01362	<b>107</b>	70	130			
Beryllium	0.266	0.0010	0.25	0.000945	<b>106</b>	70	130			
Cadmium	0.355	0.0010	0.25	0.0907	<b>106</b>	70	130			
Calcium	167	1.0	5	169.2		70	130			A
Cobalt	0.590	0.0050	0.25	0.3315	<b>103</b>	70	130			
Copper	0.998	0.0050	0.25	0.748	<b>100</b>	70	130			
Lead	0.267	0.0010	0.25	0.002014	<b>106</b>	70	130			
Manganese	34.2	0.0010	0.25	34.83		70	130			A
Molybdenum	0.258	0.0010	0.25	0.0003054	<b>103</b>	70	130			
Selenium	0.280	0.0010	0.25	0	<b>112</b>	70	130			
Silver	0.106	0.0010	0.1	0.0002451	<b>105</b>	70	130			
Thallium	0.265	0.00050	0.25	0	<b>106</b>	70	130			
Tin	0.269	0.050	0.25	0	<b>107</b>	70	130			
Titanium	0.257	0.0050	0.25	0	<b>103</b>	70	130			
Uranium	0.252	0.00030	0.25	0.00076	<b>101</b>	70	130			
Vanadium	0.256	0.010	0.25	0	<b>102</b>	70	130			
Zinc	21.4	0.010	0.25	21.37		70	130			A

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187884

Date: 19-Sep-23

Run ID :Run Order: ICPMS206-H_230905A: 144	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080897-003BMSD				Method: E200.8		
Analysis Date: 09/06/23 02:16	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>20</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.540	0.030	0.25	0.3002	96	70	130	0.558	3.4	20	
Antimony	0.229	0.0010	0.25	0	92	70	130	0.2732	17	20	
Arsenic	0.246	0.0010	0.25	0.0003264	98	70	130	0.2696	9.3	20	
Barium	0.256	0.050	0.25	0.01362	97	70	130	0.2818	9.7	20	
Beryllium	0.245	0.0010	0.25	0.000945	98	70	130	0.2657	8.2	20	
Cadmium	0.331	0.0010	0.25	0.0907	96	70	130	0.3554	7.3	20	
Calcium	168	1.0	5	169.2		70	130	167.4	0.3	20	A
Cobalt	0.559	0.0050	0.25	0.3315	91	70	130	0.5895	5.3	20	
Copper	0.968	0.0050	0.25	0.748	88	70	130	0.9985	3.1	20	
Lead	0.241	0.0010	0.25	0.002014	96	70	130	0.2674	10	20	
Manganese	34.7	0.0010	0.25	34.83		70	130	34.18	1.6	20	A
Molybdenum	0.237	0.0010	0.25	0.0003054	95	70	130	0.2578	8.6	20	
Selenium	0.252	0.0010	0.25	0	101	70	130	0.2796	11	20	
Silver	0.0964	0.0010	0.1	0.0002451	96	70	130	0.1056	9.1	20	
Thallium	0.240	0.00050	0.25	0	96	70	130	0.265	10	20	
Tin	0.245	0.050	0.25	0	98	70	130	0.2686	9.3	20	
Titanium	0.222	0.0050	0.25	0	89	70	130	0.2572	15	20	
Uranium	0.229	0.00030	0.25	0.00076	91	70	130	0.2525	9.8	20	
Vanadium	0.229	0.010	0.25	0	92	70	130	0.2561	11	20	
Zinc	21.6	0.010	0.25	21.37		70	130	21.39	1.1	20	A

Associated samples: H23080897-001B, H23080897-002B, H23080897-003B, H23080897-004B, H23080897-005B, H23080897-006B, H23080897-007B, H23080897-008B, H23080897-009B, H23080897-010B, H23080897-011B, H23080897-012B, H23080897-013B, H23080897-014B, H23080897-015B, H23080897-016B, H23080897-017B, H23080897-018B, H23080897-019B, H23080897-020B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080897

**BatchID:** R187919

**Date:** 19-Sep-23

Run ID :Run Order: <b>ICPMS206-H_230906B: 12</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>09/06/23 16:10</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.0610	0.010	0.06	0	<b>102</b>	90	110				
Iron	0.304	0.020	0.3	0	<b>101</b>	90	110				
Nickel	0.0613	0.010	0.06	0	<b>102</b>	90	110				
Zinc	0.0629	0.010	0.06	0	<b>105</b>	90	110				

Associated samples: **H23080897-012B, H23080897-016B, H23080897-020B**

Run ID :Run Order: <b>ICPMS206-H_230906B: 20</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>09/06/23 16:40</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.0491	0.010	0.05	0	<b>98</b>	90	110				
Iron	1.30	0.020	1.3	0	<b>100</b>	90	110				
Nickel	0.0494	0.010	0.05	0	<b>99</b>	90	110				
Zinc	0.0501	0.010	0.05	0	<b>100</b>	90	110				

Associated samples: **H23080897-012B, H23080897-016B, H23080897-020B**

Run ID :Run Order: <b>ICPMS206-H_230906B: 22</b>		SampType: <b>Method Blank</b>			Lab ID: <b>LRB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>09/06/23 16:47</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	0.00001									
Iron	ND	0.0007									
Nickel	ND	0.00003									
Zinc	0.001	0.0007									

Associated samples: **H23080897-012B, H23080897-016B, H23080897-020B**

Run ID :Run Order: <b>ICPMS206-H_230906B: 23</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>09/06/23 16:51</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.0478	0.010	0.05	0	<b>96</b>	85	115				
Iron	0.142	0.020	0.15	0	<b>94</b>	85	115				
Nickel	0.0485	0.010	0.05	0	<b>97</b>	85	115				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080897

**BatchID:** R187919

**Date:** 19-Sep-23

Run ID :Run Order: <b>ICPMS206-H_230906B: 23</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E200.8</b>				
Analysis Date: <b>09/06/23 16:51</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>4</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc		0.0522	0.010	0.05	0	<b>104</b>	85	115				

Associated samples: **H23080897-012B, H23080897-016B, H23080897-020B**

Run ID :Run Order: <b>ICPMS206-H_230906B: 35</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23080897-012BMS</b>			Method: <b>E200.8</b>				
Analysis Date: <b>09/06/23 17:35</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>4</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium		0.234	0.0050	0.25	0.0002054	<b>94</b>	70	130				
Iron		0.666	0.020	0.75	0	<b>89</b>	70	130				
Nickel		0.238	0.0050	0.25	0.002971	<b>94</b>	70	130				
Zinc		1.11	0.010	0.25	0.8835	<b>92</b>	70	130				

Associated samples: **H23080897-012B, H23080897-016B, H23080897-020B**

Run ID :Run Order: <b>ICPMS206-H_230906B: 36</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23080897-012BMSD</b>			Method: <b>E200.8</b>				
Analysis Date: <b>09/06/23 17:39</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>4</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium		0.235	0.0050	0.25	0.0002054	<b>94</b>	70	130	0.2342	<b>0.2</b>	20	
Iron		0.666	0.020	0.75	0	<b>89</b>	70	130	0.666	<b>0.1</b>	20	
Nickel		0.238	0.0050	0.25	0.002971	<b>94</b>	70	130	0.2378	<b>0.2</b>	20	
Zinc		1.12	0.010	0.25	0.8835	<b>93</b>	70	130	1.114	<b>0.1</b>	20	

Associated samples: **H23080897-012B, H23080897-016B, H23080897-020B**

Run ID :Run Order: <b>ICPMS206-H_230906B: 268</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E200.8</b>				
Analysis Date: <b>09/07/23 09:59</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>4</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium		0.0609	0.010	0.06	0	<b>102</b>	90	110				
Iron		0.308	0.020	0.3	0	<b>103</b>	90	110				
Nickel		0.0616	0.010	0.06	0	<b>103</b>	90	110				
Zinc		0.0634	0.010	0.06	0	<b>106</b>	90	110				

Associated samples: **H23080897-012B, H23080897-016B, H23080897-020B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: R187919

Date: 19-Sep-23

Run ID :Run Order: ICPMS206-H_230906B: 276	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 09/07/23 10:28	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.0503	0.010	0.05	0	101	90	110				
Iron	1.31	0.020	1.3	0	100	90	110				
Nickel	0.0508	0.010	0.05	0	102	90	110				
Zinc	0.0516	0.010	0.05	0	103	90	110				

Associated samples: H23080897-012B, H23080897-016B, H23080897-020B

Run ID :Run Order: ICPMS206-H_230906B: 288	SampType: Sample Matrix Spike				Lab ID: H23080897-016BMS				Method: E200.8		
Analysis Date: 09/07/23 11:44	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.0493	0.0050	0.05	0.0001201	98	70	130				
Iron	0.149	0.020	0.15	0.00113	99	70	130				
Nickel	0.0494	0.0050	0.05	0.0003799	98	70	130				
Zinc	0.0669	0.010	0.05	0.01616	101	70	130				

Associated samples: H23080897-012B, H23080897-016B, H23080897-020B

Run ID :Run Order: ICPMS206-H_230906B: 289	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080897-016BMSD				Method: E200.8		
Analysis Date: 09/07/23 11:48	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.0488	0.0050	0.05	0.0001201	97	70	130	0.04932	1.0	20	
Iron	0.148	0.020	0.15	0.00113	98	70	130	0.1493	0.7	20	
Nickel	0.0484	0.0050	0.05	0.0003799	96	70	130	0.04944	2.2	20	
Zinc	0.0668	0.010	0.05	0.01616	101	70	130	0.06691	0.1	20	

Associated samples: H23080897-012B, H23080897-016B, H23080897-020B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080897

BatchID: TDS230824A

Date: 19-Sep-23

Run ID :Run Order: ACCU-124 (14410200)_230824B: 1	SampType: Method Blank	Lab ID: MB-1_230824	Method: A2540 C								
Analysis Date: 08/24/23 12:21	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	ND	7									

Associated samples: H23080897-001A, H23080897-002A, H23080897-003A, H23080897-004A, H23080897-005A, H23080897-006A, H23080897-007A, H23080897-008A, H23080897-009A, H23080897-010A, H23080897-012A, H23080897-013A, H23080897-014A, H23080897-015A, H23080897-016A, H23080897-017A, H23080897-018A, H23080897-019A, H23080897-020A

Run ID :Run Order: ACCU-124 (14410200)_230824B: 2	SampType: Laboratory Control Sample	Lab ID: LCS-2_230824	Method: A2540 C								
Analysis Date: 08/24/23 12:22	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	1920	50	2000	0	96	90	110				

Associated samples: H23080897-001A, H23080897-002A, H23080897-003A, H23080897-004A, H23080897-005A, H23080897-006A, H23080897-007A, H23080897-008A, H23080897-009A, H23080897-010A, H23080897-012A, H23080897-013A, H23080897-014A, H23080897-015A, H23080897-016A, H23080897-017A, H23080897-018A, H23080897-019A, H23080897-020A

Run ID :Run Order: ACCU-124 (14410200)_230824B: 2	SampType: Sample Duplicate	Lab ID: H23080897-014A DUP	Method: A2540 C								
Analysis Date: 08/24/23 12:44	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	1120	25		0				1112	0.5	10	

Associated samples: H23080897-001A, H23080897-002A, H23080897-003A, H23080897-004A, H23080897-005A, H23080897-006A, H23080897-007A, H23080897-008A, H23080897-009A, H23080897-010A, H23080897-012A, H23080897-013A, H23080897-014A, H23080897-015A, H23080897-016A, H23080897-017A, H23080897-018A, H23080897-019A, H23080897-020A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080897

**BatchID:** TDS230825B

**Date:** 19-Sep-23

Run ID :Run Order: <b>ACCU-124 (14410200)_230825B: 2</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MB-47_230825</b>	Method: <b>A2540 C</b>								
Analysis Date: <b>08/25/23 14:49</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	ND	7									
Associated samples: <b>H23080897-011A</b>											

Run ID :Run Order: <b>ACCU-124 (14410200)_230825B: 2</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS-48_230825</b>	Method: <b>A2540 C</b>								
Analysis Date: <b>08/25/23 14:49</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	2010	50	2000	0	<b>101</b>	90	110				
Associated samples: <b>H23080897-011A</b>											

Run ID :Run Order: <b>ACCU-124 (14410200)_230825B: 3</b>	SampType: <b>Sample Duplicate</b>	Lab ID: <b>H23080917-001A DUP</b>	Method: <b>A2540 C</b>								
Analysis Date: <b>08/25/23 14:36</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	258	25		0				267	<b>3.4</b>	10	
Associated samples: <b>H23080897-011A</b>											



# Work Order Receipt Checklist

MT Dept of Justice

H23080897

Login completed by: Wanda Johnson

Date Received: 8/22/2023

Reviewed by: tjones

Received by: rrs

Reviewed Date: 8/28/2023

Carrier name: Hand Deliver

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	4.0°C On Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

## Contact and Corrective Action Comments:

The Temperature Blank temperature for shipping container 1 was 3.3°C, shipping container 2 was 4.0°C, shipping container 3 was 1.7°C, shipping container 4 was 1.2°C and shipping container 5 was 3.1°C.  
Received pages 2 and 3 of COC's were emailed to Energy Laboratories on 8/23/2023. wjj 8/23/2023





# Chain of Custody & Analytical Request Record

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### Account Information (Billing information)

Company/Name MT DOJ / Natural Resource Damage Program		
Contact Jim Ford		
Phone (406) 439-2108		
Mailing Address 1720 9th Avenue		
City, State, Zip Helena, Montana 59620-1425		
Email jford@mt.gov		
Receive Invoice <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	
Purchase Order	Quote 2187	Bottle Order 44881 & 44883

### Report Information (if different than Account Information)

Company/Name Water & Environmental Technologies		
Contact Janelle Garza		
Phone (406) 565-4291		
Mailing Address 480 East Park Street		
City, State, Zip Butte, Montana 59701		
Email jgarza@waterenvtech.com		
Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email		
Special Report/Formats		
<input type="checkbox"/> LEVEL IV <input type="checkbox"/> INELAC <input checked="" type="checkbox"/> EDD/EDT (contact laboratory) <input type="checkbox"/> Other		

### Comments

Please do not use any "EB" or "FB" samples for MS/MSD.

C1-3.3  
C2-4.0  
C3-1.7  
C4-1.2  
C5-3.1

### Project Information

Project Name, PWSID, Permit, etc. NRDPM16 TO2 - Task 001	
Sampler Name Janelle Garza	Sampler Phone (406) 599-6770
Sample Origin State Montana	EPA/State Compliance <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>URANIUM MINING CLIENTS MUST indicate sample type</b> <input type="checkbox"/> Unprocessed Ore <input type="checkbox"/> Processed Ore (Ground or Refined) **CALL BEFORE SENDING <input type="checkbox"/> 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)	

### Matrix Codes

- A - Air
- W - Water
- S - Soils/ Solids
- V - Vegetation
- B - Bioassay
- O - Oil
- DW - Drinking Water

### Analysis Requested

pH & pH Meas. Temp A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353.2	Dissolved Metals E200.7/8	See Attached
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All turnaround times are standard unless marked as RUSH.  
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page

Sample Identification <small>(Name, Location, Interval, etc.)</small>	Collection		Number of Containers	Matrix <small>(See Codes Above)</small>	Analysis Requested									See Attached	RUSH TAT	ELI LAB ID <small>Laboratory Use Only</small>
	Date	Time			pH & pH Meas. Temp A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353.2	Dissolved Metals E200.7/8			
1 BPS07-11A	08/21/2023	9:47 am	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
2 BPS11-11A1	08/21/2023	9:53 am	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
3 BPS07-11B	08/21/2023	10:12 am	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
4 BPS11-11A2	08/21/2023	10:15 am	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
5 BPS11-11B	08/21/2023	10:52 am	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
6 DUP-2	08/21/2023	10:53 am	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
7 FB-2	08/21/2023	11:20 am	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
8 BPS11-11C	08/21/2023	11:40 am	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
9 FB-1	08/21/2023	11:45 am	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			

C1-3.3  
C2-4.0  
C3-1.7  
C4-1.2  
C5-3.1

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print) Janelle Garza	Date/Time 8-22-23/1330	Signature <i>JG</i>	Received by (print) Emma Kamp	Date/Time 8-22-23/1330	Signature <i>EM</i>
	Relinquished by (print) Emma Kamp	Date/Time 8-22-23/1620	Signature <i>EK</i>	Received by Laboratory (print) R SPONHOLZ	Date/Time 082223 1620	Signature <i>RSP</i>
<b>LABORATORY USE ONLY</b>						
Shipped By HAND	Cooler ID(s) Y	Custody Seals Y (N) C B	Intact Y N	Receipt Temp TOP °C	Temp Blank (Y) N	On Ice (Y) N
Payment Type CC Cash Check			Amount \$	Receipt Number (cash/check only)		

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.





# Chain of Custody & Analytical Request Record

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Account Information <small>(Billing info. optional)</small>		Report Information <small>(if different than Account Information)</small>		Comments
Company Name: MT DOJ / Natural Resource Damage Program		Company Name: Water & Environmental Technologies		
Contact: Jim Ford		Contact: Janelle Garza		
Phone: (406) 439-2108		Phone: (406) 565-4291		
Mailing Address: 1720 9th Avenue		Mailing Address: 480 East Park Street		
City, State, Zip: Helena, Montana 59620-1425		City, State, Zip: Butte, Montana 59701		
Email: jford@mt.gov		Email: jgarza@waterenvtech.com		
Receive Invoice: <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email		Receive Report: <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email		
Purchase Order: Quote: 2187		Special Report Format: <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC <input checked="" type="checkbox"/> EDD/EDT (contact laboratory) <input type="checkbox"/> Other:		

Project Information				Matrix Codes	Analysis Requested										See Attached	ELI LAB ID Laboratory Use Only		
Project Name, PWSID, Permit, etc. NRDPM16 TO2 - Task 001				A - Air	pH & pH Meas. Temp	+	+	+	+	+	+	+	+	+	+	+	All turnaround times are standard unless marked as RUSH. Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page	H23080897
Sample Name: Janelle Garza		Sample Phone: (406) 599-6770		W - Water	Conductivity													
Sample Origin State: Montana		EPA/State Compliance: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		S - Solids	TDS													
URANIUM MINING CLIENTS MUST indicate sample type				V - Vegetation	A25510 B													
<input type="checkbox"/> Unprocessed Ore				B - Backstay	A2540 C													
<input type="checkbox"/> Processed Ore (Ground or Refined) **CALL BEFORE SENDING				G - Oil	CaCO3, HCO3, CO3													
<input type="checkbox"/> 11(t)(2) Byproduct Material (Can ONLY be Submitted to ELI Casper Location)				DW - Drinking Water	A2320 B													
Sample Identification <small>(Name, Location, interval, etc.)</small>		Collection <small>Date Time</small>		Number of Containers	Matrix <small>(See Codes Above)</small>	+	+	+	+	+	+	+	+	+	+			
1	PMP-01B	08/21/2023	11:59 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
2	GS-40R	08/21/2023	1:19 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
3	AMC-23B	08/21/2023	1:25 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
4	PMP-10B	08/21/2023	2:10 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
5	AMW-09	08/21/2023	2:26 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
6	PMP-10A	08/21/2023	2:33 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
7	BPS11-14A	08/21/2023	3:07 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
8	EB-2	08/21/2023	3:20 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
9	BPS11-14B	08/21/2023	3:44 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			

8/22/23 11:59 AM

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Requested by agent	Signature	Received by agent	Date/Time	Signature
	Subsigned by agent	Signature	Received by Laboratory (print)	Date/Time	Signature

Requested by agent: Janelle Garza, Signature: JG, Date/Time: 8-22-23/1330  
 Subsigned by agent: Emma Kamp, Signature: EK, Date/Time: 8-22-23/1420  
 Received by Laboratory (print): Emma Kamp, Date/Time: 8-22-23/1330

LABORATORY USE ONLY									
Shipped By	Container ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number (cash/check only)
		Y N C B	Y N	°C	Y N	Y N	CC Cash Check	\$	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.





# ANALYTICAL SUMMARY REPORT

September 22, 2023

MT Dept of Justice  
Natural Resource Damage Program  
Helena, MT 59620-1425

Work Order: H23080917      Quote ID: H2187  
Project Name: NRDPM16 TO2 / 001

Energy Laboratories Inc Helena MT received the following 7 samples for MT Dept of Justice on 8/23/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H23080917-001	PMP-12	08/23/23 10:45	08/23/23	Surface Water	Rare Earth Metals, Dissolved Rare Earth Metals, Total Recoverable Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity to pH 4.5 Anion - Cation Balance Carbon, Dissolved Organic Conductivity Carbon, Total Organic Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Metals Digestion by E200.2 Rare Metals Digestion by E200.2 Solids, Total Dissolved
H23080917-002	SS-04	08/23/23 11:10	08/23/23	Aqueous	Same As Above
H23080917-003	DUP-5	08/23/23 11:15	08/23/23	Aqueous	Same As Above
H23080917-004	FB-5	08/23/23 11:25	08/23/23	Aqueous	Same As Above
H23080917-005	MSDSG-02	08/23/23 11:35	08/23/23	Aqueous	Same As Above
H23080917-006	MSDSG-05	08/23/23 11:50	08/23/23	Aqueous	Same As Above
H23080917-007	MSDSG-03	08/23/23 12:10	08/23/23	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

  
Project Management

Digitally signed by  
Ravyn R. Sponholz  
Date: 2023.09.22 13:05:07 -06:00



**CLIENT:** MT Dept of Justice  
**Project:** NRDPM16 TO2 / 001  
**Work Order:** H23080917

**Report Date:** 09/22/23

## CASE NARRATIVE

---

Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002.

Samples with DOC results greater than the TOC results were re-analyzed, the labels on them were checked and verified, and the results were duplicated in laboratory. RRS 09112023

For this workorder, there were several samples, where at least one Dissolved metal was higher than the corresponding Total / Total Recoverable metal. These results were all confirmed by re-analysis or duplicate analysis. RRS 09112023



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-12  
**Lab ID:** H23080917-001  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2 / 001  
**Collection Date:** 08/23/23 10:45  
**Date Received:** 08/23/23  
**Report Date:** 09/22/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.4	s.u.	H	0.1		A4500-H B	08/24/23 12:39 / eek		PHSC_101-H_230824A : 129		R187507
pH Measurement Temp	17.6	°C				A4500-H B	08/24/23 12:39 / eek		PHSC_101-H_230824A : 129		R187507
Conductivity @ 25 C	365	umhos/cm		5		A2510 B	08/24/23 12:39 / eek		PHSC_101-H_230824A : 130		R187507
Solids, Total Dissolved TDS @ 180 C	267	mg/L		20		A2540 C	08/25/23 14:36 / eek		124 (14410200)_230825B : 36		TDS230825B
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	59	mg/L		4		A2320 B	08/24/23 22:46 / eek		PHSC_101-H_230824A : 290		R187507
Bicarbonate as HCO3	71	mg/L		4		A2320 B	08/24/23 22:46 / eek		PHSC_101-H_230824A : 290		R187507
Carbonate as CO3	ND	mg/L		4		A2320 B	08/24/23 22:46 / eek		PHSC_101-H_230824A : 290		R187507
Chloride	39	mg/L		1		E300.0	08/26/23 18:48 / SR		C METROHM_230823A : 300		R187509
Sulfate	52	mg/L		1		E300.0	08/26/23 18:48 / SR		C METROHM_230823A : 300		R187509
Bromide	ND	mg/L		0.5		E300.0	08/26/23 18:48 / SR		C METROHM_230823A : 300		R187509
Fluoride	0.9	mg/L		0.1		E300.0	08/26/23 18:48 / SR		C METROHM_230823A : 300		R187509
Hardness as CaCO3	139	mg/L		1		A2340 B	08/28/23 21:15 / SR		CALC_230905B : 223		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	10.2	mg/L		0.5		A5310 C	08/29/23 02:09 / eli-c		SUB-C298148 : 34		C_R298148
Organic Carbon, Total (TOC)	9.4	mg/L		0.5		A5310 C	08/28/23 19:21 / eli-c		SUB-C298148 : 22		C_R298148
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.41	mg/L		0.01		E353.2	08/30/23 19:13 / JAR		SEAL AA500_230830A : 153		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/30/23 20:09 / dck		ICPMS205-H_230829C : 166		R187753
Antimony	0.0008	mg/L		0.0005		E200.8	08/30/23 20:09 / dck		ICPMS205-H_230829C : 166		R187753
Arsenic	0.005	mg/L		0.001		E200.8	08/30/23 20:09 / dck		ICPMS205-H_230829C : 166		R187753
Barium	0.032	mg/L		0.003		E200.8	08/30/23 20:09 / dck		ICPMS205-H_230829C : 166		R187753
Beryllium	ND	mg/L		0.0008		E200.7	08/25/23 07:27 / slj		ICP2-HE_230824B : 216		R187553
Boron	0.08	mg/L		0.05		E200.7	08/28/23 21:15 / slj		ICP2-HE_230828B : 52		R187634
Cadmium	0.00014	mg/L		0.00003		E200.8	09/05/23 23:53 / dck		ICPMS206-H_230905A : 105		R187884
Cesium	ND	mg/L		0.01		E200.8	08/30/23 20:18 / dck		ICPMS206-H_230830B : 154		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-12  
**Lab ID:** H23080917-001  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2 / 001  
**Collection Date:** 08/23/23 10:45  
**Date Received:** 08/23/23  
**Report Date:** 09/22/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	43	mg/L		1		E200.7	08/28/23 21:15 / slj		ICP2-HE_230828B : 52		R187634
Chromium	ND	mg/L		0.005		E200.8	08/30/23 20:09 / dck		ICPMS205-H_230829C : 166		R187753
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 20:09 / dck		ICPMS205-H_230829C : 166		R187753
Copper	0.011	mg/L		0.002		E200.8	08/30/23 20:09 / dck		ICPMS205-H_230829C : 166		R187753
Gallium	ND	mg/L		0.01		E200.8	08/30/23 20:18 / dck		ICPMS206-H_230830B : 154		R187736
Iron	0.05	mg/L		0.02		E200.8	09/07/23 11:25 / dck		ICPMS206-H_230906B : 283		R187919
Lead	ND	mg/L		0.0003		E200.8	08/30/23 20:09 / dck		ICPMS205-H_230829C : 166		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 20:18 / dck		ICPMS206-H_230830B : 154		R187736
Lithium	ND	mg/L		0.1		E200.7	08/28/23 21:15 / slj		ICP2-HE_230828B : 52		R187634
Magnesium	8	mg/L		1		E200.7	08/28/23 21:15 / slj		ICP2-HE_230828B : 52		R187634
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 20:18 / dck		ICPMS206-H_230830B : 154		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 20:18 / dck		ICPMS206-H_230830B : 154		R187736
Manganese	0.100	mg/L		0.001		E200.8	09/05/23 23:53 / dck		ICPMS206-H_230905A : 105		R187884
Molybdenum	0.020	mg/L		0.001		E200.8	08/30/23 20:09 / dck		ICPMS205-H_230829C : 166		R187753
Nickel	ND	mg/L		0.002		E200.8	08/30/23 20:09 / dck		ICPMS205-H_230829C : 166		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 20:18 / dck		ICPMS206-H_230830B : 154		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/31/23 13:11 / dck		ICPMS206-H_230831A : 56		R187811
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 20:18 / dck		ICPMS206-H_230830B : 154		R187736
Potassium	4	mg/L		1		E200.7	08/28/23 21:15 / slj		ICP2-HE_230828B : 52		R187634
Selenium	ND	mg/L		0.001		E200.8	09/05/23 23:53 / dck		ICPMS206-H_230905A : 105		R187884
Silver	ND	mg/L		0.0002		E200.8	08/30/23 20:09 / dck		ICPMS205-H_230829C : 166		R187753
Sodium	7	mg/L		1		E200.7	08/28/23 21:15 / slj		ICP2-HE_230828B : 52		R187634
Strontium	0.28	mg/L		0.01		E200.7	08/28/23 21:15 / slj		ICP2-HE_230828B : 52		R187634
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 20:09 / dck		ICPMS205-H_230829C : 166		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 20:18 / dck		ICPMS206-H_230830B : 355		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 20:09 / dck		ICPMS205-H_230829C : 166		R187753
Titanium	ND	mg/L		0.005		E200.7	08/25/23 07:27 / slj		ICP2-HE_230824B : 216		R187553
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 20:18 / dck		ICPMS206-H_230830B : 154		R187736
Uranium	0.0012	mg/L		0.0002		E200.8	08/30/23 20:09 / dck		ICPMS205-H_230829C : 166		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 20:09 / dck		ICPMS205-H_230829C : 166		R187753
Zinc	0.065	mg/L		0.008		E200.8	09/05/23 23:53 / dck		ICPMS206-H_230905A : 105		R187884
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 20:18 / dck		ICPMS206-H_230830B : 154		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-12  
**Lab ID:** H23080917-001  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2 / 001  
**Collection Date:** 08/23/23 10:45 **DateReceived:** 08/23/23  
**Report Date:** 09/22/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	0.21	mg/L		0.01		E200.8	08/30/23 20:12 / dck	08/24/23 08:43	ICPMS205-H_230829C : 167		67951
Antimony	0.0010	mg/L		0.0005		E200.8	08/30/23 20:12 / dck	08/24/23 08:43	ICPMS205-H_230829C : 167		67951
Arsenic	0.007	mg/L		0.001		E200.8	08/30/23 20:12 / dck	08/24/23 08:43	ICPMS205-H_230829C : 167		67951
Barium	0.036	mg/L		0.003		E200.8	08/30/23 20:12 / dck	08/24/23 08:43	ICPMS205-H_230829C : 167		67951
Beryllium	ND	mg/L		0.0008		E200.8	09/05/23 23:57 / dck	08/24/23 08:43	ICPMS206-H_230905A : 106		67951
Cesium	ND	mg/L		0.01		E200.8	08/30/23 20:20 / dck	08/28/23 09:58	ICPMS206-H_230830B : 155		67981
Cadmium	0.00021	mg/L		0.00003		E200.8	09/05/23 23:57 / dck	08/24/23 08:43	ICPMS206-H_230905A : 106		67951
Chromium	ND	mg/L		0.005		E200.8	08/30/23 20:12 / dck	08/24/23 08:43	ICPMS205-H_230829C : 167		67951
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 20:12 / dck	08/24/23 08:43	ICPMS205-H_230829C : 167		67951
Copper	0.028	mg/L		0.002		E200.8	08/30/23 20:12 / dck	08/24/23 08:43	ICPMS205-H_230829C : 167		67951
Gallium	ND	mg/L		0.01		E200.8	08/30/23 20:20 / dck	08/28/23 09:58	ICPMS206-H_230830B : 155		67981
Iron	0.47	mg/L		0.02		E200.8	08/30/23 20:12 / dck	08/24/23 08:43	ICPMS205-H_230829C : 167		67951
Lead	0.0044	mg/L		0.0003		E200.8	08/30/23 20:12 / dck	08/24/23 08:43	ICPMS205-H_230829C : 167		67951
Lanthanum	ND	mg/L		0.1		E200.8	08/30/23 20:20 / dck	08/28/23 09:58	ICPMS206-H_230830B : 155		67981
Lithium	ND	mg/L		0.1		E200.7	08/29/23 03:04 / slj	08/24/23 08:43	ICP2-HE_230828B : 144		67951
Neodymium	ND	mg/L		0.01		E200.8	08/30/23 20:20 / dck	08/28/23 09:58	ICPMS206-H_230830B : 155		67981
Niobium	ND	mg/L		0.01		E200.8	08/30/23 20:20 / dck	08/28/23 09:58	ICPMS206-H_230830B : 155		67981
Manganese	0.109	mg/L		0.001		E200.8	09/05/23 23:57 / dck	08/24/23 08:43	ICPMS206-H_230905A : 106		67951
Molybdenum	0.024	mg/L		0.001		E200.8	08/30/23 20:12 / dck	08/24/23 08:43	ICPMS205-H_230829C : 167		67951
Nickel	ND	mg/L		0.002		E200.8	08/30/23 20:12 / dck	08/24/23 08:43	ICPMS205-H_230829C : 167		67951
Palladium	ND	mg/L		0.01		E200.8	08/30/23 20:20 / dck	08/28/23 09:58	ICPMS206-H_230830B : 155		67981
Praseodymium	ND	mg/L		0.01		E200.8	08/31/23 14:03 / dck	08/28/23 09:58	ICPMS206-H_230831A : 81		67981
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 20:20 / dck	08/28/23 09:58	ICPMS206-H_230830B : 155		67981
Selenium	ND	mg/L		0.001		E200.8	08/30/23 20:12 / dck	08/24/23 08:43	ICPMS205-H_230829C : 167		67951
Silver	ND	mg/L		0.0002		E200.8	08/30/23 20:12 / dck	08/24/23 08:43	ICPMS205-H_230829C : 167		67951
Strontium	0.30	mg/L		0.01		E200.7	08/29/23 03:04 / slj	08/24/23 08:43	ICP2-HE_230828B : 144		67951
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 20:12 / dck	08/24/23 08:43	ICPMS205-H_230829C : 167		67951
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 20:20 / dck	08/28/23 09:58	ICPMS206-H_230830B : 155		67981
Tin	ND	mg/L		0.05		E200.8	08/30/23 20:12 / dck	08/24/23 08:43	ICPMS205-H_230829C : 167		67951
Titanium	0.008	mg/L		0.005		E200.8	08/30/23 20:12 / dck	08/24/23 08:43	ICPMS205-H_230829C : 167		67951
Thorium	ND	mg/L		0.005		E200.8	08/30/23 20:20 / dck	08/28/23 09:58	ICPMS206-H_230830B : 356		67981
Uranium	0.0015	mg/L		0.0003		E200.8	08/30/23 20:12 / dck	08/24/23 08:43	ICPMS205-H_230829C : 167		67951

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-12  
**Lab ID:** H23080917-001  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2 / 001  
**Collection Date:** 08/23/23 10:45 **DateReceived:** 08/23/23  
**Report Date:** 09/22/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 20:12 / dck	08/24/23 08:43	ICPMS205-H_230829C : 167		67951
Zinc	0.082	mg/L		0.008		E200.8	09/05/23 23:57 / dck	08/24/23 08:43	ICPMS206-H_230905A : 106		67951
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 20:20 / dck	08/28/23 09:58	ICPMS206-H_230830B : 155		67981
<b>DATA QUALITY</b>											
A/C Balance	-3.62	%				A1030 E	09/05/23 14:18 / SR		CALC_230905B : 221		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** SS-04  
**Lab ID:** H23080917-002  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2 / 001  
**Collection Date:** 08/23/23 11:10  
**Date Received:** 08/23/23  
**Report Date:** 09/22/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.6	s.u.	H	0.1		A4500-H B	08/24/23 12:41 / eek		PHSC_101-H_230824A : 131		R187507
pH Measurement Temp	17.6	°C				A4500-H B	08/24/23 12:41 / eek		PHSC_101-H_230824A : 131		R187507
Conductivity @ 25 C	308	umhos/cm		5		A2510 B	08/24/23 12:41 / eek		PHSC_101-H_230824A : 132		R187507
Solids, Total Dissolved TDS @ 180 C	204	mg/L		20		A2540 C	08/25/23 14:36 / eek		124 (14410200)_230825B : 38		TDS230825B
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	95	mg/L		4		A2320 B	08/24/23 22:51 / eek		PHSC_101-H_230824A : 292		R187507
Bicarbonate as HCO3	110	mg/L		4		A2320 B	08/24/23 22:51 / eek		PHSC_101-H_230824A : 292		R187507
Carbonate as CO3	ND	mg/L		4		A2320 B	08/24/23 22:51 / eek		PHSC_101-H_230824A : 292		R187507
Chloride	20	mg/L		1		E300.0	08/26/23 19:02 / SR		C METROHM_230823A : 301		R187509
Sulfate	27	mg/L		1		E300.0	08/26/23 19:02 / SR		C METROHM_230823A : 301		R187509
Bromide	ND	mg/L		0.5		E300.0	08/26/23 19:02 / SR		C METROHM_230823A : 301		R187509
Fluoride	0.3	mg/L		0.1		E300.0	08/26/23 19:02 / SR		C METROHM_230823A : 301		R187509
Hardness as CaCO3	112	mg/L		1		A2340 B	08/28/23 21:30 / SR		CALC_230905B : 234		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	5.6	mg/L		0.5		A5310 C	08/29/23 03:15 / eli-c		SUB-C298148 : 35		C_R298148
Organic Carbon, Total (TOC)	4.8	mg/L		0.5		A5310 C	08/28/23 20:17 / eli-c		SUB-C298148 : 25		C_R298148
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.72	mg/L		0.01		E353.2	08/30/23 19:14 / JAR		SEAL AA500_230830A : 154		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/30/23 20:15 / dck		ICPMS205-H_230829C : 168		R187753
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 20:15 / dck		ICPMS205-H_230829C : 168		R187753
Arsenic	0.005	mg/L		0.001		E200.8	08/30/23 20:15 / dck		ICPMS205-H_230829C : 168		R187753
Barium	0.043	mg/L		0.003		E200.8	08/30/23 20:15 / dck		ICPMS205-H_230829C : 168		R187753
Beryllium	ND	mg/L		0.0008		E200.7	08/25/23 07:43 / slj		ICP2-HE_230824B : 220		R187553
Boron	ND	mg/L		0.05		E200.7	08/28/23 21:30 / slj		ICP2-HE_230828B : 56		R187634
Cadmium	ND	mg/L		0.00003		E200.8	08/30/23 20:15 / dck		ICPMS205-H_230829C : 168		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 20:22 / dck		ICPMS206-H_230830B : 156		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** SS-04  
**Lab ID:** H23080917-002  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2 / 001  
**Collection Date:** 08/23/23 11:10  
**Date Received:** 08/23/23  
**Report Date:** 09/22/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	32	mg/L		1		E200.7	08/28/23 21:30 / slj		ICP2-HE_230828B : 56		R187634
Chromium	ND	mg/L		0.005		E200.8	08/30/23 20:15 / dck		ICPMS205-H_230829C : 168		R187753
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 20:15 / dck		ICPMS205-H_230829C : 168		R187753
Copper	0.007	mg/L		0.002		E200.8	08/30/23 20:15 / dck		ICPMS205-H_230829C : 168		R187753
Gallium	ND	mg/L		0.01		E200.8	08/30/23 20:22 / dck		ICPMS206-H_230830B : 156		R187736
Iron	0.10	mg/L		0.02		E200.8	09/07/23 11:29 / dck		ICPMS206-H_230906B : 284		R187919
Lead	ND	mg/L		0.0003		E200.8	08/30/23 20:15 / dck		ICPMS205-H_230829C : 168		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 20:22 / dck		ICPMS206-H_230830B : 156		R187736
Lithium	ND	mg/L		0.1		E200.7	08/28/23 21:30 / slj		ICP2-HE_230828B : 56		R187634
Magnesium	8	mg/L		1		E200.7	08/28/23 21:30 / slj		ICP2-HE_230828B : 56		R187634
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 20:22 / dck		ICPMS206-H_230830B : 156		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 20:22 / dck		ICPMS206-H_230830B : 156		R187736
Manganese	0.042	mg/L		0.001		E200.8	09/06/23 00:01 / dck		ICPMS206-H_230905A : 107		R187884
Molybdenum	0.005	mg/L		0.001		E200.8	08/30/23 20:15 / dck		ICPMS205-H_230829C : 168		R187753
Nickel	ND	mg/L		0.002		E200.8	08/30/23 20:15 / dck		ICPMS205-H_230829C : 168		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 20:22 / dck		ICPMS206-H_230830B : 156		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/31/23 13:15 / dck		ICPMS206-H_230831A : 58		R187811
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 20:22 / dck		ICPMS206-H_230830B : 156		R187736
Potassium	3	mg/L		1		E200.7	08/28/23 21:30 / slj		ICP2-HE_230828B : 56		R187634
Selenium	ND	mg/L		0.001		E200.8	08/30/23 20:15 / dck		ICPMS205-H_230829C : 168		R187753
Silver	ND	mg/L		0.0002		E200.8	08/30/23 20:15 / dck		ICPMS205-H_230829C : 168		R187753
Sodium	12	mg/L		1		E200.7	08/28/23 21:30 / slj		ICP2-HE_230828B : 56		R187634
Strontium	0.19	mg/L		0.01		E200.7	08/28/23 21:30 / slj		ICP2-HE_230828B : 56		R187634
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 20:15 / dck		ICPMS205-H_230829C : 168		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 20:22 / dck		ICPMS206-H_230830B : 357		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 20:15 / dck		ICPMS205-H_230829C : 168		R187753
Titanium	ND	mg/L		0.005		E200.7	08/25/23 07:43 / slj		ICP2-HE_230824B : 220		R187553
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 20:22 / dck		ICPMS206-H_230830B : 156		R187736
Uranium	0.0030	mg/L		0.0002		E200.8	08/30/23 20:15 / dck		ICPMS205-H_230829C : 168		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 20:15 / dck		ICPMS205-H_230829C : 168		R187753
Zinc	ND	mg/L		0.008		E200.8	09/07/23 11:29 / dck		ICPMS206-H_230906B : 284		R187919
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 20:22 / dck		ICPMS206-H_230830B : 156		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** SS-04  
**Lab ID:** H23080917-002  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2 / 001  
**Collection Date:** 08/23/23 11:10 **DateReceived:** 08/23/23  
**Report Date:** 09/22/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	0.13	mg/L		0.01		E200.8	08/30/23 20:19 / dck	08/24/23 08:43	ICPMS205-H_230829C : 169		67951
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 20:19 / dck	08/24/23 08:43	ICPMS205-H_230829C : 169		67951
Arsenic	0.006	mg/L		0.001		E200.8	08/30/23 20:19 / dck	08/24/23 08:43	ICPMS205-H_230829C : 169		67951
Barium	0.047	mg/L		0.003		E200.8	08/30/23 20:19 / dck	08/24/23 08:43	ICPMS205-H_230829C : 169		67951
Beryllium	ND	mg/L		0.0008		E200.8	09/06/23 00:04 / dck	08/24/23 08:43	ICPMS206-H_230905A : 108		67951
Cesium	ND	mg/L		0.01		E200.8	08/30/23 20:24 / dck	08/28/23 09:59	ICPMS206-H_230830B : 157		67981
Cadmium	0.00005	mg/L		0.00004		E200.8	08/30/23 20:19 / dck	08/24/23 08:43	ICPMS205-H_230829C : 169		67951
Chromium	ND	mg/L		0.005		E200.8	08/30/23 20:19 / dck	08/24/23 08:43	ICPMS205-H_230829C : 169		67951
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 20:19 / dck	08/24/23 08:43	ICPMS205-H_230829C : 169		67951
Copper	0.008	mg/L		0.002		E200.8	08/30/23 20:19 / dck	08/24/23 08:43	ICPMS205-H_230829C : 169		67951
Gallium	ND	mg/L		0.01		E200.8	08/30/23 20:24 / dck	08/28/23 09:59	ICPMS206-H_230830B : 157		67981
Iron	0.56	mg/L		0.02		E200.8	08/30/23 20:19 / dck	08/24/23 08:43	ICPMS205-H_230829C : 169		67951
Lead	0.0015	mg/L		0.0003		E200.8	08/30/23 20:19 / dck	08/24/23 08:43	ICPMS205-H_230829C : 169		67951
Lanthanum	ND	mg/L		0.1		E200.8	08/30/23 20:24 / dck	08/28/23 09:59	ICPMS206-H_230830B : 157		67981
Lithium	ND	mg/L		0.1		E200.7	08/29/23 03:07 / slj	08/24/23 08:43	ICP2-HE_230828B : 145		67951
Neodymium	ND	mg/L		0.01		E200.8	08/30/23 20:24 / dck	08/28/23 09:59	ICPMS206-H_230830B : 157		67981
Niobium	ND	mg/L		0.01		E200.8	08/30/23 20:24 / dck	08/28/23 09:59	ICPMS206-H_230830B : 157		67981
Manganese	0.075	mg/L		0.001		E200.8	09/06/23 00:04 / dck	08/24/23 08:43	ICPMS206-H_230905A : 108		67951
Molybdenum	0.006	mg/L		0.001		E200.8	09/06/23 00:04 / dck	08/24/23 08:43	ICPMS206-H_230905A : 108		67951
Nickel	ND	mg/L		0.002		E200.8	08/30/23 20:19 / dck	08/24/23 08:43	ICPMS205-H_230829C : 169		67951
Palladium	ND	mg/L		0.01		E200.8	08/30/23 20:24 / dck	08/28/23 09:59	ICPMS206-H_230830B : 157		67981
Praseodymium	ND	mg/L		0.01		E200.8	08/31/23 13:17 / dck	08/28/23 09:59	ICPMS206-H_230831A : 59		67981
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 20:24 / dck	08/28/23 09:59	ICPMS206-H_230830B : 157		67981
Selenium	ND	mg/L		0.001		E200.8	08/30/23 20:19 / dck	08/24/23 08:43	ICPMS205-H_230829C : 169		67951
Silver	ND	mg/L		0.0002		E200.8	08/30/23 20:19 / dck	08/24/23 08:43	ICPMS205-H_230829C : 169		67951
Strontium	0.20	mg/L		0.01		E200.7	08/29/23 03:07 / slj	08/24/23 08:43	ICP2-HE_230828B : 145		67951
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 20:19 / dck	08/24/23 08:43	ICPMS205-H_230829C : 169		67951
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 20:24 / dck	08/28/23 09:59	ICPMS206-H_230830B : 157		67981
Tin	ND	mg/L		0.05		E200.8	08/30/23 20:19 / dck	08/24/23 08:43	ICPMS205-H_230829C : 169		67951
Titanium	0.010	mg/L		0.005		E200.8	08/30/23 20:19 / dck	08/24/23 08:43	ICPMS205-H_230829C : 169		67951
Thorium	ND	mg/L		0.005		E200.8	08/30/23 20:24 / dck	08/28/23 09:59	ICPMS206-H_230830B : 358		67981
Uranium	0.0032	mg/L		0.0003		E200.8	08/30/23 20:19 / dck	08/24/23 08:43	ICPMS205-H_230829C : 169		67951

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** SS-04  
**Lab ID:** H23080917-002  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2 / 001  
**Collection Date:** 08/23/23 11:10 **DateReceived:** 08/23/23  
**Report Date:** 09/22/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 20:19 / dck	08/24/23 08:43	ICPMS205-H_230829C : 169		67951
Zinc	0.013	mg/L		0.008		E200.8	09/06/23 18:01 / dck	08/24/23 08:43	ICPMS206-H_230906B : 42		67951
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 20:24 / dck	08/28/23 09:59	ICPMS206-H_230830B : 157		67981
<b>DATA QUALITY</b>											
A/C Balance	-3.58	%				A1030 E	09/05/23 14:19 / SR		CALC_230905B : 232		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-5  
**Lab ID:** H23080917-003  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2 / 001  
**Collection Date:** 08/23/23 11:15  
**Date Received:** 08/23/23  
**Report Date:** 09/22/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.6	s.u.	H	0.1		A4500-H B	08/24/23 12:43 / eek		PHSC_101-H_230824A : 133		R187507
pH Measurement Temp	17.8	°C				A4500-H B	08/24/23 12:43 / eek		PHSC_101-H_230824A : 133		R187507
Conductivity @ 25 C	308	umhos/cm		5		A2510 B	08/24/23 12:43 / eek		PHSC_101-H_230824A : 134		R187507
Solids, Total Dissolved TDS @ 180 C	206	mg/L		20		A2540 C	08/25/23 14:36 / eek		124 (14410200)_230825B : 39		TDS230825B
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	95	mg/L		4		A2320 B	08/24/23 22:56 / eek		PHSC_101-H_230824A : 294		R187507
Bicarbonate as HCO3	120	mg/L		4		A2320 B	08/24/23 22:56 / eek		PHSC_101-H_230824A : 294		R187507
Carbonate as CO3	ND	mg/L		4		A2320 B	08/24/23 22:56 / eek		PHSC_101-H_230824A : 294		R187507
Chloride	20	mg/L		1		E300.0	08/26/23 19:17 / SR		C METROHM_230823A : 302		R187509
Sulfate	27	mg/L		1		E300.0	08/26/23 19:17 / SR		C METROHM_230823A : 302		R187509
Bromide	ND	mg/L		0.5		E300.0	08/26/23 19:17 / SR		C METROHM_230823A : 302		R187509
Fluoride	0.3	mg/L		0.1		E300.0	08/26/23 19:17 / SR		C METROHM_230823A : 302		R187509
Hardness as CaCO3	116	mg/L		1		A2340 B	08/28/23 21:41 / SR		CALC_230905B : 245		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	5.4	mg/L		0.5		A5310 C	08/29/23 03:30 / eli-c		SUB-C298148 : 36		C_R298148
Organic Carbon, Total (TOC)	4.8	mg/L		0.5		A5310 C	08/28/23 20:32 / eli-c		SUB-C298148 : 26		C_R298148
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.72	mg/L		0.01		E353.2	08/30/23 19:15 / JAR		SEAL AA500_230830A : 155		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/30/23 20:34 / dck		ICPMS205-H_230829C : 174		R187753
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 20:34 / dck		ICPMS205-H_230829C : 174		R187753
Arsenic	0.005	mg/L		0.001		E200.8	08/30/23 20:34 / dck		ICPMS205-H_230829C : 174		R187753
Barium	0.044	mg/L		0.003		E200.8	08/30/23 20:34 / dck		ICPMS205-H_230829C : 174		R187753
Beryllium	ND	mg/L		0.0008		E200.8	09/06/23 18:05 / dck		ICPMS206-H_230906B : 43		R187919
Boron	ND	mg/L		0.05		E200.7	08/28/23 21:41 / slj		ICP2-HE_230828B : 59		R187634
Cadmium	ND	mg/L		0.00003		E200.8	09/06/23 18:05 / dck		ICPMS206-H_230906B : 43		R187919
Cesium	ND	mg/L		0.01		E200.8	08/30/23 20:29 / dck		ICPMS206-H_230830B : 159		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-5  
**Lab ID:** H23080917-003  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2 / 001  
**Collection Date:** 08/23/23 11:15  
**Date Received:** 08/23/23  
**Report Date:** 09/22/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	33	mg/L		1		E200.7	08/28/23 21:41 / slj		ICP2-HE_230828B : 59		R187634
Chromium	ND	mg/L		0.005		E200.8	08/30/23 20:34 / dck		ICPMS205-H_230829C : 174		R187753
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 20:34 / dck		ICPMS205-H_230829C : 174		R187753
Copper	0.004	mg/L		0.002		E200.8	08/30/23 20:34 / dck		ICPMS205-H_230829C : 174		R187753
Gallium	ND	mg/L		0.01		E200.8	08/30/23 20:29 / dck		ICPMS206-H_230830B : 159		R187736
Iron	0.14	mg/L		0.02		E200.8	08/30/23 20:34 / dck		ICPMS205-H_230829C : 174		R187753
Lead	ND	mg/L		0.0003		E200.8	08/30/23 20:34 / dck		ICPMS205-H_230829C : 174		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 20:29 / dck		ICPMS206-H_230830B : 159		R187736
Lithium	ND	mg/L		0.1		E200.7	08/28/23 21:41 / slj		ICP2-HE_230828B : 59		R187634
Magnesium	8	mg/L		1		E200.7	08/28/23 21:41 / slj		ICP2-HE_230828B : 59		R187634
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 20:29 / dck		ICPMS206-H_230830B : 159		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 20:29 / dck		ICPMS206-H_230830B : 159		R187736
Manganese	0.039	mg/L		0.001		E200.8	09/06/23 18:05 / dck		ICPMS206-H_230906B : 43		R187919
Molybdenum	0.005	mg/L		0.001		E200.8	08/30/23 20:34 / dck		ICPMS205-H_230829C : 174		R187753
Nickel	ND	mg/L		0.002		E200.8	08/30/23 20:34 / dck		ICPMS205-H_230829C : 174		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 20:29 / dck		ICPMS206-H_230830B : 159		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/31/23 13:19 / dck		ICPMS206-H_230831A : 60		R187811
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 20:29 / dck		ICPMS206-H_230830B : 159		R187736
Potassium	3	mg/L		1		E200.7	08/28/23 21:41 / slj		ICP2-HE_230828B : 59		R187634
Selenium	ND	mg/L		0.001		E200.8	09/06/23 18:05 / dck		ICPMS206-H_230906B : 43		R187919
Silver	ND	mg/L		0.0002		E200.8	08/30/23 20:34 / dck		ICPMS205-H_230829C : 174		R187753
Sodium	12	mg/L		1		E200.7	08/28/23 21:41 / slj		ICP2-HE_230828B : 59		R187634
Strontium	0.20	mg/L		0.01		E200.7	08/28/23 21:41 / slj		ICP2-HE_230828B : 59		R187634
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 20:34 / dck		ICPMS205-H_230829C : 174		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 20:29 / dck		ICPMS206-H_230830B : 360		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 20:34 / dck		ICPMS205-H_230829C : 174		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 20:34 / dck		ICPMS205-H_230829C : 174		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 20:29 / dck		ICPMS206-H_230830B : 159		R187736
Uranium	0.0029	mg/L		0.0002		E200.8	08/30/23 20:34 / dck		ICPMS205-H_230829C : 174		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 20:34 / dck		ICPMS205-H_230829C : 174		R187753
Zinc	ND	mg/L		0.008		E200.8	09/06/23 18:05 / dck		ICPMS206-H_230906B : 43		R187919
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 20:29 / dck		ICPMS206-H_230830B : 159		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-5  
**Lab ID:** H23080917-003  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2 / 001  
**Collection Date:** 08/23/23 11:15 **DateReceived:** 08/23/23  
**Report Date:** 09/22/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	0.147	mg/L		0.009		E200.8	08/30/23 20:37 / dck	08/24/23 08:43	ICPMS205-H_230829C : 175		67951
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 20:37 / dck	08/24/23 08:43	ICPMS205-H_230829C : 175		67951
Arsenic	0.006	mg/L		0.001		E200.8	08/30/23 20:37 / dck	08/24/23 08:43	ICPMS205-H_230829C : 175		67951
Barium	0.049	mg/L		0.003		E200.8	08/30/23 20:37 / dck	08/24/23 08:43	ICPMS205-H_230829C : 175		67951
Beryllium	ND	mg/L		0.0008		E200.8	09/06/23 00:19 / dck	08/24/23 08:43	ICPMS206-H_230905A : 112		67951
Cesium	ND	mg/L		0.01		E200.8	08/30/23 20:31 / dck	08/28/23 09:59	ICPMS206-H_230830B : 160		67981
Cadmium	0.00005	mg/L		0.00003		E200.8	08/30/23 20:37 / dck	08/24/23 08:43	ICPMS205-H_230829C : 175		67951
Chromium	ND	mg/L		0.005		E200.8	08/30/23 20:37 / dck	08/24/23 08:43	ICPMS205-H_230829C : 175		67951
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 20:37 / dck	08/24/23 08:43	ICPMS205-H_230829C : 175		67951
Copper	0.009	mg/L		0.002		E200.8	08/30/23 20:37 / dck	08/24/23 08:43	ICPMS205-H_230829C : 175		67951
Gallium	ND	mg/L		0.01		E200.8	08/30/23 20:31 / dck	08/28/23 09:59	ICPMS206-H_230830B : 160		67981
Iron	0.59	mg/L		0.02		E200.8	08/30/23 20:37 / dck	08/24/23 08:43	ICPMS205-H_230829C : 175		67951
Lead	0.0017	mg/L		0.0003		E200.8	08/30/23 20:37 / dck	08/24/23 08:43	ICPMS205-H_230829C : 175		67951
Lanthanum	ND	mg/L		0.1		E200.8	08/30/23 20:31 / dck	08/28/23 09:59	ICPMS206-H_230830B : 160		67981
Lithium	ND	mg/L		0.1		E200.7	08/29/23 03:11 / slj	08/24/23 08:43	ICP2-HE_230828B : 146		67951
Neodymium	ND	mg/L		0.01		E200.8	08/30/23 20:31 / dck	08/28/23 09:59	ICPMS206-H_230830B : 160		67981
Niobium	ND	mg/L		0.01		E200.8	08/30/23 20:31 / dck	08/28/23 09:59	ICPMS206-H_230830B : 160		67981
Manganese	0.055	mg/L		0.001		E200.8	09/06/23 00:19 / dck	08/24/23 08:43	ICPMS206-H_230905A : 112		67951
Molybdenum	0.006	mg/L		0.001		E200.8	08/30/23 20:37 / dck	08/24/23 08:43	ICPMS205-H_230829C : 175		67951
Nickel	ND	mg/L		0.002		E200.8	08/30/23 20:37 / dck	08/24/23 08:43	ICPMS205-H_230829C : 175		67951
Palladium	ND	mg/L		0.01		E200.8	08/30/23 20:31 / dck	08/28/23 09:59	ICPMS206-H_230830B : 160		67981
Praseodymium	ND	mg/L		0.01		E200.8	08/31/23 13:21 / dck	08/28/23 09:59	ICPMS206-H_230831A : 61		67981
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 20:31 / dck	08/28/23 09:59	ICPMS206-H_230830B : 160		67981
Selenium	ND	mg/L		0.001		E200.8	08/30/23 20:37 / dck	08/24/23 08:43	ICPMS205-H_230829C : 175		67951
Silver	ND	mg/L		0.0002		E200.8	08/30/23 20:37 / dck	08/24/23 08:43	ICPMS205-H_230829C : 175		67951
Strontium	0.20	mg/L		0.01		E200.7	08/29/23 03:11 / slj	08/24/23 08:43	ICP2-HE_230828B : 146		67951
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 20:37 / dck	08/24/23 08:43	ICPMS205-H_230829C : 175		67951
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 20:31 / dck	08/28/23 09:59	ICPMS206-H_230830B : 160		67981
Tin	ND	mg/L		0.05		E200.8	08/30/23 20:37 / dck	08/24/23 08:43	ICPMS205-H_230829C : 175		67951
Titanium	0.010	mg/L		0.005		E200.8	08/30/23 20:37 / dck	08/24/23 08:43	ICPMS205-H_230829C : 175		67951
Thorium	ND	mg/L		0.005		E200.8	08/30/23 20:31 / dck	08/28/23 09:59	ICPMS206-H_230830B : 361		67981
Uranium	0.0031	mg/L		0.0003		E200.8	08/30/23 20:37 / dck	08/24/23 08:43	ICPMS205-H_230829C : 175		67951

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-5  
**Lab ID:** H23080917-003  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2 / 001  
**Collection Date:** 08/23/23 11:15      **DateReceived:** 08/23/23  
**Report Date:** 09/22/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 20:37 / dck	08/24/23 08:43	ICPMS205-H_230829C : 175		67951
Zinc	0.013	mg/L		0.008		E200.8	09/06/23 18:08 / dck	08/24/23 08:43	ICPMS206-H_230906B : 44		67951
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 20:31 / dck	08/28/23 09:59	ICPMS206-H_230830B : 160		67981
<b>DATA QUALITY</b>											
A/C Balance	-2.46	%				A1030 E	09/05/23 14:19 / SR		CALC_230905B : 243		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-5  
**Lab ID:** H23080917-004  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2 / 001  
**Collection Date:** 08/23/23 11:25  
**Date Received:** 08/23/23  
**Report Date:** 09/22/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.4	s.u.	H	0.1		A4500-H B	08/24/23 12:45 / eek		PHSC_101-H_230824A : 135		R187507
pH Measurement Temp	18.0	°C				A4500-H B	08/24/23 12:45 / eek		PHSC_101-H_230824A : 135		R187507
Conductivity @ 25 C	ND	umhos/cm			5	A2510 B	08/24/23 12:45 / eek		PHSC_101-H_230824A : 136		R187507
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	L	20		A2540 C	08/25/23 14:37 / eek		124 (14410200)_230825B : 40		TDS230825B
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.											
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	08/24/23 23:01 / eek		PHSC_101-H_230824A : 296		R187507
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	08/24/23 23:01 / eek		PHSC_101-H_230824A : 296		R187507
Carbonate as CO3	ND	mg/L		4		A2320 B	08/24/23 23:01 / eek		PHSC_101-H_230824A : 296		R187507
Chloride	ND	mg/L		1		E300.0	08/26/23 19:31 / SR		C METROHM_230823A : 303		R187509
Sulfate	ND	mg/L		1		E300.0	08/26/23 19:31 / SR		C METROHM_230823A : 303		R187509
Bromide	ND	mg/L		0.5		E300.0	08/26/23 19:31 / SR		C METROHM_230823A : 303		R187509
Fluoride	ND	mg/L		0.1		E300.0	08/26/23 19:31 / SR		C METROHM_230823A : 303		R187509
Hardness as CaCO3	ND	mg/L		1		A2340 B	08/28/23 21:45 / SR		CALC_230905B : 256		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	08/29/23 03:48 / eli-c		SUB-C298148 : 37		C_R298148
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	08/28/23 20:53 / eli-c		SUB-C298148 : 27		C_R298148
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	08/30/23 19:16 / JAR		SEAL AA500_230830A : 156		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/30/23 20:40 / dck		ICPMS205-H_230829C : 176		R187753
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 20:40 / dck		ICPMS205-H_230829C : 176		R187753
Arsenic	ND	mg/L		0.001		E200.8	08/30/23 20:40 / dck		ICPMS205-H_230829C : 176		R187753
Barium	ND	mg/L		0.003		E200.8	08/30/23 20:40 / dck		ICPMS205-H_230829C : 176		R187753
Beryllium	ND	mg/L		0.0008		E200.8	09/06/23 18:12 / dck		ICPMS206-H_230906B : 45		R187919
Boron	ND	mg/L		0.05		E200.7	08/28/23 21:45 / slj		ICP2-HE_230828B : 60		R187634
Cadmium	ND	mg/L		0.00003		E200.8	08/30/23 20:40 / dck		ICPMS205-H_230829C : 176		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 20:33 / dck		ICPMS206-H_230830B : 161		R187736

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level  
L - Lowest available reporting limit for the analytical method used

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-5  
**Lab ID:** H23080917-004  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2 / 001  
**Collection Date:** 08/23/23 11:25  
**Date Received:** 08/23/23  
**Report Date:** 09/22/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	ND	mg/L		1		E200.7	08/28/23 21:45 / slj		ICP2-HE_230828B : 60		R187634
Chromium	ND	mg/L		0.005		E200.8	08/30/23 20:40 / dck		ICPMS205-H_230829C : 176		R187753
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 20:40 / dck		ICPMS205-H_230829C : 176		R187753
Copper	ND	mg/L		0.002		E200.8	08/30/23 20:40 / dck		ICPMS205-H_230829C : 176		R187753
Gallium	ND	mg/L		0.01		E200.8	08/30/23 20:33 / dck		ICPMS206-H_230830B : 161		R187736
Iron	ND	mg/L		0.02		E200.8	08/30/23 20:40 / dck		ICPMS205-H_230829C : 176		R187753
Lead	ND	mg/L		0.0003		E200.8	08/30/23 20:40 / dck		ICPMS205-H_230829C : 176		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 20:33 / dck		ICPMS206-H_230830B : 161		R187736
Lithium	ND	mg/L		0.1		E200.7	08/28/23 21:45 / slj		ICP2-HE_230828B : 60		R187634
Magnesium	ND	mg/L		1		E200.7	08/28/23 21:45 / slj		ICP2-HE_230828B : 60		R187634
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 20:33 / dck		ICPMS206-H_230830B : 161		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 20:33 / dck		ICPMS206-H_230830B : 161		R187736
Manganese	ND	mg/L		0.001		E200.8	09/06/23 18:12 / dck		ICPMS206-H_230906B : 45		R187919
Molybdenum	ND	mg/L		0.001		E200.8	08/30/23 20:40 / dck		ICPMS205-H_230829C : 176		R187753
Nickel	ND	mg/L		0.002		E200.8	08/30/23 20:40 / dck		ICPMS205-H_230829C : 176		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 20:33 / dck		ICPMS206-H_230830B : 161		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/31/23 13:23 / dck		ICPMS206-H_230831A : 62		R187811
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 20:33 / dck		ICPMS206-H_230830B : 161		R187736
Potassium	ND	mg/L		1		E200.7	08/28/23 21:45 / slj		ICP2-HE_230828B : 60		R187634
Selenium	ND	mg/L		0.001		E200.8	08/30/23 20:40 / dck		ICPMS205-H_230829C : 176		R187753
Silver	ND	mg/L		0.0002		E200.8	08/30/23 20:40 / dck		ICPMS205-H_230829C : 176		R187753
Sodium	ND	mg/L		1		E200.7	08/28/23 21:45 / slj		ICP2-HE_230828B : 60		R187634
Strontium	ND	mg/L		0.01		E200.7	08/28/23 21:45 / slj		ICP2-HE_230828B : 60		R187634
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 20:40 / dck		ICPMS205-H_230829C : 176		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 20:33 / dck		ICPMS206-H_230830B : 362		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 20:40 / dck		ICPMS205-H_230829C : 176		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 20:40 / dck		ICPMS205-H_230829C : 176		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 20:33 / dck		ICPMS206-H_230830B : 161		R187736
Uranium	ND	mg/L		0.0002		E200.8	08/30/23 20:40 / dck		ICPMS205-H_230829C : 176		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 20:40 / dck		ICPMS205-H_230829C : 176		R187753
Zinc	ND	mg/L		0.008		E200.8	09/06/23 18:12 / dck		ICPMS206-H_230906B : 45		R187919
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 20:33 / dck		ICPMS206-H_230830B : 161		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-5  
**Lab ID:** H23080917-004  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2 / 001  
**Collection Date:** 08/23/23 11:25 **DateReceived:** 08/23/23  
**Report Date:** 09/22/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/30/23 20:43 / dck	08/24/23 08:43	ICPMS205-H_230829C : 177		67951
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 20:43 / dck	08/24/23 08:43	ICPMS205-H_230829C : 177		67951
Arsenic	ND	mg/L		0.001		E200.8	08/30/23 20:43 / dck	08/24/23 08:43	ICPMS205-H_230829C : 177		67951
Barium	ND	mg/L		0.003		E200.8	08/30/23 20:43 / dck	08/24/23 08:43	ICPMS205-H_230829C : 177		67951
Beryllium	ND	mg/L		0.0008		E200.8	08/30/23 20:43 / dck	08/24/23 08:43	ICPMS205-H_230829C : 177		67951
Cesium	ND	mg/L		0.01		E200.8	08/30/23 20:35 / dck	08/28/23 09:59	ICPMS206-H_230830B : 162		67981
Cadmium	ND	mg/L		0.00003		E200.8	08/30/23 20:43 / dck	08/24/23 08:43	ICPMS205-H_230829C : 177		67951
Chromium	ND	mg/L		0.005		E200.8	08/30/23 20:43 / dck	08/24/23 08:43	ICPMS205-H_230829C : 177		67951
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 20:43 / dck	08/24/23 08:43	ICPMS205-H_230829C : 177		67951
Copper	ND	mg/L		0.002		E200.8	08/30/23 20:43 / dck	08/24/23 08:43	ICPMS205-H_230829C : 177		67951
Gallium	ND	mg/L		0.01		E200.8	08/30/23 20:35 / dck	08/28/23 09:59	ICPMS206-H_230830B : 162		67981
Iron	ND	mg/L		0.02		E200.8	08/30/23 20:43 / dck	08/24/23 08:43	ICPMS205-H_230829C : 177		67951
Lead	ND	mg/L		0.0003		E200.8	08/30/23 20:43 / dck	08/24/23 08:43	ICPMS205-H_230829C : 177		67951
Lanthanum	ND	mg/L		0.1		E200.8	08/30/23 20:35 / dck	08/28/23 09:59	ICPMS206-H_230830B : 162		67981
Lithium	ND	mg/L		0.1		E200.7	08/29/23 03:15 / slj	08/24/23 08:43	ICP2-HE_230828B : 147		67951
Neodymium	ND	mg/L		0.01		E200.8	08/30/23 20:35 / dck	08/28/23 09:59	ICPMS206-H_230830B : 162		67981
Niobium	ND	mg/L		0.01		E200.8	08/30/23 20:35 / dck	08/28/23 09:59	ICPMS206-H_230830B : 162		67981
Manganese	ND	mg/L		0.001		E200.8	09/06/23 18:16 / dck	08/24/23 08:43	ICPMS206-H_230906B : 46		67951
Molybdenum	ND	mg/L		0.001		E200.8	08/30/23 20:43 / dck	08/24/23 08:43	ICPMS205-H_230829C : 177		67951
Nickel	ND	mg/L		0.002		E200.8	08/30/23 20:43 / dck	08/24/23 08:43	ICPMS205-H_230829C : 177		67951
Palladium	ND	mg/L		0.01		E200.8	08/30/23 20:35 / dck	08/28/23 09:59	ICPMS206-H_230830B : 162		67981
Praseodymium	ND	mg/L		0.01		E200.8	08/31/23 13:25 / dck	08/28/23 09:59	ICPMS206-H_230831A : 63		67981
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 20:35 / dck	08/28/23 09:59	ICPMS206-H_230830B : 162		67981
Selenium	ND	mg/L		0.001		E200.8	08/30/23 20:43 / dck	08/24/23 08:43	ICPMS205-H_230829C : 177		67951
Silver	ND	mg/L		0.0002		E200.8	08/30/23 20:43 / dck	08/24/23 08:43	ICPMS205-H_230829C : 177		67951
Strontium	ND	mg/L		0.01		E200.7	08/29/23 03:15 / slj	08/24/23 08:43	ICP2-HE_230828B : 147		67951
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 20:43 / dck	08/24/23 08:43	ICPMS205-H_230829C : 177		67951
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 20:35 / dck	08/28/23 09:59	ICPMS206-H_230830B : 162		67981
Tin	ND	mg/L		0.05		E200.8	08/30/23 20:43 / dck	08/24/23 08:43	ICPMS205-H_230829C : 177		67951
Titanium	ND	mg/L		0.005		E200.8	08/30/23 20:43 / dck	08/24/23 08:43	ICPMS205-H_230829C : 177		67951
Thorium	ND	mg/L		0.005		E200.8	08/30/23 20:35 / dck	08/28/23 09:59	ICPMS206-H_230830B : 363		67981
Uranium	ND	mg/L		0.0003		E200.8	08/30/23 20:43 / dck	08/24/23 08:43	ICPMS205-H_230829C : 177		67951

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-5  
**Lab ID:** H23080917-004  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2 / 001  
**Collection Date:** 08/23/23 11:25 **DateReceived:** 08/23/23  
**Report Date:** 09/22/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 20:43 / dck	08/24/23 08:43	ICPMS205-H_230829C : 177		67951
Zinc	ND	mg/L		0.008		E200.8	09/06/23 00:26 / dck	08/24/23 08:43	ICPMS206-H_230905A : 114		67951
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 20:35 / dck	08/28/23 09:59	ICPMS206-H_230830B : 162		67981
<b>DATA QUALITY</b>											
A/C Balance	100	%				A1030 E	09/05/23 14:19 / SR		CALC_230905B : 254		R187859
The Anion/Cation Balance Difference is <±0.2 meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-02  
**Lab ID:** H23080917-005  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2 / 001  
**Collection Date:** 08/23/23 11:35  
**Date Received:** 08/23/23  
**Report Date:** 09/22/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	8.5	s.u.	H	0.1		A4500-H B	08/24/23 12:47 / eek		PHSC_101-H_230824A : 137		R187507
pH Measurement Temp	18.0	°C				A4500-H B	08/24/23 12:47 / eek		PHSC_101-H_230824A : 137		R187507
Conductivity @ 25 C	311	umhos/cm		5		A2510 B	08/24/23 12:47 / eek		PHSC_101-H_230824A : 138		R187507
Solids, Total Dissolved TDS @ 180 C	209	mg/L		20		A2540 C	08/25/23 14:37 / eek		124 (14410200)_230825B : 41		TDS230825B
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	08/24/23 23:07 / eek		PHSC_101-H_230824A : 298		R187507
Bicarbonate as HCO3	120	mg/L		4		A2320 B	08/24/23 23:07 / eek		PHSC_101-H_230824A : 298		R187507
Carbonate as CO3	ND	mg/L		4		A2320 B	08/24/23 23:07 / eek		PHSC_101-H_230824A : 298		R187507
Chloride	10	mg/L		1		E300.0	08/26/23 19:46 / SR		C METROHM_230823A : 304		R187509
Sulfate	38	mg/L		1		E300.0	08/26/23 19:46 / SR		C METROHM_230823A : 304		R187509
Bromide	ND	mg/L		0.5		E300.0	08/26/23 19:46 / SR		C METROHM_230823A : 304		R187509
Fluoride	0.5	mg/L		0.1		E300.0	08/26/23 19:46 / SR		C METROHM_230823A : 304		R187509
Hardness as CaCO3	113	mg/L		1		A2340 B	08/28/23 21:49 / SR		CALC_230905B : 267		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	7.8	mg/L		0.5		A5310 C	08/29/23 04:07 / eli-c		SUB-C298148 : 38		C_R298148
Organic Carbon, Total (TOC)	3.3	mg/L		0.5		A5310 C	08/28/23 21:08 / eli-c		SUB-C298148 : 28		C_R298148
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	08/30/23 19:17 / JAR		SEAL AA500_230830A : 157		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/30/23 20:46 / dck		ICPMS205-H_230829C : 178		R187753
Antimony	0.0006	mg/L		0.0005		E200.8	08/30/23 20:46 / dck		ICPMS205-H_230829C : 178		R187753
Arsenic	0.011	mg/L		0.001		E200.8	08/30/23 20:46 / dck		ICPMS205-H_230829C : 178		R187753
Barium	0.046	mg/L		0.003		E200.8	08/30/23 20:46 / dck		ICPMS205-H_230829C : 178		R187753
Beryllium	ND	mg/L		0.0008		E200.8	09/06/23 18:20 / dck		ICPMS206-H_230906B : 47		R187919
Boron	ND	mg/L		0.05		E200.7	08/28/23 21:49 / slj		ICP2-HE_230828B : 61		R187634
Cadmium	ND	mg/L		0.00003		E200.8	08/30/23 20:46 / dck		ICPMS205-H_230829C : 178		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 20:53 / dck		ICPMS206-H_230830B : 171		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-02  
**Lab ID:** H23080917-005  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2 / 001  
**Collection Date:** 08/23/23 11:35  
**Date Received:** 08/23/23  
**Report Date:** 09/22/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	30	mg/L		1		E200.7	08/28/23 21:49 / slj		ICP2-HE_230828B : 61		R187634
Chromium	ND	mg/L		0.005		E200.8	08/30/23 20:46 / dck		ICPMS205-H_230829C : 178		R187753
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 20:46 / dck		ICPMS205-H_230829C : 178		R187753
Copper	ND	mg/L		0.002		E200.8	08/30/23 20:46 / dck		ICPMS205-H_230829C : 178		R187753
Gallium	ND	mg/L		0.01		E200.8	08/30/23 20:53 / dck		ICPMS206-H_230830B : 171		R187736
Iron	0.05	mg/L		0.02		E200.8	08/30/23 20:46 / dck		ICPMS205-H_230829C : 178		R187753
Lead	0.0006	mg/L		0.0003		E200.8	08/30/23 20:46 / dck		ICPMS205-H_230829C : 178		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 20:53 / dck		ICPMS206-H_230830B : 171		R187736
Lithium	ND	mg/L		0.1		E200.7	08/28/23 21:49 / slj		ICP2-HE_230828B : 61		R187634
Magnesium	9	mg/L		1		E200.7	08/28/23 21:49 / slj		ICP2-HE_230828B : 61		R187634
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 20:53 / dck		ICPMS206-H_230830B : 171		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 20:53 / dck		ICPMS206-H_230830B : 171		R187736
Manganese	0.126	mg/L		0.001		E200.8	09/06/23 18:20 / dck		ICPMS206-H_230906B : 47		R187919
Molybdenum	0.013	mg/L		0.001		E200.8	08/30/23 20:46 / dck		ICPMS205-H_230829C : 178		R187753
Nickel	ND	mg/L		0.002		E200.8	08/30/23 20:46 / dck		ICPMS205-H_230829C : 178		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 20:53 / dck		ICPMS206-H_230830B : 171		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 20:53 / dck		ICPMS206-H_230830B : 171		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 20:53 / dck		ICPMS206-H_230830B : 171		R187736
Potassium	3	mg/L		1		E200.7	08/28/23 21:49 / slj		ICP2-HE_230828B : 61		R187634
Selenium	ND	mg/L		0.001		E200.8	08/30/23 20:46 / dck		ICPMS205-H_230829C : 178		R187753
Silver	ND	mg/L		0.0002		E200.8	08/30/23 20:46 / dck		ICPMS205-H_230829C : 178		R187753
Sodium	18	mg/L		1		E200.7	08/28/23 21:49 / slj		ICP2-HE_230828B : 61		R187634
Strontium	0.21	mg/L		0.01		E200.7	08/28/23 21:49 / slj		ICP2-HE_230828B : 61		R187634
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 20:46 / dck		ICPMS205-H_230829C : 178		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 20:53 / dck		ICPMS206-H_230830B : 372		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 20:46 / dck		ICPMS205-H_230829C : 178		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 20:46 / dck		ICPMS205-H_230829C : 178		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 20:53 / dck		ICPMS206-H_230830B : 171		R187736
Uranium	0.0022	mg/L		0.0002		E200.8	08/30/23 20:46 / dck		ICPMS205-H_230829C : 178		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 20:46 / dck		ICPMS205-H_230829C : 178		R187753
Zinc	ND	mg/L		0.008		E200.8	09/06/23 18:20 / dck		ICPMS206-H_230906B : 47		R187919
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 20:53 / dck		ICPMS206-H_230830B : 171		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-02  
**Lab ID:** H23080917-005  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2 / 001  
**Collection Date:** 08/23/23 11:35 **DateReceived:** 08/23/23  
**Report Date:** 09/22/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	0.659	mg/L		0.009		E200.8	08/30/23 20:50 / dck	08/24/23 08:43	ICPMS205-H_230829C : 179		67951
Antimony	0.0007	mg/L		0.0005		E200.8	08/30/23 20:50 / dck	08/24/23 08:43	ICPMS205-H_230829C : 179		67951
Arsenic	0.013	mg/L		0.001		E200.8	08/30/23 20:50 / dck	08/24/23 08:43	ICPMS205-H_230829C : 179		67951
Barium	0.056	mg/L		0.003		E200.8	08/30/23 20:50 / dck	08/24/23 08:43	ICPMS205-H_230829C : 179		67951
Beryllium	ND	mg/L		0.0008		E200.8	09/06/23 00:34 / dck	08/24/23 08:43	ICPMS206-H_230905A : 116		67951
Cesium	ND	mg/L		0.01		E200.8	08/31/23 13:28 / dck	08/28/23 09:59	ICPMS206-H_230831A : 64		67981
Cadmium	0.00046	mg/L		0.00003		E200.8	08/30/23 20:50 / dck	08/24/23 08:43	ICPMS205-H_230829C : 179		67951
Chromium	ND	mg/L		0.005		E200.8	08/30/23 20:50 / dck	08/24/23 08:43	ICPMS205-H_230829C : 179		67951
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 20:50 / dck	08/24/23 08:43	ICPMS205-H_230829C : 179		67951
Copper	0.012	mg/L		0.002		E200.8	08/30/23 20:50 / dck	08/24/23 08:43	ICPMS205-H_230829C : 179		67951
Gallium	ND	mg/L		0.01		E200.8	08/31/23 13:28 / dck	08/28/23 09:59	ICPMS206-H_230831A : 64		67981
Iron	1.10	mg/L		0.02		E200.7	08/29/23 03:27 / slj	08/24/23 08:43	ICP2-HE_230828B : 150		67951
Lead	0.0077	mg/L		0.0003		E200.8	08/30/23 20:50 / dck	08/24/23 08:43	ICPMS205-H_230829C : 179		67951
Lanthanum	ND	mg/L		0.1		E200.8	08/31/23 13:28 / dck	08/28/23 09:59	ICPMS206-H_230831A : 64		67981
Lithium	ND	mg/L		0.1		E200.7	08/29/23 03:27 / slj	08/24/23 08:43	ICP2-HE_230828B : 150		67951
Neodymium	ND	mg/L		0.01		E200.8	08/31/23 13:28 / dck	08/28/23 09:59	ICPMS206-H_230831A : 64		67981
Niobium	ND	mg/L		0.01		E200.8	08/31/23 13:28 / dck	08/28/23 09:59	ICPMS206-H_230831A : 64		67981
Manganese	0.244	mg/L		0.001		E200.8	09/06/23 00:34 / dck	08/24/23 08:43	ICPMS206-H_230905A : 116		67951
Molybdenum	0.015	mg/L		0.001		E200.8	08/30/23 20:50 / dck	08/24/23 08:43	ICPMS205-H_230829C : 179		67951
Nickel	ND	mg/L		0.002		E200.8	08/30/23 20:50 / dck	08/24/23 08:43	ICPMS205-H_230829C : 179		67951
Palladium	ND	mg/L		0.01		E200.8	08/31/23 13:28 / dck	08/28/23 09:59	ICPMS206-H_230831A : 64		67981
Praseodymium	ND	mg/L		0.01		E200.8	08/31/23 13:28 / dck	08/28/23 09:59	ICPMS206-H_230831A : 64		67981
Rubidium	ND	mg/L		0.01		E200.8	08/31/23 13:28 / dck	08/28/23 09:59	ICPMS206-H_230831A : 64		67981
Selenium	ND	mg/L		0.001		E200.8	08/30/23 20:50 / dck	08/24/23 08:43	ICPMS205-H_230829C : 179		67951
Silver	ND	mg/L		0.0002		E200.8	08/30/23 20:50 / dck	08/24/23 08:43	ICPMS205-H_230829C : 179		67951
Strontium	0.20	mg/L		0.01		E200.7	08/29/23 03:27 / slj	08/24/23 08:43	ICP2-HE_230828B : 150		67951
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 20:50 / dck	08/24/23 08:43	ICPMS205-H_230829C : 179		67951
Tungsten	ND	mg/L		0.1		E200.8	08/31/23 13:28 / dck	08/28/23 09:59	ICPMS206-H_230831A : 64		67981
Tin	ND	mg/L		0.05		E200.8	08/30/23 20:50 / dck	08/24/23 08:43	ICPMS205-H_230829C : 179		67951
Titanium	0.041	mg/L		0.005		E200.8	08/30/23 20:50 / dck	08/24/23 08:43	ICPMS205-H_230829C : 179		67951
Thorium	ND	mg/L		0.005		E200.8	08/31/23 13:28 / dck	08/28/23 09:59	ICPMS206-H_230831A : 154		67981
Uranium	0.0024	mg/L		0.0003		E200.8	08/30/23 20:50 / dck	08/24/23 08:43	ICPMS205-H_230829C : 179		67951

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-02  
**Lab ID:** H23080917-005  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2 / 001  
**Collection Date:** 08/23/23 11:35 **DateReceived:** 08/23/23  
**Report Date:** 09/22/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 20:50 / dck	08/24/23 08:43	ICPMS205-H_230829C : 179		67951
Zinc	0.074	mg/L		0.008		E200.8	09/06/23 18:23 / dck	08/24/23 08:43	ICPMS206-H_230906B : 48		67951
Zirconium	ND	mg/L		0.005		E200.8	08/31/23 13:28 / dck	08/28/23 09:59	ICPMS206-H_230831A : 64		67981
<b>DATA QUALITY</b>											
A/C Balance	-1.69	%				A1030 E	09/05/23 14:20 / SR		CALC_230905B : 265		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-05  
**Lab ID:** H23080917-006  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2 / 001  
**Collection Date:** 08/23/23 11:50  
**Date Received:** 08/23/23  
**Report Date:** 09/22/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.6	s.u.	H	0.1		A4500-H B	08/24/23 12:49 / eek		PHSC_101-H_230824A : 139		R187507
pH Measurement Temp	18.4	°C				A4500-H B	08/24/23 12:49 / eek		PHSC_101-H_230824A : 139		R187507
Conductivity @ 25 C	312	umhos/cm		5		A2510 B	08/24/23 12:49 / eek		PHSC_101-H_230824A : 140		R187507
Solids, Total Dissolved TDS @ 180 C	208	mg/L		20		A2540 C	08/25/23 14:37 / eek		124 (14410200)_230825B : 42		TDS230825B
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	96	mg/L		4		A2320 B	08/24/23 23:13 / eek		PHSC_101-H_230824A : 300		R187507
Bicarbonate as HCO3	120	mg/L		4		A2320 B	08/24/23 23:13 / eek		PHSC_101-H_230824A : 300		R187507
Carbonate as CO3	ND	mg/L		4		A2320 B	08/24/23 23:13 / eek		PHSC_101-H_230824A : 300		R187507
Chloride	20	mg/L		1		E300.0	08/26/23 20:57 / SR		C METROHM_230823A : 309		R187509
Sulfate	28	mg/L		1		E300.0	08/26/23 20:57 / SR		C METROHM_230823A : 309		R187509
Bromide	ND	mg/L		0.5		E300.0	08/26/23 20:57 / SR		C METROHM_230823A : 309		R187509
Fluoride	0.3	mg/L		0.1		E300.0	08/26/23 20:57 / SR		C METROHM_230823A : 309		R187509
Hardness as CaCO3	120	mg/L		1		A2340 B	08/28/23 21:53 / SR		CALC_230905B : 278		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	6.2	mg/L		0.5		A5310 C	08/29/23 05:02 / eli-c		SUB-C298148 : 40		C_R298148
Organic Carbon, Total (TOC)	4.5	mg/L		0.5		A5310 C	08/28/23 22:03 / eli-c		SUB-C298148 : 30		C_R298148
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.80	mg/L		0.01		E353.2	08/30/23 19:20 / JAR		SEAL AA500_230830A : 160		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/30/23 20:56 / dck		ICPMS205-H_230829C : 181		R187753
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 20:56 / dck		ICPMS205-H_230829C : 181		R187753
Arsenic	0.004	mg/L		0.001		E200.8	08/30/23 20:56 / dck		ICPMS205-H_230829C : 181		R187753
Barium	0.045	mg/L		0.003		E200.8	08/30/23 20:56 / dck		ICPMS205-H_230829C : 181		R187753
Beryllium	ND	mg/L		0.0008		E200.8	09/06/23 18:35 / dck		ICPMS206-H_230906B : 51		R187919
Boron	ND	mg/L		0.05		E200.7	08/28/23 21:53 / slj		ICP2-HE_230828B : 62		R187634
Cadmium	ND	mg/L		0.00003		E200.8	08/30/23 20:56 / dck		ICPMS205-H_230829C : 181		R187753
Cesium	ND	mg/L		0.01		E200.8	08/31/23 13:30 / dck		ICPMS206-H_230831A : 65		R187811

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-05  
**Lab ID:** H23080917-006  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2 / 001  
**Collection Date:** 08/23/23 11:50  
**Date Received:** 08/23/23  
**Report Date:** 09/22/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	34	mg/L		1		E200.7	08/28/23 21:53 / slj		ICP2-HE_230828B : 62		R187634
Chromium	ND	mg/L		0.005		E200.8	08/30/23 20:56 / dck		ICPMS205-H_230829C : 181		R187753
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 20:56 / dck		ICPMS205-H_230829C : 181		R187753
Copper	0.003	mg/L		0.002		E200.8	08/30/23 20:56 / dck		ICPMS205-H_230829C : 181		R187753
Gallium	ND	mg/L		0.01		E200.8	08/31/23 13:30 / dck		ICPMS206-H_230831A : 65		R187811
Iron	0.03	mg/L		0.02		E200.8	08/30/23 20:56 / dck		ICPMS205-H_230829C : 181		R187753
Lead	ND	mg/L		0.0003		E200.8	08/30/23 20:56 / dck		ICPMS205-H_230829C : 181		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/31/23 13:30 / dck		ICPMS206-H_230831A : 65		R187811
Lithium	ND	mg/L		0.1		E200.7	08/28/23 21:53 / slj		ICP2-HE_230828B : 62		R187634
Magnesium	8	mg/L		1		E200.7	08/28/23 21:53 / slj		ICP2-HE_230828B : 62		R187634
Neodymium	ND	mg/L		0.005		E200.8	08/31/23 13:30 / dck		ICPMS206-H_230831A : 65		R187811
Niobium	ND	mg/L		0.01		E200.8	08/31/23 13:30 / dck		ICPMS206-H_230831A : 65		R187811
Manganese	0.042	mg/L		0.001		E200.8	09/06/23 18:35 / dck		ICPMS206-H_230906B : 51		R187919
Molybdenum	0.006	mg/L		0.001		E200.8	08/30/23 20:56 / dck		ICPMS205-H_230829C : 181		R187753
Nickel	ND	mg/L		0.002		E200.8	08/30/23 20:56 / dck		ICPMS205-H_230829C : 181		R187753
Palladium	ND	mg/L		0.01		E200.8	08/31/23 13:30 / dck		ICPMS206-H_230831A : 65		R187811
Praseodymium	ND	mg/L		0.01		E200.8	08/31/23 13:30 / dck		ICPMS206-H_230831A : 65		R187811
Rubidium	ND	mg/L		0.01		E200.8	08/31/23 13:30 / dck		ICPMS206-H_230831A : 65		R187811
Potassium	3	mg/L		1		E200.7	08/28/23 21:53 / slj		ICP2-HE_230828B : 62		R187634
Selenium	ND	mg/L		0.001		E200.8	08/30/23 20:56 / dck		ICPMS205-H_230829C : 181		R187753
Silver	ND	mg/L		0.0002		E200.8	08/30/23 20:56 / dck		ICPMS205-H_230829C : 181		R187753
Sodium	12	mg/L		1		E200.7	08/28/23 21:53 / slj		ICP2-HE_230828B : 62		R187634
Strontium	0.20	mg/L		0.01		E200.7	08/28/23 21:53 / slj		ICP2-HE_230828B : 62		R187634
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 20:56 / dck		ICPMS205-H_230829C : 181		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 20:58 / dck		ICPMS206-H_230830B : 374		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 20:56 / dck		ICPMS205-H_230829C : 181		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 20:56 / dck		ICPMS205-H_230829C : 181		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/31/23 13:30 / dck		ICPMS206-H_230831A : 65		R187811
Uranium	0.0031	mg/L		0.0002		E200.8	08/30/23 20:56 / dck		ICPMS205-H_230829C : 181		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 20:56 / dck		ICPMS205-H_230829C : 181		R187753
Zinc	0.011	mg/L		0.008		E200.8	09/06/23 18:35 / dck		ICPMS206-H_230906B : 51		R187919
Zirconium	ND	mg/L		0.005		E200.8	08/31/23 13:30 / dck		ICPMS206-H_230831A : 65		R187811

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-05  
**Lab ID:** H23080917-006  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2 / 001  
**Collection Date:** 08/23/23 11:50 **DateReceived:** 08/23/23  
**Report Date:** 09/22/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	0.041	mg/L		0.009		E200.8	08/30/23 20:59 / dck	08/24/23 08:43	ICPMS205-H_230829C : 182		67951
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 20:59 / dck	08/24/23 08:43	ICPMS205-H_230829C : 182		67951
Arsenic	0.005	mg/L		0.001		E200.8	08/30/23 20:59 / dck	08/24/23 08:43	ICPMS205-H_230829C : 182		67951
Barium	0.048	mg/L		0.003		E200.8	08/30/23 20:59 / dck	08/24/23 08:43	ICPMS205-H_230829C : 182		67951
Beryllium	ND	mg/L		0.0008		E200.8	08/30/23 20:59 / dck	08/24/23 08:43	ICPMS205-H_230829C : 182		67951
Cesium	ND	mg/L		0.01		E200.8	08/30/23 21:00 / dck	08/28/23 09:59	ICPMS206-H_230830B : 174		67981
Cadmium	ND	mg/L		0.00003		E200.8	08/30/23 20:59 / dck	08/24/23 08:43	ICPMS205-H_230829C : 182		67951
Chromium	ND	mg/L		0.005		E200.8	08/30/23 20:59 / dck	08/24/23 08:43	ICPMS205-H_230829C : 182		67951
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 20:59 / dck	08/24/23 08:43	ICPMS205-H_230829C : 182		67951
Copper	0.006	mg/L		0.002		E200.8	08/30/23 20:59 / dck	08/24/23 08:43	ICPMS205-H_230829C : 182		67951
Gallium	ND	mg/L		0.01		E200.8	08/30/23 21:00 / dck	08/28/23 09:59	ICPMS206-H_230830B : 174		67981
Iron	0.37	mg/L		0.02		E200.8	08/30/23 20:59 / dck	08/24/23 08:43	ICPMS205-H_230829C : 182		67951
Lead	0.0005	mg/L		0.0003		E200.8	08/30/23 20:59 / dck	08/24/23 08:43	ICPMS205-H_230829C : 182		67951
Lanthanum	ND	mg/L		0.1		E200.8	08/30/23 21:00 / dck	08/28/23 09:59	ICPMS206-H_230830B : 174		67981
Lithium	ND	mg/L		0.1		E200.7	08/29/23 03:31 / slj	08/24/23 08:43	ICP2-HE_230828B : 151		67951
Neodymium	ND	mg/L		0.01		E200.8	08/30/23 21:00 / dck	08/28/23 09:59	ICPMS206-H_230830B : 174		67981
Niobium	ND	mg/L		0.01		E200.8	08/30/23 21:00 / dck	08/28/23 09:59	ICPMS206-H_230830B : 174		67981
Manganese	0.047	mg/L		0.001		E200.8	09/06/23 00:41 / dck	08/24/23 08:43	ICPMS206-H_230905A : 118		67951
Molybdenum	0.006	mg/L		0.001		E200.8	08/30/23 20:59 / dck	08/24/23 08:43	ICPMS205-H_230829C : 182		67951
Nickel	ND	mg/L		0.002		E200.8	08/30/23 20:59 / dck	08/24/23 08:43	ICPMS205-H_230829C : 182		67951
Palladium	ND	mg/L		0.01		E200.8	08/30/23 21:00 / dck	08/28/23 09:59	ICPMS206-H_230830B : 174		67981
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 21:00 / dck	08/28/23 09:59	ICPMS206-H_230830B : 174		67981
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 21:00 / dck	08/28/23 09:59	ICPMS206-H_230830B : 174		67981
Selenium	ND	mg/L		0.001		E200.8	08/30/23 20:59 / dck	08/24/23 08:43	ICPMS205-H_230829C : 182		67951
Silver	ND	mg/L		0.0002		E200.8	08/30/23 20:59 / dck	08/24/23 08:43	ICPMS205-H_230829C : 182		67951
Strontium	0.20	mg/L		0.01		E200.7	08/29/23 03:31 / slj	08/24/23 08:43	ICP2-HE_230828B : 151		67951
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 20:59 / dck	08/24/23 08:43	ICPMS205-H_230829C : 182		67951
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 21:00 / dck	08/28/23 09:59	ICPMS206-H_230830B : 174		67981
Tin	ND	mg/L		0.05		E200.8	08/30/23 20:59 / dck	08/24/23 08:43	ICPMS205-H_230829C : 182		67951
Titanium	ND	mg/L		0.005		E200.8	08/30/23 20:59 / dck	08/24/23 08:43	ICPMS205-H_230829C : 182		67951
Thorium	ND	mg/L		0.005		E200.8	08/30/23 21:00 / dck	08/28/23 09:59	ICPMS206-H_230830B : 375		67981
Uranium	0.0034	mg/L		0.0003		E200.8	08/30/23 20:59 / dck	08/24/23 08:43	ICPMS205-H_230829C : 182		67951

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-05  
**Lab ID:** H23080917-006  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2 / 001  
**Collection Date:** 08/23/23 11:50 **DateReceived:** 08/23/23  
**Report Date:** 09/22/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 20:59 / dck	08/24/23 08:43	ICPMS205-H_230829C : 182		67951
Zinc	0.009	mg/L		0.008		E200.8	09/06/23 18:38 / dck	08/24/23 08:43	ICPMS206-H_230906B : 52		67951
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 21:00 / dck	08/28/23 09:59	ICPMS206-H_230830B : 174		67981
<b>DATA QUALITY</b>											
A/C Balance	-1.77	%				A1030 E	09/05/23 14:20 / SR		CALC_230905B : 276		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-03  
**Lab ID:** H23080917-007  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2 / 001  
**Collection Date:** 08/23/23 12:10  
**Date Received:** 08/23/23  
**Report Date:** 09/22/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.2	s.u.	H	0.1		A4500-H B	08/24/23 12:51 / eek		PHSC_101-H_230824A : 141		R187507
pH Measurement Temp	19.5	°C				A4500-H B	08/24/23 12:51 / eek		PHSC_101-H_230824A : 141		R187507
Conductivity @ 25 C	334	umhos/cm		5		A2510 B	08/24/23 12:51 / eek		PHSC_101-H_230824A : 142		R187507
Solids, Total Dissolved TDS @ 180 C	233	mg/L		20		A2540 C	08/25/23 14:37 / eek		124 (14410200)_230825B : 43		TDS230825B
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	96	mg/L		4		A2320 B	08/25/23 16:48 / SR		PHSC_101-H_230825A : 204		R187549
Bicarbonate as HCO3	120	mg/L		4		A2320 B	08/25/23 16:48 / SR		PHSC_101-H_230825A : 204		R187549
Carbonate as CO3	ND	mg/L		4		A2320 B	08/25/23 16:48 / SR		PHSC_101-H_230825A : 204		R187549
Chloride	11	mg/L		1		E300.0	08/26/23 21:12 / SR		C METROHM_230823A : 310		R187509
Sulfate	57	mg/L		1		E300.0	08/26/23 21:12 / SR		C METROHM_230823A : 310		R187509
Bromide	ND	mg/L		0.5		E300.0	08/26/23 21:12 / SR		C METROHM_230823A : 310		R187509
Fluoride	0.4	mg/L		0.1		E300.0	08/26/23 21:12 / SR		C METROHM_230823A : 310		R187509
Hardness as CaCO3	122	mg/L		1		A2340 B	08/28/23 21:57 / SR		CALC_230905B : 289		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	6.0	mg/L		0.5		A5310 C	08/29/23 05:49 / eli-c		SUB-C298148 : 43		C_R298148
Organic Carbon, Total (TOC)	4	mg/L		1		A5310 C	08/28/23 22:54 / eli-c		SUB-C298148 : 33		C_R298148
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.13	mg/L		0.01		E353.2	08/30/23 19:21 / JAR		SEAL AA500_230830A : 161		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/30/23 21:02 / dck		ICPMS205-H_230829C : 183		R187753
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 21:02 / dck		ICPMS205-H_230829C : 183		R187753
Arsenic	0.005	mg/L		0.001		E200.8	08/30/23 21:02 / dck		ICPMS205-H_230829C : 183		R187753
Barium	0.037	mg/L		0.003		E200.8	08/30/23 21:02 / dck		ICPMS205-H_230829C : 183		R187753
Beryllium	ND	mg/L		0.0008		E200.8	09/06/23 18:42 / dck		ICPMS206-H_230906B : 53		R187919
Boron	ND	mg/L		0.05		E200.7	08/28/23 21:57 / slj		ICP2-HE_230828B : 63		R187634
Cadmium	ND	mg/L		0.00003		E200.8	08/30/23 21:02 / dck		ICPMS205-H_230829C : 183		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 21:02 / dck		ICPMS206-H_230830B : 175		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-03  
**Lab ID:** H23080917-007  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2 / 001  
**Collection Date:** 08/23/23 12:10  
**Date Received:** 08/23/23  
**Report Date:** 09/22/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	35	mg/L		1		E200.7	08/28/23 21:57 / slj		ICP2-HE_230828B : 63		R187634
Chromium	ND	mg/L		0.005		E200.8	08/30/23 21:02 / dck		ICPMS205-H_230829C : 183		R187753
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 21:02 / dck		ICPMS205-H_230829C : 183		R187753
Copper	ND	mg/L		0.002		E200.8	08/30/23 21:02 / dck		ICPMS205-H_230829C : 183		R187753
Gallium	ND	mg/L		0.01		E200.8	08/30/23 21:02 / dck		ICPMS206-H_230830B : 175		R187736
Iron	0.04	mg/L		0.02		E200.8	08/30/23 21:02 / dck		ICPMS205-H_230829C : 183		R187753
Lead	ND	mg/L		0.0003		E200.8	08/30/23 21:02 / dck		ICPMS205-H_230829C : 183		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 21:02 / dck		ICPMS206-H_230830B : 175		R187736
Lithium	ND	mg/L		0.1		E200.7	08/28/23 21:57 / slj		ICP2-HE_230828B : 63		R187634
Magnesium	8	mg/L		1		E200.7	08/28/23 21:57 / slj		ICP2-HE_230828B : 63		R187634
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 21:02 / dck		ICPMS206-H_230830B : 175		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 21:02 / dck		ICPMS206-H_230830B : 175		R187736
Manganese	0.121	mg/L		0.001		E200.8	09/06/23 18:42 / dck		ICPMS206-H_230906B : 53		R187919
Molybdenum	0.010	mg/L		0.001		E200.8	08/30/23 21:02 / dck		ICPMS205-H_230829C : 183		R187753
Nickel	ND	mg/L		0.002		E200.8	08/30/23 21:02 / dck		ICPMS205-H_230829C : 183		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 21:02 / dck		ICPMS206-H_230830B : 175		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 21:02 / dck		ICPMS206-H_230830B : 175		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 21:02 / dck		ICPMS206-H_230830B : 175		R187736
Potassium	3	mg/L		1		E200.7	08/28/23 21:57 / slj		ICP2-HE_230828B : 63		R187634
Selenium	ND	mg/L		0.001		E200.8	08/30/23 21:02 / dck		ICPMS205-H_230829C : 183		R187753
Silver	ND	mg/L		0.0002		E200.8	08/30/23 21:02 / dck		ICPMS205-H_230829C : 183		R187753
Sodium	17	mg/L		1		E200.7	08/28/23 21:57 / slj		ICP2-HE_230828B : 63		R187634
Strontium	0.21	mg/L		0.01		E200.7	08/28/23 21:57 / slj		ICP2-HE_230828B : 63		R187634
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 21:02 / dck		ICPMS205-H_230829C : 183		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 21:02 / dck		ICPMS206-H_230830B : 376		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 21:02 / dck		ICPMS205-H_230829C : 183		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 21:02 / dck		ICPMS205-H_230829C : 183		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 21:02 / dck		ICPMS206-H_230830B : 175		R187736
Uranium	0.0012	mg/L		0.0002		E200.8	08/30/23 21:02 / dck		ICPMS205-H_230829C : 183		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 21:02 / dck		ICPMS205-H_230829C : 183		R187753
Zinc	0.012	mg/L		0.008		E200.8	09/06/23 18:42 / dck		ICPMS206-H_230906B : 53		R187919
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 21:02 / dck		ICPMS206-H_230830B : 175		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-03  
**Lab ID:** H23080917-007  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2 / 001  
**Collection Date:** 08/23/23 12:10 **DateReceived:** 08/23/23  
**Report Date:** 09/22/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	0.247	mg/L		0.009		E200.8	08/30/23 21:05 / dck	08/24/23 08:43	ICPMS205-H_230829C : 184		67951
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 21:05 / dck	08/24/23 08:43	ICPMS205-H_230829C : 184		67951
Arsenic	0.006	mg/L		0.001		E200.8	08/30/23 21:05 / dck	08/24/23 08:43	ICPMS205-H_230829C : 184		67951
Barium	0.045	mg/L		0.003		E200.8	08/30/23 21:05 / dck	08/24/23 08:43	ICPMS205-H_230829C : 184		67951
Beryllium	ND	mg/L		0.0008		E200.8	08/30/23 21:05 / dck	08/24/23 08:43	ICPMS205-H_230829C : 184		67951
Cesium	ND	mg/L		0.01		E200.8	08/30/23 21:04 / dck	08/28/23 09:59	ICPMS206-H_230830B : 176		67981
Cadmium	0.00070	mg/L		0.00003		E200.8	08/30/23 21:05 / dck	08/24/23 08:43	ICPMS205-H_230829C : 184		67951
Chromium	ND	mg/L		0.005		E200.8	08/30/23 21:05 / dck	08/24/23 08:43	ICPMS205-H_230829C : 184		67951
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 21:05 / dck	08/24/23 08:43	ICPMS205-H_230829C : 184		67951
Copper	0.009	mg/L		0.002		E200.8	08/30/23 21:05 / dck	08/24/23 08:43	ICPMS205-H_230829C : 184		67951
Gallium	ND	mg/L		0.01		E200.8	08/30/23 21:04 / dck	08/28/23 09:59	ICPMS206-H_230830B : 176		67981
Iron	0.67	mg/L		0.02		E200.8	08/30/23 21:05 / dck	08/24/23 08:43	ICPMS205-H_230829C : 184		67951
Lead	0.0032	mg/L		0.0003		E200.8	08/30/23 21:05 / dck	08/24/23 08:43	ICPMS205-H_230829C : 184		67951
Lanthanum	ND	mg/L		0.1		E200.8	08/30/23 21:04 / dck	08/28/23 09:59	ICPMS206-H_230830B : 176		67981
Lithium	ND	mg/L		0.1		E200.7	08/29/23 03:34 / slj	08/24/23 08:43	ICP2-HE_230828B : 152		67951
Neodymium	ND	mg/L		0.01		E200.8	08/30/23 21:04 / dck	08/28/23 09:59	ICPMS206-H_230830B : 176		67981
Niobium	ND	mg/L		0.01		E200.8	08/30/23 21:04 / dck	08/28/23 09:59	ICPMS206-H_230830B : 176		67981
Manganese	0.145	mg/L		0.001		E200.8	09/06/23 00:49 / dck	08/24/23 08:43	ICPMS206-H_230905A : 120		67951
Molybdenum	0.012	mg/L		0.001		E200.8	08/30/23 21:05 / dck	08/24/23 08:43	ICPMS205-H_230829C : 184		67951
Nickel	ND	mg/L		0.002		E200.8	08/30/23 21:05 / dck	08/24/23 08:43	ICPMS205-H_230829C : 184		67951
Palladium	ND	mg/L		0.01		E200.8	08/30/23 21:04 / dck	08/28/23 09:59	ICPMS206-H_230830B : 176		67981
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 21:04 / dck	08/28/23 09:59	ICPMS206-H_230830B : 176		67981
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 21:04 / dck	08/28/23 09:59	ICPMS206-H_230830B : 176		67981
Selenium	ND	mg/L		0.001		E200.8	08/30/23 21:05 / dck	08/24/23 08:43	ICPMS205-H_230829C : 184		67951
Silver	ND	mg/L		0.0002		E200.8	08/30/23 21:05 / dck	08/24/23 08:43	ICPMS205-H_230829C : 184		67951
Strontium	0.21	mg/L		0.01		E200.7	08/29/23 03:34 / slj	08/24/23 08:43	ICP2-HE_230828B : 152		67951
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 21:05 / dck	08/24/23 08:43	ICPMS205-H_230829C : 184		67951
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 21:04 / dck	08/28/23 09:59	ICPMS206-H_230830B : 176		67981
Tin	ND	mg/L		0.05		E200.8	08/30/23 21:05 / dck	08/24/23 08:43	ICPMS205-H_230829C : 184		67951
Titanium	0.018	mg/L		0.005		E200.8	08/30/23 21:05 / dck	08/24/23 08:43	ICPMS205-H_230829C : 184		67951
Thorium	ND	mg/L		0.005		E200.8	08/30/23 21:04 / dck	08/28/23 09:59	ICPMS206-H_230830B : 377		67981
Uranium	0.0016	mg/L		0.0003		E200.8	08/30/23 21:05 / dck	08/24/23 08:43	ICPMS205-H_230829C : 184		67951

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-03  
**Lab ID:** H23080917-007  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2 / 001  
**Collection Date:** 08/23/23 12:10 **DateReceived:** 08/23/23  
**Report Date:** 09/22/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 21:05 / dck	08/24/23 08:43	ICPMS205-H_230829C : 184		67951
Zinc	0.151	mg/L		0.008		E200.8	09/06/23 00:49 / dck	08/24/23 08:43	ICPMS206-H_230905A : 120		67951
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 21:04 / dck	08/28/23 09:59	ICPMS206-H_230830B : 176		67981
<b>DATA QUALITY</b>											
A/C Balance	-3.28	%				A1030 E	09/05/23 14:20 / SR		CALC_230905B : 287		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080917

**BatchID:** 67951

**Date:** 22-Sep-23

Run ID :Run Order: <b>ICP2-HE_230828B: 129</b>		SampType: <b>Method Blank</b>			Lab ID: <b>MB-67951</b>				Method: <b>E200.7</b>			
Analysis Date: <b>08/29/23 02:07</b>		Units: <b>mg/L</b>			Prep Info: Prep Date: <b>8/24/2023</b>				Prep Method: <b>E200.2</b>			
Analytes <b>3</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron		ND	0.02									
Lithium		ND	0.003									
Strontium		ND	0.0003									

Associated samples: H23080917-001F, H23080917-002F, H23080917-003F, H23080917-004F, H23080917-005F, H23080917-006F, H23080917-007F

Run ID :Run Order: <b>ICP2-HE_230828B: 130</b>		SampType: <b>Laboratory Control Sample</b>			Lab ID: <b>LCS-67951</b>				Method: <b>E200.7</b>			
Analysis Date: <b>08/29/23 02:11</b>		Units: <b>mg/L</b>			Prep Info: Prep Date: <b>8/24/2023</b>				Prep Method: <b>E200.2</b>			
Analytes <b>3</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron		2.55	0.020	2.5	0	102	85	115				
Lithium		0.504	0.10	0.5	0	101	85	115				
Strontium		0.501	0.010	0.5	0	100	85	115				

Associated samples: H23080917-001F, H23080917-002F, H23080917-003F, H23080917-004F, H23080917-005F, H23080917-006F, H23080917-007F

Run ID :Run Order: <b>ICP2-HE_230828B: 135</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23080905-001CMS3</b>				Method: <b>E200.7</b>			
Analysis Date: <b>08/29/23 02:30</b>		Units: <b>mg/L</b>			Prep Info: Prep Date: <b>8/24/2023</b>				Prep Method: <b>E200.2</b>			
Analytes <b>3</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron		2.77	0.020	2.5	0.1854	103	70	130				
Lithium		1.07	0.10	0.5	0.5531	104	70	130				
Strontium		0.512	0.010	0.5	0.01158	100	70	130				

Associated samples: H23080917-001F, H23080917-002F, H23080917-003F, H23080917-004F, H23080917-005F, H23080917-006F, H23080917-007F

Run ID :Run Order: <b>ICP2-HE_230828B: 138</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23080905-001CMSD3</b>				Method: <b>E200.7</b>			
Analysis Date: <b>08/29/23 02:41</b>		Units: <b>mg/L</b>			Prep Info: Prep Date: <b>8/24/2023</b>				Prep Method: <b>E200.2</b>			
Analytes <b>3</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron		2.79	0.020	2.5	0.1854	104	70	130	2.766	0.9	20	
Lithium		1.05	0.10	0.5	0.5531	99	70	130	1.073	2.3	20	
Strontium		0.508	0.010	0.5	0.01158	99	70	130	0.5118	0.7	20	

Associated samples: H23080917-001F, H23080917-002F, H23080917-003F, H23080917-004F, H23080917-005F, H23080917-006F, H23080917-007F

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice  
**Work Order:** H23080917

Prepared by Helena, MT Branch  
**BatchID:** 67951

**Date:** 22-Sep-23

Run ID :Run Order: <b>ICP2-HE_230828B: 142</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23080905-012CMS3</b>				Method: <b>E200.7</b>		
Analysis Date: <b>08/29/23 02:56</b>	Units: <b>mg/L</b>				Prep Info: Prep Date: <b>8/24/2023</b>				Prep Method: <b>E200.2</b>		
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	2.59	0.020	2.5	0	<b>103</b>	70	130				
Lithium	0.499	0.10	0.5	0	<b>100</b>	70	130				
Strontium	0.500	0.010	0.5	0	<b>100</b>	70	130				

Associated samples: **H23080917-001F, H23080917-002F, H23080917-003F, H23080917-004F, H23080917-005F, H23080917-006F, H23080917-007F**

Run ID :Run Order: <b>ICP2-HE_230828B: 143</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23080905-012CMSD3</b>				Method: <b>E200.7</b>		
Analysis Date: <b>08/29/23 03:00</b>	Units: <b>mg/L</b>				Prep Info: Prep Date: <b>8/24/2023</b>				Prep Method: <b>E200.2</b>		
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	2.59	0.020	2.5	0	<b>104</b>	70	130	2.587	<b>0.3</b>	20	
Lithium	0.509	0.10	0.5	0	<b>102</b>	70	130	0.4989	<b>2.0</b>	20	
Strontium	0.495	0.010	0.5	0	<b>99</b>	70	130	0.5	<b>1.0</b>	20	

Associated samples: **H23080917-001F, H23080917-002F, H23080917-003F, H23080917-004F, H23080917-005F, H23080917-006F, H23080917-007F**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: 67951

Date: 22-Sep-23

Run ID :Run Order: ICPMS206-H_230829A: 72	SampType: Sample Matrix Spike				Lab ID: H23080905-001CMS3				Method: E200.8		
Analysis Date: 08/29/23 19:22	Units: mg/L				Prep Info: Prep Date: 8/24/2023				Prep Method: E200.2		
Analytes 22	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.83	0.030	2.5	0.1672	107	70	130				
Antimony	0.579	0.0010	0.5	0.008	114	70	130				
Arsenic	0.749	0.0010	0.5	0.2485	100	70	130				
Barium	0.561	0.050	0.5	0.006064	111	70	130				
Beryllium	0.266	0.0010	0.25	0.0008032	106	70	130				
Cadmium	0.268	0.0010	0.25	0.0000187	107	70	130				
Chromium	0.505	0.0050	0.5	0.000333	101	70	130				
Cobalt	0.498	0.0050	0.5	0	100	70	130				
Copper	0.494	0.0050	0.5	0.0009724	99	70	130				
Iron	2.61	0.020	2.5	0.172	98	70	130				
Lead	0.541	0.0010	0.5	0.0002603	108	70	130				
Manganese	2.55	0.0010	2.5	0.03205	101	70	130				
Molybdenum	0.517	0.0010	0.5	0.01042	101	70	130				
Nickel	0.480	0.0050	0.5	0.0001141	96	70	130				
Selenium	0.509	0.0010	0.5	0	102	70	130				
Silver	0.0491	0.0010	0.05	0	98	70	130				
Thallium	0.530	0.00050	0.5	0.00005098	106	70	130				
Tin	0.576	0.050	0.5	0	115	70	130				
Titanium	0.490	0.0050	0.5	0.001333	98	70	130				
Uranium	0.532	0.00030	0.5	0.000506	106	70	130				
Vanadium	0.488	0.010	0.5	0.0005852	98	70	130				
Zinc	0.490	0.010	0.5	0.003816	97	70	130				

Associated samples: H23080917-001F, H23080917-002F, H23080917-003F, H23080917-004F, H23080917-005F, H23080917-006F, H23080917-007F

Run ID :Run Order: ICPMS206-H_230829A: 73	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080905-001CMSD3				Method: E200.8		
Analysis Date: 08/29/23 19:25	Units: mg/L				Prep Info: Prep Date: 8/24/2023				Prep Method: E200.2		
Analytes 22	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.87	0.030	2.5	0.1672	108	70	130	2.832	1.4	20	
Antimony	0.574	0.0010	0.5	0.008	113	70	130	0.5787	0.7	20	
Arsenic	0.755	0.0010	0.5	0.2485	101	70	130	0.7489	0.9	20	
Barium	0.554	0.050	0.5	0.006064	110	70	130	0.5611	1.3	20	
Beryllium	0.267	0.0010	0.25	0.0008032	107	70	130	0.2657	0.6	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: 67951

Date: 22-Sep-23

Run ID :Run Order: ICPMS206-H_230829A: 73	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080905-001CMSD3				Method: E200.8		
Analysis Date: 08/29/23 19:25	Units: mg/L				Prep Info: Prep Date: 8/24/2023				Prep Method: E200.2		
Analytes 22	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.266	0.0010	0.25	0.0000187	106	70	130	0.2678	0.8	20	
Chromium	0.504	0.0050	0.5	0.000333	101	70	130	0.5049	0.2	20	
Cobalt	0.498	0.0050	0.5	0	100	70	130	0.4977	0	20	
Copper	0.504	0.0050	0.5	0.0009724	101	70	130	0.4942	2.0	20	
Iron	2.65	0.020	2.5	0.172	99	70	130	2.61	1.4	20	
Lead	0.543	0.0010	0.5	0.0002603	109	70	130	0.5411	0.4	20	
Manganese	2.60	0.0010	2.5	0.03205	103	70	130	2.55	2.1	20	
Molybdenum	0.514	0.0010	0.5	0.01042	101	70	130	0.5168	0.5	20	
Nickel	0.488	0.0050	0.5	0.0001141	98	70	130	0.4805	1.5	20	
Selenium	0.514	0.0010	0.5	0	103	70	130	0.5086	1.0	20	
Silver	0.0487	0.0010	0.05	0	97	70	130	0.04912	0.8	20	
Thallium	0.521	0.00050	0.5	0.00005098	104	70	130	0.5297	1.7	20	
Tin	0.568	0.050	0.5	0	114	70	130	0.5765	1.5	20	
Titanium	0.497	0.0050	0.5	0.001333	99	70	130	0.4905	1.4	20	
Uranium	0.535	0.00030	0.5	0.000506	107	70	130	0.5323	0.5	20	
Vanadium	0.494	0.010	0.5	0.0005852	99	70	130	0.4881	1.2	20	
Zinc	0.498	0.010	0.5	0.003816	99	70	130	0.4903	1.6	20	

Associated samples: H23080917-001F, H23080917-002F, H23080917-003F, H23080917-004F, H23080917-005F, H23080917-006F, H23080917-007F

Run ID :Run Order: ICPMS206-H_230829A: 95	SampType: Sample Matrix Spike				Lab ID: H23080905-012CMS3				Method: E200.8		
Analysis Date: 08/29/23 20:44	Units: mg/L				Prep Info: Prep Date: 8/24/2023				Prep Method: E200.2		
Analytes 22	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.72	0.030	2.5	0	109	70	130				
Antimony	0.564	0.0010	0.5	0	113	70	130				
Arsenic	0.532	0.0010	0.5	0.00002703	106	70	130				
Barium	0.542	0.050	0.5	0.00004854	108	70	130				
Beryllium	0.278	0.0010	0.25	0	111	70	130				
Cadmium	0.266	0.0010	0.25	0	106	70	130				
Chromium	0.545	0.0050	0.5	0.0007359	109	70	130				
Cobalt	0.546	0.0050	0.5	0	109	70	130				
Copper	0.526	0.0050	0.5	0.0001641	105	70	130				
Iron	2.60	0.020	2.5	0	104	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: 67951

Date: 22-Sep-23

Run ID :Run Order: ICPMS206-H_230829A: 95	SampType: Sample Matrix Spike				Lab ID: H23080905-012CMS3				Method: E200.8		
Analysis Date: 08/29/23 20:44	Units: mg/L				Prep Info: Prep Date: 8/24/2023				Prep Method: E200.2		
Analytes 22	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.560	0.0010	0.5	0	112	70	130				
Manganese	2.78	0.0010	2.5	0.0002625	111	70	130				
Molybdenum	0.492	0.0010	0.5	0.0000259	98	70	130				
Nickel	0.519	0.0050	0.5	0.0003426	104	70	130				
Selenium	0.580	0.0010	0.5	0	116	70	130				
Silver	0.0484	0.0010	0.05	0	97	70	130				
Thallium	0.545	0.00050	0.5	0	109	70	130				
Tin	0.566	0.050	0.5	0	113	70	130				
Titanium	0.528	0.0050	0.5	0	106	70	130				
Uranium	0.548	0.00030	0.5	0	110	70	130				
Vanadium	0.523	0.010	0.5	0.0001826	104	70	130				
Zinc	0.541	0.010	0.5	0.001207	108	70	130				

Associated samples: H23080917-001F, H23080917-002F, H23080917-003F, H23080917-004F, H23080917-005F, H23080917-006F, H23080917-007F

Run ID :Run Order: ICPMS206-H_230829A: 96	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080905-012CMSD3				Method: E200.8		
Analysis Date: 08/29/23 20:48	Units: mg/L				Prep Info: Prep Date: 8/24/2023				Prep Method: E200.2		
Analytes 22	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.70	0.030	2.5	0	108	70	130	2.72	0.7	20	
Antimony	0.579	0.0010	0.5	0	116	70	130	0.5635	2.7	20	
Arsenic	0.535	0.0010	0.5	0.00002703	107	70	130	0.5323	0.4	20	
Barium	0.547	0.050	0.5	0.00004854	109	70	130	0.5417	1.0	20	
Beryllium	0.270	0.0010	0.25	0	108	70	130	0.2778	2.7	20	
Cadmium	0.270	0.0010	0.25	0	108	70	130	0.266	1.6	20	
Chromium	0.539	0.0050	0.5	0.0007359	108	70	130	0.545	1.1	20	
Cobalt	0.531	0.0050	0.5	0	106	70	130	0.5456	2.6	20	
Copper	0.542	0.0050	0.5	0.0001641	108	70	130	0.5259	3.0	20	
Iron	2.62	0.020	2.5	0	105	70	130	2.599	0.8	20	
Lead	0.549	0.0010	0.5	0	110	70	130	0.5602	2.1	20	
Manganese	2.70	0.0010	2.5	0.0002625	108	70	130	2.777	3.0	20	
Molybdenum	0.502	0.0010	0.5	0.0000259	100	70	130	0.4919	2.1	20	
Nickel	0.518	0.0050	0.5	0.0003426	103	70	130	0.5191	0.3	20	
Selenium	0.572	0.0010	0.5	0	114	70	130	0.5803	1.4	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: 67951

Date: 22-Sep-23

Run ID :Run Order: ICPMS206-H_230829A: 96	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080905-012CMSD3				Method: E200.8		
Analysis Date: 08/29/23 20:48	Units: mg/L				Prep Info: Prep Date: 8/24/2023				Prep Method: E200.2		
Analytes 22	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0495	0.0010	0.05	0	99	70	130	0.04835	2.4	20	
Thallium	0.537	0.00050	0.5	0	107	70	130	0.5452	1.6	20	
Tin	0.578	0.050	0.5	0	116	70	130	0.5657	2.2	20	
Titanium	0.522	0.0050	0.5	0	104	70	130	0.5279	1.1	20	
Uranium	0.537	0.00030	0.5	0	107	70	130	0.5481	2.1	20	
Vanadium	0.520	0.010	0.5	0.0001826	104	70	130	0.5226	0.5	20	
Zinc	0.539	0.010	0.5	0.001207	108	70	130	0.5414	0.4	20	

Associated samples: H23080917-001F, H23080917-002F, H23080917-003F, H23080917-004F, H23080917-005F, H23080917-006F, H23080917-007F

Run ID :Run Order: ICPMS205-H_230829C: 185	SampType: Laboratory Control Sample				Lab ID: LCS-67951				Method: E200.8		
Analysis Date: 08/30/23 21:08	Units: mg/L				Prep Info: Prep Date: 8/24/2023				Prep Method: E200.2		
Analytes 22	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.32	0.030	2.5	0	93	85	115				
Antimony	0.504	0.0010	0.5	0	101	85	115				
Arsenic	0.482	0.0010	0.5	0	96	85	115				
Barium	0.508	0.050	0.5	0	102	85	115				
Beryllium	0.235	0.0010	0.25	0	94	85	115				
Cadmium	0.254	0.0010	0.25	0	101	85	115				
Chromium	0.500	0.0050	0.5	0	100	85	115				
Cobalt	0.526	0.0050	0.5	0	105	85	115				
Copper	0.499	0.0050	0.5	0	100	85	115				
Iron	2.54	0.020	2.5	0	101	85	115				
Lead	0.520	0.0010	0.5	0	104	85	115				
Manganese	2.50	0.0010	2.5	0	100	85	115				
Molybdenum	0.503	0.0010	0.5	0	101	85	115				
Nickel	0.500	0.0050	0.5	0	100	85	115				
Selenium	0.467	0.0010	0.5	0	93	85	115				
Silver	0.0480	0.0010	0.05	0	96	85	115				
Thallium	0.538	0.00050	0.5	0	108	85	115				
Tin	0.529	0.050	0.5	0	106	85	115				
Titanium	0.507	0.0050	0.5	0	101	85	115				
Uranium	0.512	0.00030	0.5	0	102	85	115				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: 67951

Date: 22-Sep-23

Run ID :Run Order: ICPMS205-H_230829C: 185	SampType: Laboratory Control Sample				Lab ID: LCS-67951				Method: E200.8		
Analysis Date: 08/30/23 21:08	Units: mg/L				Prep Info: Prep Date: 8/24/2023				Prep Method: E200.2		
Analytes 22	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	0.503	0.010	0.5	0	101	85	115				
Zinc	0.492	0.010	0.5	0	98	85	115				

Associated samples: H23080917-001F, H23080917-002F, H23080917-003F, H23080917-004F, H23080917-005F, H23080917-006F, H23080917-007F

Run ID :Run Order: ICPMS206-H_230905A: 98	SampType: Method Blank				Lab ID: MB-67951				Method: E200.8		
Analysis Date: 09/05/23 23:27	Units: mg/L				Prep Info: Prep Date: 8/24/2023				Prep Method: E200.2		
Analytes 22	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.002									
Antimony	ND	0.00006									
Arsenic	ND	0.00001									
Barium	0.00005	0.00004									
Beryllium	0.00007	0.00005									
Cadmium	ND	5E-06									
Chromium	ND	0.00007									
Cobalt	ND	0.00002									
Copper	ND	0.0001									
Iron	ND	0.005									
Lead	ND	0.00005									
Manganese	ND	0.0002									
Molybdenum	0.00002	0.00002									
Nickel	ND	0.0001									
Selenium	ND	0.00001									
Silver	ND	8E-06									
Thallium	ND	8E-06									
Tin	ND	0.0008									
Titanium	ND	0.0003									
Uranium	ND	4E-06									
Vanadium	ND	0.00002									
Zinc	ND	0.0006									

Associated samples: H23080917-001F, H23080917-002F, H23080917-003F, H23080917-004F, H23080917-005F, H23080917-006F, H23080917-007F

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: 67951

Date: 22-Sep-23

Run ID :Run Order: ICPMS206-H_230906B: 39	SampType: Method Blank				Lab ID: MB-67951				Method: E200.8		
Analysis Date: 09/06/23 17:50	Units: mg/L			Prep Info: Prep Date: 8/24/2023				Prep Method: E200.2			
Analytes 22	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.002									
Antimony	ND	0.00006									
Arsenic	ND	0.00001									
Barium	ND	0.00004									
Beryllium	ND	0.00005									
Cadmium	ND	5E-06									
Chromium	ND	0.00007									
Cobalt	ND	0.00002									
Copper	ND	0.0001									
Iron	ND	0.005									
Lead	ND	0.00005									
Manganese	ND	0.0002									
Molybdenum	ND	0.00002									
Nickel	ND	0.0001									
Selenium	ND	0.00001									
Silver	ND	8E-06									
Thallium	ND	8E-06									
Tin	ND	0.0008									
Titanium	ND	0.0003									
Uranium	ND	4E-06									
Vanadium	0.0005	0.00002									
Zinc	ND	0.0006									

Associated samples: H23080917-001F, H23080917-002F, H23080917-003F, H23080917-004F, H23080917-005F, H23080917-006F, H23080917-007F

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: 67981

Date: 22-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 153	SampType: Method Blank				Lab ID: MB-67981				Method: E200.8		
Analysis Date: 08/30/23 20:16	Units: mg/L				Prep Info: Prep Date: 8/28/2023				Prep Method: E200.2		
Analytes <b>9</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	ND	0.0003									
Gallium	ND	0.00005									
Lanthanum	ND	0.00005									
Neodymium	ND	0.00004									
Palladium	ND	0.00004									
Praseodymium	ND	0.00005									
Rubidium	ND	0.00003									
Tungsten	ND	0.00008									
Zirconium	ND	0.00006									

Associated samples: H23080917-001F, H23080917-002F, H23080917-003F, H23080917-004F, H23080917-005F, H23080917-006F, H23080917-007F

Run ID :Run Order: ICPMS206-H_230830B: 166	SampType: Laboratory Control Sample				Lab ID: LCS-67981				Method: E200.8		
Analysis Date: 08/30/23 20:43	Units: mg/L				Prep Info: Prep Date: 8/28/2023				Prep Method: E200.2		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0509	0.010	0.05	0	<b>102</b>	85	115				
Gallium	0.0504	0.010	0.05	0	<b>101</b>	85	115				
Lanthanum	0.0518	0.10	0.05	0	<b>104</b>	85	115				
Neodymium	0.0503	0.0010	0.05	0	<b>101</b>	85	115				
Niobium	0.0515	0.0010	0.05	0	<b>103</b>	85	115				
Palladium	0.0508	0.010	0.05	0	<b>102</b>	85	115				
Praseodymium	0.0515	0.0010	0.05	0	<b>103</b>	85	115				
Rubidium	0.0489	0.010	0.05	0	<b>98</b>	85	115				
Tungsten	0.0505	0.10	0.05	0	<b>101</b>	85	115				
Zirconium	0.0545	0.0050	0.05	0	<b>109</b>	85	115				

Associated samples: H23080917-001F, H23080917-002F, H23080917-003F, H23080917-004F, H23080917-005F, H23080917-006F, H23080917-007F

Run ID :Run Order: ICPMS206-H_230830B: 167	SampType: Sample Matrix Spike				Lab ID: H23080917-002FMS3				Method: E200.8		
Analysis Date: 08/30/23 20:45	Units: mg/L				Prep Info: Prep Date: 8/28/2023				Prep Method: E200.2		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.105	0.010	0.1	0	<b>105</b>	70	130				
Gallium	0.0998	0.010	0.1	0	<b>100</b>	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: 67981

Date: 22-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 167		SampType: Sample Matrix Spike			Lab ID: H23080917-002FMS3				Method: E200.8		
Analysis Date: 08/30/23 20:45		Units: mg/L			Prep Info: Prep Date: 8/28/2023				Prep Method: E200.2		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lanthanum	0.103	0.10	0.1	0.0001098	103	70	130				
Neodymium	0.102	0.0010	0.1	0.00008349	102	70	130				
Niobium	0.101	0.0010	0.1	0.00005656	101	70	130				
Palladium	0.0988	0.010	0.1	0	99	70	130				
Praseodymium	0.105	0.0010	0.1	0	105	70	130				
Rubidium	0.0982	0.010	0.1	0.0006252	98	70	130				
Tungsten	0.100	0.10	0.1	0.0001894	100	70	130				
Zirconium	0.104	0.0050	0.1	0.0000807	104	70	130				

Associated samples: H23080917-001F, H23080917-002F, H23080917-003F, H23080917-004F, H23080917-005F, H23080917-006F, H23080917-007F

Run ID :Run Order: ICPMS206-H_230830B: 168		SampType: Sample Matrix Spike Duplicate			Lab ID: H23080917-002FMSD3				Method: E200.8		
Analysis Date: 08/30/23 20:47		Units: mg/L			Prep Info: Prep Date: 8/28/2023				Prep Method: E200.2		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.104	0.010	0.1	0	104	70	130	0.1046	0.7	20	
Gallium	0.0994	0.010	0.1	0	99	70	130	0.09978	0.4	20	
Lanthanum	0.108	0.10	0.1	0.0001098	108	70	130	0.1034	4.3	20	
Neodymium	0.105	0.0010	0.1	0.00008349	105	70	130	0.1019	2.7	20	
Niobium	0.0996	0.0010	0.1	0.00005656	100	70	130	0.1007	1.1	20	
Palladium	0.101	0.010	0.1	0	101	70	130	0.09878	2.4	20	
Praseodymium	0.112	0.0010	0.1	0	112	70	130	0.1053	5.9	20	
Rubidium	0.0973	0.010	0.1	0.0006252	97	70	130	0.09822	1.0	20	
Tungsten	0.102	0.10	0.1	0.0001894	102	70	130	0.1001	1.9	20	
Zirconium	0.103	0.0050	0.1	0.0000807	103	70	130	0.1045	1.4	20	

Associated samples: H23080917-001F, H23080917-002F, H23080917-003F, H23080917-004F, H23080917-005F, H23080917-006F, H23080917-007F

Run ID :Run Order: ICPMS206-H_230830B: 354		SampType: Method Blank			Lab ID: MB-67981				Method: E200.8		
Analysis Date: 08/30/23 20:16		Units: mg/L			Prep Info: Prep Date: 8/28/2023				Prep Method: E200.2		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.00002	9E-06									

Associated samples: H23080917-001F, H23080917-002F, H23080917-003F, H23080917-004F, H23080917-005F, H23080917-006F, H23080917-007F

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: 67981

Date: 22-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 367	SampType: Laboratory Control Sample				Lab ID: LCS-67981				Method: E200.8		
Analysis Date: 08/30/23 20:43	Units: mg/L				Prep Info: Prep Date: 8/28/2023				Prep Method: E200.2		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0500	0.0050	0.05	0	100	85	115				

Associated samples: H23080917-001F, H23080917-002F, H23080917-003F, H23080917-004F, H23080917-005F, H23080917-006F, H23080917-007F

Run ID :Run Order: ICPMS206-H_230830B: 368	SampType: Sample Matrix Spike				Lab ID: H23080917-002FMS3				Method: E200.8		
Analysis Date: 08/30/23 20:45	Units: mg/L				Prep Info: Prep Date: 8/28/2023				Prep Method: E200.2		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.101	0.0050	0.1	0.00004694	101	70	130				

Associated samples: H23080917-001F, H23080917-002F, H23080917-003F, H23080917-004F, H23080917-005F, H23080917-006F, H23080917-007F

Run ID :Run Order: ICPMS206-H_230830B: 369	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080917-002FMSD3				Method: E200.8		
Analysis Date: 08/30/23 20:47	Units: mg/L				Prep Info: Prep Date: 8/28/2023				Prep Method: E200.2		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.102	0.0050	0.1	0.00004694	102	70	130	0.1007	1.5	20	

Associated samples: H23080917-001F, H23080917-002F, H23080917-003F, H23080917-004F, H23080917-005F, H23080917-006F, H23080917-007F

Run ID :Run Order: ICPMS206-H_230831A: 145	SampType: Method Blank				Lab ID: MB-67981				Method: E200.8		
Analysis Date: 08/31/23 13:09	Units: mg/L				Prep Info: Prep Date: 8/28/2023				Prep Method: E200.2		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.00002	9E-06									

Associated samples: H23080917-001F, H23080917-002F, H23080917-003F, H23080917-004F, H23080917-005F, H23080917-006F, H23080917-007F

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: C\_R298148

Date: 22-Sep-23

Run ID :Run Order: <b>SUB-C298148: 1</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS-11923</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/28/23 23:41</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.87	0.50	5	0	<b>97</b>	88	112	0			
Associated samples: <b>H23080917-001D, H23080917-001E, H23080917-002D, H23080917-002E, H23080917-003D, H23080917-003E, H23080917-004D, H23080917-004E, H23080917-005D, H23080917-005E, H23080917-006D, H23080917-006E, H23080917-007D, H23080917-007E</b>											

Run ID :Run Order: <b>SUB-C298148: 2</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/28/23 23:55</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	ND	0.1									
Associated samples: <b>H23080917-001D, H23080917-001E, H23080917-002D, H23080917-002E, H23080917-003D, H23080917-003E, H23080917-004D, H23080917-004E, H23080917-005D, H23080917-005E, H23080917-006D, H23080917-006E, H23080917-007D, H23080917-007E</b>											

Run ID :Run Order: <b>SUB-C298148: 3</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV-11940</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/29/23 00:10</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.82	0.50	5	0	<b>97</b>	90	110	0			
Associated samples: <b>H23080917-001D, H23080917-001E, H23080917-002D, H23080917-002E, H23080917-003D, H23080917-003E, H23080917-004D, H23080917-004E, H23080917-005D, H23080917-005E, H23080917-006D, H23080917-006E, H23080917-007D, H23080917-007E</b>											

Run ID :Run Order: <b>SUB-C298148: 5</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23080917-001D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/29/23 02:32</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	15.8	0.50	5	10.16	<b>113</b>	88	112	0			S
Associated samples: <b>H23080917-001D, H23080917-001E, H23080917-002D, H23080917-002E, H23080917-003D, H23080917-003E, H23080917-004D, H23080917-004E, H23080917-005D, H23080917-005E, H23080917-006D, H23080917-006E, H23080917-007D, H23080917-007E</b>											

Run ID :Run Order: <b>SUB-C298148: 6</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23080917-001D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>08/29/23 02:53</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	16.1	0.50	5	10.16	<b>119</b>	88	112	15.79	<b>2.1</b>	20	S

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: C\_R298148

Date: 22-Sep-23

Run ID :Run Order: <b>SUB-C298148: 6</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23080917-001D</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>08/29/23 02:53</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23080917-001D, H23080917-001E, H23080917-002D, H23080917-002E, H23080917-003D, H23080917-003E, H23080917-004D, H23080917-004E, H23080917-005D, H23080917-005E, H23080917-006D, H23080917-006E, H23080917-007D, H23080917-007E

Run ID :Run Order: <b>SUB-C298148: 7</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MBLK</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>08/28/23 13:06</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	ND	0.1									
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Associated samples: H23080917-001D, H23080917-001E, H23080917-002D, H23080917-002E, H23080917-003D, H23080917-003E, H23080917-004D, H23080917-004E, H23080917-005D, H23080917-005E, H23080917-006D, H23080917-006E, H23080917-007D, H23080917-007E

Run ID :Run Order: <b>SUB-C298148: 8</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>08/28/23 13:25</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	4.68	0.50	5	0	94	90	111	0			
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Associated samples: H23080917-001D, H23080917-001E, H23080917-002D, H23080917-002E, H23080917-003D, H23080917-003E, H23080917-004D, H23080917-004E, H23080917-005D, H23080917-005E, H23080917-006D, H23080917-006E, H23080917-007D, H23080917-007E

Run ID :Run Order: <b>SUB-C298148: 14</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>C23081110-001GMS</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>08/28/23 15:55</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	8.73	0.50	5	4.016	94	90	111	0			
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Associated samples: H23080917-001D, H23080917-001E, H23080917-002D, H23080917-002E, H23080917-003D, H23080917-003E, H23080917-004D, H23080917-004E, H23080917-005D, H23080917-005E, H23080917-006D, H23080917-006E, H23080917-007D, H23080917-007E

Run ID :Run Order: <b>SUB-C298148: 15</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>C23081110-001GMSD</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>08/28/23 16:11</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	8.05	0.50	5	4.016	81	90	111	8.729	8.1	20	S
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Associated samples: H23080917-001D, H23080917-001E, H23080917-002D, H23080917-002E, H23080917-003D, H23080917-003E, H23080917-004D, H23080917-004E, H23080917-005D, H23080917-005E, H23080917-006D, H23080917-006E, H23080917-007D, H23080917-007E

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice  
Work Order: H23080917

Prepared by Helena, MT Branch  
BatchID: C\_R298148

Date: 22-Sep-23

Run ID :Run Order: SUB-C298148: 21	SampType: Continuing Calibration Verification Standard				Lab ID: CCV-11940	Method: A5310 C					
Analysis Date: 08/28/23 17:18	Units: mg/L				Prep Info:	Prep Date:			Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	4.98	0.50	5	0	100	90	110	0			
Associated samples: H23080917-001D, H23080917-001E, H23080917-002D, H23080917-002E, H23080917-003D, H23080917-003E, H23080917-004D, H23080917-004E, H23080917-005D, H23080917-005E, H23080917-006D, H23080917-006E, H23080917-007D, H23080917-007E											

Run ID :Run Order: SUB-C298148: 29	SampType: Continuing Calibration Verification Standard				Lab ID: CCV-11940	Method: A5310 C					
Analysis Date: 08/28/23 21:29	Units: mg/L				Prep Info:	Prep Date:			Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	4.91	0.50	5	0	98	90	110	0			
Associated samples: H23080917-001D, H23080917-001E, H23080917-002D, H23080917-002E, H23080917-003D, H23080917-003E, H23080917-004D, H23080917-004E, H23080917-005D, H23080917-005E, H23080917-006D, H23080917-006E, H23080917-007D, H23080917-007E											

Run ID :Run Order: SUB-C298148: 31	SampType: Sample Matrix Spike				Lab ID: H23080917-006E	Method: A5310 C					
Analysis Date: 08/28/23 22:20	Units: mg/L				Prep Info:	Prep Date:			Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	9.53	0.50	5	4.541	100	90	111	0			
Associated samples: H23080917-001D, H23080917-001E, H23080917-002D, H23080917-002E, H23080917-003D, H23080917-003E, H23080917-004D, H23080917-004E, H23080917-005D, H23080917-005E, H23080917-006D, H23080917-006E, H23080917-007D, H23080917-007E											

Run ID :Run Order: SUB-C298148: 32	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080917-006E	Method: A5310 C					
Analysis Date: 08/28/23 22:35	Units: mg/L				Prep Info:	Prep Date:			Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	9.70	0.50	5	4.541	103	90	111	9.525	1.8	20	
Associated samples: H23080917-001D, H23080917-001E, H23080917-002D, H23080917-002E, H23080917-003D, H23080917-003E, H23080917-004D, H23080917-004E, H23080917-005D, H23080917-005E, H23080917-006D, H23080917-006E, H23080917-007D, H23080917-007E											

Run ID :Run Order: SUB-C298148: 39	SampType: Continuing Calibration Verification Standard				Lab ID: CCV-11940	Method: A5310 C					
Analysis Date: 08/29/23 04:28	Units: mg/L				Prep Info:	Prep Date:			Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.90	0.50	5	0	98	90	110	0			

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: C\_R298148

Date: 22-Sep-23

Run ID :Run Order: <b>SUB-C298148: 39</b>	SampType: <b>Continuing Calibration Verification Standard</b>	Lab ID: <b>CCV-11940</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>08/29/23 04:28</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23080917-001D, H23080917-001E, H23080917-002D, H23080917-002E, H23080917-003D, H23080917-003E, H23080917-004D, H23080917-004E, H23080917-005D, H23080917-005E, H23080917-006D, H23080917-006E, H23080917-007D, H23080917-007E

Run ID :Run Order: <b>SUB-C298148: 41</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23080917-006D</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>08/29/23 05:18</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Dissolved (DOC)	11.3	0.50	5	6.19	103	88	112	0			
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Associated samples: H23080917-001D, H23080917-001E, H23080917-002D, H23080917-002E, H23080917-003D, H23080917-003E, H23080917-004D, H23080917-004E, H23080917-005D, H23080917-005E, H23080917-006D, H23080917-006E, H23080917-007D, H23080917-007E

Run ID :Run Order: <b>SUB-C298148: 42</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23080917-006D</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>08/29/23 05:34</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Dissolved (DOC)	11.2	0.50	5	6.19	99	88	112	11.32	1.4	20	
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Associated samples: H23080917-001D, H23080917-001E, H23080917-002D, H23080917-002E, H23080917-003D, H23080917-003E, H23080917-004D, H23080917-004E, H23080917-005D, H23080917-005E, H23080917-006D, H23080917-006E, H23080917-007D, H23080917-007E

Run ID :Run Order: <b>SUB-C298148: 44</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23080917-001E</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>08/29/23 09:28</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	14.9	0.50	5	9.444	109	90	111	13.74	8.1	20	
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Associated samples: H23080917-001D, H23080917-001E, H23080917-002D, H23080917-002E, H23080917-003D, H23080917-003E, H23080917-004D, H23080917-004E, H23080917-005D, H23080917-005E, H23080917-006D, H23080917-006E, H23080917-007D, H23080917-007E

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187507

Date: 22-Sep-23

Run ID :Run Order: <b>PHSC_101-H_230824A: 186</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A2320 B</b>		
Analysis Date: <b>08/24/23 14:59</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									
Associated samples: <b>H23080917-001A, H23080917-002A, H23080917-003A, H23080917-004A, H23080917-005A, H23080917-006A</b>											

Run ID :Run Order: <b>PHSC_101-H_230824A: 187</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS</b>				Method: <b>A2320 B</b>		
Analysis Date: <b>08/24/23 15:03</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	600	4.0	600	0	<b>100</b>	90	110				
Associated samples: <b>H23080917-001A, H23080917-002A, H23080917-003A, H23080917-004A, H23080917-005A, H23080917-006A</b>											

Run ID :Run Order: <b>PHSC_101-H_230824A: 282</b>	SampType: <b>Sample Duplicate</b>				Lab ID: <b>H23080905-009ADUP</b>				Method: <b>A2320 B</b>		
Analysis Date: <b>08/24/23 22:24</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	130	4.0		0				127	<b>0.3</b>	10	
Bicarbonate as HCO3	150	4.0		0				151.2	<b>0.5</b>	10	
Carbonate as CO3	ND	4.0		0				0		10	
Associated samples: <b>H23080917-001A, H23080917-002A, H23080917-003A, H23080917-004A, H23080917-005A, H23080917-006A</b>											





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187507

Date: 22-Sep-23

Run ID :Run Order: PHSC_101-H_230824A: 2	SampType: Initial Calibration Verification Standard				Lab ID: SC 150			Method: A2510 B			
Analysis Date: 08/24/23 08:58	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	152	5.0	150	0	101	90	110				
Associated samples: H23080917-001A, H23080917-002A, H23080917-003A, H23080917-004A, H23080917-005A, H23080917-006A, H23080917-007A											

Run ID :Run Order: PHSC_101-H_230824A: 3	SampType: Initial Calibration Verification Standard				Lab ID: SC 20000			Method: A2510 B			
Analysis Date: 08/24/23 09:00	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	19400	5.0	20000	0	97	90	110				
Associated samples: H23080917-001A, H23080917-002A, H23080917-003A, H23080917-004A, H23080917-005A, H23080917-006A, H23080917-007A											

Run ID :Run Order: PHSC_101-H_230824A: 4	SampType: Initial Calibration Verification Standard				Lab ID: SC 5000			Method: A2510 B			
Analysis Date: 08/24/23 09:02	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	4960	5.0	5000	0	99	90	110				
Associated samples: H23080917-001A, H23080917-002A, H23080917-003A, H23080917-004A, H23080917-005A, H23080917-006A, H23080917-007A											

Run ID :Run Order: PHSC_101-H_230824A: 5	SampType: Laboratory Control Sample				Lab ID: SC 1000			Method: A2510 B			
Analysis Date: 08/24/23 09:04	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	995	5.0	1000	0	99	90	110				
Associated samples: H23080917-001A, H23080917-002A, H23080917-003A, H23080917-004A, H23080917-005A, H23080917-006A, H23080917-007A											

Run ID :Run Order: PHSC_101-H_230824A: 6	SampType: Method Blank				Lab ID: MBLK			Method: A2510 B			
Analysis Date: 08/24/23 09:39	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	ND	5									
Associated samples: H23080917-001A, H23080917-002A, H23080917-003A, H23080917-004A, H23080917-005A, H23080917-006A, H23080917-007A											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187507

Date: 22-Sep-23

Run ID :Run Order: PHSC_101-H_230824A: 117	SampType: Continuing Calibration Verification Standard				Lab ID: CCV - SC 1413				Method: A2510 B		
Analysis Date: 08/24/23 12:09	Units: umhos/cm				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1400	5.0	1413	0	99	90	110				
Associated samples: H23080917-001A, H23080917-002A, H23080917-003A, H23080917-004A, H23080917-005A, H23080917-006A, H23080917-007A											

Run ID :Run Order: PHSC_101-H_230824A: 122	SampType: Sample Duplicate				Lab ID: H23080905-011ADUP				Method: A2510 B		
Analysis Date: 08/24/23 12:31	Units: umhos/cm				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	388	5.0		0				390	0.4	10	
Associated samples: H23080917-001A, H23080917-002A, H23080917-003A, H23080917-004A, H23080917-005A, H23080917-006A, H23080917-007A											



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187507

Date: 22-Sep-23

Run ID :Run Order: PHSC_101-H_230824A: 1	SampType: Initial Calibration Verification Standard				Lab ID: pH 7				Method: A4500-H B		
Analysis Date: 08/24/23 08:53	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	21.5			0		0	0				

Associated samples: H23080917-001A, H23080917-002A, H23080917-003A, H23080917-004A, H23080917-005A, H23080917-006A, H23080917-007A

Run ID :Run Order: PHSC_101-H_230824A: 116	SampType: Continuing Calibration Verification Standard				Lab ID: CCV - pH 7				Method: A4500-H B		
Analysis Date: 08/24/23 12:06	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	20.1			0		0	0				

Associated samples: H23080917-001A, H23080917-002A, H23080917-003A, H23080917-004A, H23080917-005A, H23080917-006A, H23080917-007A

Run ID :Run Order: PHSC_101-H_230824A: 121	SampType: Sample Duplicate				Lab ID: H23080905-011ADUP				Method: A4500-H B		
Analysis Date: 08/24/23 12:31	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	8.3	0.1		0				8.26	0.4	3	H
pH Measurement Temp	19.2			0				19.7			

Associated samples: H23080917-001A, H23080917-002A, H23080917-003A, H23080917-004A, H23080917-005A, H23080917-006A, H23080917-007A

Run ID :Run Order: PHSC_101-H_230824A: 184	SampType: Continuing Calibration Verification Standard				Lab ID: CCV - pH 7				Method: A4500-H B		
Analysis Date: 08/24/23 13:45	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	21.0			0		0	0				

Associated samples: H23080917-001A, H23080917-002A, H23080917-003A, H23080917-004A, H23080917-005A, H23080917-006A, H23080917-007A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080917

**BatchID:** R187509

**Date:** 22-Sep-23

Run ID :Run Order: <b>IC METROHM_230823A: 12</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>				Method: <b>E300.0</b>		
Analysis Date: <b>08/23/23 18:49</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	101	1.0	100	0	101	90	110				
Sulfate	404	1.0	400	0	101	90	110				
Bromide	5.07	0.50	5	0	101	90	110				
Fluoride	5.30	0.10	5	0	106	90	110				

Associated samples: H23080917-001A, H23080917-002A, H23080917-003A, H23080917-004A, H23080917-005A, H23080917-006A, H23080917-007A

Run ID :Run Order: <b>IC METROHM_230823A: 13</b>	SampType: <b>Method Blank</b>				Lab ID: <b>ICB</b>				Method: <b>E300.0</b>		
Analysis Date: <b>08/23/23 19:18</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.02									
Sulfate	ND	0.03									
Bromide	ND	0.001									
Fluoride	ND	0.01									

Associated samples: H23080917-001A, H23080917-002A, H23080917-003A, H23080917-004A, H23080917-005A, H23080917-006A, H23080917-007A

Run ID :Run Order: <b>IC METROHM_230823A: 14</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>				Method: <b>E300.0</b>		
Analysis Date: <b>08/23/23 19:32</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	25.0	1.0	25	0	100	90	110				
Sulfate	101	1.0	100	0	101	90	110				
Bromide	1.22	0.50	1.25	0	98	90	110				
Fluoride	1.26	0.10	1.25	0	101	90	110				

Associated samples: H23080917-001A, H23080917-002A, H23080917-003A, H23080917-004A, H23080917-005A, H23080917-006A, H23080917-007A

Run ID :Run Order: <b>IC METROHM_230823A: 293</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>E300.0</b>		
Analysis Date: <b>08/26/23 17:08</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	51.8	1.0	50	0	104	90	110				
Sulfate	202	1.0	200	0	101	90	110				
Bromide	2.42	0.50	2.5	0	97	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187509

Date: 22-Sep-23

Run ID :Run Order: <b>IC METROHM_230823A: 293</b>	SampType: <b>Continuing Calibration Verification Standard</b>			Lab ID: <b>CCV</b>	Method: <b>E300.0</b>						
Analysis Date: <b>08/26/23 17:08</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:			Prep Method:						
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.55	0.10	2.5	0	<b>102</b>	90	110				

Associated samples: H23080917-001A, H23080917-002A, H23080917-003A, H23080917-004A, H23080917-005A, H23080917-006A, H23080917-007A

Run ID :Run Order: <b>IC METROHM_230823A: 305</b>	SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23080917-005AMS</b>	Method: <b>E300.0</b>						
Analysis Date: <b>08/26/23 20:00</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:			Prep Method:						
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	35.6	1.0	25	9.799	<b>103</b>	90	110				
Sulfate	136	1.0	100	38.02	<b>98</b>	90	110				
Bromide	1.19	0.50	1.25	0.059	<b>90</b>	90	110				
Fluoride	1.78	0.10	1.25	0.506	<b>102</b>	90	110				

Associated samples: H23080917-001A, H23080917-002A, H23080917-003A, H23080917-004A, H23080917-005A, H23080917-006A, H23080917-007A

Run ID :Run Order: <b>IC METROHM_230823A: 306</b>	SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23080917-005AMSD</b>	Method: <b>E300.0</b>						
Analysis Date: <b>08/26/23 20:14</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:			Prep Method:						
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	35.8	1.0	25	9.799	<b>104</b>	90	110	35.6	<b>0.5</b>	20	
Sulfate	138	1.0	100	38.02	<b>100</b>	90	110	135.7	<b>1.4</b>	20	
Bromide	1.20	0.50	1.25	0.059	<b>91</b>	90	110	1.188	<b>0.6</b>	20	
Fluoride	1.78	0.10	1.25	0.506	<b>102</b>	90	110	1.778	<b>0.2</b>	20	

Associated samples: H23080917-001A, H23080917-002A, H23080917-003A, H23080917-004A, H23080917-005A, H23080917-006A, H23080917-007A

Run ID :Run Order: <b>IC METROHM_230823A: 307</b>	SampType: <b>Continuing Calibration Verification Standard</b>			Lab ID: <b>CCV</b>	Method: <b>E300.0</b>						
Analysis Date: <b>08/26/23 20:29</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:			Prep Method:						
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	52.0	1.0	50	0	<b>104</b>	90	110				
Sulfate	202	1.0	200	0	<b>101</b>	90	110				
Bromide	2.43	0.50	2.5	0	<b>97</b>	90	110				
Fluoride	2.54	0.10	2.5	0	<b>102</b>	90	110				

Associated samples: H23080917-001A, H23080917-002A, H23080917-003A, H23080917-004A, H23080917-005A, H23080917-006A, H23080917-007A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187549

Date: 22-Sep-23

Run ID :Run Order: <b>PHSC_101-H_230825A: 202</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS</b>				Method: <b>A2320 B</b>		
Analysis Date: <b>08/25/23 16:35</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	600	4.0	600	0	<b>100</b>	90	110				

Associated samples: **H23080917-007A**

Run ID :Run Order: <b>PHSC_101-H_230825A: 203</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A2320 B</b>		
Analysis Date: <b>08/25/23 16:43</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									

Associated samples: **H23080917-007A**

Run ID :Run Order: <b>PHSC_101-H_230825A: 206</b>	SampType: <b>Sample Duplicate</b>				Lab ID: <b>H23080917-007ADUP</b>				Method: <b>A2320 B</b>		
Analysis Date: <b>08/25/23 16:54</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	96	4.0		0				95.9	<b>0.1</b>	10	
Bicarbonate as HCO3	120	4.0		0				116.4	<b>0.1</b>	10	
Carbonate as CO3	ND	4.0		0				0		10	

Associated samples: **H23080917-007A**

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187553

Date: 22-Sep-23

Run ID :Run Order: ICP2-HE_230824B: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.7		
Analysis Date: 08/24/23 09:40	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.407	0.0010	0.4	0	102	95	105				
Titanium	0.824	0.10	0.8	0	103	95	105				

Associated samples: H23080917-001B, H23080917-002B

Run ID :Run Order: ICP2-HE_230824B: 13	SampType: Continuing Calibration Verification Standard				Lab ID: CCV-1				Method: E200.7		
Analysis Date: 08/24/23 09:44	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	1.29	0.0010	1.25	0	103	95	105				
Titanium	2.60	0.10	2.5	0	104	95	105				

Associated samples: H23080917-001B, H23080917-002B

Run ID :Run Order: ICP2-HE_230824B: 19	SampType: Method Blank				Lab ID: MB				Method: E200.7		
Analysis Date: 08/24/23 10:07	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	ND	0.0003									
Titanium	ND	0.002									

Associated samples: H23080917-001B, H23080917-002B

Run ID :Run Order: ICP2-HE_230824B: 20	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.7		
Analysis Date: 08/24/23 10:11	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.511	0.0010	0.5	0	102	85	115				
Titanium	1.05	0.10	1	0	105	85	115				

Associated samples: H23080917-001B, H23080917-002B

Run ID :Run Order: ICP2-HE_230824B: 212	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.7		
Analysis Date: 08/25/23 07:12	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	1.33	0.0010	1.25	0	106	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187553

Date: 22-Sep-23

Run ID :Run Order: ICP2-HE_230824B: 212	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.7		
Analysis Date: 08/25/23 07:12	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Titanium	2.69	0.10	2.5	0	107	90	110				

Associated samples: H23080917-001B, H23080917-002B

Run ID :Run Order: ICP2-HE_230824B: 218	SampType: Sample Matrix Spike				Lab ID: H23080917-001BMS2				Method: E200.7		
Analysis Date: 08/25/23 07:35	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.504	0.0010	0.5	0	101	70	130				
Titanium	1.09	0.0050	1	0	109	70	130				

Associated samples: H23080917-001B, H23080917-002B

Run ID :Run Order: ICP2-HE_230824B: 219	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080917-001BMSD2				Method: E200.7		
Analysis Date: 08/25/23 07:39	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.487	0.0010	0.5	0	97	70	130	0.5041	3.4	20	
Titanium	1.07	0.0050	1	0	107	70	130	1.091	1.9	20	

Associated samples: H23080917-001B, H23080917-002B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187634

Date: 22-Sep-23

Run ID :Run Order: ICP2-HE_230828B: 6	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.7		
Analysis Date: 08/28/23 10:40	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.781	0.10	0.8	0	98	95	105				
Calcium	39.1	1.0	40	0	98	95	105				
Iron	3.91	0.020	4	0	98	95	105				
Lithium	0.771	0.10	0.8	0	96	95	105				
Magnesium	38.8	1.0	40	0	97	95	105				
Potassium	38.3	1.0	40	0	96	95	105				
Sodium	38.3	1.0	40	0	96	95	105				
Strontium	0.785	0.10	0.8	0	98	95	105				

Associated samples: H23080917-001B, H23080917-001F, H23080917-002B, H23080917-002F, H23080917-003B, H23080917-003F, H23080917-004B, H23080917-004F, H23080917-005B, H23080917-005F, H23080917-006B, H23080917-006F, H23080917-007B, H23080917-007F

Run ID :Run Order: ICP2-HE_230828B: 7	SampType: Continuing Calibration Verification Standard				Lab ID: CCV-1				Method: E200.7		
Analysis Date: 08/28/23 10:44	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.53	0.10	2.5	0	101	95	105				
Calcium	24.9	1.0	25	0	100	95	105				
Iron	2.50	0.020	2.5	0	100	95	105				
Lithium	1.23	0.10	1.25	0	99	95	105				
Magnesium	25.0	1.0	25	0	100	95	105				
Potassium	24.6	1.0	25	0	99	95	105				
Sodium	24.7	1.0	25	0	99	95	105				
Strontium	2.53	0.10	2.5	0	101	95	105				

Associated samples: H23080917-001B, H23080917-001F, H23080917-002B, H23080917-002F, H23080917-003B, H23080917-003F, H23080917-004B, H23080917-004F, H23080917-005B, H23080917-005F, H23080917-006B, H23080917-006F, H23080917-007B, H23080917-007F

Run ID :Run Order: ICP2-HE_230828B: 13	SampType: Method Blank				Lab ID: MB				Method: E200.7		
Analysis Date: 08/28/23 11:07	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.004									
Calcium	ND	0.2									
Lithium	ND	0.002									
Magnesium	ND	0.05									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount

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### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice  
**Work Order:** H23080917

Prepared by Helena, MT Branch  
**BatchID:** R187634

**Date:** 22-Sep-23

Run ID :Run Order: ICP2-HE_230828B: 13		SampType: Method Blank			Lab ID: MB				Method: E200.7		
Analysis Date: 08/28/23 11:07		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium	ND	0.06									
Sodium	0.08	0.03									
Strontium	ND	0.0003									

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

Run ID :Run Order: ICP2-HE_230828B: 14		SampType: Laboratory Fortified Blank			Lab ID: LFB				Method: E200.7		
Analysis Date: 08/28/23 11:11		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.965	0.10	1	0	97	85	115				
Calcium	51.1	1.0	50	0	102	85	115				
Lithium	1.01	0.10	1	0	101	85	115				
Magnesium	50.9	1.0	50	0	102	85	115				
Potassium	50.7	1.0	50	0	101	85	115				
Sodium	50.4	1.0	50	0	101	85	115				
Strontium	1.02	0.10	1	0	102	85	115				

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

Run ID :Run Order: ICP2-HE_230828B: 45		SampType: Continuing Calibration Verification Standard			Lab ID: CCV				Method: E200.7		
Analysis Date: 08/28/23 20:48		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.51	0.10	2.5	0	101	90	110				
Calcium	24.6	1.0	25	0	98	90	110				
Iron	2.49	0.020	2.5	0	100	90	110				
Lithium	1.27	0.10	1.25	0	102	90	110				
Magnesium	24.6	1.0	25	0	98	90	110				
Potassium	25.6	1.0	25	0	102	90	110				
Sodium	25.4	1.0	25	0	102	90	110				
Strontium	2.49	0.10	2.5	0	100	90	110				

Associated samples: H23080917-001B, H23080917-001F, H23080917-002B, H23080917-002F, H23080917-003B, H23080917-003F, H23080917-004B, H23080917-004F, H23080917-005B, H23080917-005F, H23080917-006B, H23080917-006F, H23080917-007B, H23080917-007F

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice  
**Work Order:** H23080917

Prepared by Helena, MT Branch  
**BatchID:** R187634

**Date:** 22-Sep-23

Run ID :Run Order: ICP2-HE_230828B: 54	SampType: Sample Matrix Spike				Lab ID: H23080917-001BMS2				Method: E200.7		
Analysis Date: 08/28/23 21:23	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.05	0.050	1	0.08299	96	70	130				
Calcium	95.0	1.0	50	42.99	104	70	130				
Lithium	1.10	0.10	1	0.04058	106	70	130				
Magnesium	58.6	1.0	50	7.667	102	70	130				
Potassium	56.2	1.0	50	3.924	105	70	130				
Sodium	59.5	1.0	50	7.49	104	70	130				
Strontium	1.30	0.010	1	0.2772	103	70	130				

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

Run ID :Run Order: ICP2-HE_230828B: 55	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080917-001BMSD2				Method: E200.7		
Analysis Date: 08/28/23 21:26	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.01	0.050	1	0.08299	93	70	130	1.047	3.5	20	
Calcium	94.0	1.0	50	42.99	102	70	130	94.99	1.0	20	
Lithium	1.12	0.10	1	0.04058	108	70	130	1.103	1.9	20	
Magnesium	59.4	1.0	50	7.667	104	70	130	58.59	1.5	20	
Potassium	57.5	1.0	50	3.924	107	70	130	56.23	2.2	20	
Sodium	61.0	1.0	50	7.49	107	70	130	59.47	2.5	20	
Strontium	1.32	0.010	1	0.2772	104	70	130	1.304	1.3	20	

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

Run ID :Run Order: ICP2-HE_230828B: 57	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.7		
Analysis Date: 08/28/23 21:34	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.48	0.10	2.5	0	99	90	110				
Calcium	24.8	1.0	25	0	99	90	110				
Iron	2.47	0.020	2.5	0	99	90	110				
Lithium	1.18	0.10	1.25	0	94	90	110				
Magnesium	24.3	1.0	25	0	97	90	110				
Potassium	23.8	1.0	25	0	95	90	110				
Sodium	23.7	1.0	25	0	95	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice  
**Work Order:** H23080917

Prepared by Helena, MT Branch  
**BatchID:** R187634

**Date:** 22-Sep-23

Run ID :Run Order: <b>ICP2-HE_230828B: 57</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>E200.7</b>		
Analysis Date: <b>08/28/23 21:34</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>8</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Strontium	2.46	0.10	2.5	0	<b>98</b>	90	110				

Associated samples: **H23080917-001B, H23080917-001F, H23080917-002B, H23080917-002F, H23080917-003B, H23080917-003F, H23080917-004B, H23080917-004F, H23080917-005B, H23080917-005F, H23080917-006B, H23080917-006F, H23080917-007B, H23080917-007F**

Run ID :Run Order: <b>ICP2-HE_230828B: 71</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23080918-004BMS2</b>				Method: <b>E200.7</b>		
Analysis Date: <b>08/28/23 22:27</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>7</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.32	0.050	1	0.3816	<b>94</b>	70	130				
Calcium	102	1.0	50	51.53	<b>102</b>	70	130				
Lithium	1.15	0.10	1	0.1152	<b>103</b>	70	130				
Magnesium	62.6	1.0	50	12.51	<b>100</b>	70	130				
Potassium	61.1	1.0	50	9.84	<b>103</b>	70	130				
Sodium	142	1.0	50	89.63	<b>105</b>	70	130				
Strontium	1.41	0.010	1	0.4172	<b>100</b>	70	130				

Associated samples: **H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B**

Run ID :Run Order: <b>ICP2-HE_230828B: 72</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23080918-004BMSD2</b>				Method: <b>E200.7</b>		
Analysis Date: <b>08/28/23 22:30</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>7</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.35	0.050	1	0.3816	<b>97</b>	70	130	1.32	<b>2.3</b>	20	
Calcium	103	1.0	50	51.53	<b>102</b>	70	130	102.4	<b>0.1</b>	20	
Lithium	1.11	0.10	1	0.1152	<b>99</b>	70	130	1.146	<b>3.5</b>	20	
Magnesium	62.5	1.0	50	12.51	<b>100</b>	70	130	62.56	<b>0</b>	20	
Potassium	59.9	1.0	50	9.84	<b>100</b>	70	130	61.11	<b>2.0</b>	20	
Sodium	140	1.0	50	89.63	<b>101</b>	70	130	142.3	<b>1.5</b>	20	
Strontium	1.41	0.010	1	0.4172	<b>100</b>	70	130	1.413	<b>0.1</b>	20	

Associated samples: **H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187634

Date: 22-Sep-23

Run ID :Run Order: ICP2-HE_230828B: 115	SampType: Sample Matrix Spike				Lab ID: H23080960-004BMS2				Method: E200.7		
Analysis Date: 08/29/23 01:13	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.80	0.050	1	0.9729	83	70	130				
Calcium	104	1.0	50	60.63	86	70	130				
Lithium	1.10	0.10	1	0.04695	105	70	130				
Magnesium	99.3	1.0	50	49.57	100	70	130				
Potassium	53.6	1.0	50	2.488	102	70	130				
Sodium	473	1.0	50	404.8		70	130				A
Strontium	1.67	0.010	1	0.6815	99	70	130				

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

Run ID :Run Order: ICP2-HE_230828B: 116	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080960-004BMSD2				Method: E200.7		
Analysis Date: 08/29/23 01:17	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.88	0.050	1	0.9729	91	70	130	1.804	4.2	20	
Calcium	106	1.0	50	60.63	91	70	130	103.6	2.4	20	
Lithium	1.10	0.10	1	0.04695	105	70	130	1.101	0.1	20	
Magnesium	101	1.0	50	49.57	103	70	130	99.35	1.5	20	
Potassium	53.8	1.0	50	2.488	103	70	130	53.64	0.3	20	
Sodium	464	1.0	50	404.8		70	130	473	2.0	20	A
Strontium	1.69	0.010	1	0.6815	101	70	130	1.671	1.3	20	

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

Run ID :Run Order: ICP2-HE_230828B: 136	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.7		
Analysis Date: 08/29/23 02:33	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.46	0.10	2.5	0	98	90	110				
Calcium	25.0	1.0	25	0	100	90	110				
Iron	2.51	0.020	2.5	0	101	90	110				
Lithium	1.24	0.10	1.25	0	99	90	110				
Magnesium	25.1	1.0	25	0	101	90	110				
Potassium	24.9	1.0	25	0	100	90	110				
Sodium	24.8	1.0	25	0	99	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187634

Date: 22-Sep-23

Run ID :Run Order: ICP2-HE_230828B: 136	SampType: Continuing Calibration Verification Standard				Lab ID: CCV			Method: E200.7			
Analysis Date: 08/29/23 02:33	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Strontium	2.49	0.10	2.5	0	99	90	110				

Associated samples: H23080917-001B, H23080917-001F, H23080917-002B, H23080917-002F, H23080917-003B, H23080917-003F, H23080917-004B, H23080917-004F, H23080917-005B, H23080917-005F, H23080917-006B, H23080917-006F, H23080917-007B, H23080917-007F

Run ID :Run Order: ICP2-HE_230828B: 148	SampType: Continuing Calibration Verification Standard				Lab ID: CCV			Method: E200.7			
Analysis Date: 08/29/23 03:19	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.46	0.10	2.5	0	98	90	110				
Calcium	25.5	1.0	25	0	102	90	110				
Iron	2.59	0.020	2.5	0	104	90	110				
Lithium	1.21	0.10	1.25	0	97	90	110				
Magnesium	25.3	1.0	25	0	101	90	110				
Potassium	24.7	1.0	25	0	99	90	110				
Sodium	24.5	1.0	25	0	98	90	110				
Strontium	2.48	0.10	2.5	0	99	90	110				

Associated samples: H23080917-001B, H23080917-001F, H23080917-002B, H23080917-002F, H23080917-003B, H23080917-003F, H23080917-004B, H23080917-004F, H23080917-005B, H23080917-005F, H23080917-006B, H23080917-006F, H23080917-007B, H23080917-007F

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187736

Date: 22-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 22	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 08/30/23 13:39	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	ND	0.0003									
Gallium	ND	0.00004									
Lanthanum	ND	0.00004									
Neodymium	ND	0.00004									
Niobium	0.00009	0.00004									
Palladium	ND	0.00004									
Praseodymium	ND	0.00005									
Rubidium	ND	0.00003									
Tungsten	ND	0.00003									
Zirconium	ND	0.00006									

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

Run ID :Run Order: ICPMS206-H_230830B: 23	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.8		
Analysis Date: 08/30/23 13:41	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0515	0.010	0.05	0	103	85	115				
Gallium	0.0499	0.010	0.05	0	100	85	115				
Lanthanum	0.0500	0.010	0.05	0	100	85	115				
Neodymium	0.0505	0.0050	0.05	0	101	85	115				
Niobium	0.0526	0.0010	0.05	0	105	85	115				
Palladium	0.0503	0.010	0.05	0	101	85	115				
Praseodymium	0.0512	0.0010	0.05	0	102	85	115				
Rubidium	0.0494	0.010	0.05	0	99	85	115				
Tungsten	0.0516	0.10	0.05	0	103	85	115				
Zirconium	0.0526	0.0050	0.05	0	105	85	115				

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

Run ID :Run Order: ICPMS206-H_230830B: 116	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 08/30/23 18:37	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0601	0.010	0.06	0	100	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187736

Date: 22-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 116	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 08/30/23 18:37	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gallium	0.0610	0.010	0.06	0	102	90	110				
Lanthanum	0.0598	0.010	0.06	0	100	90	110				
Neodymium	0.0597	0.0050	0.06	0	99	90	110				
Niobium	0.0591	0.0010	0.06	0	98	90	110				
Palladium	0.0590	0.010	0.06	0	98	90	110				
Praseodymium	0.0612	0.0010	0.06	0	102	90	110				
Rubidium	0.0592	0.010	0.06	0	99	90	110				
Tungsten	0.0590	0.10	0.06	0	98	90	110				
Zirconium	0.0662	0.0050	0.06	0	110	90	110				

Associated samples: H23080917-001B, H23080917-001F, H23080917-002B, H23080917-002F, H23080917-003B, H23080917-003F, H23080917-004B, H23080917-004F, H23080917-005B, H23080917-006B, H23080917-006F, H23080917-007B, H23080917-007F

Run ID :Run Order: ICPMS206-H_230830B: 149	SampType: Sample Matrix Spike				Lab ID: H23080897-011BMS				Method: E200.8		
Analysis Date: 08/30/23 20:08	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0537	0.010	0.05	0	107	70	130				
Gallium	0.0485	0.010	0.05	0.0002508	96	70	130				
Lanthanum	0.0660	0.010	0.05	0.01188	108	70	130				
Neodymium	0.0557	0.0050	0.05	0.003225	105	70	130				
Niobium	0.0496	0.0010	0.05	0.0002529	99	70	130				
Palladium	0.0510	0.010	0.05	0.000549	101	70	130				
Praseodymium	0.0561	0.0010	0.05	0.001026	110	70	130				
Rubidium	0.123	0.010	0.05	0.07708	91	70	130				E
Tungsten	0.0539	0.10	0.05	0	108	70	130				
Zirconium	0.0509	0.0050	0.05	0.000272	101	70	130				

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

Run ID :Run Order: ICPMS206-H_230830B: 150	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080897-011BMSD				Method: E200.8		
Analysis Date: 08/30/23 20:10	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0526	0.010	0.05	0	105	70	130	0.05373	2.1	20	
Gallium	0.0482	0.010	0.05	0.0002508	96	70	130	0.04849	0.6	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187736

Date: 22-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 150	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080897-011BMSD				Method: E200.8		
Analysis Date: 08/30/23 20:10	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lanthanum	0.0661	0.010	0.05	0.01188	108	70	130	0.06595	0.2	20	
Neodymium	0.0545	0.0050	0.05	0.003225	103	70	130	0.05568	2.1	20	
Niobium	0.0498	0.0010	0.05	0.0002529	99	70	130	0.04964			
Palladium	0.0501	0.010	0.05	0.000549	99	70	130	0.051	1.7	20	
Praseodymium	0.0553	0.0010	0.05	0.001026	109	70	130	0.05613			
Rubidium	0.122	0.010	0.05	0.07708	90	70	130	0.1226	0.2	20	E
Tungsten	0.0526	0.10	0.05	0	105	70	130	0.05388			
Zirconium	0.0506	0.0050	0.05	0.000272	101	70	130	0.05092	0.7	20	

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

Run ID :Run Order: ICPMS206-H_230830B: 151	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 08/30/23 20:12	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0514	0.010	0.05	0	103	90	110				
Gallium	0.0510	0.010	0.05	0	102	90	110				
Lanthanum	0.0541	0.010	0.05	0	108	90	110				
Neodymium	0.0517	0.0050	0.05	0	103	90	110				
Niobium	0.0508	0.0010	0.05	0	102	90	110				
Palladium	0.0512	0.010	0.05	0	102	90	110				
Rubidium	0.0500	0.010	0.05	0	100	90	110				
Tungsten	0.0505	0.10	0.05	0	101	90	110				
Zirconium	0.0494	0.0050	0.05	0	99	90	110				

Associated samples: H23080917-001B, H23080917-001F, H23080917-002B, H23080917-002F, H23080917-003B, H23080917-003F, H23080917-004B, H23080917-004F, H23080917-005B, H23080917-006B, H23080917-006F, H23080917-007B, H23080917-007F

Run ID :Run Order: ICPMS206-H_230830B: 163	SampType: Sample Matrix Spike				Lab ID: H23080917-001BMS				Method: E200.8		
Analysis Date: 08/30/23 20:37	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0507	0.010	0.05	0	101	70	130				
Gallium	0.0491	0.010	0.05	0	98	70	130				
Lanthanum	0.0512	0.010	0.05	0	102	70	130				
Neodymium	0.0502	0.0050	0.05	0	100	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187736

Date: 22-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 163		SampType: Sample Matrix Spike			Lab ID: H23080917-001BMS				Method: E200.8		
Analysis Date: 08/30/23 20:37		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Niobium	0.0517	0.0010	0.05	0.0001279	103	70	130				
Palladium	0.0482	0.010	0.05	0.00007898	96	70	130				
Praseodymium	0.0531	0.0010	0.05	0	106	70	130				
Rubidium	0.0508	0.010	0.05	0.00317	95	70	130				
Tungsten	0.0538	0.10	0.05	0.0007498	106	70	130				
Zirconium	0.0509	0.0050	0.05	0.0001644	102	70	130				

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

Run ID :Run Order: ICPMS206-H_230830B: 164		SampType: Sample Matrix Spike Duplicate			Lab ID: H23080917-001BMSD				Method: E200.8		
Analysis Date: 08/30/23 20:39		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0499	0.010	0.05	0	100	70	130	0.05066	1.6	20	
Gallium	0.0492	0.010	0.05	0	98	70	130	0.04914	0.1	20	
Lanthanum	0.0508	0.010	0.05	0	102	70	130	0.05122	0.9	20	
Neodymium	0.0493	0.0050	0.05	0	99	70	130	0.05023	1.8	20	
Niobium	0.0510	0.0010	0.05	0.0001279	102	70	130	0.05166			
Palladium	0.0472	0.010	0.05	0.00007898	94	70	130	0.04821	2.0	20	
Praseodymium	0.0507	0.0010	0.05	0	101	70	130	0.05311			
Rubidium	0.0508	0.010	0.05	0.00317	95	70	130	0.05075	0	20	
Tungsten	0.0528	0.10	0.05	0.0007498	104	70	130	0.05383			
Zirconium	0.0510	0.0050	0.05	0.0001644	102	70	130	0.05093	0.2	20	

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

Run ID :Run Order: ICPMS206-H_230830B: 169		SampType: Continuing Calibration Verification Standard			Lab ID: CCV				Method: E200.8		
Analysis Date: 08/30/23 20:49		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0523	0.010	0.05	0	105	90	110				
Gallium	0.0510	0.010	0.05	0	102	90	110				
Lanthanum	0.0530	0.010	0.05	0	106	90	110				
Neodymium	0.0512	0.0050	0.05	0	102	90	110				
Niobium	0.0503	0.0010	0.05	0	101	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080917

**BatchID:** R187736

**Date:** 22-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 169		SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 08/30/23 20:49		Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Palladium	0.0520	0.010	0.05	0	104	90	110					
Praseodymium	0.0512	0.0010	0.05	0	102	90	110					
Rubidium	0.0493	0.010	0.05	0	99	90	110					
Tungsten	0.0520	0.10	0.05	0	104	90	110					
Zirconium	0.0479	0.0050	0.05	0	96	90	110					

Associated samples: H23080917-001B, H23080917-001F, H23080917-002B, H23080917-002F, H23080917-003B, H23080917-003F, H23080917-004B, H23080917-004F, H23080917-005B, H23080917-006B, H23080917-006F, H23080917-007B, H23080917-007F

Run ID :Run Order: ICPMS206-H_230830B: 180		SampType: Sample Matrix Spike				Lab ID: H23080918-003BMS				Method: E200.8		
Analysis Date: 08/30/23 21:12		Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Cesium	0.0510	0.010	0.05	0	102	70	130					
Gallium	0.0485	0.010	0.05	0.00006897	97	70	130					
Lanthanum	0.0525	0.010	0.05	0.00241	100	70	130					
Neodymium	0.0512	0.0050	0.05	0.001142	100	70	130					
Niobium	0.0496	0.0010	0.05	0	99	70	130					
Palladium	0.0484	0.010	0.05	0.0002769	96	70	130					
Praseodymium	0.0516	0.0010	0.05	0.0003354	103	70	130					
Rubidium	0.0481	0.010	0.05	0.0004331	95	70	130					
Tungsten	0.0513	0.10	0.05	0	103	70	130					
Zirconium	0.0513	0.0050	0.05	0	103	70	130					

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

Run ID :Run Order: ICPMS206-H_230830B: 181		SampType: Sample Matrix Spike Duplicate				Lab ID: H23080918-003BMSD				Method: E200.8		
Analysis Date: 08/30/23 21:14		Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Cesium	0.0502	0.010	0.05	0	100	70	130	0.05098	1.6	20		
Gallium	0.0472	0.010	0.05	0.00006897	94	70	130	0.04853	2.8	20		
Lanthanum	0.0540	0.010	0.05	0.00241	103	70	130	0.05252	2.8	20		
Neodymium	0.0514	0.0050	0.05	0.001142	100	70	130	0.05118	0.3	20		
Niobium	0.0482	0.0010	0.05	0	96	70	130	0.04959				
Palladium	0.0486	0.010	0.05	0.0002769	97	70	130	0.04842	0.4	20		

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187736

Date: 22-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 181	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080918-003BMSD				Method: E200.8		
Analysis Date: 08/30/23 21:14	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Praseodymium	0.0515	0.0010	0.05	0.0003354	102	70	130	0.05164			
Rubidium	0.0464	0.010	0.05	0.0004331	92	70	130	0.0481	3.5	20	
Tungsten	0.0517	0.10	0.05	0	103	70	130	0.05134		20	
Zirconium	0.0496	0.0050	0.05	0	99	70	130	0.05129	3.3	20	

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

Run ID :Run Order: ICPMS206-H_230830B: 226	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.8		
Analysis Date: 08/30/23 13:41	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0487	0.0010	0.05	0	97	85	115				

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

Run ID :Run Order: ICPMS206-H_230830B: 317	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 08/30/23 18:37	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0597	0.0010	0.06	0	100	90	110				

Associated samples: H23080917-001B, H23080917-001F, H23080917-002B, H23080917-002F, H23080917-003B, H23080917-003F, H23080917-004B, H23080917-004F, H23080917-005B, H23080917-006B, H23080917-006F, H23080917-007B, H23080917-007F

Run ID :Run Order: ICPMS206-H_230830B: 324	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 08/30/23 19:14	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	ND	0.0002									

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

Run ID :Run Order: ICPMS206-H_230830B: 350	SampType: Sample Matrix Spike				Lab ID: H23080897-011BMS				Method: E200.8		
Analysis Date: 08/30/23 20:08	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0528	0.0050	0.05	0	106	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187736

Date: 22-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 350	SampType: Sample Matrix Spike	Lab ID: H23080897-011BMS	Method: E200.8								
Analysis Date: 08/30/23 20:08	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

Run ID :Run Order: ICPMS206-H_230830B: 351	SampType: Sample Matrix Spike Duplicate	Lab ID: H23080897-011BMSD	Method: E200.8								
Analysis Date: 08/30/23 20:10	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Thorium	0.0511	0.0050	0.05	0	102	70	130	0.05276	3.1	20
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Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

Run ID :Run Order: ICPMS206-H_230830B: 352	SampType: Continuing Calibration Verification Standard	Lab ID: CCV	Method: E200.8								
Analysis Date: 08/30/23 20:12	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Thorium	0.0504	0.0010	0.05	0	101	90	110
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Associated samples: H23080917-001B, H23080917-001F, H23080917-002B, H23080917-002F, H23080917-003B, H23080917-003F, H23080917-004B, H23080917-004F, H23080917-005B, H23080917-006B, H23080917-006F, H23080917-007B, H23080917-007F

Run ID :Run Order: ICPMS206-H_230830B: 364	SampType: Sample Matrix Spike	Lab ID: H23080917-001BMS	Method: E200.8								
Analysis Date: 08/30/23 20:37	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Thorium	0.0506	0.0050	0.05	0	101	70	130
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Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

Run ID :Run Order: ICPMS206-H_230830B: 365	SampType: Sample Matrix Spike Duplicate	Lab ID: H23080917-001BMSD	Method: E200.8								
Analysis Date: 08/30/23 20:39	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Thorium	0.0512	0.0050	0.05	0	102	70	130	0.05057	1.1	20
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Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187736

Date: 22-Sep-23

Run ID :Run Order: <b>ICPMS206-H_230830B: 370</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>	Method: <b>E200.8</b>					
Analysis Date: <b>08/30/23 20:49</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:	Prep Method:					
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0536	0.0010	0.05	0	<b>107</b>	90	110				
Associated samples: <b>H23080917-001B, H23080917-001F, H23080917-002B, H23080917-002F, H23080917-003B, H23080917-003F, H23080917-004B, H23080917-004F, H23080917-005B, H23080917-006B, H23080917-006F, H23080917-007B, H23080917-007F</b>											

Run ID :Run Order: <b>ICPMS206-H_230830B: 381</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23080918-003BMS</b>	Method: <b>E200.8</b>					
Analysis Date: <b>08/30/23 21:12</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:	Prep Method:					
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0493	0.0050	0.05	0	<b>99</b>	70	130				
Associated samples: <b>H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B</b>											

Run ID :Run Order: <b>ICPMS206-H_230830B: 382</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23080918-003BMDS</b>	Method: <b>E200.8</b>					
Analysis Date: <b>08/30/23 21:14</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:	Prep Method:					
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0502	0.0050	0.05	0	<b>100</b>	70	130	0.04932	<b>1.8</b>	20	
Associated samples: <b>H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B</b>											





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187741

Date: 22-Sep-23

Run ID :Run Order: <b>SEAL AA500_230830A: 12</b>	SampType: <b>Method Blank</b>				Lab ID: <b>ICB</b>				Method: <b>E353.2</b>		
Analysis Date: <b>08/30/23 16:46</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.01									

Associated samples: H23080917-001C, H23080917-002C, H23080917-003C, H23080917-004C, H23080917-005C, H23080917-006C, H23080917-007C

Run ID :Run Order: <b>SEAL AA500_230830A: 14</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>				Method: <b>E353.2</b>		
Analysis Date: <b>08/30/23 16:48</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.07	0.010	1	0	<b>107</b>	90	110				

Associated samples: H23080917-001C, H23080917-002C, H23080917-003C, H23080917-004C, H23080917-005C, H23080917-006C, H23080917-007C

Run ID :Run Order: <b>SEAL AA500_230830A: 15</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>				Method: <b>E353.2</b>		
Analysis Date: <b>08/30/23 16:49</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.02	0.011	1	0	<b>102</b>	90	110				

Associated samples: H23080917-001C, H23080917-002C, H23080917-003C, H23080917-004C, H23080917-005C, H23080917-006C, H23080917-007C

Run ID :Run Order: <b>SEAL AA500_230830A: 144</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>E353.2</b>		
Analysis Date: <b>08/30/23 19:04</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.00	0.010	1	0	<b>100</b>	90	110				

Associated samples: H23080917-001C, H23080917-002C, H23080917-003C, H23080917-004C, H23080917-005C, H23080917-006C, H23080917-007C

Run ID :Run Order: <b>SEAL AA500_230830A: 147</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23080905-008EMS</b>				Method: <b>E353.2</b>		
Analysis Date: <b>08/30/23 19:07</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.06	0.011	1	0.058	<b>100</b>	90	110				

Associated samples: H23080917-001C, H23080917-002C, H23080917-003C, H23080917-004C, H23080917-005C, H23080917-006C, H23080917-007C

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice  
**Work Order:** H23080917

Prepared by Helena, MT Branch  
**BatchID:** R187741

**Date:** 22-Sep-23

Run ID :Run Order: <b>SEAL AA500_230830A: 148</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23080905-008EMSD</b>				Method: <b>E353.2</b>		
Analysis Date: <b>08/30/23 19:08</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.07	0.011	1	0.058	<b>101</b>	90	110	1.06	<b>0.7</b>	10	

Associated samples: **H23080917-001C, H23080917-002C, H23080917-003C, H23080917-004C, H23080917-005C, H23080917-006C, H23080917-007C**

Run ID :Run Order: <b>SEAL AA500_230830A: 158</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>E353.2</b>		
Analysis Date: <b>08/30/23 19:18</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.997	0.010	1	0	<b>100</b>	90	110				

Associated samples: **H23080917-001C, H23080917-002C, H23080917-003C, H23080917-004C, H23080917-005C, H23080917-006C, H23080917-007C**

Run ID :Run Order: <b>SEAL AA500_230830A: 162</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23080917-007CMS</b>				Method: <b>E353.2</b>		
Analysis Date: <b>08/30/23 19:22</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.10	0.011	1	0.1342	<b>97</b>	90	110				

Associated samples: **H23080917-001C, H23080917-002C, H23080917-003C, H23080917-004C, H23080917-005C, H23080917-006C, H23080917-007C**

Run ID :Run Order: <b>SEAL AA500_230830A: 163</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23080917-007CMSD</b>				Method: <b>E353.2</b>		
Analysis Date: <b>08/30/23 19:23</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.11	0.011	1	0.1342	<b>98</b>	90	110	1.1	<b>0.9</b>	10	

Associated samples: **H23080917-001C, H23080917-002C, H23080917-003C, H23080917-004C, H23080917-005C, H23080917-006C, H23080917-007C**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187753

Date: 22-Sep-23

Run ID :Run Order: ICPMS205-H_230829C: 22		SampType: Method Blank			Lab ID: LRB				Method: E200.8		
Analysis Date: 08/30/23 11:42		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	ND	0.0002									
Arsenic	ND	0.0002									
Barium	ND	0.0002									
Cadmium	ND	0.00002									
Chromium	ND	0.0001									
Cobalt	ND	0.001									
Copper	ND	0.0001									
Iron	ND	0.004									
Lead	ND	0.0001									
Molybdenum	ND	0.0003									
Nickel	ND	0.0002									
Selenium	ND	0.00007									
Silver	ND	0.00008									
Thallium	ND	0.00008									
Tin	ND	0.0002									
Titanium	ND	0.0005									
Uranium	ND	0.00002									
Vanadium	ND	0.0001									

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

Run ID :Run Order: ICPMS205-H_230829C: 23		SampType: Laboratory Fortified Blank			Lab ID: LFB				Method: E200.8		
Analysis Date: 08/30/23 11:45		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0497	0.10	0.05	0	99	85	115				
Antimony	0.0493	0.050	0.05	0	99	85	115				
Arsenic	0.0494	0.0050	0.05	0	99	85	115				
Barium	0.0492	0.10	0.05	0	98	85	115				
Cadmium	0.0497	0.0010	0.05	0	99	85	115				
Chromium	0.0491	0.010	0.05	0	98	85	115				
Cobalt	0.0494	0.010	0.05	0	99	85	115				
Copper	0.0492	0.010	0.05	0	98	85	115				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187753

Date: 22-Sep-23

Run ID :Run Order: ICPMS205-H_230829C: 23	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.8		
Analysis Date: 08/30/23 11:45	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.150	0.020	0.15	0	100	85	115				
Lead	0.0496	0.010	0.05	0	99	85	115				
Molybdenum	0.0475	0.0050	0.05	0	95	85	115				
Nickel	0.0468	0.010	0.05	0	94	85	115				
Selenium	0.0504	0.0050	0.05	0	101	85	115				
Silver	0.0195	0.0050	0.02	0	97	85	115				
Thallium	0.0502	0.10	0.05	0	100	85	115				
Tin	0.0440	0.10	0.05	0	88	85	115				
Titanium	0.0484	0.010	0.05	0	97	85	115				
Uranium	0.0484	0.00030	0.05	0	97	85	115				
Vanadium	0.0481	0.10	0.05	0	96	85	115				

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

Run ID :Run Order: ICPMS205-H_230829C: 122	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 08/30/23 17:23	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.319	0.10	0.3	0	106	90	110				
Antimony	0.0612	0.050	0.06	0	102	90	110				
Arsenic	0.0603	0.0050	0.06	0	101	90	110				
Barium	0.0595	0.10	0.06	0	99	90	110				
Beryllium	0.0308	0.0010	0.03	0	103	90	110				
Cadmium	0.0308	0.0010	0.03	0	103	90	110				
Chromium	0.0600	0.010	0.06	0	100	90	110				
Cobalt	0.0610	0.010	0.06	0	102	90	110				
Copper	0.0611	0.010	0.06	0	102	90	110				
Iron	0.300	0.020	0.3	0	100	90	110				
Lead	0.0601	0.010	0.06	0	100	90	110				
Molybdenum	0.0588	0.0050	0.06	0	98	90	110				
Nickel	0.0613	0.010	0.06	0	102	90	110				
Selenium	0.0620	0.0050	0.06	0	103	90	110				
Silver	0.0307	0.0050	0.03	0	102	90	110				
Thallium	0.0603	0.10	0.06	0	100	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187753

Date: 22-Sep-23

Run ID :Run Order: ICPMS205-H_230829C: 122	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 08/30/23 17:23	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tin	0.0616	0.10	0.06	0	103	90	110				
Titanium	0.0602	0.010	0.06	0	100	90	110				
Uranium	0.0591	0.00030	0.06	0	98	90	110				
Vanadium	0.0602	0.10	0.06	0	100	90	110				

Associated samples: H23080917-001B, H23080917-001F, H23080917-002B, H23080917-002F, H23080917-003B, H23080917-003F, H23080917-004B, H23080917-004F, H23080917-005B, H23080917-005F, H23080917-006B, H23080917-006F, H23080917-007B, H23080917-007F

Run ID :Run Order: ICPMS205-H_230829C: 159	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 08/30/23 19:48	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0504	0.10	0.05	0	101	90	110				
Antimony	0.0503	0.050	0.05	0	101	90	110				
Arsenic	0.0513	0.0050	0.05	0	103	90	110				
Barium	0.0512	0.10	0.05	0	102	90	110				
Cadmium	0.0518	0.0010	0.05	0	104	90	110				
Chromium	0.0512	0.010	0.05	0	102	90	110				
Cobalt	0.0513	0.010	0.05	0	103	90	110				
Copper	0.0518	0.010	0.05	0	104	90	110				
Iron	1.33	0.020	1.3	0	103	90	110				
Lead	0.0512	0.010	0.05	0	102	90	110				
Molybdenum	0.0505	0.0050	0.05	0	101	90	110				
Nickel	0.0522	0.010	0.05	0	104	90	110				
Selenium	0.0500	0.0050	0.05	0	100	90	110				
Silver	0.0209	0.0050	0.02	0	104	90	110				
Thallium	0.0502	0.10	0.05	0	100	90	110				
Tin	0.0497	0.10	0.05	0	99	90	110				
Titanium	0.0523	0.010	0.05	0	105	90	110				
Uranium	0.0495	0.00030	0.05	0	99	90	110				
Vanadium	0.0510	0.10	0.05	0	102	90	110				

Associated samples: H23080917-001B, H23080917-001F, H23080917-002B, H23080917-002F, H23080917-003B, H23080917-003F, H23080917-004B, H23080917-004F, H23080917-005B, H23080917-005F, H23080917-006B, H23080917-006F, H23080917-007B, H23080917-007F

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187753

Date: 22-Sep-23

Run ID :Run Order: ICPMS205-H_230829C: 170	SampType: Sample Matrix Spike				Lab ID: H23080897-011BMS				Method: E200.8		
Analysis Date: 08/30/23 20:22	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.504	0.030	0.05	0.4953		70	130				A
Antimony	0.0504	0.0010	0.05	0	101	70	130				
Arsenic	0.0511	0.0010	0.05	0.0004679	101	70	130				
Barium	0.0574	0.050	0.05	0.006574	102	70	130				
Cadmium	0.154	0.0010	0.05	0.1044	100	70	130				
Chromium	0.0498	0.0050	0.05	0	100	70	130				
Cobalt	0.385	0.0050	0.05	0.3289		70	130				A
Copper	0.221	0.0050	0.05	0.1697	102	70	130				
Iron	97.2	0.020	0.15	96.55		70	130				AE
Lead	0.0553	0.0010	0.05	0.001261	108	70	130				
Molybdenum	0.0505	0.0010	0.05	0.001251	98	70	130				
Nickel	0.242	0.0050	0.05	0.1923	100	70	130				
Selenium	0.0496	0.0010	0.05	0.0001112	99	70	130				
Silver	0.0197	0.0010	0.02	0	98	70	130				
Thallium	0.0546	0.00050	0.05	0.0007018	108	70	130				
Tin	0.0443	0.050	0.05	0	89	70	130				
Titanium	0.0514	0.0050	0.05	0	103	70	130				
Uranium	0.0546	0.00030	0.05	0.001199	107	70	130				
Vanadium	0.0508	0.010	0.05	0	102	70	130				

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

Run ID :Run Order: ICPMS205-H_230829C: 171	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080897-011BMSD				Method: E200.8		
Analysis Date: 08/30/23 20:25	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.502	0.030	0.05	0.4953		70	130	0.5041	0.4	20	A
Antimony	0.0510	0.0010	0.05	0	102	70	130	0.05044	1.0	20	
Arsenic	0.0517	0.0010	0.05	0.0004679	103	70	130	0.05106	1.3	20	
Barium	0.0568	0.050	0.05	0.006574	101	70	130	0.05737	0.9	20	
Cadmium	0.154	0.0010	0.05	0.1044	100	70	130	0.1543	0.0	20	
Chromium	0.0506	0.0050	0.05	0	101	70	130	0.04981	1.6	20	
Cobalt	0.385	0.0050	0.05	0.3289		70	130	0.3846	0.1	20	A
Copper	0.222	0.0050	0.05	0.1697	105	70	130	0.2206	0.8	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187753

Date: 22-Sep-23

Run ID :Run Order: ICPMS205-H_230829C: 171	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080897-011BMSD				Method: E200.8		
Analysis Date: 08/30/23 20:25	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	96.7	0.020	0.15	96.55		70	130	97.2	0.5	20	AE
Lead	0.0557	0.0010	0.05	0.001261	109	70	130	0.05526	0.8	20	
Molybdenum	0.0517	0.0010	0.05	0.001251	101	70	130	0.0505	2.4	20	
Nickel	0.246	0.0050	0.05	0.1923	108	70	130	0.2423	1.7	20	
Selenium	0.0505	0.0010	0.05	0.0001112	101	70	130	0.04956	2.0	20	
Silver	0.0198	0.0010	0.02	0	99	70	130	0.01967	0.9	20	
Thallium	0.0549	0.00050	0.05	0.0007018	108	70	130	0.05463	0.6	20	
Tin	0.0458	0.050	0.05	0	92	70	130	0.04429		20	
Titanium	0.0525	0.0050	0.05	0	105	70	130	0.05144	2.1	20	
Uranium	0.0554	0.00030	0.05	0.001199	108	70	130	0.05456	1.5	20	
Vanadium	0.0517	0.010	0.05	0	103	70	130	0.05082	1.7	20	

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

Run ID :Run Order: ICPMS205-H_230829C: 172	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 08/30/23 20:28	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0524	0.10	0.05	0	105	90	110				
Antimony	0.0496	0.050	0.05	0	99	90	110				
Arsenic	0.0516	0.0050	0.05	0	103	90	110				
Barium	0.0505	0.10	0.05	0	101	90	110				
Beryllium	0.0530	0.0010	0.05	0	106	90	110				
Cadmium	0.0516	0.0010	0.05	0	103	90	110				
Chromium	0.0509	0.010	0.05	0	102	90	110				
Cobalt	0.0513	0.010	0.05	0	103	90	110				
Copper	0.0518	0.010	0.05	0	103	90	110				
Iron	1.36	0.020	1.3	0	104	90	110				
Lead	0.0504	0.010	0.05	0	101	90	110				
Molybdenum	0.0513	0.0050	0.05	0	103	90	110				
Nickel	0.0513	0.010	0.05	0	103	90	110				
Selenium	0.0512	0.0050	0.05	0	102	90	110				
Silver	0.0208	0.0050	0.02	0	104	90	110				
Thallium	0.0499	0.10	0.05	0	100	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187753

Date: 22-Sep-23

Run ID :Run Order: ICPMS205-H_230829C: 172	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 08/30/23 20:28	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 20	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tin	0.0515	0.10	0.05	0	103	90	110				
Titanium	0.0502	0.010	0.05	0	100	90	110				
Uranium	0.0491	0.00030	0.05	0	98	90	110				
Vanadium	0.0509	0.10	0.05	0	102	90	110				

Associated samples: H23080917-001B, H23080917-001F, H23080917-002B, H23080917-002F, H23080917-003B, H23080917-003F, H23080917-004B, H23080917-004F, H23080917-005B, H23080917-005F, H23080917-006B, H23080917-006F, H23080917-007B, H23080917-007F

Run ID :Run Order: ICPMS205-H_230829C: 186	SampType: Sample Matrix Spike				Lab ID: H23080917-001BMS				Method: E200.8		
Analysis Date: 08/30/23 21:11	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0565	0.030	0.05	0	113	70	130				
Antimony	0.0516	0.0010	0.05	0.0008495	101	70	130				
Arsenic	0.0558	0.0010	0.05	0.005332	101	70	130				
Barium	0.0812	0.050	0.05	0.03219	98	70	130				
Cadmium	0.0511	0.0010	0.05	0.0001296	102	70	130				
Chromium	0.0495	0.0050	0.05	0.000294	98	70	130				
Cobalt	0.0499	0.0050	0.05	0	100	70	130				
Copper	0.0610	0.0050	0.05	0.01135	99	70	130				
Iron	0.191	0.020	0.15	0.04513	97	70	130				
Lead	0.0533	0.0010	0.05	0.0002122	106	70	130				
Molybdenum	0.0697	0.0010	0.05	0.0195	100	70	130				
Nickel	0.0509	0.0050	0.05	0.0003919	101	70	130				
Selenium	0.0513	0.0010	0.05	0.0001223	102	70	130				
Silver	0.0205	0.0010	0.02	0	103	70	130				
Thallium	0.0535	0.00050	0.05	0	107	70	130				
Tin	0.0431	0.050	0.05	0	86	70	130				
Titanium	0.0482	0.0050	0.05	0	96	70	130				
Uranium	0.0509	0.00030	0.05	0.00123	99	70	130				
Vanadium	0.0506	0.010	0.05	0.001008	99	70	130				

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187753

Date: 22-Sep-23

Run ID :Run Order: ICPMS205-H_230829C: 187	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080917-001BMSD				Method: E200.8		
Analysis Date: 08/30/23 21:14	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0560	0.030	0.05	0	112	70	130	0.05646	0.8	20	
Antimony	0.0525	0.0010	0.05	0.0008495	103	70	130	0.05155	1.8	20	
Arsenic	0.0576	0.0010	0.05	0.005332	104	70	130	0.05581	3.1	20	
Barium	0.0828	0.050	0.05	0.03219	101	70	130	0.08123	2.0	20	
Cadmium	0.0521	0.0010	0.05	0.0001296	104	70	130	0.05114	1.9	20	
Chromium	0.0508	0.0050	0.05	0.000294	101	70	130	0.04947	2.7	20	
Cobalt	0.0515	0.0050	0.05	0	103	70	130	0.04987	3.2	20	
Copper	0.0627	0.0050	0.05	0.01135	103	70	130	0.06101	2.7	20	
Iron	0.194	0.020	0.15	0.04513	99	70	130	0.1909	1.4	20	
Lead	0.0525	0.0010	0.05	0.0002122	105	70	130	0.05333	1.6	20	
Molybdenum	0.0702	0.0010	0.05	0.0195	101	70	130	0.06969	0.7	20	
Nickel	0.0515	0.0050	0.05	0.0003919	102	70	130	0.05087	1.3	20	
Selenium	0.0520	0.0010	0.05	0.0001223	104	70	130	0.05134	1.3	20	
Silver	0.0207	0.0010	0.02	0	104	70	130	0.02054	1.0	20	
Thallium	0.0525	0.00050	0.05	0	105	70	130	0.05351	1.9	20	
Tin	0.0448	0.050	0.05	0	90	70	130	0.04313		20	
Titanium	0.0498	0.0050	0.05	0	100	70	130	0.04817	3.3	20	
Uranium	0.0498	0.00030	0.05	0.00123	97	70	130	0.05091	2.3	20	
Vanadium	0.0516	0.010	0.05	0.001008	101	70	130	0.05059	2.0	20	

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187811

Date: 22-Sep-23

Run ID :Run Order: ICPMS206-H_230831A: 21	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 08/31/23 11:43	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	ND	0.0003									
Gallium	ND	0.00004									
Lanthanum	ND	0.00004									
Neodymium	ND	0.00004									
Niobium	ND	0.00004									
Palladium	ND	0.00004									
Praseodymium	ND	0.00005									
Rubidium	ND	0.00003									
Tungsten	ND	0.00003									
Zirconium	ND	0.00006									

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-006B

Run ID :Run Order: ICPMS206-H_230831A: 45	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 08/31/23 12:43	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0585	0.010	0.06	0	98	90	110				
Gallium	0.0591	0.010	0.06	0	99	90	110				
Lanthanum	0.0572	0.010	0.06	0	95	90	110				
Neodymium	0.0590	0.0050	0.06	0	98	90	110				
Niobium	0.0599	0.0010	0.06	0	100	90	110				
Palladium	0.0587	0.010	0.06	0	98	90	110				
Praseodymium	0.0606	0.0010	0.06	0	101	90	110				
Rubidium	0.0578	0.010	0.06	0	96	90	110				
Tungsten	0.0582	0.10	0.06	0	97	90	110				
Zirconium	0.0614	0.0050	0.06	0	102	90	110				

Associated samples: H23080917-001B, H23080917-001F, H23080917-002B, H23080917-002F, H23080917-003B, H23080917-003F, H23080917-004B, H23080917-004F, H23080917-005F, H23080917-006B

Run ID :Run Order: ICPMS206-H_230831A: 50	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 08/31/23 12:54	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0482	0.010	0.05	0	96	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice  
**Work Order:** H23080917

Prepared by Helena, MT Branch  
**BatchID:** R187811

**Date:** 22-Sep-23

Run ID :Run Order: ICPMS206-H_230831A: 50		SampType: Continuing Calibration Verification Standard				Lab ID: CCV			Method: E200.8		
Analysis Date: 08/31/23 12:54		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gallium	0.0493	0.010	0.05	0	99	90	110				
Lanthanum	0.0490	0.010	0.05	0	98	90	110				
Neodymium	0.0497	0.0050	0.05	0	99	90	110				
Niobium	0.0488	0.0010	0.05	0	98	90	110				
Palladium	0.0495	0.010	0.05	0	99	90	110				
Praseodymium	0.0495	0.0010	0.05	0	99	90	110				
Rubidium	0.0484	0.010	0.05	0	97	90	110				
Tungsten	0.0490	0.10	0.05	0	98	90	110				
Zirconium	0.0493	0.0050	0.05	0	99	90	110				

Associated samples: H23080917-001B, H23080917-001F, H23080917-002B, H23080917-002F, H23080917-003B, H23080917-003F, H23080917-004B, H23080917-004F, H23080917-005F, H23080917-006B

Run ID :Run Order: ICPMS206-H_230831A: 53		SampType: Laboratory Fortified Blank				Lab ID: LFB			Method: E200.8		
Analysis Date: 08/31/23 13:05		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0492	0.010	0.05	0	98	85	115				
Gallium	0.0495	0.010	0.05	0	99	85	115				
Lanthanum	0.0488	0.010	0.05	0	98	85	115				
Neodymium	0.0487	0.0050	0.05	0	97	85	115				
Niobium	0.0498	0.0010	0.05	0	100	85	115				
Palladium	0.0492	0.010	0.05	0	98	85	115				
Praseodymium	0.0486	0.0010	0.05	0	97	85	115				
Rubidium	0.0483	0.010	0.05	0	97	85	115				
Tungsten	0.0502	0.10	0.05	0	100	85	115				
Zirconium	0.0512	0.0050	0.05	0	102	85	115				

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-006B

Run ID :Run Order: ICPMS206-H_230831A: 66		SampType: Sample Matrix Spike				Lab ID: H23080917-001BMS			Method: E200.8		
Analysis Date: 08/31/23 13:32		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0490	0.010	0.05	0	98	70	130				
Gallium	0.0501	0.010	0.05	0	100	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187811

Date: 22-Sep-23

Run ID :Run Order: ICPMS206-H_230831A: 66		SampType: Sample Matrix Spike			Lab ID: H23080917-001BMS				Method: E200.8		
Analysis Date: 08/31/23 13:32		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lanthanum	0.0506	0.010	0.05	0	101	70	130				
Neodymium	0.0505	0.0050	0.05	0	101	70	130				
Niobium	0.0506	0.0010	0.05	0.0001019	101	70	130				
Palladium	0.0486	0.010	0.05	0.00008042	97	70	130				
Praseodymium	0.0502	0.0010	0.05	0	100	70	130				
Rubidium	0.0526	0.010	0.05	0.003173	99	70	130				
Tungsten	0.0533	0.10	0.05	0.0007458	105	70	130				
Zirconium	0.0515	0.0050	0.05	0.0002078	103	70	130				

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-006B

Run ID :Run Order: ICPMS206-H_230831A: 67		SampType: Sample Matrix Spike Duplicate			Lab ID: H23080917-001BMSD				Method: E200.8		
Analysis Date: 08/31/23 13:34		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0497	0.010	0.05	0	99	70	130	0.04896	1.5	20	
Gallium	0.0499	0.010	0.05	0	100	70	130	0.05013	0.5	20	
Lanthanum	0.0495	0.010	0.05	0	99	70	130	0.05061	2.2	20	
Neodymium	0.0498	0.0050	0.05	0	100	70	130	0.05053	1.4	20	
Niobium	0.0507	0.0010	0.05	0.0001019	101	70	130	0.05056			
Palladium	0.0478	0.010	0.05	0.00008042	95	70	130	0.04858	1.6	20	
Praseodymium	0.0502	0.0010	0.05	0	100	70	130	0.05015			
Rubidium	0.0523	0.010	0.05	0.003173	98	70	130	0.05265	0.6	20	
Tungsten	0.0520	0.10	0.05	0.0007458	103	70	130	0.05331		20	
Zirconium	0.0510	0.0050	0.05	0.0002078	102	70	130	0.05149	0.9	20	

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-006B

Run ID :Run Order: ICPMS206-H_230831A: 77		SampType: Sample Matrix Spike			Lab ID: H23080918-016BMS				Method: E200.8		
Analysis Date: 08/31/23 13:54		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.244	0.010	0.25	0	97	70	130				
Gallium	0.244	0.010	0.25	0	98	70	130				
Lanthanum	0.245	0.010	0.25	0.0004546	98	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187811

Date: 22-Sep-23

Run ID :Run Order: ICPMS206-H_230831A: 77		SampType: Sample Matrix Spike			Lab ID: H23080918-016BMS				Method: E200.8		
Analysis Date: 08/31/23 13:54		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Neodymium	0.250	0.0050	0.25	0	100	70	130				
Niobium	0.249	0.0010	0.25	0.0002618	99	70	130				
Palladium	0.239	0.010	0.25	0.0004772	95	70	130				
Praseodymium	0.248	0.0010	0.25	0	99	70	130				
Rubidium	0.249	0.010	0.25	0.0054	98	70	130				
Tungsten	0.251	0.10	0.25	0.0004526	100	70	130				
Zirconium	0.254	0.0050	0.25	0	102	70	130				

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-006B

Run ID :Run Order: ICPMS206-H_230831A: 78		SampType: Sample Matrix Spike Duplicate			Lab ID: H23080918-016BMSD				Method: E200.8		
Analysis Date: 08/31/23 13:56		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.250	0.010	0.25	0	100	70	130	0.2435	2.7	20	
Gallium	0.244	0.010	0.25	0	98	70	130	0.2442	0.1	20	
Lanthanum	0.261	0.010	0.25	0.0004546	104	70	130	0.2454	6.1	20	
Neodymium	0.256	0.0050	0.25	0	103	70	130	0.2499	2.6	20	
Niobium	0.249	0.0010	0.25	0.0002618	100	70	130	0.2486			
Palladium	0.247	0.010	0.25	0.0004772	99	70	130	0.2392	3.3	20	
Praseodymium	0.259	0.0010	0.25	0	104	70	130	0.2478			
Rubidium	0.248	0.010	0.25	0.0054	97	70	130	0.2492	0.6	20	
Tungsten	0.252	0.10	0.25	0.0004526	101	70	130	0.2514	0.3	20	
Zirconium	0.250	0.0050	0.25	0	100	70	130	0.254	1.4	20	

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-006B

Run ID :Run Order: ICPMS206-H_230831A: 79		SampType: Continuing Calibration Verification Standard			Lab ID: CCV				Method: E200.8		
Analysis Date: 08/31/23 13:59		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0491	0.010	0.05	0	98	90	110				
Gallium	0.0497	0.010	0.05	0	99	90	110				
Lanthanum	0.0485	0.010	0.05	0	97	90	110				
Neodymium	0.0500	0.0050	0.05	0	100	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187811

Date: 22-Sep-23

Run ID :Run Order: <b>ICPMS206-H_230831A: 79</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>E200.8</b>		
Analysis Date: <b>08/31/23 13:59</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Niobium	0.0501	0.0010	0.05	0	100	90	110				
Palladium	0.0494	0.010	0.05	0	99	90	110				
Praseodymium	0.0509	0.0010	0.05	0	102	90	110				
Rubidium	0.0494	0.010	0.05	0	99	90	110				
Tungsten	0.0490	0.10	0.05	0	98	90	110				
Zirconium	0.0488	0.0050	0.05	0	98	90	110				

Associated samples: H23080917-001B, H23080917-001F, H23080917-002B, H23080917-002F, H23080917-003B, H23080917-003F, H23080917-004B, H23080917-004F, H23080917-005F, H23080917-006B

Run ID :Run Order: <b>ICPMS206-H_230831A: 133</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>				Method: <b>E200.8</b>		
Analysis Date: <b>08/31/23 12:43</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0590	0.0010	0.06	0	98	90	110				

Associated samples: H23080917-001B, H23080917-001F, H23080917-002B, H23080917-002F, H23080917-003B, H23080917-003F, H23080917-004B, H23080917-004F, H23080917-005F, H23080917-006B

Run ID :Run Order: <b>ICPMS206-H_230831A: 138</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>E200.8</b>		
Analysis Date: <b>08/31/23 12:54</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0481	0.0010	0.05	0	96	90	110				

Associated samples: H23080917-001B, H23080917-001F, H23080917-002B, H23080917-002F, H23080917-003B, H23080917-003F, H23080917-004B, H23080917-004F, H23080917-005F, H23080917-006B

Run ID :Run Order: <b>ICPMS206-H_230831A: 169</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>E200.8</b>		
Analysis Date: <b>08/31/23 13:59</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0492	0.0010	0.05	0	98	90	110				

Associated samples: H23080917-001B, H23080917-001F, H23080917-002B, H23080917-002F, H23080917-003B, H23080917-003F, H23080917-004B, H23080917-004F, H23080917-005F, H23080917-006B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187884

Date: 22-Sep-23

Run ID :Run Order: ICPMS206-H_230905A: 24	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.8		
Analysis Date: 09/05/23 18:52	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0499	0.0010	0.05	0	100	85	115				
Manganese	0.0492	0.010	0.05	0	98	85	115				
Selenium	0.0558	0.0050	0.05	0	112	85	115				
Zinc	0.0528	0.010	0.05	0	106	85	115				

Associated samples: H23080917-001B, H23080917-002B

Run ID :Run Order: ICPMS206-H_230905A: 74	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 09/05/23 21:59	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0306	0.0010	0.03	0	102	90	110				
Cadmium	0.0305	0.0010	0.03	0	102	90	110				
Manganese	0.301	0.010	0.3	0	100	90	110				
Molybdenum	0.0579	0.0050	0.06	0	96	90	110				
Selenium	0.0622	0.0050	0.06	0	104	90	110				
Zinc	0.0615	0.010	0.06	0	103	90	110				

Associated samples: H23080917-001B, H23080917-001F, H23080917-002B, H23080917-002F, H23080917-003F, H23080917-004F, H23080917-005F, H23080917-006F, H23080917-007F

Run ID :Run Order: ICPMS206-H_230905A: 84	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 09/05/23 22:36	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	ND	7E-06									
Manganese	ND	0.00005									
Selenium	ND	0.00002									
Zinc	ND	0.0007									

Associated samples: H23080917-001B, H23080917-002B

Run ID :Run Order: ICPMS206-H_230905A: 94	SampType: Sample Matrix Spike				Lab ID: H23080897-013BMS				Method: E200.8		
Analysis Date: 09/05/23 23:13	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.246	0.0010	0.25	0.001504	98	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187884

Date: 22-Sep-23

Run ID :Run Order: ICPMS206-H_230905A: 94		SampType: Sample Matrix Spike			Lab ID: H23080897-013BMS				Method: E200.8		
Analysis Date: 09/05/23 23:13		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.251	0.0010	0.25	0.00734	98	70	130				
Selenium	0.252	0.0010	0.25	0	101	70	130				
Zinc	0.348	0.010	0.25	0.0929	102	70	130				

Associated samples: H23080917-001B, H23080917-002B

Run ID :Run Order: ICPMS206-H_230905A: 95		SampType: Sample Matrix Spike Duplicate			Lab ID: H23080897-013BMSD				Method: E200.8		
Analysis Date: 09/05/23 23:16		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.259	0.0010	0.25	0.001504	103	70	130	0.2462	5.1	20	
Manganese	0.263	0.0010	0.25	0.00734	102	70	130	0.2513	4.5	20	
Selenium	0.271	0.0010	0.25	0	108	70	130	0.2522	7.3	20	
Zinc	0.356	0.010	0.25	0.0929	105	70	130	0.3476	2.4	20	

Associated samples: H23080917-001B, H23080917-002B

Run ID :Run Order: ICPMS206-H_230905A: 96		SampType: Continuing Calibration Verification Standard			Lab ID: CCV				Method: E200.8		
Analysis Date: 09/05/23 23:20		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0483	0.0010	0.05	0	97	90	110				
Cadmium	0.0498	0.0010	0.05	0	100	90	110				
Manganese	0.0497	0.010	0.05	0	99	90	110				
Molybdenum	0.0488	0.0050	0.05	0	98	90	110				
Selenium	0.0514	0.0050	0.05	0	103	90	110				
Zinc	0.0510	0.010	0.05	0	102	90	110				

Associated samples: H23080917-001B, H23080917-001F, H23080917-002B, H23080917-002F, H23080917-003F, H23080917-004F, H23080917-005F, H23080917-006F, H23080917-007F

Run ID :Run Order: ICPMS206-H_230905A: 109		SampType: Continuing Calibration Verification Standard			Lab ID: CCV				Method: E200.8		
Analysis Date: 09/06/23 00:08		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0528	0.0010	0.05	0	105	90	110				
Cadmium	0.0494	0.0010	0.05	0	99	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080917

**BatchID:** R187884

**Date:** 22-Sep-23

Run ID :Run Order: ICPMS206-H_230905A: 109	SampType: Continuing Calibration Verification Standard				Lab ID: CCV			Method: E200.8			
Analysis Date: 09/06/23 00:08	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>6</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.0500	0.010	0.05	0	100	90	110				
Molybdenum	0.0483	0.0050	0.05	0	97	90	110				
Selenium	0.0517	0.0050	0.05	0	103	90	110				
Zinc	0.0517	0.010	0.05	0	103	90	110				

Associated samples: H23080917-001B, H23080917-001F, H23080917-002B, H23080917-002F, H23080917-003F, H23080917-004F, H23080917-005F, H23080917-006F, H23080917-007F

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187919

Date: 22-Sep-23

Run ID :Run Order: ICPMS206-H_230906B: 12		SampType: Initial Calibration Verification Standard			Lab ID: ICV			Method: E200.8			
Analysis Date: 09/06/23 16:10		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0303	0.0010	0.03	0	101	90	110				
Cadmium	0.0306	0.0010	0.03	0	102	90	110				
Iron	0.304	0.020	0.3	0	101	90	110				
Manganese	0.306	0.010	0.3	0	102	90	110				
Selenium	0.0624	0.0050	0.06	0	104	90	110				
Zinc	0.0629	0.010	0.06	0	105	90	110				

Associated samples: H23080917-001B, H23080917-002B, H23080917-002F, H23080917-003B, H23080917-003F, H23080917-004B, H23080917-004F, H23080917-005B, H23080917-005F, H23080917-006B, H23080917-006F, H23080917-007B

Run ID :Run Order: ICPMS206-H_230906B: 22		SampType: Method Blank			Lab ID: LRB			Method: E200.8			
Analysis Date: 09/06/23 16:47		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	ND	0.00003									
Cadmium	ND	7E-06									
Iron	ND	0.0007									
Manganese	0.00006	0.00005									
Selenium	ND	0.00002									
Zinc	0.001	0.0007									

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

Run ID :Run Order: ICPMS206-H_230906B: 23		SampType: Laboratory Fortified Blank			Lab ID: LFB			Method: E200.8			
Analysis Date: 09/06/23 16:51		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0477	0.0010	0.05	0	95	85	115				
Cadmium	0.0488	0.0010	0.05	0	98	85	115				
Iron	0.142	0.020	0.15	0	94	85	115				
Manganese	0.0482	0.010	0.05	0	96	85	115				
Selenium	0.0497	0.0050	0.05	0	99	85	115				
Zinc	0.0522	0.010	0.05	0	104	85	115				

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187919

Date: 22-Sep-23

Run ID :Run Order: ICPMS206-H_230906B: 35		SampType: Sample Matrix Spike			Lab ID: H23080897-012BMS				Method: E200.8		
Analysis Date: 09/06/23 17:35		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.238	0.0010	0.25	0	95	70	130				
Cadmium	0.252	0.0010	0.25	0.01096	96	70	130				
Iron	0.666	0.020	0.75	0	89	70	130				
Manganese	0.240	0.0010	0.25	0.00315	95	70	130				
Selenium	0.250	0.0010	0.25	0.0001802	100	70	130				
Zinc	1.11	0.010	0.25	0.8835	92	70	130				

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

Run ID :Run Order: ICPMS206-H_230906B: 36		SampType: Sample Matrix Spike Duplicate			Lab ID: H23080897-012BMSD				Method: E200.8		
Analysis Date: 09/06/23 17:39		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.240	0.0010	0.25	0	96	70	130	0.2377	1.1	20	
Cadmium	0.253	0.0010	0.25	0.01096	97	70	130	0.2516	0.4	20	
Iron	0.666	0.020	0.75	0	89	70	130	0.666	0.1	20	
Manganese	0.242	0.0010	0.25	0.00315	95	70	130	0.2404	0.5	20	
Selenium	0.248	0.0010	0.25	0.0001802	99	70	130	0.2498	0.5	20	
Zinc	1.12	0.010	0.25	0.8835	93	70	130	1.114	0.1	20	

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

Run ID :Run Order: ICPMS206-H_230906B: 37		SampType: Continuing Calibration Verification Standard			Lab ID: CCV				Method: E200.8		
Analysis Date: 09/06/23 17:43		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0502	0.0010	0.05	0	100	90	110				
Cadmium	0.0500	0.0010	0.05	0	100	90	110				
Iron	1.28	0.020	1.3	0	98	90	110				
Manganese	0.0490	0.010	0.05	0	98	90	110				
Selenium	0.0514	0.0050	0.05	0	103	90	110				
Zinc	0.0526	0.010	0.05	0	105	90	110				

Associated samples: H23080917-001B, H23080917-002B, H23080917-002F, H23080917-003B, H23080917-003F, H23080917-004B, H23080917-004F, H23080917-005B, H23080917-005F, H23080917-006B, H23080917-006F, H23080917-007B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080917

**BatchID:** R187919

**Date:** 22-Sep-23

Run ID :Run Order: ICPMS206-H_230906B: 49	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 09/06/23 18:27	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0491	0.0010	0.05	0	98	90	110				
Cadmium	0.0494	0.0010	0.05	0	99	90	110				
Iron	1.25	0.020	1.3	0	96	90	110				
Manganese	0.0489	0.010	0.05	0	98	90	110				
Selenium	0.0513	0.0050	0.05	0	103	90	110				
Zinc	0.0514	0.010	0.05	0	103	90	110				

Associated samples: H23080917-001B, H23080917-002B, H23080917-002F, H23080917-003B, H23080917-003F, H23080917-004B, H23080917-004F, H23080917-005B, H23080917-005F, H23080917-006B, H23080917-006F, H23080917-007B

Run ID :Run Order: ICPMS206-H_230906B: 60	SampType: Sample Matrix Spike				Lab ID: H23080917-007BMS				Method: E200.8		
Analysis Date: 09/06/23 19:08	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0978	0.0010	0.1	0	98	70	130				
Cadmium	0.0988	0.0010	0.1	0.00001798	99	70	130				
Iron	0.311	0.020	0.3	0.02258	96	70	130				
Manganese	0.215	0.0010	0.1	0.1211	94	70	130				
Selenium	0.102	0.0010	0.1	0.0001058	102	70	130				
Zinc	0.115	0.010	0.1	0.0115	104	70	130				

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

Run ID :Run Order: ICPMS206-H_230906B: 61	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080917-007BMSD				Method: E200.8		
Analysis Date: 09/06/23 19:11	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0999	0.0010	0.1	0	100	70	130	0.0978	2.2	20	
Cadmium	0.0999	0.0010	0.1	0.00001798	100	70	130	0.0988	1.1	20	
Iron	0.313	0.020	0.3	0.02258	97	70	130	0.3108	0.6	20	
Manganese	0.218	0.0010	0.1	0.1211	97	70	130	0.2154	1.4	20	
Selenium	0.102	0.0010	0.1	0.0001058	102	70	130	0.1022	0.2	20	
Zinc	0.117	0.010	0.1	0.0115	105	70	130	0.115	1.4	20	

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: R187919

Date: 22-Sep-23

Run ID :Run Order: ICPMS206-H_230906B: 268	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 09/07/23 09:59	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0305	0.0010	0.03	0	102	90	110				
Cadmium	0.0310	0.0010	0.03	0	103	90	110				
Iron	0.308	0.020	0.3	0	103	90	110				
Manganese	0.307	0.010	0.3	0	102	90	110				
Selenium	0.0623	0.0050	0.06	0	104	90	110				
Zinc	0.0634	0.010	0.06	0	106	90	110				

Associated samples: H23080917-001B, H23080917-002B, H23080917-002F, H23080917-003B, H23080917-003F, H23080917-004B, H23080917-004F, H23080917-005B, H23080917-005F, H23080917-006B, H23080917-006F, H23080917-007B

Run ID :Run Order: ICPMS206-H_230906B: 276	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 09/07/23 10:28	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0486	0.0010	0.05	0	97	90	110				
Cadmium	0.0500	0.0010	0.05	0	100	90	110				
Iron	1.31	0.020	1.3	0	100	90	110				
Manganese	0.0505	0.010	0.05	0	101	90	110				
Selenium	0.0502	0.0050	0.05	0	100	90	110				
Zinc	0.0516	0.010	0.05	0	103	90	110				

Associated samples: H23080917-001B, H23080917-002B, H23080917-002F, H23080917-003B, H23080917-003F, H23080917-004B, H23080917-004F, H23080917-005B, H23080917-005F, H23080917-006B, H23080917-006F, H23080917-007B

Run ID :Run Order: ICPMS206-H_230906B: 288	SampType: Sample Matrix Spike				Lab ID: H23080897-016BMS				Method: E200.8		
Analysis Date: 09/07/23 11:44	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0496	0.0010	0.05	0	99	70	130				
Cadmium	0.0497	0.0010	0.05	0.0002265	99	70	130				
Iron	0.149	0.020	0.15	0.00113	99	70	130				
Manganese	0.0532	0.0010	0.05	0.003667	99	70	130				
Selenium	0.0499	0.0010	0.05	0.0005528	99	70	130				
Zinc	0.0669	0.010	0.05	0.01616	101	70	130				

Associated samples: H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080917

**BatchID:** R187919

**Date:** 22-Sep-23

Run ID :Run Order: <b>ICPMS206-H_230906B: 289</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23080897-016BMSD</b>				Method: <b>E200.8</b>		
Analysis Date: <b>09/07/23 11:48</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>6</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0495	0.0010	0.05	0	99	70	130	0.04963	0.2	20	
Cadmium	0.0498	0.0010	0.05	0.0002265	99	70	130	0.04966	0.3	20	
Iron	0.148	0.020	0.15	0.00113	98	70	130	0.1493	0.7	20	
Manganese	0.0525	0.0010	0.05	0.003667	98	70	130	0.05319	1.3	20	
Selenium	0.0516	0.0010	0.05	0.0005528	102	70	130	0.04992	3.4	20	
Zinc	0.0668	0.010	0.05	0.01616	101	70	130	0.06691	0.1	20	

Associated samples: **H23080917-001B, H23080917-002B, H23080917-003B, H23080917-004B, H23080917-005B, H23080917-006B, H23080917-007B**

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080917

BatchID: TDS230825B

Date: 22-Sep-23

Run ID :Run Order: ACCU-124 (14410200)_230825B: 2	SampType: Method Blank	Lab ID: MB-47_230825	Method: A2540 C								
Analysis Date: 08/25/23 14:49	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	ND	7									
Associated samples: H23080917-001A, H23080917-002A, H23080917-003A, H23080917-004A, H23080917-005A, H23080917-006A, H23080917-007A											

Run ID :Run Order: ACCU-124 (14410200)_230825B: 2	SampType: Laboratory Control Sample	Lab ID: LCS-48_230825	Method: A2540 C								
Analysis Date: 08/25/23 14:49	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	2010	50	2000	0	101	90	110				
Associated samples: H23080917-001A, H23080917-002A, H23080917-003A, H23080917-004A, H23080917-005A, H23080917-006A, H23080917-007A											

Run ID :Run Order: ACCU-124 (14410200)_230825B: 3	SampType: Sample Duplicate	Lab ID: H23080917-001A DUP	Method: A2540 C								
Analysis Date: 08/25/23 14:36	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	258	25		0				267	3.4	10	
Associated samples: H23080917-001A, H23080917-002A, H23080917-003A, H23080917-004A, H23080917-005A, H23080917-006A, H23080917-007A											



# Work Order Receipt Checklist

MT Dept of Justice

H23080917

Login completed by: Wanda Johnson

Date Received: 8/23/2023

Reviewed by: tjones

Received by: rrs

Reviewed Date: 8/30/2023

Carrier name: Hand Deliver

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	4.0°C On Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

## Contact and Corrective Action Comments:

Samples received in coolers 1 and 2. The Temperature Blank temperature for shipping container 1 was 4.0°C and shipping container 2 was 1.1°C.

No date/time on 1 liter unpreserved container for PMP-12, used information from COC. wjj 8/23/2023



# Chain of Custody & Analytical Request Record

www.energylab.com

### Account Information (Billing information)

Company/Name MT DOJ / Natural Resource Damage Program		
Contact Jim Ford		
Phone (406) 444-4034		
Mailing Address 1720 9th Avenue		
City, State, Zip Helena, Montana 59620-1425		
Email jford@mt.gov		
Receive Invoice <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	
Purchase Order	Quote 2187	Bottle Order 44844

### Report Information (if different than Account Information)

Company/Name Water & Environmental Technologies		
Contact Janelle Garza		
Phone (406) 565-4291		
Mailing Address 480 East Park Street		
City, State, Zip Butte, Montana 59701		
Email jgarza@waterenvtech.com		
Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email		
Special Report/Formats		
<input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC <input checked="" type="checkbox"/> EDD/EDT (contact laboratory) <input type="checkbox"/> Other		

### Comments

Please do not use sample "FB-5" for MS/MSD.

C1-4.0°  
C2-1.1°  
C3-0.1°  
C4-0.2°  
C5-1.3°  
C6-3.6°

### Project Information

Project Name, PWSID, Permit, etc. NRDPM16 TO2 / 001	
Sampler Name Janelle Garza	Sampler Phone (406) 599-6770
Sample Origin State Montana	EPA/State Compliance <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
URANIUM MINING CLIENTS MUST indicate sample type	
<input type="checkbox"/> Unprocessed Ore	
<input type="checkbox"/> Processed Ore (Ground or Refined) **CALL BEFORE SENDING	
<input type="checkbox"/> 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)	

### Matrix Codes

- A - Air
- W - Water
- S - Soils/Solids
- V - Vegetation
- B - Bioassay
- O - Oil
- DW - Drinking Water

### Analysis Requested

+	+	+	+	+	+	+	+	+	+	+	+	+	
pH & pH Meas. Temp A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353.2	Total & Dissolved Metals E200.718	See Attached				

All turnaround times are standard unless marked as RUSH.  
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page

	Sample Identification (Name, Location, Interval, etc.)	Collection		Number of Containers	Matrix (See Codes Above)	Analysis Requested												See Attached	RUSH TAT	ELI LAB ID Laboratory Use Only
		Date	Time			pH & pH Meas. Temp A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353.2	Total & Dissolved Metals E200.718						
C1	1 PMP-12	08/23/2023	10:45 am	6	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		H23080917		
C1	2 SS-04	08/23/2023	11:10 am	6	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
C1	3 DUP-5	08/23/2023	11:15 am	6	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
C1	4 FB-5	08/23/2023	11:25 am	6	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
C2	5 MSDSG-02	08/23/2023	11:35 am	6	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
C2	6 MSDSG-05	08/23/2023	11:50 am	6	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
C2	7 MSDSG-03	08/23/2023	12:10 pm	6	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
	8																			
	9																			

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print) Janelle Garza	Date/Time 8-23-23/1400	Signature <i>Janelle Garza</i>	Received by (print) Jace Rhodes	Date/Time 8-23-23/1400	Signature <i>Jace Rhodes</i>			
	Relinquished by (print) Jace Rhodes	Date/Time 8-23-23/1514	Signature <i>Jace Rhodes</i>	Received by Laboratory (print) R SPONHOLZ	Date/Time 082323 1514	Signature <i>R Sponholz</i>			
LABORATORY USE ONLY									
Shipped By HAND	Cooler ID(s) Y	Custody Seals Y (N) C B	Intact Y N	Receipt Temp TOP °C	Temp Blank (Y) N	On Ice (Y) N	Payment Type CC Cash Check	Amount \$	Receipt Number (cash/check only)

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.





# ANALYTICAL SUMMARY REPORT

September 13, 2023

MT Dept of Justice  
Natural Resource Damage Program  
Helena, MT 59620-1425

Work Order: H23080918      Quote ID: H2187

Project Name: NRDPM16 TO2-Task 001

Energy Laboratories Inc Helena MT received the following 17 samples for MT Dept of Justice on 8/23/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H23080918-001	PMP-08A	08/22/23 9:48	08/23/23	Groundwater	Rare Earth Metals, Dissolved Metals by ICP/ICPMS, Dissolved Alkalinity to pH 4.5 Anion - Cation Balance Carbon, Dissolved Organic Conductivity Carbon, Total Organic Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Solids, Total Dissolved
H23080918-002	AMW-08	08/22/23 10:00	08/23/23	Aqueous	Same As Above
H23080918-003	PMP-04B	08/22/23 10:47	08/23/23	Aqueous	Same As Above
H23080918-004	PMP-01A	08/22/23 11:26	08/23/23	Aqueous	Same As Above
H23080918-005	AMC-24B	08/22/23 12:27	08/23/23	Aqueous	Same As Above
H23080918-006	AMW-01C	08/22/23 13:17	08/23/23	Aqueous	Same As Above
H23080918-007	PMP-02B	08/22/23 13:55	08/23/23	Aqueous	Same As Above
H23080918-008	AMW-20	08/22/23 14:30	08/23/23	Aqueous	Same As Above
H23080918-009	PMP-07B	08/22/23 14:42	08/23/23	Aqueous	Same As Above
H23080918-010	MSD-02A	08/22/23 15:08	08/23/23	Aqueous	Same As Above
H23080918-011	FB-4	08/22/23 15:35	08/23/23	Aqueous	Same As Above
H23080918-012	AMW-01B	08/22/23 15:53	08/23/23	Aqueous	Same As Above
H23080918-013	DUP-4	08/22/23 15:54	08/23/23	Aqueous	Same As Above
H23080918-014	EB-4	08/22/23 16:00	08/23/23	Aqueous	Same As Above
H23080918-015	PMP-02A	08/23/23 9:35	08/23/23	Aqueous	Same As Above
H23080918-016	AMW-01A	08/23/23 9:58	08/23/23	Aqueous	Same As Above
H23080918-017	PMP-03A	08/23/23 10:23	08/23/23	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.



## ANALYTICAL SUMMARY REPORT

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

  
Logon

Digitally signed by  
Jessica C. Smith  
Date: 2023.09.13 16:19:39 -06:00



**CLIENT:** MT Dept of Justice  
**Project:** NRDPM16 TO2-Task 001  
**Work Order:** H23080918

**Report Date:** 09/13/23

## **CASE NARRATIVE**

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Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002.





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08A  
**Lab ID:** H23080918-001  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 09:48 **Date Received:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.2	s.u.	H	0.1		A4500-H B	08/24/23 12:53 / eek		PHSC_101-H_230824A : 143		R187507
pH Measurement Temp	19.6	°C				A4500-H B	08/24/23 12:53 / eek		PHSC_101-H_230824A : 143		R187507
Conductivity @ 25 C	1280	umhos/cm		5		A2510 B	08/24/23 12:53 / eek		PHSC_101-H_230824A : 144		R187507
Solids, Total Dissolved TDS @ 180 C	936	mg/L		20		A2540 C	08/25/23 14:37 / eek		124 (14410200)_230825B : 44		TDS230825B
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	08/25/23 17:00 / SR		PHSC_101-H_230825A : 208		R187549
Bicarbonate as HCO3	130	mg/L		4		A2320 B	08/25/23 17:00 / SR		PHSC_101-H_230825A : 208		R187549
Carbonate as CO3	ND	mg/L		4		A2320 B	08/25/23 17:00 / SR		PHSC_101-H_230825A : 208		R187549
Chloride	96	mg/L		1		E300.0	08/26/23 21:26 / SR		C METROHM_230823A : 311		R187509
Sulfate	447	mg/L		1		E300.0	08/26/23 21:26 / SR		C METROHM_230823A : 311		R187509
Bromide	ND	mg/L		0.5		E300.0	08/26/23 21:26 / SR		C METROHM_230823A : 311		R187509
Fluoride	4.1	mg/L	*	0.1		E300.0	08/26/23 21:26 / SR		C METROHM_230823A : 311		R187509
Hardness as CaCO3	465	mg/L		1		A2340 B	08/28/23 22:00 / SR		CALC_230905B : 971		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	5.2	mg/L		0.5		A5310 C	08/29/23 02:33 / eli-c		SUB-C298162 : 29		C_R298162
Organic Carbon, Total (TOC)	4.3	mg/L		0.5		A5310 C	08/28/23 17:24 / eli-c		SUB-C298162 : 4		C_R298162
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	08/30/23 19:24 / JAR		SEAL AA500_230830A : 164		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	0.063	mg/L		0.009		E200.8	08/30/23 21:33 / dck		ICPMS205-H_230829C : 193		R187753
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 21:33 / dck		ICPMS205-H_230829C : 193		R187753
Arsenic	0.886	mg/L		0.001		E200.8	08/30/23 21:33 / dck		ICPMS205-H_230829C : 193		R187753
Barium	0.027	mg/L		0.003		E200.8	08/30/23 21:33 / dck		ICPMS205-H_230829C : 193		R187753
Beryllium	ND	mg/L		0.0008		E200.8	09/06/23 01:07 / dck		ICPMS206-H_230905A : 125		R187884
Boron	0.41	mg/L		0.05		E200.7	08/28/23 22:00 / slj		ICP2-HE_230828B : 64		R187634
Cadmium	0.00047	mg/L		0.00003		E200.8	08/30/23 21:33 / dck		ICPMS205-H_230829C : 193		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 21:06 / dck		ICPMS206-H_230830B : 177		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** \* - The result exceeds the Maximum Contaminant Level (MCL)

H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08A  
**Lab ID:** H23080918-001  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 09:48 **Date Received:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	138	mg/L		1		E200.7	08/28/23 22:00 / slj		ICP2-HE_230828B : 64		R187634
Chromium	ND	mg/L		0.005		E200.8	08/30/23 21:33 / dck		ICPMS205-H_230829C : 193		R187753
Cobalt	0.013	mg/L		0.005		E200.8	08/30/23 21:33 / dck		ICPMS205-H_230829C : 193		R187753
Copper	0.012	mg/L		0.002		E200.8	08/30/23 21:33 / dck		ICPMS205-H_230829C : 193		R187753
Gallium	ND	mg/L		0.01		E200.8	08/30/23 21:06 / dck		ICPMS206-H_230830B : 177		R187736
Iron	75.6	mg/L		0.02		E200.7	08/28/23 22:00 / slj		ICP2-HE_230828B : 64		R187634
Lead	0.0009	mg/L		0.0003		E200.8	08/30/23 21:33 / dck		ICPMS205-H_230829C : 193		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 21:06 / dck		ICPMS206-H_230830B : 177		R187736
Lithium	ND	mg/L		0.1		E200.7	08/28/23 22:00 / slj		ICP2-HE_230828B : 64		R187634
Magnesium	30	mg/L		1		E200.7	08/28/23 22:00 / slj		ICP2-HE_230828B : 64		R187634
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 21:06 / dck		ICPMS206-H_230830B : 177		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 21:06 / dck		ICPMS206-H_230830B : 177		R187736
Manganese	8.46	mg/L		0.001		E200.7	08/28/23 22:00 / slj		ICP2-HE_230828B : 64		R187634
Molybdenum	0.010	mg/L		0.001		E200.8	08/30/23 21:33 / dck		ICPMS205-H_230829C : 193		R187753
Nickel	0.007	mg/L		0.002		E200.8	08/30/23 21:33 / dck		ICPMS205-H_230829C : 193		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 21:06 / dck		ICPMS206-H_230830B : 177		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 21:06 / dck		ICPMS206-H_230830B : 177		R187736
Rubidium	0.01	mg/L		0.01		E200.8	08/30/23 21:06 / dck		ICPMS206-H_230830B : 177		R187736
Potassium	14	mg/L		1		E200.7	08/28/23 22:00 / slj		ICP2-HE_230828B : 64		R187634
Selenium	ND	mg/L		0.001		E200.8	08/30/23 21:33 / dck		ICPMS205-H_230829C : 193		R187753
Silver	ND	mg/L		0.0002		E200.8	08/30/23 21:33 / dck		ICPMS205-H_230829C : 193		R187753
Sodium	40	mg/L		1		E200.7	08/28/23 22:00 / slj		ICP2-HE_230828B : 64		R187634
Strontium	0.56	mg/L		0.01		E200.7	08/28/23 22:00 / slj		ICP2-HE_230828B : 64		R187634
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 21:33 / dck		ICPMS205-H_230829C : 193		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 21:06 / dck		ICPMS206-H_230830B : 378		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 21:33 / dck		ICPMS205-H_230829C : 193		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 21:33 / dck		ICPMS205-H_230829C : 193		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 21:06 / dck		ICPMS206-H_230830B : 177		R187736
Uranium	0.0052	mg/L		0.0002		E200.8	08/30/23 21:33 / dck		ICPMS205-H_230829C : 193		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 21:33 / dck		ICPMS205-H_230829C : 193		R187753
Zinc	9.65	mg/L		0.008		E200.7	08/28/23 22:00 / slj		ICP2-HE_230828B : 64		R187634
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 21:06 / dck		ICPMS206-H_230830B : 177		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08A  
**Lab ID:** H23080918-001  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 09:48      **Date Received:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	2.22	%				A1030 E	09/05/23 15:14 / SR		CALC_230905B : 969		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-08  
**Lab ID:** H23080918-002  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 10:00 **Date Received:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.2	s.u.	H	0.1		A4500-H B	08/24/23 12:55 / eek		PHSC_101-H_230824A : 145		R187507
pH Measurement Temp	19.6	°C				A4500-H B	08/24/23 12:55 / eek		PHSC_101-H_230824A : 145		R187507
Conductivity @ 25 C	4280	umhos/cm		5		A2510 B	08/24/23 12:55 / eek		PHSC_101-H_230824A : 146		R187507
Solids, Total Dissolved TDS @ 180 C	5320	mg/L		100		A2540 C	08/25/23 14:38 / eek		124 (14410200)_230825B : 45		TDS230825B
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	08/25/23 17:07 / SR		PHSC_101-H_230825A : 210		R187549
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	08/25/23 17:07 / SR		PHSC_101-H_230825A : 210		R187549
Carbonate as CO3	ND	mg/L		4		A2320 B	08/25/23 17:07 / SR		PHSC_101-H_230825A : 210		R187549
Chloride	53	mg/L		1		E300.0	08/26/23 21:41 / SR		C METROHM_230823A : 312		R187509
Sulfate	3410	mg/L		1		E300.0	08/26/23 21:41 / SR		C METROHM_230823A : 312		R187509
Bromide	ND	mg/L		0.5		E300.0	08/26/23 21:41 / SR		C METROHM_230823A : 312		R187509
Fluoride	3.3	mg/L		0.1		E300.0	08/26/23 21:41 / SR		C METROHM_230823A : 312		R187509
Hardness as CaCO3	1730	mg/L		1		A2340 B	08/28/23 22:04 / SR		CALC_230905B : 982		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	3.3	mg/L		0.5		A5310 C	08/29/23 03:28 / eli-c		SUB-C298162 : 32		C_R298162
Organic Carbon, Total (TOC)	3.5	mg/L		0.5		A5310 C	08/28/23 18:18 / eli-c		SUB-C298162 : 7		C_R298162
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	08/30/23 19:25 / JAR		SEAL AA500_230830A : 165		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	12.5	mg/L		0.1		E200.7	08/30/23 15:02 / slj		ICP2-HE_230830A : 71		R187724
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 23:34 / dck		ICPMS205-H_230829C : 232		R187753
Arsenic	0.037	mg/L		0.001		E200.8	08/30/23 23:34 / dck		ICPMS205-H_230829C : 232		R187753
Barium	0.006	mg/L		0.003		E200.8	08/30/23 23:34 / dck		ICPMS205-H_230829C : 232		R187753
Beryllium	0.0126	mg/L		0.0008		E200.8	09/07/23 05:17 / dck		ICPMS206-H_230906B : 226		R187919
Boron	0.11	mg/L		0.05		E200.7	08/28/23 22:04 / slj		ICP2-HE_230828B : 65		R187634
Cadmium	0.229	mg/L		0.00003		E200.8	08/30/23 23:34 / dck		ICPMS205-H_230829C : 232		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 21:08 / dck		ICPMS206-H_230830B : 178		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-08  
**Lab ID:** H23080918-002  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 10:00 **Date Received:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	440	mg/L		1		E200.7	08/28/23 22:04 / slj		ICP2-HE_230828B : 65		R187634
Chromium	ND	mg/L		0.005		E200.8	08/30/23 23:34 / dck		ICPMS205-H_230829C : 232		R187753
Cobalt	0.419	mg/L		0.005		E200.8	08/30/23 23:34 / dck		ICPMS205-H_230829C : 232		R187753
Copper	11.2	mg/L		0.01		E200.7	08/28/23 22:04 / slj		ICP2-HE_230828B : 65		R187634
Gallium	ND	mg/L		0.01		E200.8	08/30/23 21:08 / dck		ICPMS206-H_230830B : 178		R187736
Iron	517	mg/L		0.04		E200.7	08/30/23 15:02 / slj		ICP2-HE_230830A : 71		R187724
Lead	0.0014	mg/L		0.0003		E200.8	08/30/23 23:34 / dck		ICPMS205-H_230829C : 232		R187753
Lanthanum	0.10	mg/L		0.01		E200.8	08/31/23 13:40 / dck		ICPMS206-H_230831A : 70		R187811
Lithium	0.4	mg/L		0.1		E200.7	08/28/23 22:04 / slj		ICP2-HE_230828B : 65		R187634
Magnesium	154	mg/L		1		E200.7	08/28/23 22:04 / slj		ICP2-HE_230828B : 65		R187634
Neodymium	0.067	mg/L		0.005		E200.8	08/30/23 21:08 / dck		ICPMS206-H_230830B : 178		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 21:08 / dck		ICPMS206-H_230830B : 178		R187736
Manganese	171	mg/L		0.007		E200.7	08/30/23 15:02 / slj		ICP2-HE_230830A : 71		R187724
Molybdenum	ND	mg/L		0.001		E200.8	08/30/23 23:34 / dck		ICPMS205-H_230829C : 232		R187753
Nickel	0.200	mg/L		0.002		E200.8	08/30/23 23:34 / dck		ICPMS205-H_230829C : 232		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 21:08 / dck		ICPMS206-H_230830B : 178		R187736
Praseodymium	0.02	mg/L		0.01		E200.8	08/30/23 21:08 / dck		ICPMS206-H_230830B : 178		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 21:08 / dck		ICPMS206-H_230830B : 178		R187736
Potassium	12	mg/L		1		E200.7	08/28/23 22:04 / slj		ICP2-HE_230828B : 65		R187634
Selenium	ND	mg/L		0.001		E200.8	09/07/23 05:17 / dck		ICPMS206-H_230906B : 226		R187919
Silver	0.0002	mg/L		0.0002		E200.8	08/30/23 23:34 / dck		ICPMS205-H_230829C : 232		R187753
Sodium	65	mg/L		1		E200.7	08/28/23 22:04 / slj		ICP2-HE_230828B : 65		R187634
Strontium	2.56	mg/L		0.01		E200.7	08/28/23 22:04 / slj		ICP2-HE_230828B : 65		R187634
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 23:34 / dck		ICPMS205-H_230829C : 232		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 21:08 / dck		ICPMS206-H_230830B : 379		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 23:34 / dck		ICPMS205-H_230829C : 232		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 23:34 / dck		ICPMS205-H_230829C : 232		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 21:08 / dck		ICPMS206-H_230830B : 178		R187736
Uranium	0.143	mg/L		0.0002		E200.8	08/30/23 23:34 / dck		ICPMS205-H_230829C : 232		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 23:34 / dck		ICPMS205-H_230829C : 232		R187753
Zinc	214	mg/L		0.01		E200.7	08/30/23 15:02 / slj		ICP2-HE_230830A : 71		R187724
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 21:08 / dck		ICPMS206-H_230830B : 178		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-08  
**Lab ID:** H23080918-002  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 10:00    **Date Received:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-2.96	%				A1030 E	09/05/23 15:15 / SR		CALC_230905B : 980		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-04B  
**Lab ID:** H23080918-003  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 10:47 **Date Received:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.1	s.u.	H	0.1		A4500-H B	08/24/23 12:57 / eek		PHSC_101-H_230824A : 147		R187507
pH Measurement Temp	19.6	°C				A4500-H B	08/24/23 12:57 / eek		PHSC_101-H_230824A : 147		R187507
Conductivity @ 25 C	1570	umhos/cm		5		A2510 B	08/24/23 12:57 / eek		PHSC_101-H_230824A : 148		R187507
Solids, Total Dissolved TDS @ 180 C	1360	mg/L		20		A2540 C	08/25/23 14:38 / eek		124 (14410200)_230825B : 46		TDS230825B
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	6	mg/L		4		A2320 B	08/25/23 17:11 / SR		PHSC_101-H_230825A : 212		R187549
Bicarbonate as HCO3	7	mg/L		4		A2320 B	08/25/23 17:11 / SR		PHSC_101-H_230825A : 212		R187549
Carbonate as CO3	ND	mg/L		4		A2320 B	08/25/23 17:11 / SR		PHSC_101-H_230825A : 212		R187549
Chloride	93	mg/L		1		E300.0	09/05/23 23:24 / SR		IC METROHM_230905A : 37		R187869
Sulfate	781	mg/L		1		E300.0	09/05/23 23:24 / SR		IC METROHM_230905A : 37		R187869
Bromide	ND	mg/L		0.5		E300.0	08/26/23 21:55 / SR		C METROHM_230823A : 313		R187509
Fluoride	ND	mg/L		0.1		E300.0	08/26/23 21:55 / SR		C METROHM_230823A : 313		R187509
Hardness as CaCO3	642	mg/L		1		A2340 B	09/06/23 02:27 / SR		CALC_230912A : 355		R188051
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.5	mg/L		0.5		A5310 C	08/29/23 03:47 / eli-c		SUB-C298162 : 33		C_R298162
Organic Carbon, Total (TOC)	1.5	mg/L		0.5		A5310 C	08/28/23 18:37 / eli-c		SUB-C298162 : 8		C_R298162
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	08/30/23 19:26 / JAR		SEAL AA500_230830A : 166		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	0.074	mg/L		0.009		E200.8	08/30/23 22:50 / dck		ICPMS205-H_230829C : 218		R187753
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 22:50 / dck		ICPMS205-H_230829C : 218		R187753
Arsenic	0.001	mg/L		0.001		E200.8	08/30/23 22:50 / dck		ICPMS205-H_230829C : 218		R187753
Barium	0.014	mg/L		0.003		E200.8	08/30/23 22:50 / dck		ICPMS205-H_230829C : 218		R187753
Beryllium	ND	mg/L		0.0008		E200.8	09/07/23 05:56 / dck		ICPMS206-H_230906B : 237		R187919
Boron	0.08	mg/L		0.05		E200.7	08/28/23 22:08 / slj		ICP2-HE_230828B : 66		R187634
Cadmium	0.0957	mg/L		0.00003		E200.8	08/30/23 22:50 / dck		ICPMS205-H_230829C : 218		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 21:10 / dck		ICPMS206-H_230830B : 179		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-04B  
**Lab ID:** H23080918-003  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 10:47 **Date Received:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	167	mg/L		1		E200.7	08/28/23 22:08 / slj		ICP2-HE_230828B : 66		R187634
Chromium	ND	mg/L		0.005		E200.8	08/30/23 22:50 / dck		ICPMS205-H_230829C : 218		R187753
Cobalt	0.436	mg/L		0.005		E200.8	08/30/23 22:50 / dck		ICPMS205-H_230829C : 218		R187753
Copper	0.378	mg/L		0.002		E200.8	08/30/23 22:50 / dck		ICPMS205-H_230829C : 218		R187753
Gallium	ND	mg/L		0.01		E200.8	08/30/23 21:10 / dck		ICPMS206-H_230830B : 179		R187736
Iron	29.2	mg/L		0.02		E200.7	08/28/23 22:08 / slj		ICP2-HE_230828B : 66		R187634
Lead	0.0033	mg/L		0.0003		E200.8	08/30/23 22:50 / dck		ICPMS205-H_230829C : 218		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 21:10 / dck		ICPMS206-H_230830B : 179		R187736
Lithium	0.3	mg/L		0.1		E200.7	08/28/23 22:08 / slj		ICP2-HE_230828B : 66		R187634
Magnesium	55	mg/L		1		E200.8	09/06/23 02:27 / dck		ICPMS206-H_230905A : 147		R187884
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 21:10 / dck		ICPMS206-H_230830B : 179		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 21:10 / dck		ICPMS206-H_230830B : 179		R187736
Manganese	37.2	mg/L		0.001		E200.7	08/28/23 22:08 / slj		ICP2-HE_230828B : 66		R187634
Molybdenum	ND	mg/L		0.001		E200.8	08/30/23 22:50 / dck		ICPMS205-H_230829C : 218		R187753
Nickel	0.111	mg/L		0.002		E200.8	08/30/23 22:50 / dck		ICPMS205-H_230829C : 218		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 21:10 / dck		ICPMS206-H_230830B : 179		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 21:10 / dck		ICPMS206-H_230830B : 179		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 21:10 / dck		ICPMS206-H_230830B : 179		R187736
Potassium	11	mg/L		1		E200.7	08/28/23 22:08 / slj		ICP2-HE_230828B : 66		R187634
Selenium	ND	mg/L		0.001		E200.8	09/07/23 05:56 / dck		ICPMS206-H_230906B : 237		R187919
Silver	ND	mg/L		0.0002		E200.8	08/30/23 22:50 / dck		ICPMS205-H_230829C : 218		R187753
Sodium	38	mg/L		1		E200.7	08/28/23 22:08 / slj		ICP2-HE_230828B : 66		R187634
Strontium	1.00	mg/L		0.01		E200.7	08/28/23 22:08 / slj		ICP2-HE_230828B : 66		R187634
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 22:50 / dck		ICPMS205-H_230829C : 218		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 21:10 / dck		ICPMS206-H_230830B : 380		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 22:50 / dck		ICPMS205-H_230829C : 218		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 22:50 / dck		ICPMS205-H_230829C : 218		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 21:10 / dck		ICPMS206-H_230830B : 179		R187736
Uranium	0.0006	mg/L		0.0002		E200.8	08/30/23 22:50 / dck		ICPMS205-H_230829C : 218		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 22:50 / dck		ICPMS205-H_230829C : 218		R187753
Zinc	30.3	mg/L		0.008		E200.7	08/28/23 22:08 / slj		ICP2-HE_230828B : 66		R187634
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 21:10 / dck		ICPMS206-H_230830B : 179		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-04B  
**Lab ID:** H23080918-003  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 10:47      **Date Received:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-5.00	%				A1030 E	09/12/23 11:58 / SR		CALC_230912A : 353		R188051

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-01A  
**Lab ID:** H23080918-004  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 11:26 **Date Received:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.9	s.u.	H	0.1		A4500-H B	08/24/23 12:59 / eek		PHSC_101-H_230824A : 149		R187507
pH Measurement Temp	19.8	°C				A4500-H B	08/24/23 12:59 / eek		PHSC_101-H_230824A : 149		R187507
Conductivity @ 25 C	1020	umhos/cm		5		A2510 B	08/24/23 12:59 / eek		PHSC_101-H_230824A : 150		R187507
Solids, Total Dissolved TDS @ 180 C	665	mg/L		20		A2540 C	08/25/23 14:38 / eek		124 (14410200)_230825B : 47		TDS230825B
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	9	mg/L		4		A2320 B	08/25/23 17:15 / SR		PHSC_101-H_230825A : 214		R187549
Bicarbonate as HCO3	11	mg/L		4		A2320 B	08/25/23 17:15 / SR		PHSC_101-H_230825A : 214		R187549
Carbonate as CO3	ND	mg/L		4		A2320 B	08/25/23 17:15 / SR		PHSC_101-H_230825A : 214		R187549
Chloride	191	mg/L		1		E300.0	08/26/23 22:09 / SR		C METROHM_230823A : 314		R187509
Sulfate	182	mg/L		1		E300.0	08/26/23 22:09 / SR		C METROHM_230823A : 314		R187509
Bromide	0.7	mg/L		0.5		E300.0	08/26/23 22:09 / SR		C METROHM_230823A : 314		R187509
Fluoride	1.0	mg/L		0.1		E300.0	08/26/23 22:09 / SR		C METROHM_230823A : 314		R187509
Hardness as CaCO3	180	mg/L		1		A2340 B	08/28/23 22:12 / SR		CALC_230905B : 993		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.6	mg/L		0.5		A5310 C	08/29/23 04:05 / eli-c		SUB-C298162 : 34		C_R298162
Organic Carbon, Total (TOC)	2.6	mg/L		0.5		A5310 C	08/28/23 18:55 / eli-c		SUB-C298162 : 9		C_R298162
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	5.69	mg/L		0.02		E353.2	09/06/23 16:09 / JAR		SEAL AA500_230906B : 46		R187944
<b>METALS, DISSOLVED</b>											
Aluminum	1.26	mg/L		0.03		E200.7	08/28/23 22:12 / slj		ICP2-HE_230828B : 67		R187634
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 21:36 / dck		ICPMS205-H_230829C : 194		R187753
Arsenic	ND	mg/L		0.001		E200.8	08/30/23 21:36 / dck		ICPMS205-H_230829C : 194		R187753
Barium	0.023	mg/L		0.003		E200.8	08/30/23 21:36 / dck		ICPMS205-H_230829C : 194		R187753
Beryllium	0.0056	mg/L		0.0008		E200.8	09/06/23 01:11 / dck		ICPMS206-H_230905A : 126		R187884
Boron	0.38	mg/L		0.05		E200.7	08/28/23 22:12 / slj		ICP2-HE_230828B : 67		R187634
Cadmium	0.0823	mg/L		0.00003		E200.8	08/30/23 21:36 / dck		ICPMS205-H_230829C : 194		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 21:20 / dck		ICPMS206-H_230830B : 184		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-01A  
**Lab ID:** H23080918-004  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 11:26 **DateReceived:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	52	mg/L		1		E200.7	08/28/23 22:12 / slj		ICP2-HE_230828B : 67		R187634
Chromium	ND	mg/L		0.005		E200.8	08/30/23 21:36 / dck		ICPMS205-H_230829C : 194		R187753
Cobalt	0.055	mg/L		0.005		E200.8	08/30/23 21:36 / dck		ICPMS205-H_230829C : 194		R187753
Copper	5.08	mg/L		0.01		E200.7	08/28/23 22:12 / slj		ICP2-HE_230828B : 67		R187634
Gallium	ND	mg/L		0.01		E200.8	08/30/23 21:20 / dck		ICPMS206-H_230830B : 184		R187736
Iron	0.04	mg/L		0.02		E200.8	08/30/23 21:36 / dck		ICPMS205-H_230829C : 194		R187753
Lead	0.0179	mg/L		0.0003		E200.8	08/30/23 21:36 / dck		ICPMS205-H_230829C : 194		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 21:20 / dck		ICPMS206-H_230830B : 184		R187736
Lithium	0.1	mg/L		0.1		E200.7	08/28/23 22:12 / slj		ICP2-HE_230828B : 67		R187634
Magnesium	13	mg/L		1		E200.7	08/28/23 22:12 / slj		ICP2-HE_230828B : 67		R187634
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 21:20 / dck		ICPMS206-H_230830B : 184		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 21:20 / dck		ICPMS206-H_230830B : 184		R187736
Manganese	8.64	mg/L		0.001		E200.7	08/28/23 22:12 / slj		ICP2-HE_230828B : 67		R187634
Molybdenum	ND	mg/L		0.001		E200.8	08/30/23 21:36 / dck		ICPMS205-H_230829C : 194		R187753
Nickel	0.040	mg/L		0.002		E200.8	08/30/23 21:36 / dck		ICPMS205-H_230829C : 194		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 21:20 / dck		ICPMS206-H_230830B : 184		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 21:20 / dck		ICPMS206-H_230830B : 184		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 21:20 / dck		ICPMS206-H_230830B : 184		R187736
Potassium	10	mg/L		1		E200.7	08/28/23 22:12 / slj		ICP2-HE_230828B : 67		R187634
Selenium	ND	mg/L		0.001		E200.8	08/30/23 21:36 / dck		ICPMS205-H_230829C : 194		R187753
Silver	0.0003	mg/L		0.0002		E200.8	08/30/23 21:36 / dck		ICPMS205-H_230829C : 194		R187753
Sodium	104	mg/L		1		E200.8	08/30/23 21:36 / dck		ICPMS205-H_230829C : 194		R187753
Strontium	0.42	mg/L		0.01		E200.7	08/28/23 22:12 / slj		ICP2-HE_230828B : 67		R187634
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 21:36 / dck		ICPMS205-H_230829C : 194		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 21:20 / dck		ICPMS206-H_230830B : 385		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 21:36 / dck		ICPMS205-H_230829C : 194		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 21:36 / dck		ICPMS205-H_230829C : 194		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 21:20 / dck		ICPMS206-H_230830B : 184		R187736
Uranium	0.0031	mg/L		0.0002		E200.8	08/30/23 21:36 / dck		ICPMS205-H_230829C : 194		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 21:36 / dck		ICPMS205-H_230829C : 194		R187753
Zinc	13.8	mg/L		0.008		E200.7	08/28/23 22:12 / slj		ICP2-HE_230828B : 67		R187634
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 21:20 / dck		ICPMS206-H_230830B : 184		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-01A  
**Lab ID:** H23080918-004  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 11:26    **DateReceived:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-3.16	%				A1030 E	09/05/23 15:17 / SR		CALC_230905B : 991		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-24B  
**Lab ID:** H23080918-005  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 12:27 **Date Received:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.4	s.u.	H	0.1		A4500-H B	08/24/23 13:01 / eek		PHSC_101-H_230824A : 151		R187507
pH Measurement Temp	19.8	°C				A4500-H B	08/24/23 13:01 / eek		PHSC_101-H_230824A : 151		R187507
Conductivity @ 25 C	1240	umhos/cm		5		A2510 B	08/24/23 13:01 / eek		PHSC_101-H_230824A : 152		R187507
Solids, Total Dissolved TDS @ 180 C	985	mg/L		20		A2540 C	08/25/23 14:38 / eek		124 (14410200)_230825B : 48		TDS230825B
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	56	mg/L		4		A2320 B	08/25/23 17:22 / SR		PHSC_101-H_230825A : 216		R187549
Bicarbonate as HCO3	68	mg/L		4		A2320 B	08/25/23 17:22 / SR		PHSC_101-H_230825A : 216		R187549
Carbonate as CO3	ND	mg/L		4		A2320 B	08/25/23 17:22 / SR		PHSC_101-H_230825A : 216		R187549
Chloride	27	mg/L		1		E300.0	08/26/23 22:24 / SR		C METROHM_230823A : 315		R187509
Sulfate	594	mg/L		1		E300.0	08/26/23 22:24 / SR		C METROHM_230823A : 315		R187509
Bromide	ND	mg/L		0.5		E300.0	08/26/23 22:24 / SR		C METROHM_230823A : 315		R187509
Fluoride	0.5	mg/L		0.1		E300.0	08/26/23 22:24 / SR		C METROHM_230823A : 315		R187509
Hardness as CaCO3	497	mg/L		1		A2340 B	08/28/23 22:34 / SR		CALC_230905B : 300		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.7	mg/L		0.5		A5310 C	08/29/23 04:22 / eli-c		SUB-C298162 : 35		C_R298162
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	08/28/23 19:12 / eli-c		SUB-C298162 : 10		C_R298162
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	1.89	mg/L		0.02		E353.2	08/30/23 19:28 / JAR		SEAL AA500_230830A : 168		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/30/23 21:24 / dck		ICPMS205-H_230829C : 190		R187753
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 21:24 / dck		ICPMS205-H_230829C : 190		R187753
Arsenic	0.004	mg/L		0.001		E200.8	08/30/23 21:24 / dck		ICPMS205-H_230829C : 190		R187753
Barium	0.016	mg/L		0.003		E200.8	08/30/23 21:24 / dck		ICPMS205-H_230829C : 190		R187753
Beryllium	ND	mg/L		0.0008		E200.8	09/06/23 01:14 / dck		ICPMS206-H_230905A : 127		R187884
Boron	0.08	mg/L		0.05		E200.7	08/26/23 07:06 / slj		ICP2-HE_230825B : 202		R187602
Cadmium	0.00551	mg/L		0.00003		E200.8	08/30/23 21:24 / dck		ICPMS205-H_230829C : 190		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 21:23 / dck		ICPMS206-H_230830B : 185		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-24B  
**Lab ID:** H23080918-005  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 12:27 **DateReceived:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	146	mg/L		1		E200.7	08/28/23 22:34 / slj		ICP2-HE_230828B : 73		R187634
Chromium	ND	mg/L		0.005		E200.8	08/30/23 21:24 / dck		ICPMS205-H_230829C : 190		R187753
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 21:24 / dck		ICPMS205-H_230829C : 190		R187753
Copper	0.125	mg/L		0.002		E200.8	08/30/23 21:24 / dck		ICPMS205-H_230829C : 190		R187753
Gallium	ND	mg/L		0.01		E200.8	08/30/23 21:23 / dck		ICPMS206-H_230830B : 185		R187736
Iron	ND	mg/L		0.02		E200.8	08/30/23 21:24 / dck		ICPMS205-H_230829C : 190		R187753
Lead	ND	mg/L		0.0003		E200.8	08/30/23 21:24 / dck		ICPMS205-H_230829C : 190		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 21:23 / dck		ICPMS206-H_230830B : 185		R187736
Lithium	0.2	mg/L		0.1		E200.7	08/26/23 07:06 / slj		ICP2-HE_230825B : 202		R187602
Magnesium	32	mg/L		1		E200.7	08/26/23 07:06 / slj		ICP2-HE_230825B : 202		R187602
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 21:23 / dck		ICPMS206-H_230830B : 185		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 21:23 / dck		ICPMS206-H_230830B : 185		R187736
Manganese	ND	mg/L		0.001		E200.8	08/30/23 21:24 / dck		ICPMS205-H_230829C : 190		R187753
Molybdenum	0.002	mg/L		0.001		E200.8	08/30/23 21:24 / dck		ICPMS205-H_230829C : 190		R187753
Nickel	0.004	mg/L		0.002		E200.8	08/30/23 21:24 / dck		ICPMS205-H_230829C : 190		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 21:23 / dck		ICPMS206-H_230830B : 185		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 21:23 / dck		ICPMS206-H_230830B : 185		R187736
Rubidium	0.01	mg/L		0.01		E200.8	08/30/23 21:23 / dck		ICPMS206-H_230830B : 185		R187736
Potassium	12	mg/L		1		E200.7	08/28/23 22:34 / slj		ICP2-HE_230828B : 73		R187634
Selenium	ND	mg/L		0.001		E200.8	08/30/23 21:24 / dck		ICPMS205-H_230829C : 190		R187753
Silver	ND	mg/L		0.0002		E200.8	08/30/23 21:24 / dck		ICPMS205-H_230829C : 190		R187753
Sodium	72	mg/L		1		E200.7	08/26/23 07:06 / slj		ICP2-HE_230825B : 202		R187602
Strontium	1.52	mg/L		0.01		E200.7	08/26/23 07:06 / slj		ICP2-HE_230825B : 202		R187602
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 21:24 / dck		ICPMS205-H_230829C : 190		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 21:23 / dck		ICPMS206-H_230830B : 386		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 21:24 / dck		ICPMS205-H_230829C : 190		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 21:24 / dck		ICPMS205-H_230829C : 190		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 21:23 / dck		ICPMS206-H_230830B : 185		R187736
Uranium	0.0013	mg/L		0.0002		E200.8	08/30/23 21:24 / dck		ICPMS205-H_230829C : 190		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 21:24 / dck		ICPMS205-H_230829C : 190		R187753
Zinc	1.07	mg/L		0.008		E200.7	08/28/23 22:34 / slj		ICP2-HE_230828B : 73		R187634
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 21:23 / dck		ICPMS206-H_230830B : 185		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-24B  
**Lab ID:** H23080918-005  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 12:27      **Date Received:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-3.78	%				A1030 E	09/05/23 14:21 / SR		CALC_230905B : 298		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01C  
**Lab ID:** H23080918-006  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 13:17 **Date Received:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.5	s.u.	H	0.1		A4500-H B	08/24/23 13:03 / eek		PHSC_101-H_230824A : 153		R187507
pH Measurement Temp	19.5	°C				A4500-H B	08/24/23 13:03 / eek		PHSC_101-H_230824A : 153		R187507
Conductivity @ 25 C	2890	umhos/cm		5		A2510 B	08/24/23 13:03 / eek		PHSC_101-H_230824A : 154		R187507
Solids, Total Dissolved TDS @ 180 C	2820	mg/L		50		A2540 C	08/25/23 14:39 / eek		124 (14410200)_230825B : 49		TDS230825B
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	20	mg/L		4		A2320 B	08/25/23 17:29 / SR		PHSC_101-H_230825A : 218		R187549
Bicarbonate as HCO3	24	mg/L		4		A2320 B	08/25/23 17:29 / SR		PHSC_101-H_230825A : 218		R187549
Carbonate as CO3	ND	mg/L		4		A2320 B	08/25/23 17:29 / SR		PHSC_101-H_230825A : 218		R187549
Chloride	14	mg/L		1		E300.0	08/26/23 22:38 / SR		C METROHM_230823A : 316		R187509
Sulfate	1930	mg/L		1		E300.0	08/26/23 22:38 / SR		C METROHM_230823A : 316		R187509
Bromide	ND	mg/L		0.5		E300.0	08/26/23 22:38 / SR		C METROHM_230823A : 316		R187509
Fluoride	1.2	mg/L		0.1		E300.0	08/26/23 22:38 / SR		C METROHM_230823A : 316		R187509
Hardness as CaCO3	1360	mg/L		1		A2340 B	08/30/23 22:56 / SR		CALC_230905B : 1004		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.9	mg/L		0.5		A5310 C	08/29/23 04:38 / eli-c		SUB-C298162 : 36		C_R298162
Organic Carbon, Total (TOC)	0.8	mg/L		0.5		A5310 C	08/28/23 19:32 / eli-c		SUB-C298162 : 11		C_R298162
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.31	mg/L		0.01		E353.2	08/30/23 19:29 / JAR		SEAL AA500_230830A : 169		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	0.307	mg/L		0.009		E200.8	08/30/23 22:56 / dck		ICPMS205-H_230829C : 220		R187753
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 22:56 / dck		ICPMS205-H_230829C : 220		R187753
Arsenic	0.005	mg/L		0.001		E200.8	08/30/23 22:56 / dck		ICPMS205-H_230829C : 220		R187753
Barium	ND	mg/L		0.003		E200.8	08/30/23 22:56 / dck		ICPMS205-H_230829C : 220		R187753
Beryllium	0.0009	mg/L		0.0008		E200.8	09/07/23 06:04 / dck		ICPMS206-H_230906B : 239		R187919
Boron	0.24	mg/L		0.05		E200.7	08/26/23 07:10 / slj		ICP2-HE_230825B : 203		R187602
Cadmium	0.129	mg/L		0.00003		E200.8	08/30/23 22:56 / dck		ICPMS205-H_230829C : 220		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 21:25 / dck		ICPMS206-H_230830B : 186		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01C  
**Lab ID:** H23080918-006  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 13:17 **DateReceived:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	373	mg/L		1		E200.7	08/28/23 22:38 / slj		ICP2-HE_230828B : 74		R187634
Chromium	ND	mg/L		0.005		E200.8	08/30/23 22:56 / dck		ICPMS205-H_230829C : 220		R187753
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 22:56 / dck		ICPMS205-H_230829C : 220		R187753
Copper	5.55	mg/L		0.06		E200.7	08/26/23 07:10 / slj		ICP2-HE_230825B : 203		R187602
Gallium	ND	mg/L		0.01		E200.8	08/30/23 21:25 / dck		ICPMS206-H_230830B : 186		R187736
Iron	0.03	mg/L		0.02		E200.8	08/30/23 22:56 / dck		ICPMS205-H_230829C : 220		R187753
Lead	ND	mg/L		0.0003		E200.8	08/30/23 22:56 / dck		ICPMS205-H_230829C : 220		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 21:25 / dck		ICPMS206-H_230830B : 186		R187736
Lithium	0.8	mg/L		0.1		E200.7	08/26/23 07:10 / slj		ICP2-HE_230825B : 203		R187602
Magnesium	104	mg/L		1		E200.8	08/30/23 22:56 / dck		ICPMS205-H_230829C : 220		R187753
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 21:25 / dck		ICPMS206-H_230830B : 186		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 21:25 / dck		ICPMS206-H_230830B : 186		R187736
Manganese	22.3	mg/L		0.007		E200.7	08/26/23 07:10 / slj		ICP2-HE_230825B : 203		R187602
Molybdenum	ND	mg/L		0.001		E200.8	08/30/23 22:56 / dck		ICPMS205-H_230829C : 220		R187753
Nickel	0.142	mg/L		0.002		E200.8	08/30/23 22:56 / dck		ICPMS205-H_230829C : 220		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 21:25 / dck		ICPMS206-H_230830B : 186		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 21:25 / dck		ICPMS206-H_230830B : 186		R187736
Rubidium	0.06	mg/L		0.01		E200.8	08/30/23 21:25 / dck		ICPMS206-H_230830B : 186		R187736
Potassium	35	mg/L		1		E200.8	08/30/23 22:56 / dck		ICPMS205-H_230829C : 220		R187753
Selenium	ND	mg/L		0.001		E200.8	09/07/23 06:04 / dck		ICPMS206-H_230906B : 239		R187919
Silver	ND	mg/L		0.0002		E200.8	08/30/23 22:56 / dck		ICPMS205-H_230829C : 220		R187753
Sodium	203	mg/L		1		E200.8	08/30/23 22:56 / dck		ICPMS205-H_230829C : 220		R187753
Strontium	7.98	mg/L		0.01		E200.7	08/26/23 07:10 / slj		ICP2-HE_230825B : 203		R187602
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 22:56 / dck		ICPMS205-H_230829C : 220		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 21:25 / dck		ICPMS206-H_230830B : 387		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 22:56 / dck		ICPMS205-H_230829C : 220		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 22:56 / dck		ICPMS205-H_230829C : 220		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 21:25 / dck		ICPMS206-H_230830B : 186		R187736
Uranium	0.0016	mg/L		0.0002		E200.8	08/30/23 22:56 / dck		ICPMS205-H_230829C : 220		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 22:56 / dck		ICPMS205-H_230829C : 220		R187753
Zinc	31.2	mg/L		0.01		E200.7	08/28/23 22:38 / slj		ICP2-HE_230828B : 74		R187634
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 21:25 / dck		ICPMS206-H_230830B : 186		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01C  
**Lab ID:** H23080918-006  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 13:17      **Date Received:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.25	%				A1030 E	09/05/23 15:19 / SR		CALC_230905B : 1002		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-02B  
**Lab ID:** H23080918-007  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 13:55 **DateReceived:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.2	s.u.	H	0.1		A4500-H B	08/24/23 13:05 / eek		PHSC_101-H_230824A : 155		R187507
pH Measurement Temp	19.6	°C				A4500-H B	08/24/23 13:05 / eek		PHSC_101-H_230824A : 155		R187507
Conductivity @ 25 C	6000	umhos/cm		5		A2510 B	08/24/23 13:05 / eek		PHSC_101-H_230824A : 156		R187507
Solids, Total Dissolved TDS @ 180 C	6880	mg/L		200		A2540 C	08/25/23 14:39 / eek		124 (14410200)_230825B : 50		TDS230825B
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	08/25/23 17:35 / SR		PHSC_101-H_230825A : 220		R187549
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	08/25/23 17:35 / SR		PHSC_101-H_230825A : 220		R187549
Carbonate as CO3	ND	mg/L		4		A2320 B	08/25/23 17:35 / SR		PHSC_101-H_230825A : 220		R187549
Chloride	695	mg/L		1		E300.0	09/05/23 23:38 / SR		IC METROHM_230905A : 38		R187869
Sulfate	3360	mg/L		1		E300.0	09/05/23 23:38 / SR		IC METROHM_230905A : 38		R187869
Bromide	0.7	mg/L		0.5		E300.0	08/26/23 22:53 / SR		C METROHM_230823A : 317		R187509
Fluoride	13.8	mg/L	*	0.1		E300.0	08/26/23 22:53 / SR		C METROHM_230823A : 317		R187509
Hardness as CaCO3	2120	mg/L		1		A2340 B	08/28/23 22:41 / SR		CALC_230912A : 366		R188051
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.1	mg/L		0.5		A5310 C	08/29/23 05:02 / eli-c		SUB-C298162 : 37		C_R298162
Organic Carbon, Total (TOC)	1.2	mg/L		0.5		A5310 C	08/28/23 19:56 / eli-c		SUB-C298162 : 12		C_R298162
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.17	mg/L		0.01		E353.2	08/30/23 19:30 / JAR		SEAL AA500_230830A : 170		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	18.1	mg/L		0.1		E200.7	08/28/23 22:41 / slj		ICP2-HE_230828B : 75		R187634
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 23:40 / dck		ICPMS205-H_230829C : 234		R187753
Arsenic	0.003	mg/L		0.001		E200.8	08/30/23 23:40 / dck		ICPMS205-H_230829C : 234		R187753
Barium	0.013	mg/L		0.003		E200.8	08/30/23 23:40 / dck		ICPMS205-H_230829C : 234		R187753
Beryllium	0.0242	mg/L		0.0008		E200.8	09/07/23 05:20 / dck		ICPMS206-H_230906B : 227		R187919
Boron	0.15	mg/L		0.05		E200.7	08/26/23 07:14 / slj		ICP2-HE_230825B : 204		R187602
Cadmium	1.70	mg/L		0.00003		E200.8	08/30/23 23:40 / dck		ICPMS205-H_230829C : 234		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 21:27 / dck		ICPMS206-H_230830B : 187		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** \* - The result exceeds the Maximum Contaminant Level (MCL)

H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-02B  
**Lab ID:** H23080918-007  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 13:55 **DateReceived:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	519	mg/L		1		E200.7	08/28/23 22:41 / slj		ICP2-HE_230828B : 75		R187634
Chromium	ND	mg/L		0.005		E200.8	08/30/23 23:40 / dck		ICPMS205-H_230829C : 234		R187753
Cobalt	1.41	mg/L		0.005		E200.8	08/30/23 23:40 / dck		ICPMS205-H_230829C : 234		R187753
Copper	155	mg/L		0.06		E200.7	08/26/23 07:14 / slj		ICP2-HE_230825B : 204		R187602
Gallium	ND	mg/L		0.01		E200.8	08/30/23 21:27 / dck		ICPMS206-H_230830B : 187		R187736
Iron	368	mg/L		0.04		E200.7	08/26/23 07:14 / slj		ICP2-HE_230825B : 204		R187602
Lead	0.0067	mg/L		0.0003		E200.8	08/30/23 23:40 / dck		ICPMS205-H_230829C : 234		R187753
Lanthanum	0.28	mg/L		0.01		E200.8	08/30/23 21:27 / dck		ICPMS206-H_230830B : 187		R187736
Lithium	0.9	mg/L		0.1		E200.7	08/26/23 07:14 / slj		ICP2-HE_230825B : 204		R187602
Magnesium	201	mg/L		1		E200.7	08/26/23 07:14 / slj		ICP2-HE_230825B : 204		R187602
Neodymium	0.100	mg/L		0.005		E200.8	08/30/23 21:27 / dck		ICPMS206-H_230830B : 187		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 21:27 / dck		ICPMS206-H_230830B : 187		R187736
Manganese	262	mg/L		0.007		E200.7	08/26/23 07:14 / slj		ICP2-HE_230825B : 204		R187602
Molybdenum	ND	mg/L		0.001		E200.8	08/30/23 23:40 / dck		ICPMS205-H_230829C : 234		R187753
Nickel	0.598	mg/L		0.002		E200.8	08/30/23 23:40 / dck		ICPMS205-H_230829C : 234		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 21:27 / dck		ICPMS206-H_230830B : 187		R187736
Praseodymium	0.03	mg/L		0.01		E200.8	08/30/23 21:27 / dck		ICPMS206-H_230830B : 187		R187736
Rubidium	0.02	mg/L		0.01		E200.8	08/30/23 21:27 / dck		ICPMS206-H_230830B : 187		R187736
Potassium	22	mg/L		1		E200.7	08/28/23 22:41 / slj		ICP2-HE_230828B : 75		R187634
Selenium	ND	mg/L		0.001		E200.8	09/07/23 05:20 / dck		ICPMS206-H_230906B : 227		R187919
Silver	0.0196	mg/L		0.0002		E200.8	08/30/23 23:40 / dck		ICPMS205-H_230829C : 234		R187753
Sodium	190	mg/L		1		E200.7	08/26/23 07:14 / slj		ICP2-HE_230825B : 204		R187602
Strontium	3.94	mg/L		0.01		E200.7	08/26/23 07:14 / slj		ICP2-HE_230825B : 204		R187602
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 23:40 / dck		ICPMS205-H_230829C : 234		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 21:27 / dck		ICPMS206-H_230830B : 388		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 23:40 / dck		ICPMS205-H_230829C : 234		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 23:40 / dck		ICPMS205-H_230829C : 234		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 21:27 / dck		ICPMS206-H_230830B : 187		R187736
Uranium	0.0368	mg/L		0.0002		E200.8	08/30/23 23:40 / dck		ICPMS205-H_230829C : 234		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 23:40 / dck		ICPMS205-H_230829C : 234		R187753
Zinc	280	mg/L		0.01		E200.7	08/28/23 22:41 / slj		ICP2-HE_230828B : 75		R187634
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 21:27 / dck		ICPMS206-H_230830B : 187		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-02B  
**Lab ID:** H23080918-007  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 13:55    **DateReceived:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-6.43	%				A1030 E	09/12/23 12:00 / SR		CALC_230912A : 364		R188051

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-20  
**Lab ID:** H23080918-008  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 14:30 **Date Received:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.1	s.u.	H	0.1		A4500-H B	08/24/23 13:06 / eek		PHSC_101-H_230824A : 157		R187507
pH Measurement Temp	19.7	°C				A4500-H B	08/24/23 13:06 / eek		PHSC_101-H_230824A : 157		R187507
Conductivity @ 25 C	2140	umhos/cm		5		A2510 B	08/24/23 13:06 / eek		PHSC_101-H_230824A : 158		R187507
Solids, Total Dissolved TDS @ 180 C	2090	mg/L		50		A2540 C	08/25/23 14:39 / eek		124 (14410200)_230825B : 51		TDS230825B
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	8	mg/L		4		A2320 B	08/25/23 17:39 / SR		PHSC_101-H_230825A : 222		R187549
Bicarbonate as HCO3	9	mg/L		4		A2320 B	08/25/23 17:39 / SR		PHSC_101-H_230825A : 222		R187549
Carbonate as CO3	ND	mg/L		4		A2320 B	08/25/23 17:39 / SR		PHSC_101-H_230825A : 222		R187549
Chloride	35	mg/L		1		E300.0	09/05/23 23:53 / SR		IC METROHM_230905A : 39		R187869
Sulfate	1320	mg/L		1		E300.0	09/05/23 23:53 / SR		IC METROHM_230905A : 39		R187869
Bromide	ND	mg/L		0.5		E300.0	08/26/23 23:07 / SR		C METROHM_230823A : 318		R187509
Fluoride	1.2	mg/L		0.1		E300.0	08/26/23 23:07 / SR		C METROHM_230823A : 318		R187509
Hardness as CaCO3	1100	mg/L		1		A2340 B	08/28/23 22:45 / SR		CALC_230912A : 377		R188051
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.8	mg/L		0.5		A5310 C	08/29/23 05:30 / eli-c		SUB-C298162 : 38		C_R298162
Organic Carbon, Total (TOC)	1.7	mg/L		0.5		A5310 C	08/28/23 20:23 / eli-c		SUB-C298162 : 13		C_R298162
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.27	mg/L		0.01		E353.2	08/30/23 19:31 / JAR		SEAL AA500_230830A : 171		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	1.84	mg/L		0.03		E200.7	08/28/23 22:45 / slj		ICP2-HE_230828B : 76		R187634
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 23:03 / dck		ICPMS205-H_230829C : 222		R187753
Arsenic	ND	mg/L		0.001		E200.8	08/30/23 23:03 / dck		ICPMS205-H_230829C : 222		R187753
Barium	0.009	mg/L		0.003		E200.8	08/30/23 23:03 / dck		ICPMS205-H_230829C : 222		R187753
Beryllium	0.0021	mg/L		0.0008		E200.8	09/07/23 06:07 / dck		ICPMS206-H_230906B : 240		R187919
Boron	ND	mg/L		0.05		E200.7	08/26/23 07:17 / slj		ICP2-HE_230825B : 205		R187602
Cadmium	0.137	mg/L		0.00003		E200.8	08/30/23 23:03 / dck		ICPMS205-H_230829C : 222		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 21:29 / dck		ICPMS206-H_230830B : 188		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-20  
**Lab ID:** H23080918-008  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 14:30 **DateReceived:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	405	mg/L		1		E200.7	08/28/23 22:45 / slj		ICP2-HE_230828B : 76		R187634
Chromium	ND	mg/L		0.005		E200.8	08/30/23 23:03 / dck		ICPMS205-H_230829C : 222		R187753
Cobalt	0.270	mg/L		0.005		E200.8	08/30/23 23:03 / dck		ICPMS205-H_230829C : 222		R187753
Copper	6.42	mg/L		0.01		E200.7	08/26/23 07:17 / slj		ICP2-HE_230825B : 205		R187602
Gallium	ND	mg/L		0.01		E200.8	08/30/23 21:29 / dck		ICPMS206-H_230830B : 188		R187736
Iron	24.3	mg/L		0.02		E200.7	08/26/23 07:17 / slj		ICP2-HE_230825B : 205		R187602
Lead	0.0006	mg/L		0.0003		E200.8	08/30/23 23:03 / dck		ICPMS205-H_230829C : 222		R187753
Lanthanum	0.03	mg/L		0.01		E200.8	08/30/23 21:29 / dck		ICPMS206-H_230830B : 188		R187736
Lithium	0.2	mg/L		0.1		E200.7	08/26/23 07:17 / slj		ICP2-HE_230825B : 205		R187602
Magnesium	21	mg/L		1		E200.7	08/26/23 07:17 / slj		ICP2-HE_230825B : 205		R187602
Neodymium	0.019	mg/L		0.005		E200.8	08/30/23 21:29 / dck		ICPMS206-H_230830B : 188		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 21:29 / dck		ICPMS206-H_230830B : 188		R187736
Manganese	24.9	mg/L		0.001		E200.7	08/26/23 07:17 / slj		ICP2-HE_230825B : 205		R187602
Molybdenum	0.010	mg/L		0.001		E200.8	08/30/23 23:03 / dck		ICPMS205-H_230829C : 222		R187753
Nickel	0.068	mg/L		0.002		E200.8	08/30/23 23:03 / dck		ICPMS205-H_230829C : 222		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 21:29 / dck		ICPMS206-H_230830B : 188		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 21:29 / dck		ICPMS206-H_230830B : 188		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 21:29 / dck		ICPMS206-H_230830B : 188		R187736
Potassium	16	mg/L		1		E200.7	08/28/23 22:45 / slj		ICP2-HE_230828B : 76		R187634
Selenium	0.008	mg/L		0.001		E200.8	09/07/23 06:07 / dck		ICPMS206-H_230906B : 240		R187919
Silver	0.0003	mg/L		0.0002		E200.8	08/30/23 23:03 / dck		ICPMS205-H_230829C : 222		R187753
Sodium	52	mg/L		1		E200.7	08/26/23 07:17 / slj		ICP2-HE_230825B : 205		R187602
Strontium	1.34	mg/L		0.01		E200.7	08/26/23 07:17 / slj		ICP2-HE_230825B : 205		R187602
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 23:03 / dck		ICPMS205-H_230829C : 222		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 21:29 / dck		ICPMS206-H_230830B : 389		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 23:03 / dck		ICPMS205-H_230829C : 222		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 23:03 / dck		ICPMS205-H_230829C : 222		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 21:29 / dck		ICPMS206-H_230830B : 188		R187736
Uranium	0.0045	mg/L		0.0002		E200.8	08/30/23 23:03 / dck		ICPMS205-H_230829C : 222		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 23:03 / dck		ICPMS205-H_230829C : 222		R187753
Zinc	29.9	mg/L		0.008		E200.7	08/28/23 22:45 / slj		ICP2-HE_230828B : 76		R187634
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 21:29 / dck		ICPMS206-H_230830B : 188		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-20  
**Lab ID:** H23080918-008  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 14:30    **Date Received:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-3.44	%				A1030 E	09/12/23 12:00 / SR		CALC_230912A : 375		R188051

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-07B  
**Lab ID:** H23080918-009  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 14:42 **DateReceived:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.1	s.u.	H	0.1		A4500-H B	08/24/23 13:08 / eek		PHSC_101-H_230824A : 159		R187507
pH Measurement Temp	18.5	°C				A4500-H B	08/24/23 13:08 / eek		PHSC_101-H_230824A : 159		R187507
Conductivity @ 25 C	2940	umhos/cm		5		A2510 B	08/24/23 13:08 / eek		PHSC_101-H_230824A : 160		R187507
Solids, Total Dissolved TDS @ 180 C	2910	mg/L		50		A2540 C	08/25/23 14:39 / eek		124 (14410200)_230825B : 52		TDS230825B
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	40	mg/L		4		A2320 B	08/25/23 17:45 / SR		PHSC_101-H_230825A : 224		R187549
Bicarbonate as HCO3	48	mg/L		4		A2320 B	08/25/23 17:45 / SR		PHSC_101-H_230825A : 224		R187549
Carbonate as CO3	ND	mg/L		4		A2320 B	08/25/23 17:45 / SR		PHSC_101-H_230825A : 224		R187549
Chloride	66	mg/L		1		E300.0	08/27/23 00:19 / SR		C METROHM_230823A : 323		R187509
Sulfate	1940	mg/L		1		E300.0	08/27/23 00:19 / SR		C METROHM_230823A : 323		R187509
Bromide	ND	mg/L		0.5		E300.0	08/27/23 00:19 / SR		C METROHM_230823A : 323		R187509
Fluoride	0.1	mg/L		0.1		E300.0	08/27/23 00:19 / SR		C METROHM_230823A : 323		R187509
Hardness as CaCO3	1760	mg/L		1		A2340 B	08/28/23 22:49 / SR		CALC_230905B : 311		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	3.0	mg/L		0.5		A5310 C	08/29/23 05:46 / eli-c		SUB-C298162 : 39		C_R298162
Organic Carbon, Total (TOC)	1.4	mg/L		0.5		A5310 C	08/28/23 20:39 / eli-c		SUB-C298162 : 14		C_R298162
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.04	mg/L		0.01		E353.2	08/30/23 19:37 / JAR		SEAL AA500_230830A : 175		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	0.014	mg/L		0.009		E200.8	08/30/23 21:42 / dck		ICPMS205-H_230829C : 196		R187753
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 21:42 / dck		ICPMS205-H_230829C : 196		R187753
Arsenic	ND	mg/L		0.001		E200.8	08/30/23 21:42 / dck		ICPMS205-H_230829C : 196		R187753
Barium	0.016	mg/L		0.003		E200.8	08/30/23 21:42 / dck		ICPMS205-H_230829C : 196		R187753
Beryllium	ND	mg/L		0.0008		E200.8	09/06/23 01:18 / dck		ICPMS206-H_230905A : 128		R187884
Boron	0.06	mg/L		0.05		E200.7	08/26/23 07:21 / slj		ICP2-HE_230825B : 206		R187602
Cadmium	0.0262	mg/L		0.00003		E200.8	08/30/23 21:42 / dck		ICPMS205-H_230829C : 196		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 21:31 / dck		ICPMS206-H_230830B : 189		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-07B  
**Lab ID:** H23080918-009  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 14:42 **Date Received:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	495	mg/L		1		E200.7	08/28/23 22:49 / slj		ICP2-HE_230828B : 77		R187634
Chromium	ND	mg/L		0.005		E200.8	08/30/23 21:42 / dck		ICPMS205-H_230829C : 196		R187753
Cobalt	0.021	mg/L		0.005		E200.8	08/30/23 21:42 / dck		ICPMS205-H_230829C : 196		R187753
Copper	0.004	mg/L		0.002		E200.8	08/30/23 21:42 / dck		ICPMS205-H_230829C : 196		R187753
Gallium	ND	mg/L		0.01		E200.8	08/30/23 21:31 / dck		ICPMS206-H_230830B : 189		R187736
Iron	0.09	mg/L		0.02		E200.8	08/30/23 21:42 / dck		ICPMS205-H_230829C : 196		R187753
Lead	ND	mg/L		0.0003		E200.8	08/30/23 21:42 / dck		ICPMS205-H_230829C : 196		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 21:31 / dck		ICPMS206-H_230830B : 189		R187736
Lithium	0.2	mg/L		0.1		E200.7	08/26/23 07:21 / slj		ICP2-HE_230825B : 206		R187602
Magnesium	126	mg/L		1		E200.7	08/26/23 07:21 / slj		ICP2-HE_230825B : 206		R187602
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 21:31 / dck		ICPMS206-H_230830B : 189		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 21:31 / dck		ICPMS206-H_230830B : 189		R187736
Manganese	18.5	mg/L		0.007		E200.7	08/28/23 22:49 / slj		ICP2-HE_230828B : 77		R187634
Molybdenum	0.002	mg/L		0.001		E200.8	08/30/23 21:42 / dck		ICPMS205-H_230829C : 196		R187753
Nickel	0.031	mg/L		0.002		E200.8	08/30/23 21:42 / dck		ICPMS205-H_230829C : 196		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 21:31 / dck		ICPMS206-H_230830B : 189		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 21:31 / dck		ICPMS206-H_230830B : 189		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 21:31 / dck		ICPMS206-H_230830B : 189		R187736
Potassium	14	mg/L		1		E200.7	08/28/23 22:49 / slj		ICP2-HE_230828B : 77		R187634
Selenium	ND	mg/L		0.001		E200.8	08/30/23 21:42 / dck		ICPMS205-H_230829C : 196		R187753
Silver	ND	mg/L		0.0002		E200.8	08/30/23 21:42 / dck		ICPMS205-H_230829C : 196		R187753
Sodium	112	mg/L		1		E200.7	08/26/23 07:21 / slj		ICP2-HE_230825B : 206		R187602
Strontium	2.74	mg/L		0.01		E200.7	08/26/23 07:21 / slj		ICP2-HE_230825B : 206		R187602
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 21:42 / dck		ICPMS205-H_230829C : 196		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 21:31 / dck		ICPMS206-H_230830B : 390		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 21:42 / dck		ICPMS205-H_230829C : 196		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 21:42 / dck		ICPMS205-H_230829C : 196		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 21:31 / dck		ICPMS206-H_230830B : 189		R187736
Uranium	0.0009	mg/L		0.0002		E200.8	08/30/23 21:42 / dck		ICPMS205-H_230829C : 196		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 21:42 / dck		ICPMS205-H_230829C : 196		R187753
Zinc	1.31	mg/L		0.008		E200.8	08/30/23 21:42 / dck		ICPMS205-H_230829C : 196		R187753
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 21:31 / dck		ICPMS206-H_230830B : 189		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-07B  
**Lab ID:** H23080918-009  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 14:42    **Date Received:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-3.22	%				A1030 E	09/05/23 14:21 / SR		CALC_230905B : 309		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-02A  
**Lab ID:** H23080918-010  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 15:08 **DateReceived:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.3	s.u.	H	0.1		A4500-H B	08/24/23 13:27 / eek		PHSC_101-H_230824A : 166		R187507
pH Measurement Temp	19.1	°C				A4500-H B	08/24/23 13:27 / eek		PHSC_101-H_230824A : 166		R187507
Conductivity @ 25 C	931	umhos/cm		5		A2510 B	08/24/23 13:27 / eek		PHSC_101-H_230824A : 167		R187507
Solids, Total Dissolved TDS @ 180 C	700	mg/L		20		A2540 C	08/25/23 14:39 / eek		124 (14410200)_230825B : 53		TDS230825B
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	13	mg/L		4		A2320 B	08/25/23 17:52 / SR		PHSC_101-H_230825A : 226		R187549
Bicarbonate as HCO3	16	mg/L		4		A2320 B	08/25/23 17:52 / SR		PHSC_101-H_230825A : 226		R187549
Carbonate as CO3	ND	mg/L		4		A2320 B	08/25/23 17:52 / SR		PHSC_101-H_230825A : 226		R187549
Chloride	108	mg/L		1		E300.0	08/27/23 00:34 / SR		C METROHM_230823A : 324		R187509
Sulfate	273	mg/L		1		E300.0	08/27/23 00:34 / SR		C METROHM_230823A : 324		R187509
Bromide	ND	mg/L		0.5		E300.0	08/27/23 00:34 / SR		C METROHM_230823A : 324		R187509
Fluoride	0.8	mg/L		0.1		E300.0	08/27/23 00:34 / SR		C METROHM_230823A : 324		R187509
Hardness as CaCO3	314	mg/L		1		A2340 B	08/28/23 22:53 / SR		CALC_230905B : 1015		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.6	mg/L		0.5		A5310 C	08/29/23 06:03 / eli-c		SUB-C298162 : 40		C_R298162
Organic Carbon, Total (TOC)	1.5	mg/L		0.5		A5310 C	08/28/23 20:56 / eli-c		SUB-C298162 : 15		C_R298162
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	9.59	mg/L		0.05		E353.2	09/06/23 16:10 / JAR		SEAL AA500_230906B : 47		R187944
<b>METALS, DISSOLVED</b>											
Aluminum	0.411	mg/L		0.009		E200.8	08/30/23 21:45 / dck		ICPMS205-H_230829C : 197		R187753
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 21:45 / dck		ICPMS205-H_230829C : 197		R187753
Arsenic	0.002	mg/L		0.001		E200.8	08/30/23 21:45 / dck		ICPMS205-H_230829C : 197		R187753
Barium	0.025	mg/L		0.003		E200.8	08/30/23 21:45 / dck		ICPMS205-H_230829C : 197		R187753
Beryllium	0.0009	mg/L		0.0008		E200.8	09/06/23 01:22 / dck		ICPMS206-H_230905A : 129		R187884
Boron	0.27	mg/L		0.05		E200.7	08/26/23 07:25 / slj		ICP2-HE_230825B : 207		R187602
Cadmium	0.0693	mg/L		0.00003		E200.8	08/30/23 21:45 / dck		ICPMS205-H_230829C : 197		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 21:33 / dck		ICPMS206-H_230830B : 190		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-02A  
**Lab ID:** H23080918-010  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 15:08 **DateReceived:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	89	mg/L		1		E200.7	08/28/23 22:53 / slj		ICP2-HE_230828B : 78		R187634
Chromium	ND	mg/L		0.005		E200.8	08/30/23 21:45 / dck		ICPMS205-H_230829C : 197		R187753
Cobalt	0.094	mg/L		0.005		E200.8	08/30/23 21:45 / dck		ICPMS205-H_230829C : 197		R187753
Copper	0.289	mg/L		0.002		E200.8	08/30/23 21:45 / dck		ICPMS205-H_230829C : 197		R187753
Gallium	ND	mg/L		0.01		E200.8	08/30/23 21:33 / dck		ICPMS206-H_230830B : 190		R187736
Iron	0.14	mg/L		0.02		E200.8	08/30/23 21:45 / dck		ICPMS205-H_230829C : 197		R187753
Lead	0.0015	mg/L		0.0003		E200.8	08/30/23 21:45 / dck		ICPMS205-H_230829C : 197		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 21:33 / dck		ICPMS206-H_230830B : 190		R187736
Lithium	ND	mg/L		0.1		E200.7	08/26/23 07:25 / slj		ICP2-HE_230825B : 207		R187602
Magnesium	22	mg/L		1		E200.7	08/26/23 07:25 / slj		ICP2-HE_230825B : 207		R187602
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 21:33 / dck		ICPMS206-H_230830B : 190		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 21:33 / dck		ICPMS206-H_230830B : 190		R187736
Manganese	17.0	mg/L		0.001		E200.7	08/26/23 07:25 / slj		ICP2-HE_230825B : 207		R187602
Molybdenum	ND	mg/L		0.001		E200.8	08/30/23 21:45 / dck		ICPMS205-H_230829C : 197		R187753
Nickel	0.044	mg/L		0.002		E200.8	08/30/23 21:45 / dck		ICPMS205-H_230829C : 197		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 21:33 / dck		ICPMS206-H_230830B : 190		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 21:33 / dck		ICPMS206-H_230830B : 190		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 21:33 / dck		ICPMS206-H_230830B : 190		R187736
Potassium	7	mg/L		1		E200.7	08/28/23 22:53 / slj		ICP2-HE_230828B : 78		R187634
Selenium	ND	mg/L		0.001		E200.8	08/30/23 21:45 / dck		ICPMS205-H_230829C : 197		R187753
Silver	ND	mg/L		0.0002		E200.8	08/30/23 21:45 / dck		ICPMS205-H_230829C : 197		R187753
Sodium	34	mg/L		1		E200.7	08/26/23 07:25 / slj		ICP2-HE_230825B : 207		R187602
Strontium	0.57	mg/L		0.01		E200.7	08/26/23 07:25 / slj		ICP2-HE_230825B : 207		R187602
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 21:45 / dck		ICPMS205-H_230829C : 197		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 21:33 / dck		ICPMS206-H_230830B : 391		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 21:45 / dck		ICPMS205-H_230829C : 197		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 21:45 / dck		ICPMS205-H_230829C : 197		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 21:33 / dck		ICPMS206-H_230830B : 190		R187736
Uranium	0.0006	mg/L		0.0002		E200.8	08/30/23 21:45 / dck		ICPMS205-H_230829C : 197		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 21:45 / dck		ICPMS205-H_230829C : 197		R187753
Zinc	10.3	mg/L		0.008		E200.7	08/28/23 22:53 / slj		ICP2-HE_230828B : 78		R187634
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 21:33 / dck		ICPMS206-H_230830B : 190		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-02A  
**Lab ID:** H23080918-010  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 15:08      **Date Received:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-2.33	%				A1030 E	09/05/23 15:21 / SR		CALC_230905B : 1013		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-4  
**Lab ID:** H23080918-011  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 15:35 **Date Received:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.7	s.u.	H	0.1		A4500-H B	08/24/23 13:31 / eek		PHSC_101-H_230824A : 170		R187507
pH Measurement Temp	18.8	°C				A4500-H B	08/24/23 13:31 / eek		PHSC_101-H_230824A : 170		R187507
Conductivity @ 25 C	ND	umhos/cm		5		A2510 B	08/24/23 13:31 / eek		PHSC_101-H_230824A : 171		R187507
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	L	20		A2540 C	08/25/23 14:40 / eek		124 (14410200)_230825B : 54		TDS230825B
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.											
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	08/25/23 17:58 / SR		PHSC_101-H_230825A : 228		R187549
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	08/25/23 17:58 / SR		PHSC_101-H_230825A : 228		R187549
Carbonate as CO3	ND	mg/L		4		A2320 B	08/25/23 17:58 / SR		PHSC_101-H_230825A : 228		R187549
Chloride	ND	mg/L		1		E300.0	08/27/23 00:48 / SR		C METROHM_230823A : 325		R187509
Sulfate	ND	mg/L		1		E300.0	08/27/23 00:48 / SR		C METROHM_230823A : 325		R187509
Bromide	ND	mg/L		0.5		E300.0	08/27/23 00:48 / SR		C METROHM_230823A : 325		R187509
Fluoride	ND	mg/L		0.1		E300.0	08/27/23 00:48 / SR		C METROHM_230823A : 325		R187509
Hardness as CaCO3	ND	mg/L		1		A2340 B	08/28/23 22:56 / SR		CALC_230905B : 322		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	08/29/23 06:54 / eli-c		SUB-C298162 : 42		C_R298162
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	08/28/23 21:46 / eli-c		SUB-C298162 : 17		C_R298162
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	08/30/23 19:39 / JAR		SEAL AA500_230830A : 177		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/30/23 21:27 / dck		ICPMS205-H_230829C : 191		R187753
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 21:27 / dck		ICPMS205-H_230829C : 191		R187753
Arsenic	ND	mg/L		0.001		E200.8	08/30/23 21:27 / dck		ICPMS205-H_230829C : 191		R187753
Barium	ND	mg/L		0.003		E200.8	08/30/23 21:27 / dck		ICPMS205-H_230829C : 191		R187753
Beryllium	ND	mg/L		0.0008		E200.8	09/06/23 01:25 / dck		ICPMS206-H_230905A : 130		R187884
Boron	ND	mg/L		0.05		E200.7	08/26/23 07:29 / slj		ICP2-HE_230825B : 208		R187602
Cadmium	ND	mg/L		0.00003		E200.8	08/30/23 21:27 / dck		ICPMS205-H_230829C : 191		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 21:35 / dck		ICPMS206-H_230830B : 191		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time

L - Lowest available reporting limit for the analytical method used



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-4  
**Lab ID:** H23080918-011  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 15:35 **DateReceived:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	ND	mg/L		1		E200.7	08/28/23 22:56 / slj		ICP2-HE_230828B : 79		R187634
Chromium	ND	mg/L		0.005		E200.8	08/30/23 21:27 / dck		ICPMS205-H_230829C : 191		R187753
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 21:27 / dck		ICPMS205-H_230829C : 191		R187753
Copper	ND	mg/L		0.002		E200.8	08/30/23 21:27 / dck		ICPMS205-H_230829C : 191		R187753
Gallium	ND	mg/L		0.01		E200.8	08/30/23 21:35 / dck		ICPMS206-H_230830B : 191		R187736
Iron	ND	mg/L		0.02		E200.8	08/30/23 21:27 / dck		ICPMS205-H_230829C : 191		R187753
Lead	ND	mg/L		0.0003		E200.8	08/30/23 21:27 / dck		ICPMS205-H_230829C : 191		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 21:35 / dck		ICPMS206-H_230830B : 191		R187736
Lithium	ND	mg/L		0.1		E200.7	08/26/23 07:29 / slj		ICP2-HE_230825B : 208		R187602
Magnesium	ND	mg/L		1		E200.7	08/26/23 07:29 / slj		ICP2-HE_230825B : 208		R187602
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 21:35 / dck		ICPMS206-H_230830B : 191		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 21:35 / dck		ICPMS206-H_230830B : 191		R187736
Manganese	ND	mg/L		0.001		E200.8	08/30/23 21:27 / dck		ICPMS205-H_230829C : 191		R187753
Molybdenum	ND	mg/L		0.001		E200.8	08/30/23 21:27 / dck		ICPMS205-H_230829C : 191		R187753
Nickel	ND	mg/L		0.002		E200.8	08/30/23 21:27 / dck		ICPMS205-H_230829C : 191		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 21:35 / dck		ICPMS206-H_230830B : 191		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 21:35 / dck		ICPMS206-H_230830B : 191		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 21:35 / dck		ICPMS206-H_230830B : 191		R187736
Potassium	ND	mg/L		1		E200.7	08/28/23 22:56 / slj		ICP2-HE_230828B : 79		R187634
Selenium	ND	mg/L		0.001		E200.8	08/30/23 21:27 / dck		ICPMS205-H_230829C : 191		R187753
Silver	ND	mg/L		0.0002		E200.8	08/30/23 21:27 / dck		ICPMS205-H_230829C : 191		R187753
Sodium	ND	mg/L		1		E200.7	08/26/23 07:29 / slj		ICP2-HE_230825B : 208		R187602
Strontium	ND	mg/L		0.01		E200.7	08/26/23 07:29 / slj		ICP2-HE_230825B : 208		R187602
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 21:27 / dck		ICPMS205-H_230829C : 191		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 21:35 / dck		ICPMS206-H_230830B : 392		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 21:27 / dck		ICPMS205-H_230829C : 191		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 21:27 / dck		ICPMS205-H_230829C : 191		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 21:35 / dck		ICPMS206-H_230830B : 191		R187736
Uranium	ND	mg/L		0.0002		E200.8	08/30/23 21:27 / dck		ICPMS205-H_230829C : 191		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 21:27 / dck		ICPMS205-H_230829C : 191		R187753
Zinc	ND	mg/L		0.008		E200.8	08/30/23 21:27 / dck		ICPMS205-H_230829C : 191		R187753
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 21:35 / dck		ICPMS206-H_230830B : 191		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-4  
**Lab ID:** H23080918-011  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 15:35    **DateReceived:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-90.0	%				A1030 E	09/05/23 14:22 / SR		CALC_230905B : 320		R187859
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01B  
**Lab ID:** H23080918-012  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 15:53 **Date Received:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.3	s.u.	H	0.1		A4500-H B	08/24/23 13:33 / eek		PHSC_101-H_230824A : 172		R187507
pH Measurement Temp	18.8	°C				A4500-H B	08/24/23 13:33 / eek		PHSC_101-H_230824A : 172		R187507
Conductivity @ 25 C	3880	umhos/cm		5		A2510 B	08/24/23 13:33 / eek		PHSC_101-H_230824A : 173		R187507
Solids, Total Dissolved TDS @ 180 C	4320	mg/L		100		A2540 C	08/25/23 14:40 / eek		124 (14410200)_230825B : 55		TDS230825B
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	08/25/23 18:02 / SR		PHSC_101-H_230825A : 230		R187549
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	08/25/23 18:02 / SR		PHSC_101-H_230825A : 230		R187549
Carbonate as CO3	ND	mg/L		4		A2320 B	08/25/23 18:02 / SR		PHSC_101-H_230825A : 230		R187549
Chloride	182	mg/L		1		E300.0	08/27/23 01:03 / SR		C METROHM_230823A : 326		R187509
Sulfate	2660	mg/L		1		E300.0	08/27/23 01:03 / SR		C METROHM_230823A : 326		R187509
Bromide	ND	mg/L		0.5		E300.0	08/27/23 01:03 / SR		C METROHM_230823A : 326		R187509
Fluoride	6.0	mg/L	*	0.1		E300.0	08/27/23 01:03 / SR		C METROHM_230823A : 326		R187509
Hardness as CaCO3	1790	mg/L		1		A2340 B	08/28/23 23:00 / SR		CALC_230912A : 388		R188051
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.9	mg/L		0.5		A5310 C	08/29/23 07:15 / eli-c		SUB-C298162 : 43		C_R298162
Organic Carbon, Total (TOC)	0.9	mg/L		0.5		A5310 C	08/28/23 22:04 / eli-c		SUB-C298162 : 18		C_R298162
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	9.02	mg/L		0.05		E353.2	09/06/23 16:11 / JAR		SEAL AA500_230906B : 48		R187944
<b>METALS, DISSOLVED</b>											
Aluminum	10.3	mg/L		0.1		E200.7	08/28/23 23:00 / slj		ICP2-HE_230828B : 80		R187634
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 23:46 / dck		ICPMS205-H_230829C : 236		R187753
Arsenic	0.002	mg/L		0.001		E200.8	08/30/23 23:46 / dck		ICPMS205-H_230829C : 236		R187753
Barium	0.011	mg/L		0.003		E200.8	08/30/23 23:46 / dck		ICPMS205-H_230829C : 236		R187753
Beryllium	0.0108	mg/L		0.0008		E200.8	09/07/23 05:28 / dck		ICPMS206-H_230906B : 229		R187919
Boron	0.20	mg/L		0.05		E200.7	08/26/23 07:33 / slj		ICP2-HE_230825B : 209		R187602
Cadmium	1.10	mg/L		0.00003		E200.8	08/30/23 23:46 / dck		ICPMS205-H_230829C : 236		R187753
Cesium	ND	mg/L		0.01		E200.8	08/31/23 13:42 / dck		ICPMS206-H_230831A : 71		R187811

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** \* - The result exceeds the Maximum Contaminant Level (MCL)

H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01B  
**Lab ID:** H23080918-012  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 15:53 **Date Received:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	479	mg/L		1		E200.7	08/28/23 23:00 / slj		ICP2-HE_230828B : 80		R187634
Chromium	ND	mg/L		0.005		E200.8	08/30/23 23:46 / dck		ICPMS205-H_230829C : 236		R187753
Cobalt	0.290	mg/L		0.005		E200.8	08/30/23 23:46 / dck		ICPMS205-H_230829C : 236		R187753
Copper	79.1	mg/L		0.06		E200.7	08/26/23 07:33 / slj		ICP2-HE_230825B : 209		R187602
Gallium	ND	mg/L		0.01		E200.8	08/30/23 21:37 / dck		ICPMS206-H_230830B : 192		R187736
Iron	0.34	mg/L		0.02		E200.8	08/30/23 23:46 / dck		ICPMS205-H_230829C : 236		R187753
Lead	0.0062	mg/L		0.0003		E200.8	08/30/23 23:46 / dck		ICPMS205-H_230829C : 236		R187753
Lanthanum	0.09	mg/L		0.01		E200.8	08/31/23 13:42 / dck		ICPMS206-H_230831A : 71		R187811
Lithium	0.7	mg/L		0.1		E200.7	08/26/23 07:33 / slj		ICP2-HE_230825B : 209		R187602
Magnesium	145	mg/L		1		E200.7	08/26/23 07:33 / slj		ICP2-HE_230825B : 209		R187602
Neodymium	0.062	mg/L		0.005		E200.8	08/31/23 13:42 / dck		ICPMS206-H_230831A : 71		R187811
Niobium	ND	mg/L		0.01		E200.8	08/30/23 21:37 / dck		ICPMS206-H_230830B : 192		R187736
Manganese	252	mg/L		0.007		E200.7	08/26/23 07:33 / slj		ICP2-HE_230825B : 209		R187602
Molybdenum	ND	mg/L		0.001		E200.8	08/30/23 23:46 / dck		ICPMS205-H_230829C : 236		R187753
Nickel	0.517	mg/L		0.002		E200.8	08/30/23 23:46 / dck		ICPMS205-H_230829C : 236		R187753
Palladium	ND	mg/L		0.01		E200.8	08/31/23 13:42 / dck		ICPMS206-H_230831A : 71		R187811
Praseodymium	0.02	mg/L		0.01		E200.8	08/31/23 13:42 / dck		ICPMS206-H_230831A : 71		R187811
Rubidium	0.03	mg/L		0.01		E200.8	08/30/23 21:37 / dck		ICPMS206-H_230830B : 192		R187736
Potassium	28	mg/L		1		E200.7	08/28/23 23:00 / slj		ICP2-HE_230828B : 80		R187634
Selenium	0.001	mg/L		0.001		E200.8	09/07/23 05:28 / dck		ICPMS206-H_230906B : 229		R187919
Silver	0.0081	mg/L		0.0002		E200.8	08/30/23 23:46 / dck		ICPMS205-H_230829C : 236		R187753
Sodium	70	mg/L		1		E200.7	08/26/23 07:33 / slj		ICP2-HE_230825B : 209		R187602
Strontium	4.08	mg/L		0.01		E200.7	08/26/23 07:33 / slj		ICP2-HE_230825B : 209		R187602
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 23:46 / dck		ICPMS205-H_230829C : 236		R187753
Thorium	ND	mg/L		0.005		E200.8	08/31/23 13:42 / dck		ICPMS206-H_230831A : 161		R187811
Tin	ND	mg/L		0.05		E200.8	08/30/23 23:46 / dck		ICPMS205-H_230829C : 236		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 23:46 / dck		ICPMS205-H_230829C : 236		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/31/23 13:42 / dck		ICPMS206-H_230831A : 71		R187811
Uranium	0.0330	mg/L		0.0002		E200.8	08/30/23 23:46 / dck		ICPMS205-H_230829C : 236		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 23:46 / dck		ICPMS205-H_230829C : 236		R187753
Zinc	191	mg/L		0.01		E200.7	08/28/23 23:00 / slj		ICP2-HE_230828B : 80		R187634
Zirconium	ND	mg/L		0.005		E200.8	08/30/23 21:37 / dck		ICPMS206-H_230830B : 192		R187736

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01B  
**Lab ID:** H23080918-012  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 15:53    **Date Received:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-10.5	%				A1030 E	09/12/23 12:01 / SR		CALC_230912A : 386		R188051

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-4  
**Lab ID:** H23080918-013  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 15:54 **Date Received:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.3	s.u.	H	0.1		A4500-H B	08/24/23 13:35 / eek		PHSC_101-H_230824A : 174		R187507
pH Measurement Temp	18.9	°C				A4500-H B	08/24/23 13:35 / eek		PHSC_101-H_230824A : 174		R187507
Conductivity @ 25 C	3880	umhos/cm		5		A2510 B	08/24/23 13:35 / eek		PHSC_101-H_230824A : 175		R187507
Solids, Total Dissolved TDS @ 180 C	4340	mg/L		100		A2540 C	08/25/23 14:40 / eek		124 (14410200)_230825B : 58		TDS230825B
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	08/25/23 18:06 / SR		PHSC_101-H_230825A : 232		R187549
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	08/25/23 18:06 / SR		PHSC_101-H_230825A : 232		R187549
Carbonate as CO3	ND	mg/L		4		A2320 B	08/25/23 18:06 / SR		PHSC_101-H_230825A : 232		R187549
Chloride	181	mg/L		1		E300.0	08/27/23 01:17 / SR		C METROHM_230823A : 327		R187509
Sulfate	2680	mg/L		1		E300.0	08/27/23 01:17 / SR		C METROHM_230823A : 327		R187509
Bromide	ND	mg/L		0.5		E300.0	08/27/23 01:17 / SR		C METROHM_230823A : 327		R187509
Fluoride	5.8	mg/L	*	0.1		E300.0	08/27/23 01:17 / SR		C METROHM_230823A : 327		R187509
Hardness as CaCO3	1770	mg/L		1		A2340 B	08/28/23 23:12 / SR		CALC_230912A : 399		R188051
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.7	mg/L		0.5		A5310 C	08/29/23 08:24 / eli-c		SUB-C298162 : 46		C_R298162
Organic Carbon, Total (TOC)	0.6	mg/L		0.5		A5310 C	08/28/23 23:10 / eli-c		SUB-C298162 : 21		C_R298162
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	8.04	mg/L		0.05		E353.2	09/06/23 16:12 / JAR		SEAL AA500_230906B : 49		R187944
<b>METALS, DISSOLVED</b>											
Aluminum	9.2	mg/L		0.1		E200.7	08/29/23 22:44 / slj		ICP2-HE_230829D : 82		R187664
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 23:52 / dck		ICPMS205-H_230829C : 238		R187753
Arsenic	0.002	mg/L		0.001		E200.8	08/30/23 23:52 / dck		ICPMS205-H_230829C : 238		R187753
Barium	0.011	mg/L		0.003		E200.8	08/30/23 23:52 / dck		ICPMS205-H_230829C : 238		R187753
Beryllium	0.0100	mg/L		0.0008		E200.8	09/07/23 05:31 / dck		ICPMS206-H_230906B : 230		R187919
Boron	0.17	mg/L		0.05		E200.7	08/26/23 07:36 / slj		ICP2-HE_230825B : 210		R187602
Cadmium	1.10	mg/L		0.00003		E200.8	08/30/23 23:52 / dck		ICPMS205-H_230829C : 238		R187753
Cesium	ND	mg/L		0.01		E200.8	08/31/23 13:44 / dck		ICPMS206-H_230831A : 72		R187811

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** \* - The result exceeds the Maximum Contaminant Level (MCL)

H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-4  
**Lab ID:** H23080918-013  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 15:54 **DateReceived:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	481	mg/L		1		E200.7	08/28/23 23:12 / slj		ICP2-HE_230828B : 83		R187634
Chromium	ND	mg/L		0.005		E200.8	08/30/23 23:52 / dck		ICPMS205-H_230829C : 238		R187753
Cobalt	0.285	mg/L		0.005		E200.8	08/30/23 23:52 / dck		ICPMS205-H_230829C : 238		R187753
Copper	76.6	mg/L		0.06		E200.7	08/26/23 07:36 / slj		ICP2-HE_230825B : 210		R187602
Gallium	ND	mg/L		0.01		E200.8	08/30/23 21:43 / dck		ICPMS206-H_230830B : 195		R187736
Iron	0.31	mg/L		0.02		E200.8	08/30/23 23:52 / dck		ICPMS205-H_230829C : 238		R187753
Lead	0.0063	mg/L		0.0003		E200.8	08/30/23 23:52 / dck		ICPMS205-H_230829C : 238		R187753
Lanthanum	0.10	mg/L		0.01		E200.8	08/31/23 13:44 / dck		ICPMS206-H_230831A : 72		R187811
Lithium	0.7	mg/L		0.1		E200.7	08/26/23 07:36 / slj		ICP2-HE_230825B : 210		R187602
Magnesium	139	mg/L		1		E200.7	08/26/23 07:36 / slj		ICP2-HE_230825B : 210		R187602
Neodymium	0.063	mg/L		0.005		E200.8	08/31/23 13:44 / dck		ICPMS206-H_230831A : 72		R187811
Niobium	ND	mg/L		0.01		E200.8	08/30/23 21:43 / dck		ICPMS206-H_230830B : 195		R187736
Manganese	241	mg/L		0.007		E200.7	08/26/23 07:36 / slj		ICP2-HE_230825B : 210		R187602
Molybdenum	ND	mg/L		0.001		E200.8	08/30/23 23:52 / dck		ICPMS205-H_230829C : 238		R187753
Nickel	0.510	mg/L		0.002		E200.8	08/30/23 23:52 / dck		ICPMS205-H_230829C : 238		R187753
Palladium	ND	mg/L		0.01		E200.8	08/31/23 13:44 / dck		ICPMS206-H_230831A : 72		R187811
Praseodymium	0.02	mg/L		0.01		E200.8	08/31/23 13:44 / dck		ICPMS206-H_230831A : 72		R187811
Rubidium	0.03	mg/L		0.01		E200.8	08/30/23 21:43 / dck		ICPMS206-H_230830B : 195		R187736
Potassium	28	mg/L		1		E200.7	08/28/23 23:12 / slj		ICP2-HE_230828B : 83		R187634
Selenium	ND	mg/L		0.001		E200.8	09/07/23 05:31 / dck		ICPMS206-H_230906B : 230		R187919
Silver	0.0081	mg/L		0.0002		E200.8	08/30/23 23:52 / dck		ICPMS205-H_230829C : 238		R187753
Sodium	68	mg/L		1		E200.7	08/26/23 07:36 / slj		ICP2-HE_230825B : 210		R187602
Strontium	3.94	mg/L		0.01		E200.7	08/26/23 07:36 / slj		ICP2-HE_230825B : 210		R187602
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 23:52 / dck		ICPMS205-H_230829C : 238		R187753
Thorium	ND	mg/L		0.005		E200.8	08/31/23 13:44 / dck		ICPMS206-H_230831A : 162		R187811
Tin	ND	mg/L		0.05		E200.8	08/30/23 23:52 / dck		ICPMS205-H_230829C : 238		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 23:52 / dck		ICPMS205-H_230829C : 238		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/31/23 13:44 / dck		ICPMS206-H_230831A : 72		R187811
Uranium	0.0326	mg/L		0.0002		E200.8	08/30/23 23:52 / dck		ICPMS205-H_230829C : 238		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 23:52 / dck		ICPMS205-H_230829C : 238		R187753
Zinc	194	mg/L		0.01		E200.7	08/28/23 23:12 / slj		ICP2-HE_230828B : 83		R187634
Zirconium	ND	mg/L		0.005		E200.8	08/31/23 13:44 / dck		ICPMS206-H_230831A : 72		R187811

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-4  
**Lab ID:** H23080918-013  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 15:54      **DateReceived:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-11.6	%				A1030 E	09/12/23 12:02 / SR		CALC_230912A : 397		R188051

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



**LABORATORY ANALYTICAL REPORT**

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-4  
**Lab ID:** H23080918-014  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 16:00 **Date Received:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.0	s.u.	H	0.1		A4500-H B	08/24/23 13:37 / eek		PHSC_101-H_230824A : 176		R187507
pH Measurement Temp	19.2	°C				A4500-H B	08/24/23 13:37 / eek		PHSC_101-H_230824A : 176		R187507
Conductivity @ 25 C	10	umhos/cm		5		A2510 B	08/24/23 13:37 / eek		PHSC_101-H_230824A : 177		R187507
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	L	20		A2540 C	08/25/23 14:41 / eek		124 (14410200)_230825B : 60		TDS230825B
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.											
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	08/25/23 18:10 / SR		PHSC_101-H_230825A : 234		R187549
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	08/25/23 18:10 / SR		PHSC_101-H_230825A : 234		R187549
Carbonate as CO3	ND	mg/L		4		A2320 B	08/25/23 18:10 / SR		PHSC_101-H_230825A : 234		R187549
Chloride	ND	mg/L		1		E300.0	08/27/23 01:31 / SR		C METROHM_230823A : 328		R187509
Sulfate	ND	mg/L		1		E300.0	08/27/23 01:31 / SR		C METROHM_230823A : 328		R187509
Bromide	ND	mg/L		0.5		E300.0	08/27/23 01:31 / SR		C METROHM_230823A : 328		R187509
Fluoride	ND	mg/L		0.1		E300.0	08/27/23 01:31 / SR		C METROHM_230823A : 328		R187509
Hardness as CaCO3	ND	mg/L		1		A2340 B	08/28/23 23:26 / SR		CALC_230905B : 333		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	08/29/23 08:47 / eli-c		SUB-C298162 : 47		C_R298162
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	08/28/23 23:33 / eli-c		SUB-C298162 : 22		C_R298162
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	08/30/23 19:42 / JAR		SEAL AA500_230830A : 180		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	08/30/23 21:30 / dck		ICPMS205-H_230829C : 192		R187753
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 21:30 / dck		ICPMS205-H_230829C : 192		R187753
Arsenic	ND	mg/L		0.001		E200.8	08/30/23 21:30 / dck		ICPMS205-H_230829C : 192		R187753
Barium	ND	mg/L		0.003		E200.8	08/30/23 21:30 / dck		ICPMS205-H_230829C : 192		R187753
Beryllium	ND	mg/L		0.0008		E200.8	09/06/23 01:29 / dck		ICPMS206-H_230905A : 131		R187884
Boron	ND	mg/L		0.05		E200.7	08/26/23 07:58 / slj		ICP2-HE_230825B : 216		R187602
Cadmium	0.00003	mg/L		0.00003		E200.8	08/30/23 21:30 / dck		ICPMS205-H_230829C : 192		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 21:45 / dck		ICPMS206-H_230830B : 196		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time

L - Lowest available reporting limit for the analytical method used



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-4  
**Lab ID:** H23080918-014  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 16:00 **Date Received:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	ND	mg/L		1		E200.7	08/28/23 23:26 / slj		ICP2-HE_230828B : 87		R187634
Chromium	ND	mg/L		0.005		E200.8	08/30/23 21:30 / dck		ICPMS205-H_230829C : 192		R187753
Cobalt	ND	mg/L		0.005		E200.8	08/30/23 21:30 / dck		ICPMS205-H_230829C : 192		R187753
Copper	0.004	mg/L		0.002		E200.8	08/30/23 21:30 / dck		ICPMS205-H_230829C : 192		R187753
Gallium	ND	mg/L		0.01		E200.8	08/30/23 21:45 / dck		ICPMS206-H_230830B : 196		R187736
Iron	ND	mg/L		0.02		E200.8	08/30/23 21:30 / dck		ICPMS205-H_230829C : 192		R187753
Lead	ND	mg/L		0.0003		E200.8	08/30/23 21:30 / dck		ICPMS205-H_230829C : 192		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 21:45 / dck		ICPMS206-H_230830B : 196		R187736
Lithium	ND	mg/L		0.1		E200.7	08/26/23 07:58 / slj		ICP2-HE_230825B : 216		R187602
Magnesium	ND	mg/L		1		E200.7	08/26/23 07:58 / slj		ICP2-HE_230825B : 216		R187602
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 21:45 / dck		ICPMS206-H_230830B : 196		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 21:45 / dck		ICPMS206-H_230830B : 196		R187736
Manganese	0.009	mg/L		0.001		E200.8	08/30/23 21:30 / dck		ICPMS205-H_230829C : 192		R187753
Molybdenum	ND	mg/L		0.001		E200.8	08/30/23 21:30 / dck		ICPMS205-H_230829C : 192		R187753
Nickel	ND	mg/L		0.002		E200.8	08/30/23 21:30 / dck		ICPMS205-H_230829C : 192		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 21:45 / dck		ICPMS206-H_230830B : 196		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 21:45 / dck		ICPMS206-H_230830B : 196		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 21:45 / dck		ICPMS206-H_230830B : 196		R187736
Potassium	ND	mg/L		1		E200.7	08/28/23 23:26 / slj		ICP2-HE_230828B : 87		R187634
Selenium	ND	mg/L		0.001		E200.8	08/30/23 21:30 / dck		ICPMS205-H_230829C : 192		R187753
Silver	ND	mg/L		0.0002		E200.8	08/30/23 21:30 / dck		ICPMS205-H_230829C : 192		R187753
Sodium	ND	mg/L		1		E200.7	08/26/23 07:58 / slj		ICP2-HE_230825B : 216		R187602
Strontium	ND	mg/L		0.01		E200.7	08/26/23 07:58 / slj		ICP2-HE_230825B : 216		R187602
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 21:30 / dck		ICPMS205-H_230829C : 192		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 21:45 / dck		ICPMS206-H_230830B : 397		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 21:30 / dck		ICPMS205-H_230829C : 192		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 21:30 / dck		ICPMS205-H_230829C : 192		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 21:45 / dck		ICPMS206-H_230830B : 196		R187736
Uranium	ND	mg/L		0.0002		E200.8	08/30/23 21:30 / dck		ICPMS205-H_230829C : 192		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 21:30 / dck		ICPMS205-H_230829C : 192		R187753
Zinc	0.008	mg/L		0.008		E200.8	09/07/23 11:33 / dck		ICPMS206-H_230906B : 285		R187919
Zirconium	ND	mg/L		0.005		E200.8	08/31/23 13:46 / dck		ICPMS206-H_230831A : 73		R187811

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-4  
**Lab ID:** H23080918-014  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/22/23 16:00    **DateReceived:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-42.4	%				A1030 E	09/05/23 14:22 / SR		CALC_230905B : 331		R187859
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-02A  
**Lab ID:** H23080918-015  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/23/23 09:35 **DateReceived:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	3.6	s.u.	H	0.1		A4500-H B	08/24/23 13:39 / eek		PHSC_101-H_230824A : 178		R187507
pH Measurement Temp	19.3	°C				A4500-H B	08/24/23 13:39 / eek		PHSC_101-H_230824A : 178		R187507
Conductivity @ 25 C	2900	umhos/cm		5		A2510 B	08/24/23 13:39 / eek		PHSC_101-H_230824A : 179		R187507
Solids, Total Dissolved TDS @ 180 C	2960	mg/L		50		A2540 C	08/25/23 14:41 / eek		124 (14410200)_230825B : 61		TDS230825B
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	08/25/23 18:14 / SR		PHSC_101-H_230825A : 236		R187549
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	08/25/23 18:14 / SR		PHSC_101-H_230825A : 236		R187549
Carbonate as CO3	ND	mg/L		4		A2320 B	08/25/23 18:14 / SR		PHSC_101-H_230825A : 236		R187549
Chloride	126	mg/L		1		E300.0	09/06/23 01:04 / SR		IC METROHM_230905A : 44		R187869
Sulfate	1800	mg/L		1		E300.0	09/06/23 01:04 / SR		IC METROHM_230905A : 44		R187869
Bromide	ND	mg/L		0.5		E300.0	08/27/23 01:46 / SR		C METROHM_230823A : 329		R187509
Fluoride	1.3	mg/L		0.1		E300.0	08/27/23 01:46 / SR		C METROHM_230823A : 329		R187509
Hardness as CaCO3	1070	mg/L		1		A2340 B	09/06/23 02:42 / SR		CALC_230912A : 410		R188051
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.0	mg/L		0.5		A5310 C	08/29/23 09:04 / eli-c		SUB-C298162 : 48		C_R298162
Organic Carbon, Total (TOC)	2.1	mg/L		0.5		A5310 C	08/28/23 23:51 / eli-c		SUB-C298162 : 23		C_R298162
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	08/30/23 19:43 / JAR		SEAL AA500_230830A : 181		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	20.2	mg/L		0.3		E200.7	08/29/23 22:47 / slj		ICP2-HE_230829D : 83		R187664
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 23:09 / dck		ICPMS205-H_230829C : 224		R187753
Arsenic	0.008	mg/L		0.001		E200.8	09/06/23 02:42 / dck		ICPMS206-H_230905A : 151		R187884
Barium	0.013	mg/L		0.003		E200.8	08/30/23 23:09 / dck		ICPMS205-H_230829C : 224		R187753
Beryllium	0.0081	mg/L		0.0008		E200.8	09/07/23 05:53 / dck		ICPMS206-H_230906B : 236		R187919
Boron	0.08	mg/L		0.05		E200.7	08/26/23 08:02 / slj		ICP2-HE_230825B : 217		R187602
Cadmium	0.381	mg/L		0.00003		E200.8	08/30/23 23:09 / dck		ICPMS205-H_230829C : 224		R187753
Cesium	ND	mg/L		0.01		E200.8	08/31/23 13:48 / dck		ICPMS206-H_230831A : 74		R187811

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-02A  
**Lab ID:** H23080918-015  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/23/23 09:35 **DateReceived:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	298	mg/L		1		E200.7	08/28/23 23:30 / slj		ICP2-HE_230828B : 88		R187634
Chromium	ND	mg/L		0.005		E200.8	09/07/23 05:53 / dck		ICPMS206-H_230906B : 236		R187919
Cobalt	0.504	mg/L		0.005		E200.8	09/06/23 02:42 / dck		ICPMS206-H_230905A : 151		R187884
Copper	45.2	mg/L		0.06		E200.7	08/26/23 08:02 / slj		ICP2-HE_230825B : 217		R187602
Gallium	ND	mg/L		0.01		E200.8	08/30/23 21:47 / dck		ICPMS206-H_230830B : 197		R187736
Iron	186	mg/L		0.04		E200.7	08/26/23 08:02 / slj		ICP2-HE_230825B : 217		R187602
Lead	0.0838	mg/L		0.0003		E200.8	08/30/23 23:09 / dck		ICPMS205-H_230829C : 224		R187753
Lanthanum	0.11	mg/L		0.01		E200.8	08/31/23 13:48 / dck		ICPMS206-H_230831A : 74		R187811
Lithium	0.3	mg/L		0.1		E200.7	08/26/23 08:02 / slj		ICP2-HE_230825B : 217		R187602
Magnesium	78	mg/L		1		E200.8	09/06/23 02:42 / dck		ICPMS206-H_230905A : 151		R187884
Neodymium	0.102	mg/L		0.005		E200.8	08/31/23 13:48 / dck		ICPMS206-H_230831A : 74		R187811
Niobium	ND	mg/L		0.01		E200.8	08/30/23 21:47 / dck		ICPMS206-H_230830B : 197		R187736
Manganese	56.7	mg/L		0.007		E200.7	08/26/23 08:02 / slj		ICP2-HE_230825B : 217		R187602
Molybdenum	ND	mg/L		0.001		E200.8	08/30/23 23:09 / dck		ICPMS205-H_230829C : 224		R187753
Nickel	0.189	mg/L		0.002		E200.8	09/07/23 05:53 / dck		ICPMS206-H_230906B : 236		R187919
Palladium	ND	mg/L		0.01		E200.8	08/31/23 13:48 / dck		ICPMS206-H_230831A : 74		R187811
Praseodymium	0.03	mg/L		0.01		E200.8	08/31/23 13:48 / dck		ICPMS206-H_230831A : 74		R187811
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 21:47 / dck		ICPMS206-H_230830B : 197		R187736
Potassium	9	mg/L		1		E200.7	08/28/23 23:30 / slj		ICP2-HE_230828B : 88		R187634
Selenium	ND	mg/L		0.001		E200.8	09/07/23 05:53 / dck		ICPMS206-H_230906B : 236		R187919
Silver	ND	mg/L		0.0002		E200.8	08/30/23 23:09 / dck		ICPMS205-H_230829C : 224		R187753
Sodium	71	mg/L		1		E200.7	08/26/23 08:02 / slj		ICP2-HE_230825B : 217		R187602
Strontium	1.53	mg/L		0.01		E200.7	08/26/23 08:02 / slj		ICP2-HE_230825B : 217		R187602
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 23:09 / dck		ICPMS205-H_230829C : 224		R187753
Thorium	ND	mg/L		0.005		E200.8	08/31/23 13:48 / dck		ICPMS206-H_230831A : 164		R187811
Tin	ND	mg/L		0.05		E200.8	08/30/23 23:09 / dck		ICPMS205-H_230829C : 224		R187753
Titanium	ND	mg/L		0.005		E200.8	09/06/23 02:42 / dck		ICPMS206-H_230905A : 151		R187884
Tungsten	ND	mg/L		0.1		E200.8	08/31/23 13:48 / dck		ICPMS206-H_230831A : 74		R187811
Uranium	0.165	mg/L		0.0002		E200.8	08/30/23 23:09 / dck		ICPMS205-H_230829C : 224		R187753
Vanadium	ND	mg/L		0.01		E200.8	09/06/23 02:42 / dck		ICPMS206-H_230905A : 151		R187884
Zinc	92.0	mg/L		0.01		E200.7	08/28/23 23:30 / slj		ICP2-HE_230828B : 88		R187634
Zirconium	ND	mg/L		0.005		E200.8	08/31/23 13:48 / dck		ICPMS206-H_230831A : 74		R187811

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-02A  
**Lab ID:** H23080918-015  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/23/23 09:35    **Date Received:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.87	%				A1030 E	09/12/23 12:03 / SR		CALC_230912A : 408		R188051

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



**LABORATORY ANALYTICAL REPORT**

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01A  
**Lab ID:** H23080918-016  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/23/23 09:58 **DateReceived:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.9	s.u.	H	0.1		A4500-H B	08/24/23 13:41 / eek		PHSC_101-H_230824A : 180		R187507
pH Measurement Temp	19.2	°C				A4500-H B	08/24/23 13:41 / eek		PHSC_101-H_230824A : 180		R187507
Conductivity @ 25 C	3040	umhos/cm		5		A2510 B	08/24/23 13:41 / eek		PHSC_101-H_230824A : 181		R187507
Solids, Total Dissolved TDS @ 180 C	2310	mg/L		50		A2540 C	08/25/23 14:42 / eek		124 (14410200)_230825B : 62		TDS230825B
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	88	mg/L		4		A2320 B	08/25/23 18:18 / SR		PHSC_101-H_230825A : 238		R187549
Bicarbonate as HCO3	110	mg/L		4		A2320 B	08/25/23 18:18 / SR		PHSC_101-H_230825A : 238		R187549
Carbonate as CO3	ND	mg/L		4		A2320 B	08/25/23 18:18 / SR		PHSC_101-H_230825A : 238		R187549
Chloride	763	mg/L		1		E300.0	08/27/23 02:00 / SR		C METROHM_230823A : 330		R187509
Sulfate	502	mg/L		1		E300.0	08/27/23 02:00 / SR		C METROHM_230823A : 330		R187509
Bromide	3.0	mg/L		0.5		E300.0	08/27/23 02:00 / SR		C METROHM_230823A : 330		R187509
Fluoride	0.9	mg/L		0.1		E300.0	08/27/23 02:00 / SR		C METROHM_230823A : 330		R187509
Hardness as CaCO3	1080	mg/L		1		A2340 B	08/30/23 21:51 / SR		CALC_230905B : 1026		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	6.4	mg/L		0.5		A5310 C	08/29/23 09:30 / eli-c		SUB-C298162 : 49		C_R298162
Organic Carbon, Total (TOC)	6.5	mg/L		0.5		A5310 C	08/29/23 00:10 / eli-c		SUB-C298162 : 24		C_R298162
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.32	mg/L		0.01		E353.2	08/30/23 19:46 / JAR		SEAL AA500_230830A : 184		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	0.218	mg/L		0.009		E200.8	08/30/23 21:51 / dck		ICPMS205-H_230829C : 199		R187753
Antimony	0.0007	mg/L		0.0005		E200.8	08/30/23 21:51 / dck		ICPMS205-H_230829C : 199		R187753
Arsenic	0.012	mg/L		0.001		E200.8	08/30/23 21:51 / dck		ICPMS205-H_230829C : 199		R187753
Barium	0.154	mg/L		0.003		E200.8	08/30/23 21:51 / dck		ICPMS205-H_230829C : 199		R187753
Beryllium	ND	mg/L		0.0008		E200.8	09/06/23 01:33 / dck		ICPMS206-H_230905A : 132		R187884
Boron	1.22	mg/L		0.05		E200.7	08/26/23 08:06 / slj		ICP2-HE_230825B : 218		R187602
Cadmium	0.172	mg/L		0.00003		E200.8	08/30/23 21:51 / dck		ICPMS205-H_230829C : 199		R187753
Cesium	ND	mg/L		0.01		E200.8	08/30/23 21:49 / dck		ICPMS206-H_230830B : 198		R187736

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01A  
**Lab ID:** H23080918-016  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/23/23 09:58 **DateReceived:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	242	mg/L		1		E200.7	08/28/23 23:34 / slj		ICP2-HE_230828B : 89		R187634
Chromium	ND	mg/L		0.005		E200.8	08/30/23 21:51 / dck		ICPMS205-H_230829C : 199		R187753
Cobalt	0.028	mg/L		0.005		E200.8	08/30/23 21:51 / dck		ICPMS205-H_230829C : 199		R187753
Copper	0.290	mg/L		0.002		E200.8	08/30/23 21:51 / dck		ICPMS205-H_230829C : 199		R187753
Gallium	ND	mg/L		0.01		E200.8	08/30/23 21:49 / dck		ICPMS206-H_230830B : 198		R187736
Iron	1.71	mg/L		0.02		E200.8	08/30/23 21:51 / dck		ICPMS205-H_230829C : 199		R187753
Lead	0.0008	mg/L		0.0003		E200.8	08/30/23 21:51 / dck		ICPMS205-H_230829C : 199		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/30/23 21:49 / dck		ICPMS206-H_230830B : 198		R187736
Lithium	0.7	mg/L		0.1		E200.7	08/26/23 08:06 / slj		ICP2-HE_230825B : 218		R187602
Magnesium	114	mg/L		1		E200.8	08/30/23 21:51 / dck		ICPMS205-H_230829C : 199		R187753
Neodymium	ND	mg/L		0.005		E200.8	08/30/23 21:49 / dck		ICPMS206-H_230830B : 198		R187736
Niobium	ND	mg/L		0.01		E200.8	08/30/23 21:49 / dck		ICPMS206-H_230830B : 198		R187736
Manganese	5.34	mg/L		0.007		E200.7	08/26/23 08:06 / slj		ICP2-HE_230825B : 218		R187602
Molybdenum	0.003	mg/L		0.001		E200.8	08/30/23 21:51 / dck		ICPMS205-H_230829C : 199		R187753
Nickel	0.074	mg/L		0.002		E200.8	08/30/23 21:51 / dck		ICPMS205-H_230829C : 199		R187753
Palladium	ND	mg/L		0.01		E200.8	08/30/23 21:49 / dck		ICPMS206-H_230830B : 198		R187736
Praseodymium	ND	mg/L		0.01		E200.8	08/30/23 21:49 / dck		ICPMS206-H_230830B : 198		R187736
Rubidium	ND	mg/L		0.01		E200.8	08/30/23 21:49 / dck		ICPMS206-H_230830B : 198		R187736
Potassium	13	mg/L		1		E200.7	08/28/23 23:34 / slj		ICP2-HE_230828B : 89		R187634
Selenium	ND	mg/L		0.001		E200.8	08/30/23 21:51 / dck		ICPMS205-H_230829C : 199		R187753
Silver	ND	mg/L		0.0002		E200.8	08/30/23 21:51 / dck		ICPMS205-H_230829C : 199		R187753
Sodium	214	mg/L		1		E200.8	08/30/23 21:51 / dck		ICPMS205-H_230829C : 199		R187753
Strontium	1.47	mg/L		0.01		E200.7	08/26/23 08:06 / slj		ICP2-HE_230825B : 218		R187602
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 21:51 / dck		ICPMS205-H_230829C : 199		R187753
Thorium	ND	mg/L		0.005		E200.8	08/30/23 21:49 / dck		ICPMS206-H_230830B : 399		R187736
Tin	ND	mg/L		0.05		E200.8	08/30/23 21:51 / dck		ICPMS205-H_230829C : 199		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 21:51 / dck		ICPMS205-H_230829C : 199		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/30/23 21:49 / dck		ICPMS206-H_230830B : 198		R187736
Uranium	0.0015	mg/L		0.0002		E200.8	08/30/23 21:51 / dck		ICPMS205-H_230829C : 199		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 21:51 / dck		ICPMS205-H_230829C : 199		R187753
Zinc	16.4	mg/L		0.01		E200.7	08/28/23 23:34 / slj		ICP2-HE_230828B : 89		R187634
Zirconium	ND	mg/L		0.005		E200.8	08/31/23 13:50 / dck		ICPMS206-H_230831A : 75		R187811

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01A  
**Lab ID:** H23080918-016  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/23/23 09:58    **Date Received:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-3.69	%				A1030 E	09/05/23 15:25 / SR		CALC_230905B : 1024		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-03A  
**Lab ID:** H23080918-017  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/23/23 10:23 **Date Received:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.4	s.u.	H	0.1		A4500-H B	08/24/23 13:43 / eek		PHSC_101-H_230824A : 182		R187507
pH Measurement Temp	19.6	°C				A4500-H B	08/24/23 13:43 / eek		PHSC_101-H_230824A : 182		R187507
Conductivity @ 25 C	3610	umhos/cm		5		A2510 B	08/24/23 13:43 / eek		PHSC_101-H_230824A : 183		R187507
Solids, Total Dissolved TDS @ 180 C	3520	mg/L		100		A2540 C	08/25/23 14:42 / eek		124 (14410200)_230825B : 63		TDS230825B
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	08/25/23 18:24 / SR		PHSC_101-H_230825A : 240		R187549
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	08/25/23 18:24 / SR		PHSC_101-H_230825A : 240		R187549
Carbonate as CO3	ND	mg/L		4		A2320 B	08/25/23 18:24 / SR		PHSC_101-H_230825A : 240		R187549
Chloride	314	mg/L		1		E300.0	08/27/23 02:15 / SR		C METROHM_230823A : 331		R187509
Sulfate	2140	mg/L		1		E300.0	08/27/23 02:15 / SR		C METROHM_230823A : 331		R187509
Bromide	1.1	mg/L		0.5		E300.0	08/27/23 02:15 / SR		C METROHM_230823A : 331		R187509
Fluoride	1.6	mg/L		0.1		E300.0	08/27/23 02:15 / SR		C METROHM_230823A : 331		R187509
Hardness as CaCO3	1230	mg/L		1		A2340 B	08/28/23 23:38 / SR		CALC_230905B : 1037		R187859
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	4.2	mg/L		0.5		A5310 C	08/29/23 10:00 / eli-c		SUB-C298162 : 50		C_R298162
Organic Carbon, Total (TOC)	3.0	mg/L		0.5		A5310 C	08/29/23 00:40 / eli-c		SUB-C298162 : 25		C_R298162
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.29	mg/L		0.01		E353.2	08/30/23 19:47 / JAR		SEAL AA500_230830A : 185		R187741
<b>METALS, DISSOLVED</b>											
Aluminum	0.885	mg/L		0.009		E200.8	09/06/23 03:03 / dck		ICPMS206-H_230905A : 157		R187884
Antimony	ND	mg/L		0.0005		E200.8	08/30/23 23:59 / dck		ICPMS205-H_230829C : 240		R187753
Arsenic	0.060	mg/L		0.001		E200.8	08/30/23 23:59 / dck		ICPMS205-H_230829C : 240		R187753
Barium	0.017	mg/L		0.003		E200.8	08/30/23 23:59 / dck		ICPMS205-H_230829C : 240		R187753
Beryllium	0.0052	mg/L		0.0008		E200.8	09/07/23 05:38 / dck		ICPMS206-H_230906B : 232		R187919
Boron	0.69	mg/L		0.05		E200.7	08/26/23 08:10 / slj		ICP2-HE_230825B : 219		R187602
Cadmium	0.876	mg/L		0.00003		E200.8	08/30/23 23:59 / dck		ICPMS205-H_230829C : 240		R187753
Cesium	ND	mg/L		0.01		E200.8	08/31/23 13:52 / dck		ICPMS206-H_230831A : 76		R187811

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-03A  
**Lab ID:** H23080918-017  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/23/23 10:23 **DateReceived:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	326	mg/L		1		E200.7	08/28/23 23:38 / slj		ICP2-HE_230828B : 90		R187634
Chromium	ND	mg/L		0.005		E200.8	08/30/23 23:59 / dck		ICPMS205-H_230829C : 240		R187753
Cobalt	0.777	mg/L		0.005		E200.8	08/30/23 23:59 / dck		ICPMS205-H_230829C : 240		R187753
Copper	6.52	mg/L		0.06		E200.7	08/26/23 08:10 / slj		ICP2-HE_230825B : 219		R187602
Gallium	ND	mg/L		0.01		E200.8	08/31/23 13:52 / dck		ICPMS206-H_230831A : 76		R187811
Iron	336	mg/L		0.04		E200.7	08/28/23 23:38 / slj		ICP2-HE_230828B : 90		R187634
Lead	0.0063	mg/L		0.0003		E200.8	08/30/23 23:59 / dck		ICPMS205-H_230829C : 240		R187753
Lanthanum	ND	mg/L		0.01		E200.8	08/31/23 13:52 / dck		ICPMS206-H_230831A : 76		R187811
Lithium	0.7	mg/L		0.1		E200.7	08/26/23 08:10 / slj		ICP2-HE_230825B : 219		R187602
Magnesium	102	mg/L		1		E200.7	08/26/23 08:10 / slj		ICP2-HE_230825B : 219		R187602
Neodymium	ND	mg/L		0.005		E200.8	08/31/23 13:52 / dck		ICPMS206-H_230831A : 76		R187811
Niobium	ND	mg/L		0.01		E200.8	08/31/23 13:52 / dck		ICPMS206-H_230831A : 76		R187811
Manganese	115	mg/L		0.007		E200.7	08/26/23 08:10 / slj		ICP2-HE_230825B : 219		R187602
Molybdenum	ND	mg/L		0.001		E200.8	08/30/23 23:59 / dck		ICPMS205-H_230829C : 240		R187753
Nickel	0.308	mg/L		0.002		E200.8	08/30/23 23:59 / dck		ICPMS205-H_230829C : 240		R187753
Palladium	ND	mg/L		0.01		E200.8	08/31/23 13:52 / dck		ICPMS206-H_230831A : 76		R187811
Praseodymium	ND	mg/L		0.01		E200.8	08/31/23 13:52 / dck		ICPMS206-H_230831A : 76		R187811
Rubidium	ND	mg/L		0.01		E200.8	08/31/23 13:52 / dck		ICPMS206-H_230831A : 76		R187811
Potassium	17	mg/L		1		E200.8	08/30/23 23:59 / dck		ICPMS205-H_230829C : 240		R187753
Selenium	ND	mg/L		0.001		E200.8	09/07/23 05:38 / dck		ICPMS206-H_230906B : 232		R187919
Silver	0.0028	mg/L		0.0002		E200.8	08/30/23 23:59 / dck		ICPMS205-H_230829C : 240		R187753
Sodium	96	mg/L		1		E200.7	08/26/23 08:10 / slj		ICP2-HE_230825B : 219		R187602
Strontium	2.08	mg/L		0.01		E200.7	08/26/23 08:10 / slj		ICP2-HE_230825B : 219		R187602
Thallium	ND	mg/L		0.0002		E200.8	08/30/23 23:59 / dck		ICPMS205-H_230829C : 240		R187753
Thorium	ND	mg/L		0.005		E200.8	08/31/23 13:52 / dck		ICPMS206-H_230831A : 166		R187811
Tin	ND	mg/L		0.05		E200.8	08/30/23 23:59 / dck		ICPMS205-H_230829C : 240		R187753
Titanium	ND	mg/L		0.005		E200.8	08/30/23 23:59 / dck		ICPMS205-H_230829C : 240		R187753
Tungsten	ND	mg/L		0.1		E200.8	08/31/23 13:52 / dck		ICPMS206-H_230831A : 76		R187811
Uranium	0.0018	mg/L		0.0002		E200.8	08/30/23 23:59 / dck		ICPMS205-H_230829C : 240		R187753
Vanadium	ND	mg/L		0.01		E200.8	08/30/23 23:59 / dck		ICPMS205-H_230829C : 240		R187753
Zinc	133	mg/L		0.01		E200.7	08/28/23 23:38 / slj		ICP2-HE_230828B : 90		R187634
Zirconium	ND	mg/L		0.005		E200.8	08/31/23 13:52 / dck		ICPMS206-H_230831A : 76		R187811

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-03A  
**Lab ID:** H23080918-017  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 08/23/23 10:23    **DateReceived:** 08/23/23  
**Report Date:** 09/13/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.92	%				A1030 E	09/05/23 15:26 / SR		CALC_230905B : 1035		R187859

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: C\_R298162

Date: 13-Sep-23

Run ID :Run Order: SUB-C298162: 1	SampType: Method Blank	Lab ID: MBLK	Method: A5310 C								
Analysis Date: 08/28/23 16:31	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	0.2	0.1									
Associated samples: H23080918-001D, H23080918-001E, H23080918-002D, H23080918-002E, H23080918-003D, H23080918-003E, H23080918-004D, H23080918-004E, H23080918-005D, H23080918-005E, H23080918-006D, H23080918-006E, H23080918-007D, H23080918-007E, H23080918-008D, H23080918-008E, H23080918-009D, H23080918-009E, H23080918-010D, H23080918-010E, H23080918-011D, H23080918-011E, H23080918-012D, H23080918-012E, H23080918-013D, H23080918-013E, H23080918-014D, H23080918-014E, H23080918-015D, H23080918-015E, H23080918-016D, H23080918-016E, H23080918-017D, H23080918-017E											

Run ID :Run Order: SUB-C298162: 2	SampType: Laboratory Control Sample	Lab ID: LCS	Method: A5310 C								
Analysis Date: 08/28/23 16:51	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.16	0.50	5	0	103	90	111	0			
Associated samples: H23080918-001D, H23080918-001E, H23080918-002D, H23080918-002E, H23080918-003D, H23080918-003E, H23080918-004D, H23080918-004E, H23080918-005D, H23080918-005E, H23080918-006D, H23080918-006E, H23080918-007D, H23080918-007E, H23080918-008D, H23080918-008E, H23080918-009D, H23080918-009E, H23080918-010D, H23080918-010E, H23080918-011D, H23080918-011E, H23080918-012D, H23080918-012E, H23080918-013D, H23080918-013E, H23080918-014D, H23080918-014E, H23080918-015D, H23080918-015E, H23080918-016D, H23080918-016E, H23080918-017D, H23080918-017E											

Run ID :Run Order: SUB-C298162: 3	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: A5310 C								
Analysis Date: 08/28/23 17:07	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.21	0.50	5	0	104	90	110	0			
Associated samples: H23080918-001D, H23080918-001E, H23080918-002D, H23080918-002E, H23080918-003D, H23080918-003E, H23080918-004D, H23080918-004E, H23080918-005D, H23080918-005E, H23080918-006D, H23080918-006E, H23080918-007D, H23080918-007E, H23080918-008D, H23080918-008E, H23080918-009D, H23080918-009E, H23080918-010D, H23080918-010E, H23080918-011D, H23080918-011E, H23080918-012D, H23080918-012E, H23080918-013D, H23080918-013E, H23080918-014D, H23080918-014E, H23080918-015D, H23080918-015E, H23080918-016D, H23080918-016E, H23080918-017D, H23080918-017E											

Run ID :Run Order: SUB-C298162: 5	SampType: Sample Matrix Spike	Lab ID: H23080918-001E	Method: A5310 C								
Analysis Date: 08/28/23 17:42	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	9.41	0.50	5	4.301	102	90	111	0			
Associated samples: H23080918-001D, H23080918-001E, H23080918-002D, H23080918-002E, H23080918-003D, H23080918-003E, H23080918-004D, H23080918-004E, H23080918-005D, H23080918-005E, H23080918-006D, H23080918-006E, H23080918-007D, H23080918-007E, H23080918-008D, H23080918-008E, H23080918-009D, H23080918-009E, H23080918-010D, H23080918-010E, H23080918-011D, H23080918-011E, H23080918-012D, H23080918-012E, H23080918-013D, H23080918-013E, H23080918-014D, H23080918-014E, H23080918-015D, H23080918-015E, H23080918-016D, H23080918-016E, H23080918-017D, H23080918-017E											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice  
Work Order: H23080918

Prepared by Helena, MT Branch  
BatchID: C\_R298162

Date: 13-Sep-23

Run ID :Run Order: SUB-C298162: 6	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080918-001E				Method: A5310 C		
Analysis Date: 08/28/23 17:59	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	9.45	0.50	5	4.301	103	90	111	9.411	0.4	20	
Associated samples: H23080918-001D, H23080918-001E, H23080918-002D, H23080918-002E, H23080918-003D, H23080918-003E, H23080918-004D, H23080918-004E, H23080918-005D, H23080918-005E, H23080918-006D, H23080918-006E, H23080918-007D, H23080918-007E, H23080918-008D, H23080918-008E, H23080918-009D, H23080918-009E, H23080918-010D, H23080918-010E, H23080918-011D, H23080918-011E, H23080918-012D, H23080918-012E, H23080918-013D, H23080918-013E, H23080918-014D, H23080918-014E, H23080918-015D, H23080918-015E, H23080918-016D, H23080918-016E, H23080918-017D, H23080918-017E											

Run ID :Run Order: SUB-C298162: 16	SampType: Continuing Calibration Verification Standar				Lab ID: CCV-11940				Method: A5310 C		
Analysis Date: 08/28/23 21:12	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.22	0.50	5	0	104	90	110	0			
Associated samples: H23080918-001D, H23080918-001E, H23080918-002D, H23080918-002E, H23080918-003D, H23080918-003E, H23080918-004D, H23080918-004E, H23080918-005D, H23080918-005E, H23080918-006D, H23080918-006E, H23080918-007D, H23080918-007E, H23080918-008D, H23080918-008E, H23080918-009D, H23080918-009E, H23080918-010D, H23080918-010E, H23080918-011D, H23080918-011E, H23080918-012D, H23080918-012E, H23080918-013D, H23080918-013E, H23080918-014D, H23080918-014E, H23080918-015D, H23080918-015E, H23080918-016D, H23080918-016E, H23080918-017D, H23080918-017E											

Run ID :Run Order: SUB-C298162: 19	SampType: Sample Matrix Spike				Lab ID: H23080918-012E				Method: A5310 C		
Analysis Date: 08/28/23 22:31	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	6.15	0.50	5	0.923	104	90	111	0			
Associated samples: H23080918-001D, H23080918-001E, H23080918-002D, H23080918-002E, H23080918-003D, H23080918-003E, H23080918-004D, H23080918-004E, H23080918-005D, H23080918-005E, H23080918-006D, H23080918-006E, H23080918-007D, H23080918-007E, H23080918-008D, H23080918-008E, H23080918-009D, H23080918-009E, H23080918-010D, H23080918-010E, H23080918-011D, H23080918-011E, H23080918-012D, H23080918-012E, H23080918-013D, H23080918-013E, H23080918-014D, H23080918-014E, H23080918-015D, H23080918-015E, H23080918-016D, H23080918-016E, H23080918-017D, H23080918-017E											

Run ID :Run Order: SUB-C298162: 20	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080918-012E				Method: A5310 C		
Analysis Date: 08/28/23 22:51	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	6.13	0.50	5	0.923	104	90	111	6.148	0.2	20	
Associated samples: H23080918-001D, H23080918-001E, H23080918-002D, H23080918-002E, H23080918-003D, H23080918-003E, H23080918-004D, H23080918-004E, H23080918-005D, H23080918-005E, H23080918-006D, H23080918-006E, H23080918-007D, H23080918-007E, H23080918-008D, H23080918-008E, H23080918-009D, H23080918-009E, H23080918-010D, H23080918-010E, H23080918-011D, H23080918-011E, H23080918-012D, H23080918-012E, H23080918-013D, H23080918-013E, H23080918-014D, H23080918-014E, H23080918-015D, H23080918-015E, H23080918-016D, H23080918-016E, H23080918-017D, H23080918-017E											

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice  
Work Order: H23080918

Prepared by Helena, MT Branch  
BatchID: C\_R298162

Date: 13-Sep-23

Run ID :Run Order: SUB-C298162: 26	SampType: Laboratory Control Sample				Lab ID: LCS-11923				Method: A5310 C		
Analysis Date: 08/29/23 01:42	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.29	0.50	5	0	106	88	112	0			
Associated samples: H23080918-001D, H23080918-001E, H23080918-002D, H23080918-002E, H23080918-003D, H23080918-003E, H23080918-004D, H23080918-004E, H23080918-005D, H23080918-005E, H23080918-006D, H23080918-006E, H23080918-007D, H23080918-007E, H23080918-008D, H23080918-008E, H23080918-009D, H23080918-009E, H23080918-010D, H23080918-010E, H23080918-011D, H23080918-011E, H23080918-012D, H23080918-012E, H23080918-013D, H23080918-013E, H23080918-014D, H23080918-014E, H23080918-015D, H23080918-015E, H23080918-016D, H23080918-016E, H23080918-017D, H23080918-017E											

Run ID :Run Order: SUB-C298162: 27	SampType: Method Blank				Lab ID: MBLK				Method: A5310 C		
Analysis Date: 08/29/23 01:57	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	ND	0.1									
Associated samples: H23080918-001D, H23080918-001E, H23080918-002D, H23080918-002E, H23080918-003D, H23080918-003E, H23080918-004D, H23080918-004E, H23080918-005D, H23080918-005E, H23080918-006D, H23080918-006E, H23080918-007D, H23080918-007E, H23080918-008D, H23080918-008E, H23080918-009D, H23080918-009E, H23080918-010D, H23080918-010E, H23080918-011D, H23080918-011E, H23080918-012D, H23080918-012E, H23080918-013D, H23080918-013E, H23080918-014D, H23080918-014E, H23080918-015D, H23080918-015E, H23080918-016D, H23080918-016E, H23080918-017D, H23080918-017E											

Run ID :Run Order: SUB-C298162: 28	SampType: Continuing Calibration Verification Standar				Lab ID: CCV-11940				Method: A5310 C		
Analysis Date: 08/29/23 02:17	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.19	0.50	5	0	104	90	110	0			
Associated samples: H23080918-001D, H23080918-001E, H23080918-002D, H23080918-002E, H23080918-003D, H23080918-003E, H23080918-004D, H23080918-004E, H23080918-005D, H23080918-005E, H23080918-006D, H23080918-006E, H23080918-007D, H23080918-007E, H23080918-008D, H23080918-008E, H23080918-009D, H23080918-009E, H23080918-010D, H23080918-010E, H23080918-011D, H23080918-011E, H23080918-012D, H23080918-012E, H23080918-013D, H23080918-013E, H23080918-014D, H23080918-014E, H23080918-015D, H23080918-015E, H23080918-016D, H23080918-016E, H23080918-017D, H23080918-017E											

Run ID :Run Order: SUB-C298162: 30	SampType: Sample Matrix Spike				Lab ID: H23080918-001D				Method: A5310 C		
Analysis Date: 08/29/23 02:51	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	10.3	0.50	5	5.179	102	88	112	0			
Associated samples: H23080918-001D, H23080918-001E, H23080918-002D, H23080918-002E, H23080918-003D, H23080918-003E, H23080918-004D, H23080918-004E, H23080918-005D, H23080918-005E, H23080918-006D, H23080918-006E, H23080918-007D, H23080918-007E, H23080918-008D, H23080918-008E, H23080918-009D, H23080918-009E, H23080918-010D, H23080918-010E, H23080918-011D, H23080918-011E, H23080918-012D, H23080918-012E, H23080918-013D, H23080918-013E, H23080918-014D, H23080918-014E, H23080918-015D, H23080918-015E, H23080918-016D, H23080918-016E, H23080918-017D, H23080918-017E											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: C\_R298162

Date: 13-Sep-23

Run ID :Run Order: SUB-C298162: 31	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080918-001D				Method: A5310 C		
Analysis Date: 08/29/23 03:09	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	10.4	0.50	5	5.179	104	88	112	10.26	1.0	20	
Associated samples: H23080918-001D, H23080918-001E, H23080918-002D, H23080918-002E, H23080918-003D, H23080918-003E, H23080918-004D, H23080918-004E, H23080918-005D, H23080918-005E, H23080918-006D, H23080918-006E, H23080918-007D, H23080918-007E, H23080918-008D, H23080918-008E, H23080918-009D, H23080918-009E, H23080918-010D, H23080918-010E, H23080918-011D, H23080918-011E, H23080918-012D, H23080918-012E, H23080918-013D, H23080918-013E, H23080918-014D, H23080918-014E, H23080918-015D, H23080918-015E, H23080918-016D, H23080918-016E, H23080918-017D, H23080918-017E											

Run ID :Run Order: SUB-C298162: 41	SampType: Continuing Calibration Verification Standar				Lab ID: CCV-11940				Method: A5310 C		
Analysis Date: 08/29/23 06:20	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.92	0.50	5	0	98	90	110	0			
Associated samples: H23080918-001D, H23080918-001E, H23080918-002D, H23080918-002E, H23080918-003D, H23080918-003E, H23080918-004D, H23080918-004E, H23080918-005D, H23080918-005E, H23080918-006D, H23080918-006E, H23080918-007D, H23080918-007E, H23080918-008D, H23080918-008E, H23080918-009D, H23080918-009E, H23080918-010D, H23080918-010E, H23080918-011D, H23080918-011E, H23080918-012D, H23080918-012E, H23080918-013D, H23080918-013E, H23080918-014D, H23080918-014E, H23080918-015D, H23080918-015E, H23080918-016D, H23080918-016E, H23080918-017D, H23080918-017E											

Run ID :Run Order: SUB-C298162: 44	SampType: Sample Matrix Spike				Lab ID: H23080918-012D				Method: A5310 C		
Analysis Date: 08/29/23 07:43	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	6.11	0.50	5	0.867	105	88	112	0			
Associated samples: H23080918-001D, H23080918-001E, H23080918-002D, H23080918-002E, H23080918-003D, H23080918-003E, H23080918-004D, H23080918-004E, H23080918-005D, H23080918-005E, H23080918-006D, H23080918-006E, H23080918-007D, H23080918-007E, H23080918-008D, H23080918-008E, H23080918-009D, H23080918-009E, H23080918-010D, H23080918-010E, H23080918-011D, H23080918-011E, H23080918-012D, H23080918-012E, H23080918-013D, H23080918-013E, H23080918-014D, H23080918-014E, H23080918-015D, H23080918-015E, H23080918-016D, H23080918-016E, H23080918-017D, H23080918-017E											

Run ID :Run Order: SUB-C298162: 45	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080918-012D				Method: A5310 C		
Analysis Date: 08/29/23 08:04	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.95	0.50	5	0.867	102	88	112	6.105	2.6	20	
Associated samples: H23080918-001D, H23080918-001E, H23080918-002D, H23080918-002E, H23080918-003D, H23080918-003E, H23080918-004D, H23080918-004E, H23080918-005D, H23080918-005E, H23080918-006D, H23080918-006E, H23080918-007D, H23080918-007E, H23080918-008D, H23080918-008E, H23080918-009D, H23080918-009E, H23080918-010D, H23080918-010E, H23080918-011D, H23080918-011E, H23080918-012D, H23080918-012E, H23080918-013D, H23080918-013E, H23080918-014D, H23080918-014E, H23080918-015D, H23080918-015E, H23080918-016D, H23080918-016E, H23080918-017D, H23080918-017E											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187507

Date: 13-Sep-23

Run ID :Run Order: PHSC_101-H_230824A: 2	SampType: Initial Calibration Verification Standard				Lab ID: SC 150			Method: A2510 B			
Analysis Date: 08/24/23 08:58	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	152	5.0	150	0	101	90	110				

Associated samples: H23080918-001A, H23080918-002A, H23080918-003A, H23080918-004A, H23080918-005A, H23080918-006A, H23080918-007A, H23080918-008A, H23080918-009A, H23080918-010A, H23080918-011A, H23080918-012A, H23080918-013A, H23080918-014A, H23080918-015A, H23080918-016A, H23080918-017A

Run ID :Run Order: PHSC_101-H_230824A: 3	SampType: Initial Calibration Verification Standard				Lab ID: SC 20000			Method: A2510 B			
Analysis Date: 08/24/23 09:00	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	19400	5.0	20000	0	97	90	110				

Associated samples: H23080918-001A, H23080918-002A, H23080918-003A, H23080918-004A, H23080918-005A, H23080918-006A, H23080918-007A, H23080918-008A, H23080918-009A, H23080918-010A, H23080918-011A, H23080918-012A, H23080918-013A, H23080918-014A, H23080918-015A, H23080918-016A, H23080918-017A

Run ID :Run Order: PHSC_101-H_230824A: 4	SampType: Initial Calibration Verification Standard				Lab ID: SC 5000			Method: A2510 B			
Analysis Date: 08/24/23 09:02	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	4960	5.0	5000	0	99	90	110				

Associated samples: H23080918-001A, H23080918-002A, H23080918-003A, H23080918-004A, H23080918-005A, H23080918-006A, H23080918-007A, H23080918-008A, H23080918-009A, H23080918-010A, H23080918-011A, H23080918-012A, H23080918-013A, H23080918-014A, H23080918-015A, H23080918-016A, H23080918-017A

Run ID :Run Order: PHSC_101-H_230824A: 5	SampType: Laboratory Control Sample				Lab ID: SC 1000			Method: A2510 B			
Analysis Date: 08/24/23 09:04	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	995	5.0	1000	0	99	90	110				

Associated samples: H23080918-001A, H23080918-002A, H23080918-003A, H23080918-004A, H23080918-005A, H23080918-006A, H23080918-007A, H23080918-008A, H23080918-009A, H23080918-010A, H23080918-011A, H23080918-012A, H23080918-013A, H23080918-014A, H23080918-015A, H23080918-016A, H23080918-017A

Run ID :Run Order: PHSC_101-H_230824A: 6	SampType: Method Blank				Lab ID: MBLK			Method: A2510 B			
Analysis Date: 08/24/23 09:39	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	ND	5									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187507

Date: 13-Sep-23

Run ID :Run Order: PHSC_101-H_230824A: 6	SampType: Method Blank	Lab ID: MBLK	Method: A2510 B								
Analysis Date: 08/24/23 09:39	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23080918-001A, H23080918-002A, H23080918-003A, H23080918-004A, H23080918-005A, H23080918-006A, H23080918-007A, H23080918-008A, H23080918-009A, H23080918-010A, H23080918-011A, H23080918-012A, H23080918-013A, H23080918-014A, H23080918-015A, H23080918-016A, H23080918-017A

Run ID :Run Order: PHSC_101-H_230824A: 117	SampType: Continuing Calibration Verification Standar	Lab ID: CCV - SC 1413	Method: A2510 B								
Analysis Date: 08/24/23 12:09	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Conductivity @ 25 C	1400	5.0	1413	0	99	90	110				
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Associated samples: H23080918-001A, H23080918-002A, H23080918-003A, H23080918-004A, H23080918-005A, H23080918-006A, H23080918-007A, H23080918-008A, H23080918-009A, H23080918-010A, H23080918-011A, H23080918-012A, H23080918-013A, H23080918-014A, H23080918-015A, H23080918-016A, H23080918-017A

Run ID :Run Order: PHSC_101-H_230824A: 162	SampType: Sample Duplicate	Lab ID: H23080918-009ADUP	Method: A2510 B								
Analysis Date: 08/24/23 13:10	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Conductivity @ 25 C	2940	5.0		0				2943	0	10	
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Associated samples: H23080918-001A, H23080918-002A, H23080918-003A, H23080918-004A, H23080918-005A, H23080918-006A, H23080918-007A, H23080918-008A, H23080918-009A, H23080918-010A, H23080918-011A, H23080918-012A, H23080918-013A, H23080918-014A, H23080918-015A, H23080918-016A, H23080918-017A

Run ID :Run Order: PHSC_101-H_230824A: 164	SampType: Continuing Calibration Verification Standar	Lab ID: CCV - SC 1413	Method: A2510 B								
Analysis Date: 08/24/23 13:15	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Conductivity @ 25 C	1390	5.0	1413	0	98	90	110				
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Associated samples: H23080918-001A, H23080918-002A, H23080918-003A, H23080918-004A, H23080918-005A, H23080918-006A, H23080918-007A, H23080918-008A, H23080918-009A, H23080918-010A, H23080918-011A, H23080918-012A, H23080918-013A, H23080918-014A, H23080918-015A, H23080918-016A, H23080918-017A

Run ID :Run Order: PHSC_101-H_230824A: 169	SampType: Sample Duplicate	Lab ID: H23080918-010ADUP	Method: A2510 B								
Analysis Date: 08/24/23 13:29	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Conductivity @ 25 C	931	5.0		0				931.1	0	10	
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Associated samples: H23080918-001A, H23080918-002A, H23080918-003A, H23080918-004A, H23080918-005A, H23080918-006A, H23080918-007A, H23080918-008A, H23080918-009A, H23080918-010A, H23080918-011A, H23080918-012A, H23080918-013A, H23080918-014A, H23080918-015A, H23080918-016A, H23080918-017A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187507

Date: 13-Sep-23

Run ID :Run Order: PHSC_101-H_230824A: 1	SampType: Initial Calibration Verification Standard				Lab ID: pH 7				Method: A4500-H B		
Analysis Date: 08/24/23 08:53	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	21.5			0		0	0				

Associated samples: H23080918-001A, H23080918-002A, H23080918-003A, H23080918-004A, H23080918-005A, H23080918-006A, H23080918-007A, H23080918-008A, H23080918-009A, H23080918-010A, H23080918-011A, H23080918-012A, H23080918-013A, H23080918-014A, H23080918-015A, H23080918-016A, H23080918-017A

Run ID :Run Order: PHSC_101-H_230824A: 116	SampType: Continuing Calibration Verification Standar				Lab ID: CCV - pH 7				Method: A4500-H B		
Analysis Date: 08/24/23 12:06	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	20.1			0		0	0				

Associated samples: H23080918-001A, H23080918-002A, H23080918-003A, H23080918-004A, H23080918-005A, H23080918-006A, H23080918-007A, H23080918-008A, H23080918-009A, H23080918-010A, H23080918-011A, H23080918-012A, H23080918-013A, H23080918-014A, H23080918-015A, H23080918-016A, H23080918-017A

Run ID :Run Order: PHSC_101-H_230824A: 161	SampType: Sample Duplicate				Lab ID: H23080918-009ADUP				Method: A4500-H B		
Analysis Date: 08/24/23 13:10	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	6.1	0.1		0				6.1	0.3	3	H
pH Measurement Temp	18.1			0				18.5			

Associated samples: H23080918-001A, H23080918-002A, H23080918-003A, H23080918-004A, H23080918-005A, H23080918-006A, H23080918-007A, H23080918-008A, H23080918-009A, H23080918-010A, H23080918-011A, H23080918-012A, H23080918-013A, H23080918-014A, H23080918-015A, H23080918-016A, H23080918-017A

Run ID :Run Order: PHSC_101-H_230824A: 163	SampType: Continuing Calibration Verification Standar				Lab ID: CCV - pH 7				Method: A4500-H B		
Analysis Date: 08/24/23 13:12	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	20.7			0		0	0				

Associated samples: H23080918-001A, H23080918-002A, H23080918-003A, H23080918-004A, H23080918-005A, H23080918-006A, H23080918-007A, H23080918-008A, H23080918-009A, H23080918-010A, H23080918-011A, H23080918-012A, H23080918-013A, H23080918-014A, H23080918-015A, H23080918-016A, H23080918-017A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080918

**BatchID:** R187507

**Date:** 13-Sep-23

Run ID :Run Order: <b>PHSC_101-H_230824A: 168</b>	SampType: <b>Sample Duplicate</b>				Lab ID: <b>H23080918-010ADUP</b>				Method: <b>A4500-H B</b>		
Analysis Date: <b>08/24/23 13:29</b>	Units: <b>s.u.</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	5.3	0.1		0				5.27	<b>0.4</b>	3	H
pH Measurement Temp	18.8			0				19.1			

Associated samples: **H23080918-001A, H23080918-002A, H23080918-003A, H23080918-004A, H23080918-005A, H23080918-006A, H23080918-007A, H23080918-008A, H23080918-009A, H23080918-010A, H23080918-011A, H23080918-012A, H23080918-013A, H23080918-014A, H23080918-015A, H23080918-016A, H23080918-017A**

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice  
Work Order: H23080918

Prepared by Helena, MT Branch  
BatchID: R187509

Date: 13-Sep-23

Run ID :Run Order: <b>IC METROHM_230823A: 12</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>08/23/23 18:49</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	101	1.0	100	0	101	90	110				
Sulfate	404	1.0	400	0	101	90	110				
Bromide	5.07	0.50	5	0	101	90	110				
Fluoride	5.30	0.10	5	0	106	90	110				

Associated samples: H23080918-001A, H23080918-002A, H23080918-003A, H23080918-004A, H23080918-005A, H23080918-006A, H23080918-007A, H23080918-008A, H23080918-009A, H23080918-010A, H23080918-011A, H23080918-012A, H23080918-013A, H23080918-014A, H23080918-015A, H23080918-016A, H23080918-017A

Run ID :Run Order: <b>IC METROHM_230823A: 13</b>	SampType: <b>Method Blank</b>				Lab ID: <b>ICB</b>			Method: <b>E300.0</b>			
Analysis Date: <b>08/23/23 19:18</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.02									
Sulfate	ND	0.03									
Bromide	ND	0.001									
Fluoride	ND	0.01									

Associated samples: H23080918-001A, H23080918-002A, H23080918-003A, H23080918-004A, H23080918-005A, H23080918-006A, H23080918-007A, H23080918-008A, H23080918-009A, H23080918-010A, H23080918-011A, H23080918-012A, H23080918-013A, H23080918-014A, H23080918-015A, H23080918-016A, H23080918-017A

Run ID :Run Order: <b>IC METROHM_230823A: 14</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>			Method: <b>E300.0</b>			
Analysis Date: <b>08/23/23 19:32</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	25.0	1.0	25	0	100	90	110				
Sulfate	101	1.0	100	0	101	90	110				
Bromide	1.22	0.50	1.25	0	98	90	110				
Fluoride	1.26	0.10	1.25	0	101	90	110				

Associated samples: H23080918-001A, H23080918-002A, H23080918-003A, H23080918-004A, H23080918-005A, H23080918-006A, H23080918-007A, H23080918-008A, H23080918-009A, H23080918-010A, H23080918-011A, H23080918-012A, H23080918-013A, H23080918-014A, H23080918-015A, H23080918-016A, H23080918-017A

Run ID :Run Order: <b>IC METROHM_230823A: 307</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>08/26/23 20:29</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	52.0	1.0	50	0	104	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187509

Date: 13-Sep-23

Run ID :Run Order: <b>IC METROHM_230823A: 307</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>				Method: <b>E300.0</b>		
Analysis Date: <b>08/26/23 20:29</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	202	1.0	200	0	<b>101</b>	90	110				
Bromide	2.43	0.50	2.5	0	<b>97</b>	90	110				
Fluoride	2.54	0.10	2.5	0	<b>102</b>	90	110				

Associated samples: H23080918-001A, H23080918-002A, H23080918-003A, H23080918-004A, H23080918-005A, H23080918-006A, H23080918-007A, H23080918-008A, H23080918-009A, H23080918-010A, H23080918-011A, H23080918-012A, H23080918-013A, H23080918-014A, H23080918-015A, H23080918-016A, H23080918-017A

Run ID :Run Order: <b>IC METROHM_230823A: 319</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23080918-008AMS</b>				Method: <b>E300.0</b>		
Analysis Date: <b>08/26/23 23:22</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	167	1.0	125	36.98	<b>104</b>	90	110				
Sulfate	1890	1.0	500	1373	<b>104</b>	90	110				
Bromide	5.90	0.50	6.25	0.175	<b>92</b>	90	110				
Fluoride	7.75	0.10	6.25	1.23	<b>104</b>	90	110				

Associated samples: H23080918-001A, H23080918-002A, H23080918-003A, H23080918-004A, H23080918-005A, H23080918-006A, H23080918-007A, H23080918-008A, H23080918-009A, H23080918-010A, H23080918-011A, H23080918-012A, H23080918-013A, H23080918-014A, H23080918-015A, H23080918-016A, H23080918-017A

Run ID :Run Order: <b>IC METROHM_230823A: 320</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23080918-008AMSD</b>				Method: <b>E300.0</b>		
Analysis Date: <b>08/26/23 23:36</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	166	1.0	125	36.98	<b>103</b>	90	110	166.5	<b>0.3</b>	20	
Sulfate	1890	1.0	500	1373	<b>104</b>	90	110	1891	<b>0</b>	20	
Bromide	5.89	0.50	6.25	0.175	<b>91</b>	90	110	5.901	<b>0.2</b>	20	
Fluoride	7.71	0.10	6.25	1.23	<b>104</b>	90	110	7.752	<b>0.5</b>	20	

Associated samples: H23080918-001A, H23080918-002A, H23080918-003A, H23080918-004A, H23080918-005A, H23080918-006A, H23080918-007A, H23080918-008A, H23080918-009A, H23080918-010A, H23080918-011A, H23080918-012A, H23080918-013A, H23080918-014A, H23080918-015A, H23080918-016A, H23080918-017A

Run ID :Run Order: <b>IC METROHM_230823A: 321</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>				Method: <b>E300.0</b>		
Analysis Date: <b>08/26/23 23:51</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	51.4	1.0	50	0	<b>103</b>	90	110				
Sulfate	204	1.0	200	0	<b>102</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080918

**BatchID:** R187509

**Date:** 13-Sep-23

Run ID :Run Order: <b>IC METROHM_230823A: 321</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E300.0</b>								
Analysis Date: <b>08/26/23 23:51</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromide	2.40	0.50	2.5	0	<b>96</b>	90	110				
Fluoride	2.61	0.10	2.5	0	<b>104</b>	90	110				

Associated samples: **H23080918-001A, H23080918-002A, H23080918-003A, H23080918-004A, H23080918-005A, H23080918-006A, H23080918-007A, H23080918-008A, H23080918-009A, H23080918-010A, H23080918-011A, H23080918-012A, H23080918-013A, H23080918-014A, H23080918-015A, H23080918-016A, H23080918-017A**

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187549

Date: 13-Sep-23

Run ID :Run Order: PHSC_101-H_230825A: 202	SampType: Laboratory Control Sample				Lab ID: LCS				Method: A2320 B		
Analysis Date: 08/25/23 16:35	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	600	4.0	600	0	100	90	110				
Associated samples: H23080918-001A, H23080918-002A, H23080918-003A, H23080918-004A, H23080918-005A, H23080918-006A, H23080918-007A, H23080918-008A, H23080918-009A, H23080918-010A, H23080918-011A, H23080918-012A, H23080918-013A, H23080918-014A, H23080918-015A, H23080918-016A, H23080918-017A											

Run ID :Run Order: PHSC_101-H_230825A: 203	SampType: Method Blank				Lab ID: MBLK				Method: A2320 B		
Analysis Date: 08/25/23 16:43	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									
Associated samples: H23080918-001A, H23080918-002A, H23080918-003A, H23080918-004A, H23080918-005A, H23080918-006A, H23080918-007A, H23080918-008A, H23080918-009A, H23080918-010A, H23080918-011A, H23080918-012A, H23080918-013A, H23080918-014A, H23080918-015A, H23080918-016A, H23080918-017A											

Run ID :Run Order: PHSC_101-H_230825A: 206	SampType: Sample Duplicate				Lab ID: H23080917-007ADUP				Method: A2320 B		
Analysis Date: 08/25/23 16:54	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	96	4.0		0				95.9	0.1	10	
Bicarbonate as HCO3	120	4.0		0				116.4	0.1	10	
Carbonate as CO3	ND	4.0		0				0		10	
Associated samples: H23080918-001A, H23080918-002A, H23080918-003A, H23080918-004A, H23080918-005A, H23080918-006A, H23080918-007A, H23080918-008A, H23080918-009A, H23080918-010A, H23080918-011A, H23080918-012A, H23080918-013A, H23080918-014A, H23080918-015A, H23080918-016A, H23080918-017A											





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080918

**BatchID:** R187602

**Date:** 13-Sep-23

Run ID :Run Order: ICP2-HE_230825B: 6	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.7		
Analysis Date: 08/25/23 12:26	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.775	0.10	0.8	0	97	95	105				
Copper	0.804	0.012	0.8	0	100	95	105				
Iron	3.95	0.020	4	0	99	95	105				
Lithium	0.799	0.10	0.8	0	100	95	105				
Magnesium	38.9	1.0	40	0	97	95	105				
Manganese	4.02	0.010	4	0	100	95	105				
Sodium	39.6	1.0	40	0	99	95	105				
Strontium	0.811	0.10	0.8	0	101	95	105				

Associated samples: H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICP2-HE_230825B: 8	SampType: Continuing Calibration Verification Standar				Lab ID: CCV-1				Method: E200.7		
Analysis Date: 08/25/23 12:34	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.52	0.10	2.5	0	101	95	105				
Copper	2.52	0.012	2.5	0	101	95	105				
Iron	2.51	0.020	2.5	0	100	95	105				
Lithium	1.24	0.10	1.25	0	99	95	105				
Magnesium	24.6	1.0	25	0	98	95	105				
Manganese	2.54	0.010	2.5	0	102	95	105				
Sodium	24.8	1.0	25	0	99	95	105				
Strontium	2.55	0.10	2.5	0	102	95	105				

Associated samples: H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICP2-HE_230825B: 15	SampType: Method Blank				Lab ID: MB				Method: E200.7		
Analysis Date: 08/25/23 13:03	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.004									
Copper	ND	0.01									
Iron	ND	0.008									
Lithium	ND	0.002									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187602

Date: 13-Sep-23

Run ID :Run Order: ICP2-HE_230825B: 15	SampType: Method Blank				Lab ID: MB				Method: E200.7		
Analysis Date: 08/25/23 13:03	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	ND	0.05									
Manganese	ND	0.001									
Sodium	0.09	0.03									
Strontium	ND	0.0003									

Associated samples: H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICP2-HE_230825B: 16	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.7		
Analysis Date: 08/25/23 13:07	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.960	0.10	1	0	96	85	115				
Copper	1.03	0.012	1	0	103	85	115				
Iron	5.00	0.020	5	0	100	85	115				
Lithium	1.03	0.10	1	0	103	85	115				
Magnesium	48.9	1.0	50	0	98	85	115				
Manganese	5.08	0.010	5	0	102	85	115				
Sodium	50.6	1.0	50	0	101	85	115				
Strontium	1.03	0.10	1	0	103	85	115				

Associated samples: H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICP2-HE_230825B: 187	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 08/26/23 06:09	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.43	0.10	2.5	0	97	90	110				
Copper	2.58	0.012	2.5	0	103	90	110				
Iron	2.55	0.020	2.5	0	102	90	110				
Lithium	1.38	0.10	1.25	0	110	90	110				
Magnesium	24.7	1.0	25	0	99	90	110				
Manganese	2.52	0.010	2.5	0	101	90	110				
Sodium	27.5	1.0	25	0	110	90	110				
Strontium	2.42	0.10	2.5	0	97	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice  
**Work Order:** H23080918

Prepared by Helena, MT Branch  
**BatchID:** R187602

**Date:** 13-Sep-23

Run ID :Run Order: <b>ICP2-HE_230825B: 187</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E200.7</b>								
Analysis Date: <b>08/26/23 06:09</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>8</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: **H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B**

Run ID :Run Order: <b>ICP2-HE_230825B: 198</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23080918-004BMS2</b>	Method: <b>E200.7</b>								
Analysis Date: <b>08/26/23 06:51</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>8</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.28	0.050	1	0.3804	<b>90</b>	70	130				
Copper	6.22	0.012	1	5.174		70	130				A
Iron	5.15	0.020	5	0.0328	<b>102</b>	70	130				
Lithium	1.26	0.10	1	0.1279	<b>113</b>	70	130				
Magnesium	66.3	1.0	50	13.12	<b>106</b>	70	130				
Manganese	13.5	0.0014	5	8.551	<b>99</b>	70	130				
Sodium	154	1.0	50	93.68	<b>121</b>	70	130				
Strontium	1.45	0.010	1	0.4216	<b>103</b>	70	130				

Associated samples: **H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B**

Run ID :Run Order: <b>ICP2-HE_230825B: 199</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E200.7</b>								
Analysis Date: <b>08/26/23 06:55</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>8</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.64	0.10	2.5	0	<b>106</b>	90	110				
Copper	2.67	0.012	2.5	0	<b>107</b>	90	110				
Iron	2.65	0.020	2.5	0	<b>106</b>	90	110				
Lithium	1.33	0.10	1.25	0	<b>107</b>	90	110				
Magnesium	27.0	1.0	25	0	<b>108</b>	90	110				
Manganese	2.67	0.010	2.5	0	<b>107</b>	90	110				
Sodium	26.6	1.0	25	0	<b>107</b>	90	110				
Strontium	2.64	0.10	2.5	0	<b>105</b>	90	110				

Associated samples: **H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice  
**Work Order:** H23080918

Prepared by Helena, MT Branch  
**BatchID:** R187602

**Date:** 13-Sep-23

Run ID :Run Order: ICP2-HE_230825B: 201		SampType: Sample Matrix Spike Duplicate				Lab ID: H23080918-004BMSD2			Method: E200.7		
Analysis Date: 08/26/23 07:02		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.29	0.050	1	0.3804	91	70	130	1.282	0.7	20	
Copper	6.14	0.012	1	5.174		70	130	6.22	1.2	20	A
Iron	5.08	0.020	5	0.0328	101	70	130	5.151	1.5	20	
Lithium	1.23	0.10	1	0.1279	110	70	130	1.257	2.1	20	
Magnesium	63.5	1.0	50	13.12	101	70	130	66.33	4.3	20	
Manganese	13.1	0.0014	5	8.551	91	70	130	13.5	3.1	20	
Sodium	153	1.0	50	93.68	119	70	130	154.4	0.7	20	
Strontium	1.39	0.010	1	0.4216	97	70	130	1.455	4.4	20	

Associated samples: H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICP2-HE_230825B: 211		SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.7		
Analysis Date: 08/26/23 07:40		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.63	0.10	2.5	0	105	90	110				
Copper	2.64	0.012	2.5	0	106	90	110				
Iron	2.70	0.020	2.5	0	108	90	110				
Lithium	1.36	0.10	1.25	0	108	90	110				
Magnesium	26.8	1.0	25	0	107	90	110				
Manganese	2.70	0.010	2.5	0	108	90	110				
Sodium	27.4	1.0	25	0	110	90	110				
Strontium	2.59	0.10	2.5	0	104	90	110				

Associated samples: H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICP2-HE_230825B: 214		SampType: Sample Matrix Spike				Lab ID: H23080918-013BMS2			Method: E200.7		
Analysis Date: 08/26/23 07:51		Units: mg/L		Prep Info:			Prep Date:		Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	4.94	0.050	5	0.1747	95	70	130				
Copper	82.1	0.061	5	76.56		70	130				A
Iron	23.9	0.041	25	0.1626	95	70	130				
Lithium	5.73	0.10	5	0.7305	100	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187602

Date: 13-Sep-23

Run ID :Run Order: ICP2-HE_230825B: 214	SampType: Sample Matrix Spike				Lab ID: H23080918-013BMS2				Method: E200.7		
Analysis Date: 08/26/23 07:51	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	388	1.0	250	139.3	99	70	130				
Manganese	265	0.0068	25	241.3		70	130				A
Sodium	319	1.0	250	67.83	101	70	130				
Strontium	8.70	0.010	5	3.938	95	70	130				

Associated samples: H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICP2-HE_230825B: 215	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080918-013BMSD2				Method: E200.7		
Analysis Date: 08/26/23 07:55	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	4.78	0.050	5	0.1747	92	70	130	4.939	3.2	20	
Copper	80.8	0.061	5	76.56		70	130	82.07	1.5	20	A
Iron	24.1	0.041	25	0.1626	96	70	130	23.85	1.0	20	
Lithium	6.02	0.10	5	0.7305	106	70	130	5.73	4.9	20	
Magnesium	381	1.0	250	139.3	97	70	130	387.9	1.8	20	
Manganese	260	0.0068	25	241.3		70	130	264.9	2.0	20	A
Sodium	325	1.0	250	67.83	103	70	130	319.5	1.8	20	
Strontium	8.55	0.010	5	3.938	92	70	130	8.696	1.7	20	

Associated samples: H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice  
Work Order: H23080918

Prepared by Helena, MT Branch  
BatchID: R187634

Date: 13-Sep-23

Run ID :Run Order: ICP2-HE_230828B: 6	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.7			
Analysis Date: 08/28/23 10:40	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.01	0.10	4	0	100	95	105				
Boron	0.781	0.10	0.8	0	98	95	105				
Calcium	39.1	1.0	40	0	98	95	105				
Copper	0.798	0.012	0.8	0	100	95	105				
Iron	3.91	0.020	4	0	98	95	105				
Lithium	0.771	0.10	0.8	0	96	95	105				
Magnesium	38.8	1.0	40	0	97	95	105				
Manganese	3.92	0.010	4	0	98	95	105				
Potassium	38.3	1.0	40	0	96	95	105				
Sodium	38.3	1.0	40	0	96	95	105				
Strontium	0.785	0.10	0.8	0	98	95	105				
Zinc	0.792	0.010	0.8	0	99	95	105				

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICP2-HE_230828B: 7	SampType: Continuing Calibration Verification Standar				Lab ID: CCV-1			Method: E200.7			
Analysis Date: 08/28/23 10:44	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.52	0.10	2.5	0	101	95	105				
Boron	2.53	0.10	2.5	0	101	95	105				
Calcium	24.9	1.0	25	0	100	95	105				
Copper	2.55	0.012	2.5	0	102	95	105				
Iron	2.50	0.020	2.5	0	100	95	105				
Lithium	1.23	0.10	1.25	0	99	95	105				
Magnesium	25.0	1.0	25	0	100	95	105				
Manganese	2.52	0.010	2.5	0	101	95	105				
Potassium	24.6	1.0	25	0	99	95	105				
Sodium	24.7	1.0	25	0	99	95	105				
Strontium	2.53	0.10	2.5	0	101	95	105				
Zinc	2.56	0.010	2.5	0	102	95	105				

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080918

**BatchID:** R187634

**Date:** 13-Sep-23

Run ID :Run Order: ICP2-HE_230828B: 13		SampType: Method Blank			Lab ID: MB				Method: E200.7		
Analysis Date: 08/28/23 11:07		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.03									
Boron	ND	0.004									
Calcium	ND	0.2									
Copper	ND	0.01									
Iron	ND	0.008									
Lithium	ND	0.002									
Magnesium	ND	0.05									
Manganese	ND	0.001									
Potassium	ND	0.06									
Sodium	0.08	0.03									
Strontium	ND	0.0003									
Zinc	ND	0.003									

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICP2-HE_230828B: 14		SampType: Laboratory Fortified Blank			Lab ID: LFB				Method: E200.7		
Analysis Date: 08/28/23 11:11		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.24	0.10	5	0	105	85	115				
Boron	0.965	0.10	1	0	97	85	115				
Calcium	51.1	1.0	50	0	102	85	115				
Copper	1.04	0.012	1	0	104	85	115				
Iron	5.15	0.020	5	0	103	85	115				
Lithium	1.01	0.10	1	0	101	85	115				
Magnesium	50.9	1.0	50	0	102	85	115				
Manganese	5.17	0.010	5	0	103	85	115				
Potassium	50.7	1.0	50	0	101	85	115				
Sodium	50.4	1.0	50	0	101	85	115				
Strontium	1.02	0.10	1	0	102	85	115				
Zinc	0.988	0.010	1	0	99	85	115				

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice  
**Work Order:** H23080918

Prepared by Helena, MT Branch  
**BatchID:** R187634

**Date:** 13-Sep-23

Run ID :Run Order: ICP2-HE_230828B: 57	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.7			
Analysis Date: 08/28/23 21:34	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.45	0.10	2.5	0	98	90	110				
Boron	2.48	0.10	2.5	0	99	90	110				
Calcium	24.8	1.0	25	0	99	90	110				
Copper	2.47	0.012	2.5	0	99	90	110				
Iron	2.47	0.020	2.5	0	99	90	110				
Lithium	1.18	0.10	1.25	0	94	90	110				
Magnesium	24.3	1.0	25	0	97	90	110				
Manganese	2.49	0.010	2.5	0	100	90	110				
Potassium	23.8	1.0	25	0	95	90	110				
Sodium	23.7	1.0	25	0	95	90	110				
Strontium	2.46	0.10	2.5	0	98	90	110				
Zinc	2.53	0.010	2.5	0	101	90	110				

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICP2-HE_230828B: 69	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.7			
Analysis Date: 08/28/23 22:19	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.49	0.10	2.5	0	100	90	110				
Boron	2.44	0.10	2.5	0	97	90	110				
Calcium	25.1	1.0	25	0	100	90	110				
Copper	2.49	0.012	2.5	0	99	90	110				
Iron	2.53	0.020	2.5	0	101	90	110				
Lithium	1.22	0.10	1.25	0	98	90	110				
Magnesium	24.4	1.0	25	0	97	90	110				
Manganese	2.55	0.010	2.5	0	102	90	110				
Potassium	25.1	1.0	25	0	101	90	110				
Sodium	24.7	1.0	25	0	99	90	110				
Strontium	2.45	0.10	2.5	0	98	90	110				
Zinc	2.51	0.010	2.5	0	101	90	110				

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice  
Work Order: H23080918

Prepared by Helena, MT Branch  
BatchID: R187634

Date: 13-Sep-23

Run ID :Run Order: ICP2-HE_230828B: 71		SampType: Sample Matrix Spike			Lab ID: H23080918-004BMS2				Method: E200.7		
Analysis Date: 08/28/23 22:27		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	6.42	0.030	5	1.26	103	70	130				
Boron	1.32	0.050	1	0.3816	94	70	130				
Calcium	102	1.0	50	51.53	102	70	130				
Copper	6.13	0.012	1	5.077		70	130				A
Iron	5.11	0.020	5	0.0327	101	70	130				
Lithium	1.15	0.10	1	0.1152	103	70	130				
Magnesium	62.6	1.0	50	12.51	100	70	130				
Manganese	13.6	0.0014	5	8.642	99	70	130				
Potassium	61.1	1.0	50	9.84	103	70	130				
Sodium	142	1.0	50	89.63	105	70	130				
Strontium	1.41	0.010	1	0.4172	100	70	130				
Zinc	14.8	0.010	1	13.78		70	130				A

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICP2-HE_230828B: 72		SampType: Sample Matrix Spike Duplicate			Lab ID: H23080918-004BMSD2				Method: E200.7		
Analysis Date: 08/28/23 22:30		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	6.34	0.030	5	1.26	102	70	130	6.419	1.3	20	
Boron	1.35	0.050	1	0.3816	97	70	130	1.32	2.3	20	
Calcium	103	1.0	50	51.53	102	70	130	102.4	0.1	20	
Copper	6.10	0.012	1	5.077		70	130	6.128	0.4	20	A
Iron	5.04	0.020	5	0.0327	100	70	130	5.107	1.3	20	
Lithium	1.11	0.10	1	0.1152	99	70	130	1.146	3.5	20	
Magnesium	62.5	1.0	50	12.51	100	70	130	62.56	0	20	
Manganese	13.6	0.0014	5	8.642	100	70	130	13.58	0.5	20	
Potassium	59.9	1.0	50	9.84	100	70	130	61.11	2.0	20	
Sodium	140	1.0	50	89.63	101	70	130	142.3	1.5	20	
Strontium	1.41	0.010	1	0.4172	100	70	130	1.413	0.1	20	
Zinc	15.1	0.010	1	13.78		70	130	14.84	1.5	20	A

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice  
**Work Order:** H23080918

Prepared by Helena, MT Branch  
**BatchID:** R187634

**Date:** 13-Sep-23

Run ID :Run Order: ICP2-HE_230828B: 81	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7			
Analysis Date: 08/28/23 23:04	Units: mg/L				Prep Info: Prep Date:				Prep Method:			
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Aluminum	2.43	0.10	2.5	0	97	90	110					
Boron	2.50	0.10	2.5	0	100	90	110					
Calcium	25.4	1.0	25	0	102	90	110					
Copper	2.45	0.012	2.5	0	98	90	110					
Iron	2.51	0.020	2.5	0	101	90	110					
Lithium	1.18	0.10	1.25	0	95	90	110					
Magnesium	24.3	1.0	25	0	97	90	110					
Manganese	2.55	0.010	2.5	0	102	90	110					
Potassium	24.5	1.0	25	0	98	90	110					
Sodium	24.2	1.0	25	0	97	90	110					
Strontium	2.44	0.10	2.5	0	98	90	110					
Zinc	2.58	0.010	2.5	0	103	90	110					

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICP2-HE_230828B: 85	SampType: Sample Matrix Spike				Lab ID: H23080918-013BMS2				Method: E200.7			
Analysis Date: 08/28/23 23:19	Units: mg/L				Prep Info: Prep Date:				Prep Method:			
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Aluminum	35.8	0.15	25	10.3	102	70	130					
Boron	5.00	0.050	5	0.1999	96	70	130					
Calcium	726	1.0	250	480.7	98	70	130					
Copper	84.7	0.061	5	79.9		70	130				A	
Iron	24.0	0.041	25	0.1224	95	70	130					
Lithium	5.41	0.10	5	0.6703	95	70	130					
Magnesium	380	1.0	250	139.4	96	70	130					
Manganese	275	0.0068	25	251.1		70	130				A	
Potassium	267	1.0	250	28.47	96	70	130					
Sodium	303	1.0	250	67.1	95	70	130					
Strontium	8.83	0.010	5	4.106	95	70	130					
Zinc	198	0.014	5	193.9		70	130				A	

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187634

Date: 13-Sep-23

Run ID :Run Order: ICP2-HE_230828B: 86	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080918-013BMSD2				Method: E200.7		
Analysis Date: 08/28/23 23:23	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	35.9	0.15	25	10.3	102	70	130	35.79	0.3	20	
Boron	5.01	0.050	5	0.1999	96	70	130	4.999	0.2	20	
Calcium	728	1.0	250	480.7	99	70	130	726.3	0.3	20	
Copper	84.6	0.061	5	79.9		70	130	84.68	0.1	20	A
Iron	23.9	0.041	25	0.1224	95	70	130	23.98	0.2	20	
Lithium	5.43	0.10	5	0.6703	95	70	130	5.409	0.3	20	
Magnesium	378	1.0	250	139.4	95	70	130	380.1	0.6	20	
Manganese	272	0.0068	25	251.1		70	130	275	1.1	20	A
Potassium	271	1.0	250	28.47	97	70	130	267.4	1.2	20	
Sodium	307	1.0	250	67.1	96	70	130	303.4	1.3	20	
Strontium	8.87	0.010	5	4.106	95	70	130	8.832	0.4	20	
Zinc	195	0.014	5	193.9		70	130	198	1.7	20	A

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187664

Date: 13-Sep-23

Run ID :Run Order: ICP2-HE_230829D: 6	SampType: Initial Calibration Verification Standard	Lab ID: ICV	Method: E200.7								
Analysis Date: 08/29/23 14:55	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3.97	0.10	4	0	99	95	105				

Associated samples: H23080918-013B, H23080918-015B

Run ID :Run Order: ICP2-HE_230829D: 7	SampType: Continuing Calibration Verification Standar	Lab ID: CCV-1	Method: E200.7								
Analysis Date: 08/29/23 14:59	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.47	0.10	2.5	0	99	95	105				

Associated samples: H23080918-013B, H23080918-015B

Run ID :Run Order: ICP2-HE_230829D: 13	SampType: Method Blank	Lab ID: MB	Method: E200.7								
Analysis Date: 08/29/23 15:22	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.03									

Associated samples: H23080918-013B, H23080918-015B

Run ID :Run Order: ICP2-HE_230829D: 14	SampType: Laboratory Fortified Blank	Lab ID: LFB	Method: E200.7								
Analysis Date: 08/29/23 15:26	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.02	0.10	5	0	100	85	115				

Associated samples: H23080918-013B, H23080918-015B

Run ID :Run Order: ICP2-HE_230829D: 75	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.7								
Analysis Date: 08/29/23 22:17	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.41	0.10	2.5	0	96	90	110				

Associated samples: H23080918-013B, H23080918-015B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080918

**BatchID:** R187664

**Date:** 13-Sep-23

Run ID :Run Order: <b>ICP2-HE_230829D: 78</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23080601-007BMS2</b>				Method: <b>E200.7</b>		
Analysis Date: <b>08/29/23 22:29</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	23.7	0.15	25	0	<b>95</b>	70	130				

Associated samples: **H23080918-013B, H23080918-015B**

Run ID :Run Order: <b>ICP2-HE_230829D: 79</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23080601-007BMSD2</b>				Method: <b>E200.7</b>		
Analysis Date: <b>08/29/23 22:33</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	23.5	0.15	25	0	<b>94</b>	70	130	23.74	<b>1.2</b>	20	

Associated samples: **H23080918-013B, H23080918-015B**

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187724

Date: 13-Sep-23

Run ID :Run Order: ICP2-HE_230830A: 6	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.7		
Analysis Date: 08/30/23 10:20	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.09	0.10	4	0	102	95	105				
Iron	3.96	0.020	4	0	99	95	105				
Manganese	3.92	0.010	4	0	98	95	105				
Zinc	0.799	0.010	0.8	0	100	95	105				

Associated samples: H23080918-002B

Run ID :Run Order: ICP2-HE_230830A: 7	SampType: Continuing Calibration Verification Standar				Lab ID: CCV-1				Method: E200.7		
Analysis Date: 08/30/23 10:24	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.50	0.10	2.5	0	100	95	105				
Iron	2.46	0.020	2.5	0	98	95	105				
Manganese	2.49	0.010	2.5	0	99	95	105				
Zinc	2.50	0.010	2.5	0	100	95	105				

Associated samples: H23080918-002B

Run ID :Run Order: ICP2-HE_230830A: 13	SampType: Method Blank				Lab ID: MB				Method: E200.7		
Analysis Date: 08/30/23 10:47	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.03									
Iron	0.009	0.008									
Manganese	ND	0.001									
Zinc	ND	0.003									

Associated samples: H23080918-002B

Run ID :Run Order: ICP2-HE_230830A: 14	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.7		
Analysis Date: 08/30/23 10:51	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.09	0.10	5	0	102	85	115				
Iron	4.98	0.020	5	0	100	85	115				
Manganese	4.99	0.010	5	0	100	85	115				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080918

**BatchID:** R187724

**Date:** 13-Sep-23

Run ID :Run Order: <b>ICP2-HE_230830A: 14</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>				Method: <b>E200.7</b>		
Analysis Date: <b>08/30/23 10:51</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.974	0.010	1	0	<b>97</b>	85	115				

Associated samples: **H23080918-002B**

Run ID :Run Order: <b>ICP2-HE_230830A: 67</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>				Method: <b>E200.7</b>		
Analysis Date: <b>08/30/23 14:46</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.48	0.10	2.5	0	<b>99</b>	90	110				
Iron	2.48	0.020	2.5	0	<b>99</b>	90	110				
Manganese	2.54	0.010	2.5	0	<b>102</b>	90	110				
Zinc	2.58	0.010	2.5	0	<b>103</b>	90	110				

Associated samples: **H23080918-002B**

Run ID :Run Order: <b>ICP2-HE_230830A: 73</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23080918-002BMS2</b>				Method: <b>E200.7</b>		
Analysis Date: <b>08/30/23 15:09</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	36.5	0.15	25	12.5	<b>96</b>	70	130				
Iron	528	0.041	25	516.8		70	130				A
Manganese	190	0.0068	25	171.3		70	130				A
Zinc	206	0.014	5	214.2		70	130				A

Associated samples: **H23080918-002B**

Run ID :Run Order: <b>ICP2-HE_230830A: 74</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23080918-002BMSD2</b>				Method: <b>E200.7</b>		
Analysis Date: <b>08/30/23 15:13</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	38.1	0.15	25	12.5	<b>102</b>	70	130	36.46	<b>4.3</b>	20	
Iron	541	0.041	25	516.8		70	130	528.4	<b>2.4</b>	20	A
Manganese	196	0.0068	25	171.3		70	130	190.2	<b>2.8</b>	20	A
Zinc	209	0.014	5	214.2		70	130	205.6	<b>1.8</b>	20	A

Associated samples: **H23080918-002B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187736

Date: 13-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 08/30/23 12:46	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0612	0.010	0.06	0	102	90	110				
Gallium	0.0608	0.010	0.06	0	101	90	110				
Lanthanum	0.0625	0.010	0.06	0	104	90	110				
Neodymium	0.0623	0.0050	0.06	0	104	90	110				
Niobium	0.0607	0.0010	0.06	0	101	90	110				
Palladium	0.0619	0.010	0.06	0	103	90	110				
Praseodymium	0.0618	0.0010	0.06	0	103	90	110				
Rubidium	0.0602	0.010	0.06	0	100	90	110				
Tungsten	0.0588	0.10	0.06	0	98	90	110				
Zirconium	0.0644	0.0050	0.06	0	107	90	110				

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B

Run ID :Run Order: ICPMS206-H_230830B: 22	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 08/30/23 13:39	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	ND	0.0003									
Gallium	ND	0.00004									
Lanthanum	ND	0.00004									
Neodymium	ND	0.00004									
Niobium	0.00009	0.00004									
Palladium	ND	0.00004									
Praseodymium	ND	0.00005									
Rubidium	ND	0.00003									
Tungsten	ND	0.00003									
Zirconium	ND	0.00006									

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187736

Date: 13-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 23	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.8		
Analysis Date: 08/30/23 13:41	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0515	0.010	0.05	0	103	85	115				
Gallium	0.0499	0.010	0.05	0	100	85	115				
Lanthanum	0.0500	0.010	0.05	0	100	85	115				
Neodymium	0.0505	0.0050	0.05	0	101	85	115				
Niobium	0.0526	0.0010	0.05	0	105	85	115				
Palladium	0.0503	0.010	0.05	0	101	85	115				
Praseodymium	0.0512	0.0010	0.05	0	102	85	115				
Rubidium	0.0494	0.010	0.05	0	99	85	115				
Tungsten	0.0516	0.10	0.05	0	103	85	115				
Zirconium	0.0526	0.0050	0.05	0	105	85	115				

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B

Run ID :Run Order: ICPMS206-H_230830B: 59	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 08/30/23 15:31	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0604	0.010	0.06	0	101	90	110				
Gallium	0.0616	0.010	0.06	0	103	90	110				
Lanthanum	0.0606	0.010	0.06	0	101	90	110				
Neodymium	0.0602	0.0050	0.06	0	100	90	110				
Niobium	0.0603	0.0010	0.06	0	101	90	110				
Palladium	0.0599	0.010	0.06	0	100	90	110				
Praseodymium	0.0619	0.0010	0.06	0	103	90	110				
Rubidium	0.0603	0.010	0.06	0	101	90	110				
Tungsten	0.0592	0.10	0.06	0	99	90	110				
Zirconium	0.0633	0.0050	0.06	0	106	90	110				

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187736

Date: 13-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 116	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 08/30/23 18:37	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0601	0.010	0.06	0	100	90	110				
Gallium	0.0610	0.010	0.06	0	102	90	110				
Lanthanum	0.0598	0.010	0.06	0	100	90	110				
Neodymium	0.0597	0.0050	0.06	0	99	90	110				
Niobium	0.0591	0.0010	0.06	0	98	90	110				
Palladium	0.0590	0.010	0.06	0	98	90	110				
Praseodymium	0.0612	0.0010	0.06	0	102	90	110				
Rubidium	0.0592	0.010	0.06	0	99	90	110				
Tungsten	0.0590	0.10	0.06	0	98	90	110				
Zirconium	0.0662	0.0050	0.06	0	110	90	110				

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B

Run ID :Run Order: ICPMS206-H_230830B: 169	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 08/30/23 20:49	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0523	0.010	0.05	0	105	90	110				
Gallium	0.0510	0.010	0.05	0	102	90	110				
Lanthanum	0.0530	0.010	0.05	0	106	90	110				
Neodymium	0.0512	0.0050	0.05	0	102	90	110				
Niobium	0.0503	0.0010	0.05	0	101	90	110				
Palladium	0.0520	0.010	0.05	0	104	90	110				
Praseodymium	0.0512	0.0010	0.05	0	102	90	110				
Rubidium	0.0493	0.010	0.05	0	99	90	110				
Tungsten	0.0520	0.10	0.05	0	104	90	110				
Zirconium	0.0479	0.0050	0.05	0	96	90	110				

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187736

Date: 13-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 180	SampType: Sample Matrix Spike				Lab ID: H23080918-003BMS				Method: E200.8		
Analysis Date: 08/30/23 21:12	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0510	0.010	0.05	0	102	70	130				
Gallium	0.0485	0.010	0.05	0.00006897	97	70	130				
Lanthanum	0.0525	0.010	0.05	0.00241	100	70	130				
Neodymium	0.0512	0.0050	0.05	0.001142	100	70	130				
Niobium	0.0496	0.0010	0.05	0	99	70	130				
Palladium	0.0484	0.010	0.05	0.0002769	96	70	130				
Praseodymium	0.0516	0.0010	0.05	0.0003354	103	70	130				
Rubidium	0.0481	0.010	0.05	0.0004331	95	70	130				
Tungsten	0.0513	0.10	0.05	0	103	70	130				
Zirconium	0.0513	0.0050	0.05	0	103	70	130				

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B

Run ID :Run Order: ICPMS206-H_230830B: 181	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080918-003BMSD				Method: E200.8		
Analysis Date: 08/30/23 21:14	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0502	0.010	0.05	0	100	70	130	0.05098	1.6	20	
Gallium	0.0472	0.010	0.05	0.00006897	94	70	130	0.04853	2.8	20	
Lanthanum	0.0540	0.010	0.05	0.00241	103	70	130	0.05252	2.8	20	
Neodymium	0.0514	0.0050	0.05	0.001142	100	70	130	0.05118	0.3	20	
Niobium	0.0482	0.0010	0.05	0	96	70	130	0.04959			
Palladium	0.0486	0.010	0.05	0.0002769	97	70	130	0.04842	0.4	20	
Praseodymium	0.0515	0.0010	0.05	0.0003354	102	70	130	0.05164			
Rubidium	0.0464	0.010	0.05	0.0004331	92	70	130	0.0481	3.5	20	
Tungsten	0.0517	0.10	0.05	0	103	70	130	0.05134		20	
Zirconium	0.0496	0.0050	0.05	0	99	70	130	0.05129	3.3	20	

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187736

Date: 13-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 182	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 08/30/23 21:16	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0512	0.010	0.05	0	102	90	110				
Gallium	0.0502	0.010	0.05	0	100	90	110				
Lanthanum	0.0524	0.010	0.05	0	105	90	110				
Neodymium	0.0508	0.0050	0.05	0	102	90	110				
Niobium	0.0500	0.0010	0.05	0	100	90	110				
Palladium	0.0515	0.010	0.05	0	103	90	110				
Praseodymium	0.0522	0.0010	0.05	0	104	90	110				
Rubidium	0.0487	0.010	0.05	0	97	90	110				
Tungsten	0.0514	0.10	0.05	0	103	90	110				
Zirconium	0.0467	0.0050	0.05	0	93	90	110				

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B

Run ID :Run Order: ICPMS206-H_230830B: 193	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 08/30/23 21:39	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0513	0.010	0.05	0	103	90	110				
Gallium	0.0487	0.010	0.05	0	97	90	110				
Lanthanum	0.0516	0.010	0.05	0	103	90	110				
Neodymium	0.0508	0.0050	0.05	0	102	90	110				
Niobium	0.0477	0.0010	0.05	0	95	90	110				
Palladium	0.0514	0.010	0.05	0	103	90	110				
Praseodymium	0.0512	0.0010	0.05	0	102	90	110				
Rubidium	0.0469	0.010	0.05	0	94	90	110				
Tungsten	0.0503	0.10	0.05	0	101	90	110				
Zirconium	0.0452	0.0050	0.05	0	90	90	110				

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187736

Date: 13-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 200		SampType: Sample Matrix Spike			Lab ID: H23080918-013BMS				Method: E200.8		
Analysis Date: 08/30/23 21:54		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0509	0.010	0.05	0	102	70	130				
Gallium	0.0463	0.010	0.05	0.001284	90	70	130				
Lanthanum	0.149	0.010	0.05	0.1004	96	70	130				E
Neodymium	0.109	0.0050	0.05	0.0597	99	70	130				E
Niobium	0.0475	0.0010	0.05	0.0001419	95	70	130				
Palladium	0.0502	0.010	0.05	0.002036	96	70	130				
Praseodymium	0.0704	0.0010	0.05	0.01847	104	70	130				
Rubidium	0.0743	0.010	0.05	0.03034	88	70	130				
Tungsten	0.0494	0.10	0.05	0.00005004	99	70	130				
Zirconium	0.0474	0.0050	0.05	0.0001458	95	70	130				

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B

Run ID :Run Order: ICPMS206-H_230830B: 201		SampType: Sample Matrix Spike Duplicate			Lab ID: H23080918-013BMSD				Method: E200.8		
Analysis Date: 08/30/23 21:56		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0511	0.010	0.05	0	102	70	130	0.05091	0.4	20	
Gallium	0.0465	0.010	0.05	0.001284	90	70	130	0.04628	0.5	20	
Lanthanum	0.148	0.010	0.05	0.1004	94	70	130	0.1486	0.7	20	E
Neodymium	0.110	0.0050	0.05	0.0597	100	70	130	0.1092	0.5	20	E
Niobium	0.0479	0.0010	0.05	0.0001419	95	70	130	0.04746			
Palladium	0.0504	0.010	0.05	0.002036	97	70	130	0.05019	0.3	20	
Praseodymium	0.0689	0.0010	0.05	0.01847	101	70	130	0.07036			
Rubidium	0.0751	0.010	0.05	0.03034	90	70	130	0.07432	1.0	20	
Tungsten	0.0506	0.10	0.05	0.00005004	101	70	130	0.04936		20	
Zirconium	0.0474	0.0050	0.05	0.0001458	94	70	130	0.0474	0	20	

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice  
Work Order: H23080918

Prepared by Helena, MT Branch  
BatchID: R187736

Date: 13-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 215	SampType: Initial Calibration Verification Standard	Lab ID: ICV	Method: E200.8								
Analysis Date: 08/30/23 12:46	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0604	0.0010	0.06	0	101	90	110				
Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B											

Run ID :Run Order: ICPMS206-H_230830B: 262	SampType: Initial Calibration Verification Standard	Lab ID: ICV	Method: E200.8								
Analysis Date: 08/30/23 15:31	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0603	0.0010	0.06	0	101	90	110				
Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B											

Run ID :Run Order: ICPMS206-H_230830B: 317	SampType: Initial Calibration Verification Standard	Lab ID: ICV	Method: E200.8								
Analysis Date: 08/30/23 18:37	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0597	0.0010	0.06	0	100	90	110				
Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B											

Run ID :Run Order: ICPMS206-H_230830B: 324	SampType: Method Blank	Lab ID: LRB	Method: E200.8								
Analysis Date: 08/30/23 19:14	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	ND	0.0002									
Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B											

Run ID :Run Order: ICPMS206-H_230830B: 370	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.8								
Analysis Date: 08/30/23 20:49	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0536	0.0010	0.05	0	107	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187736

Date: 13-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 370	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.8								
Analysis Date: 08/30/23 20:49	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B

Run ID :Run Order: ICPMS206-H_230830B: 381	SampType: Sample Matrix Spike	Lab ID: H23080918-003BMS	Method: E200.8								
Analysis Date: 08/30/23 21:12	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Thorium	0.0493	0.0050	0.05	0	99	70	130				
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Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B

Run ID :Run Order: ICPMS206-H_230830B: 382	SampType: Sample Matrix Spike Duplicate	Lab ID: H23080918-003BMSD	Method: E200.8								
Analysis Date: 08/30/23 21:14	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Thorium	0.0502	0.0050	0.05	0	100	70	130	0.04932	1.8	20	
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Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B

Run ID :Run Order: ICPMS206-H_230830B: 383	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.8								
Analysis Date: 08/30/23 21:16	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Thorium	0.0516	0.0010	0.05	0	103	90	110				
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Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B

Run ID :Run Order: ICPMS206-H_230830B: 394	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.8								
Analysis Date: 08/30/23 21:39	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Thorium	0.0502	0.0010	0.05	0	100	90	110				
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Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187736

Date: 13-Sep-23

Run ID :Run Order: ICPMS206-H_230830B: 401	SampType: Sample Matrix Spike	Lab ID: H23080918-013BMS	Method: E200.8								
Analysis Date: 08/30/23 21:54	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0468	0.0050	0.05	0	94	70	130				

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B

Run ID :Run Order: ICPMS206-H_230830B: 402	SampType: Sample Matrix Spike Duplicate	Lab ID: H23080918-013BMSD	Method: E200.8								
Analysis Date: 08/30/23 21:56	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0482	0.0050	0.05	0	96	70	130	0.04679	3.1	20	

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187741

Date: 13-Sep-23

Run ID :Run Order: <b>SEAL AA500_230830A: 12</b>	SampType: <b>Method Blank</b>	Lab ID: <b>ICB</b>	Method: <b>E353.2</b>								
Analysis Date: <b>08/30/23 16:46</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.01									

Associated samples: H23080918-001C, H23080918-002C, H23080918-003C, H23080918-005C, H23080918-006C, H23080918-007C, H23080918-008C, H23080918-009C, H23080918-011C, H23080918-014C, H23080918-015C, H23080918-016C, H23080918-017C

Run ID :Run Order: <b>SEAL AA500_230830A: 14</b>	SampType: <b>Initial Calibration Verification Standard</b>	Lab ID: <b>ICV</b>	Method: <b>E353.2</b>								
Analysis Date: <b>08/30/23 16:48</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.07	0.010	1	0	<b>107</b>	90	110				

Associated samples: H23080918-001C, H23080918-002C, H23080918-003C, H23080918-005C, H23080918-006C, H23080918-007C, H23080918-008C, H23080918-009C, H23080918-011C, H23080918-014C, H23080918-015C, H23080918-016C, H23080918-017C

Run ID :Run Order: <b>SEAL AA500_230830A: 15</b>	SampType: <b>Laboratory Fortified Blank</b>	Lab ID: <b>LFB</b>	Method: <b>E353.2</b>								
Analysis Date: <b>08/30/23 16:49</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.02	0.011	1	0	<b>102</b>	90	110				

Associated samples: H23080918-001C, H23080918-002C, H23080918-003C, H23080918-005C, H23080918-006C, H23080918-007C, H23080918-008C, H23080918-009C, H23080918-011C, H23080918-014C, H23080918-015C, H23080918-016C, H23080918-017C

Run ID :Run Order: <b>SEAL AA500_230830A: 158</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E353.2</b>								
Analysis Date: <b>08/30/23 19:18</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.997	0.010	1	0	<b>100</b>	90	110				

Associated samples: H23080918-001C, H23080918-002C, H23080918-003C, H23080918-005C, H23080918-006C, H23080918-007C, H23080918-008C, H23080918-009C, H23080918-011C, H23080918-014C, H23080918-015C, H23080918-016C, H23080918-017C

Run ID :Run Order: <b>SEAL AA500_230830A: 172</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E353.2</b>								
Analysis Date: <b>08/30/23 19:32</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.02	0.010	1	0	<b>102</b>	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187741

Date: 13-Sep-23

Run ID :Run Order: <b>SEAL AA500_230830A: 172</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E353.2</b>
Analysis Date: <b>08/30/23 19:32</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Associated samples: H23080918-001C, H23080918-002C, H23080918-003C, H23080918-005C, H23080918-006C, H23080918-007C, H23080918-008C, H23080918-009C, H23080918-011C, H23080918-014C, H23080918-015C, H23080918-016C, H23080918-017C

Run ID :Run Order: <b>SEAL AA500_230830A: 182</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23080918-015CMS</b>	Method: <b>E353.2</b>
Analysis Date: <b>08/30/23 19:44</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Nitrogen, Nitrate+Nitrite as N	0.877	0.011	1	0	<b>88</b>	90	110				S
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Associated samples: H23080918-001C, H23080918-002C, H23080918-003C, H23080918-005C, H23080918-006C, H23080918-007C, H23080918-008C, H23080918-009C, H23080918-011C, H23080918-014C, H23080918-015C, H23080918-016C, H23080918-017C

Run ID :Run Order: <b>SEAL AA500_230830A: 183</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23080918-015CMSD</b>	Method: <b>E353.2</b>
Analysis Date: <b>08/30/23 19:45</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Nitrogen, Nitrate+Nitrite as N	0.892	0.011	1	0	<b>89</b>	90	110	0.8769	<b>1.7</b>	10	S
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Associated samples: H23080918-001C, H23080918-002C, H23080918-003C, H23080918-005C, H23080918-006C, H23080918-007C, H23080918-008C, H23080918-009C, H23080918-011C, H23080918-014C, H23080918-015C, H23080918-016C, H23080918-017C

Qualifiers: ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187753

Date: 13-Sep-23

Run ID :Run Order: ICPMS205-H_230829C: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.8			
Analysis Date: 08/30/23 08:20	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.317	0.10	0.3	0	106	90	110				
Antimony	0.0613	0.050	0.06	0	102	90	110				
Arsenic	0.0618	0.0050	0.06	0	103	90	110				
Barium	0.0596	0.10	0.06	0	99	90	110				
Cadmium	0.0307	0.0010	0.03	0	102	90	110				
Chromium	0.0610	0.010	0.06	0	102	90	110				
Cobalt	0.0611	0.010	0.06	0	102	90	110				
Copper	0.0620	0.010	0.06	0	103	90	110				
Iron	0.308	0.020	0.3	0	103	90	110				
Lead	0.0603	0.010	0.06	0	101	90	110				
Magnesium	3.16	0.50	3	0	105	90	110				
Manganese	0.310	0.010	0.3	0	103	90	110				
Molybdenum	0.0591	0.0050	0.06	0	98	90	110				
Nickel	0.0614	0.010	0.06	0	102	90	110				
Potassium	3.04	0.50	3	0	101	90	110				
Selenium	0.0628	0.0050	0.06	0	105	90	110				
Silver	0.0306	0.0050	0.03	0	102	90	110				
Sodium	3.11	0.50	3	0	104	90	110				
Thallium	0.0603	0.10	0.06	0	100	90	110				
Tin	0.0631	0.10	0.06	0	105	90	110				
Titanium	0.0635	0.010	0.06	0	106	90	110				
Uranium	0.0603	0.00030	0.06	0	100	90	110				
Vanadium	0.0605	0.10	0.06	0	101	90	110				
Zinc	0.0630	0.010	0.06	0	105	90	110				

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICPMS205-H_230829C: 22	SampType: Method Blank				Lab ID: LRB			Method: E200.8			
Analysis Date: 08/30/23 11:42	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	ND	0.0002									
Arsenic	ND	0.0002									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080918

**BatchID:** R187753

**Date:** 13-Sep-23

Run ID :Run Order: ICPMS205-H_230829C: 22	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 08/30/23 11:42	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	ND	0.0002									
Cadmium	ND	0.00002									
Chromium	ND	0.0001									
Cobalt	ND	0.001									
Copper	ND	0.0001									
Iron	ND	0.004									
Lead	ND	0.0001									
Magnesium	ND	0.01									
Manganese	ND	0.0003									
Molybdenum	ND	0.0003									
Nickel	ND	0.0002									
Potassium	ND	0.04									
Selenium	ND	0.00007									
Silver	ND	0.00008									
Sodium	ND	0.04									
Thallium	ND	0.00008									
Tin	ND	0.0002									
Titanium	ND	0.0005									
Uranium	ND	0.00002									
Vanadium	ND	0.0001									
Zinc	ND	0.001									

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICPMS205-H_230829C: 23	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.8		
Analysis Date: 08/30/23 11:45	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0497	0.10	0.05	0	99	85	115				
Antimony	0.0493	0.050	0.05	0	99	85	115				
Arsenic	0.0494	0.0050	0.05	0	99	85	115				
Barium	0.0492	0.10	0.05	0	98	85	115				
Cadmium	0.0497	0.0010	0.05	0	99	85	115				
Chromium	0.0491	0.010	0.05	0	98	85	115				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187753

Date: 13-Sep-23

Run ID :Run Order: ICPMS205-H_230829C: 23	SampType: Laboratory Fortified Blank				Lab ID: LFB			Method: E200.8			
Analysis Date: 08/30/23 11:45	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	0.0494	0.010	0.05	0	99	85	115				
Copper	0.0492	0.010	0.05	0	98	85	115				
Iron	0.150	0.020	0.15	0	100	85	115				
Lead	0.0496	0.010	0.05	0	99	85	115				
Magnesium	1.14	0.50	1	0	114	85	115				
Manganese	0.0509	0.010	0.05	0	102	85	115				
Molybdenum	0.0475	0.0050	0.05	0	95	85	115				
Nickel	0.0468	0.010	0.05	0	94	85	115				
Potassium	1.08	0.50	1	0	108	85	115				
Selenium	0.0504	0.0050	0.05	0	101	85	115				
Silver	0.0195	0.0050	0.02	0	97	85	115				
Sodium	1.12	0.50	1	0	112	85	115				
Thallium	0.0502	0.10	0.05	0	100	85	115				
Tin	0.0440	0.10	0.05	0	88	85	115				
Titanium	0.0484	0.010	0.05	0	97	85	115				
Uranium	0.0484	0.00030	0.05	0	97	85	115				
Vanadium	0.0481	0.10	0.05	0	96	85	115				
Zinc	0.0516	0.010	0.05	0	103	85	115				

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICPMS205-H_230829C: 122	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.8			
Analysis Date: 08/30/23 17:23	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.319	0.10	0.3	0	106	90	110				
Antimony	0.0612	0.050	0.06	0	102	90	110				
Arsenic	0.0603	0.0050	0.06	0	101	90	110				
Barium	0.0595	0.10	0.06	0	99	90	110				
Cadmium	0.0308	0.0010	0.03	0	103	90	110				
Chromium	0.0600	0.010	0.06	0	100	90	110				
Cobalt	0.0610	0.010	0.06	0	102	90	110				
Copper	0.0611	0.010	0.06	0	102	90	110				
Iron	0.300	0.020	0.3	0	100	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice  
Work Order: H23080918

Prepared by Helena, MT Branch  
BatchID: R187753

Date: 13-Sep-23

Run ID :Run Order: ICPMS205-H_230829C: 122	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.8			
Analysis Date: 08/30/23 17:23	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.0601	0.010	0.06	0	100	90	110				
Magnesium	3.07	0.50	3	0	102	90	110				
Manganese	0.304	0.010	0.3	0	101	90	110				
Molybdenum	0.0588	0.0050	0.06	0	98	90	110				
Nickel	0.0613	0.010	0.06	0	102	90	110				
Potassium	3.01	0.50	3	0	100	90	110				
Selenium	0.0620	0.0050	0.06	0	103	90	110				
Silver	0.0307	0.0050	0.03	0	102	90	110				
Sodium	2.99	0.50	3	0	100	90	110				
Thallium	0.0603	0.10	0.06	0	100	90	110				
Tin	0.0616	0.10	0.06	0	103	90	110				
Titanium	0.0602	0.010	0.06	0	100	90	110				
Uranium	0.0591	0.00030	0.06	0	98	90	110				
Vanadium	0.0602	0.10	0.06	0	100	90	110				
Zinc	0.0615	0.010	0.06	0	102	90	110				

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICPMS205-H_230829C: 188	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 08/30/23 21:17	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0542	0.10	0.05	0	108	90	110				
Antimony	0.0505	0.050	0.05	0	101	90	110				
Arsenic	0.0505	0.0050	0.05	0	101	90	110				
Barium	0.0507	0.10	0.05	0	101	90	110				
Cadmium	0.0516	0.0010	0.05	0	103	90	110				
Chromium	0.0503	0.010	0.05	0	101	90	110				
Cobalt	0.0507	0.010	0.05	0	101	90	110				
Copper	0.0511	0.010	0.05	0	102	90	110				
Iron	1.32	0.020	1.3	0	102	90	110				
Lead	0.0504	0.010	0.05	0	101	90	110				
Magnesium	12.7	0.50	12.5	0	102	90	110				
Manganese	0.0505	0.010	0.05	0	101	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187753

Date: 13-Sep-23

Run ID :Run Order: ICPMS205-H_230829C: 188		SampType: Continuing Calibration Verification Standar			Lab ID: CCV			Method: E200.8			
Analysis Date: 08/30/23 21:17		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.0524	0.0050	0.05	0	105	90	110				
Nickel	0.0508	0.010	0.05	0	102	90	110				
Potassium	12.5	0.50	12.5	0	100	90	110				
Selenium	0.0497	0.0050	0.05	0	99	90	110				
Silver	0.0208	0.0050	0.02	0	104	90	110				
Sodium	13.0	0.50	12.5	0	104	90	110				
Thallium	0.0504	0.10	0.05	0	101	90	110				
Tin	0.0524	0.10	0.05	0	105	90	110				
Titanium	0.0492	0.010	0.05	0	98	90	110				
Uranium	0.0492	0.00030	0.05	0	98	90	110				
Vanadium	0.0503	0.10	0.05	0	101	90	110				
Zinc	0.0504	0.010	0.05	0	101	90	110				

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICPMS205-H_230829C: 216		SampType: Continuing Calibration Verification Standar			Lab ID: CCV			Method: E200.8			
Analysis Date: 08/30/23 22:44		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0496	0.10	0.05	0	99	90	110				
Antimony	0.0504	0.050	0.05	0	101	90	110				
Arsenic	0.0496	0.0050	0.05	0	99	90	110				
Barium	0.0498	0.10	0.05	0	100	90	110				
Cadmium	0.0512	0.0010	0.05	0	102	90	110				
Chromium	0.0504	0.010	0.05	0	101	90	110				
Cobalt	0.0507	0.010	0.05	0	101	90	110				
Copper	0.0507	0.010	0.05	0	101	90	110				
Iron	1.31	0.020	1.3	0	101	90	110				
Lead	0.0507	0.010	0.05	0	101	90	110				
Magnesium	12.8	0.50	12.5	0	103	90	110				
Manganese	0.0512	0.010	0.05	0	102	90	110				
Molybdenum	0.0512	0.0050	0.05	0	102	90	110				
Nickel	0.0500	0.010	0.05	0	100	90	110				
Potassium	12.6	0.50	12.5	0	101	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187753

Date: 13-Sep-23

Run ID :Run Order: ICPMS205-H_230829C: 216	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 08/30/23 22:44	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.0495	0.0050	0.05	0	99	90	110				
Silver	0.0207	0.0050	0.02	0	103	90	110				
Sodium	13.1	0.50	12.5	0	105	90	110				
Thallium	0.0504	0.10	0.05	0	101	90	110				
Tin	0.0499	0.10	0.05	0	100	90	110				
Titanium	0.0495	0.010	0.05	0	99	90	110				
Uranium	0.0492	0.00030	0.05	0	98	90	110				
Vanadium	0.0500	0.10	0.05	0	100	90	110				
Zinc	0.0497	0.010	0.05	0	99	90	110				

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICPMS205-H_230829C: 226	SampType: Sample Matrix Spike				Lab ID: H23080918-003BMS				Method: E200.8		
Analysis Date: 08/30/23 23:15	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.130	0.030	0.05	0.07399	111	70	130				
Antimony	0.0496	0.0010	0.05	0	99	70	130				
Arsenic	0.0516	0.0010	0.05	0.001077	101	70	130				
Barium	0.0637	0.050	0.05	0.01449	98	70	130				
Cadmium	0.144	0.0010	0.05	0.09569	98	70	130				
Chromium	0.0499	0.0050	0.05	0	100	70	130				
Cobalt	0.482	0.0050	0.05	0.4358		70	130				A
Copper	0.423	0.0050	0.05	0.3778		70	130				A
Iron	29.8	0.020	0.15	29.98		70	130				A
Lead	0.0551	0.0010	0.05	0.003285	104	70	130				
Magnesium	51.8	1.0	1	51.78		70	130				A
Manganese	39.5	0.0010	0.05	40.15		70	130				AE
Molybdenum	0.0493	0.0010	0.05	0	99	70	130				
Nickel	0.160	0.0050	0.05	0.1114	96	70	130				
Potassium	12.2	1.0	1	11.09		70	130				A
Selenium	0.0493	0.0010	0.05	0.0001127	98	70	130				
Silver	0.0201	0.0010	0.02	0	100	70	130				
Sodium	42.0	1.0	1	41.37		70	130				A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice  
**Work Order:** H23080918

Prepared by Helena, MT Branch  
**BatchID:** R187753

**Date:** 13-Sep-23

Run ID :Run Order: ICPMS205-H_230829C: 226		SampType: Sample Matrix Spike			Lab ID: H23080918-003BMS				Method: E200.8		
Analysis Date: 08/30/23 23:15		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	0.0457	0.00050	0.05	0	91	70	130				
Tin	0.0435	0.050	0.05	0	87	70	130				
Titanium	0.0484	0.0050	0.05	0	97	70	130				
Uranium	0.0514	0.00030	0.05	0.0005972	102	70	130				
Vanadium	0.0502	0.010	0.05	0.0002938	100	70	130				
Zinc	30.3	0.010	0.05	30.86		70	130				AE

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICPMS205-H_230829C: 228		SampType: Sample Matrix Spike Duplicate			Lab ID: H23080918-003BMSD				Method: E200.8		
Analysis Date: 08/30/23 23:21		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.131	0.030	0.05	0.07399	113	70	130	0.1296	0.8	20	
Antimony	0.0493	0.0010	0.05	0	99	70	130	0.04956	0.5	20	
Arsenic	0.0522	0.0010	0.05	0.001077	102	70	130	0.05164	1.1	20	
Barium	0.0631	0.050	0.05	0.01449	97	70	130	0.06368	0.9	20	
Cadmium	0.144	0.0010	0.05	0.09569	96	70	130	0.1445	0.6	20	
Chromium	0.0498	0.0050	0.05	0	100	70	130	0.04988	0.1	20	
Cobalt	0.483	0.0050	0.05	0.4358		70	130	0.482	0.3	20	A
Copper	0.423	0.0050	0.05	0.3778		70	130	0.4228	0.1	20	A
Iron	29.8	0.020	0.15	29.98		70	130	29.77	0.1	20	A
Lead	0.0539	0.0010	0.05	0.003285	101	70	130	0.05507	2.1	20	
Magnesium	51.4	1.0	1	51.78		70	130	51.75	0.8	20	A
Manganese	39.6	0.0010	0.05	40.15		70	130	39.53	0.1	20	AE
Molybdenum	0.0502	0.0010	0.05	0	100	70	130	0.04933	1.8	20	
Nickel	0.160	0.0050	0.05	0.1114	97	70	130	0.1595	0.4	20	
Potassium	12.2	1.0	1	11.09		70	130	12.19	0.1	20	A
Selenium	0.0490	0.0010	0.05	0.0001127	98	70	130	0.04932	0.8	20	
Silver	0.0198	0.0010	0.02	0	99	70	130	0.02006	1.4	20	
Sodium	41.5	1.0	1	41.37		70	130	42.03	1.2	20	A
Thallium	0.0452	0.00050	0.05	0	90	70	130	0.0457	1.2	20	
Tin	0.0433	0.050	0.05	0	87	70	130	0.04348		20	
Titanium	0.0530	0.0050	0.05	0	106	70	130	0.04841	9.0	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187753

Date: 13-Sep-23

Run ID :Run Order: ICPMS205-H_230829C: 228		SampType: Sample Matrix Spike Duplicate			Lab ID: H23080918-003BMSD				Method: E200.8		
Analysis Date: 08/30/23 23:21		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.0501	0.00030	0.05	0.0005972	99	70	130	0.05138	2.5	20	
Vanadium	0.0509	0.010	0.05	0.0002938	101	70	130	0.05024	1.3	20	
Zinc	30.3	0.010	0.05	30.86		70	130	30.34	0	20	AE

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICPMS205-H_230829C: 230		SampType: Continuing Calibration Verification Standar			Lab ID: CCV				Method: E200.8		
Analysis Date: 08/30/23 23:27		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 24	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0503	0.10	0.05	0	101	90	110				
Antimony	0.0495	0.050	0.05	0	99	90	110				
Arsenic	0.0510	0.0050	0.05	0	102	90	110				
Barium	0.0499	0.10	0.05	0	100	90	110				
Cadmium	0.0514	0.0010	0.05	0	103	90	110				
Chromium	0.0511	0.010	0.05	0	102	90	110				
Cobalt	0.0505	0.010	0.05	0	101	90	110				
Copper	0.0512	0.010	0.05	0	102	90	110				
Iron	1.31	0.020	1.3	0	101	90	110				
Lead	0.0504	0.010	0.05	0	101	90	110				
Magnesium	12.9	0.50	12.5	0	103	90	110				
Manganese	0.0521	0.010	0.05	0	104	90	110				
Molybdenum	0.0518	0.0050	0.05	0	104	90	110				
Nickel	0.0502	0.010	0.05	0	100	90	110				
Potassium	12.9	0.50	12.5	0	103	90	110				
Selenium	0.0497	0.0050	0.05	0	99	90	110				
Silver	0.0210	0.0050	0.02	0	105	90	110				
Sodium	13.1	0.50	12.5	0	105	90	110				
Thallium	0.0496	0.10	0.05	0	99	90	110				
Tin	0.0502	0.10	0.05	0	100	90	110				
Titanium	0.0495	0.010	0.05	0	99	90	110				
Uranium	0.0484	0.00030	0.05	0	97	90	110				
Vanadium	0.0507	0.10	0.05	0	101	90	110				
Zinc	0.0510	0.010	0.05	0	102	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187753

Date: 13-Sep-23

Run ID :Run Order: **ICPMS205-H\_230829C: 230** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.8**  
 Analysis Date: **08/30/23 23:27** Units: **mg/L** Prep Info: Prep Date: Prep Method:  
 Analytes **24** Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: **ICPMS205-H\_230829C: 242** SampType: **Sample Matrix Spike** Lab ID: **H23080918-013BMS** Method: **E200.8**  
 Analysis Date: **08/31/23 00:05** Units: **mg/L** Prep Info: Prep Date: Prep Method:  
 Analytes **24** Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Aluminum	9.51	0.030	0.05	9.446		70	130				AE
Antimony	0.0487	0.0010	0.05	0	97	70	130				
Arsenic	0.0516	0.0010	0.05	0.002035	99	70	130				
Barium	0.0588	0.050	0.05	0.01063	96	70	130				
Cadmium	1.13	0.0010	0.05	1.098		70	130				A
Chromium	0.0496	0.0050	0.05	0.0001285	99	70	130				
Cobalt	0.337	0.0050	0.05	0.2853		70	130				A
Copper	79.5	0.0050	0.05	79.02		70	130				AE
Iron	0.468	0.020	0.15	0.3096	106	70	130				
Lead	0.0582	0.0010	0.05	0.006305	104	70	130				
Magnesium	145	1.0	1	144.8		70	130				A
Manganese	262	0.0010	0.05	260.2		70	130				AE
Molybdenum	0.0510	0.0010	0.05	0	102	70	130				
Nickel	0.563	0.0050	0.05	0.5099		70	130				A
Potassium	32.5	1.0	1	31.07		70	130				A
Selenium	0.0490	0.0010	0.05	0.001175	96	70	130				
Silver	0.0272	0.0010	0.02	0.008118	96	70	130				
Sodium	73.1	1.0	1	72.52		70	130				A
Thallium	0.0517	0.00050	0.05	0.0001539	103	70	130				
Tin	0.0441	0.050	0.05	0	88	70	130				
Titanium	0.0500	0.0050	0.05	0	100	70	130				
Uranium	0.0847	0.00030	0.05	0.0326	104	70	130				
Vanadium	0.0504	0.010	0.05	0	101	70	130				
Zinc	174	0.010	0.05	174.6		70	130				AE

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limit N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187753

Date: 13-Sep-23

Run ID :Run Order: ICPMS205-H_230829C: 244	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080918-013BMSD				Method: E200.8		
Analysis Date: 08/31/23 00:11	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>24</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9.38	0.030	0.05	9.446		70	130	9.506	1.4	20	AE
Antimony	0.0482	0.0010	0.05	0	96	70	130	0.04873	1.0	20	
Arsenic	0.0510	0.0010	0.05	0.002035	98	70	130	0.05165	1.3	20	
Barium	0.0597	0.050	0.05	0.01063	98	70	130	0.05875	1.6	20	
Cadmium	1.13	0.0010	0.05	1.098		70	130	1.13	0.2	20	A
Chromium	0.0493	0.0050	0.05	0.0001285	98	70	130	0.04956	0.5	20	
Cobalt	0.336	0.0050	0.05	0.2853		70	130	0.3367	0.3	20	A
Copper	79.0	0.0050	0.05	79.02		70	130	79.49	0.7	20	AE
Iron	0.455	0.020	0.15	0.3096	97	70	130	0.468	2.8	20	
Lead	0.0578	0.0010	0.05	0.006305	103	70	130	0.05815	0.6	20	
Magnesium	143	1.0	1	144.8		70	130	144.8	1.0	20	A
Manganese	260	0.0010	0.05	260.2		70	130	261.8	0.8	20	AE
Molybdenum	0.0512	0.0010	0.05	0	102	70	130	0.05101	0.4	20	
Nickel	0.560	0.0050	0.05	0.5099		70	130	0.5632	0.6	20	A
Potassium	32.4	1.0	1	31.07		70	130	32.54	0.3	20	A
Selenium	0.0495	0.0010	0.05	0.001175	97	70	130	0.04895	1.2	20	
Silver	0.0273	0.0010	0.02	0.008118	96	70	130	0.02724	0.2	20	
Sodium	73.1	1.0	1	72.52		70	130	73.08	0.0	20	A
Thallium	0.0510	0.00050	0.05	0.0001539	102	70	130	0.05171	1.4	20	
Tin	0.0440	0.050	0.05	0	88	70	130	0.04414		20	
Titanium	0.0507	0.0050	0.05	0	101	70	130	0.05003	1.3	20	
Uranium	0.0838	0.00030	0.05	0.0326	102	70	130	0.08469	1.0	20	
Vanadium	0.0506	0.010	0.05	0	101	70	130	0.05039	0.5	20	
Zinc	173	0.010	0.05	174.6		70	130	174.1	0.9	20	AE

Associated samples: H23080918-001B, H23080918-002B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187811

Date: 13-Sep-23

Run ID :Run Order: ICPMS206-H_230831A: 14	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 08/31/23 11:04	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0599	0.010	0.06	0	100	90	110				
Gallium	0.0602	0.010	0.06	0	100	90	110				
Lanthanum	0.0607	0.010	0.06	0	101	90	110				
Neodymium	0.0607	0.0050	0.06	0	101	90	110				
Niobium	0.0629	0.0010	0.06	0	105	90	110				
Palladium	0.0606	0.010	0.06	0	101	90	110				
Praseodymium	0.0608	0.0010	0.06	0	101	90	110				
Rubidium	0.0592	0.010	0.06	0	99	90	110				
Tungsten	0.0605	0.10	0.06	0	101	90	110				

Associated samples: H23080918-002B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICPMS206-H_230831A: 21	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 08/31/23 11:43	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	ND	0.0003									
Gallium	ND	0.00004									
Lanthanum	ND	0.00004									
Neodymium	ND	0.00004									
Niobium	ND	0.00004									
Palladium	ND	0.00004									
Praseodymium	ND	0.00005									
Rubidium	ND	0.00003									
Tungsten	ND	0.00003									
Zirconium	ND	0.00006									

Associated samples: H23080918-002B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICPMS206-H_230831A: 22	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.8		
Analysis Date: 08/31/23 11:45	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0535	0.010	0.05	0	107	85	115				
Gallium	0.0510	0.010	0.05	0	102	85	115				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187811

Date: 13-Sep-23

Run ID :Run Order: ICPMS206-H_230831A: 22		SampType: Laboratory Fortified Blank			Lab ID: LFB			Method: E200.8			
Analysis Date: 08/31/23 11:45		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lanthanum	0.0522	0.010	0.05	0	104	85	115				
Neodymium	0.0521	0.0050	0.05	0	104	85	115				
Niobium	0.0540	0.0010	0.05	0	108	85	115				
Palladium	0.0522	0.010	0.05	0	104	85	115				
Praseodymium	0.0510	0.0010	0.05	0	102	85	115				
Rubidium	0.0502	0.010	0.05	0	100	85	115				
Tungsten	0.0537	0.10	0.05	0	107	85	115				
Zirconium	0.0730	0.0050	0.05	0	146	85	115				S

Associated samples: H23080918-002B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICPMS206-H_230831A: 45		SampType: Initial Calibration Verification Standard			Lab ID: ICV			Method: E200.8			
Analysis Date: 08/31/23 12:43		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0585	0.010	0.06	0	98	90	110				
Gallium	0.0591	0.010	0.06	0	99	90	110				
Lanthanum	0.0572	0.010	0.06	0	95	90	110				
Neodymium	0.0590	0.0050	0.06	0	98	90	110				
Niobium	0.0599	0.0010	0.06	0	100	90	110				
Palladium	0.0587	0.010	0.06	0	98	90	110				
Praseodymium	0.0606	0.0010	0.06	0	101	90	110				
Rubidium	0.0578	0.010	0.06	0	96	90	110				
Tungsten	0.0582	0.10	0.06	0	97	90	110				
Zirconium	0.0614	0.0050	0.06	0	102	90	110				

Associated samples: H23080918-002B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICPMS206-H_230831A: 53		SampType: Laboratory Fortified Blank			Lab ID: LFB			Method: E200.8			
Analysis Date: 08/31/23 13:05		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0492	0.010	0.05	0	98	85	115				
Gallium	0.0495	0.010	0.05	0	99	85	115				
Lanthanum	0.0488	0.010	0.05	0	98	85	115				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187811

Date: 13-Sep-23

Run ID :Run Order: ICPMS206-H_230831A: 53	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.8		
Analysis Date: 08/31/23 13:05	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Neodymium	0.0487	0.0050	0.05	0	97	85	115				
Niobium	0.0498	0.0010	0.05	0	100	85	115				
Palladium	0.0492	0.010	0.05	0	98	85	115				
Praseodymium	0.0486	0.0010	0.05	0	97	85	115				
Rubidium	0.0483	0.010	0.05	0	97	85	115				
Tungsten	0.0502	0.10	0.05	0	100	85	115				
Zirconium	0.0512	0.0050	0.05	0	102	85	115				

Associated samples: H23080918-002B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICPMS206-H_230831A: 68	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 08/31/23 13:36	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0495	0.010	0.05	0	99	90	110				
Gallium	0.0496	0.010	0.05	0	99	90	110				
Lanthanum	0.0484	0.010	0.05	0	97	90	110				
Neodymium	0.0488	0.0050	0.05	0	97	90	110				
Niobium	0.0495	0.0010	0.05	0	99	90	110				
Palladium	0.0489	0.010	0.05	0	98	90	110				
Praseodymium	0.0488	0.0010	0.05	0	98	90	110				
Rubidium	0.0489	0.010	0.05	0	98	90	110				
Tungsten	0.0493	0.10	0.05	0	99	90	110				
Zirconium	0.0492	0.0050	0.05	0	98	90	110				

Associated samples: H23080918-002B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICPMS206-H_230831A: 77	SampType: Sample Matrix Spike				Lab ID: H23080918-016BMS				Method: E200.8		
Analysis Date: 08/31/23 13:54	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.244	0.010	0.25	0	97	70	130				
Gallium	0.244	0.010	0.25	0	98	70	130				
Lanthanum	0.245	0.010	0.25	0.0004546	98	70	130				
Neodymium	0.250	0.0050	0.25	0	100	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187811

Date: 13-Sep-23

Run ID :Run Order: ICPMS206-H_230831A: 77		SampType: Sample Matrix Spike			Lab ID: H23080918-016BMS				Method: E200.8		
Analysis Date: 08/31/23 13:54		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Niobium	0.249	0.0010	0.25	0.0002618	99	70	130				
Palladium	0.239	0.010	0.25	0.0004772	95	70	130				
Praseodymium	0.248	0.0010	0.25	0	99	70	130				
Rubidium	0.249	0.010	0.25	0.0054	98	70	130				
Tungsten	0.251	0.10	0.25	0.0004526	100	70	130				
Zirconium	0.254	0.0050	0.25	0	102	70	130				

Associated samples: H23080918-002B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICPMS206-H_230831A: 78		SampType: Sample Matrix Spike Duplicate			Lab ID: H23080918-016BMSD				Method: E200.8		
Analysis Date: 08/31/23 13:56		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.250	0.010	0.25	0	100	70	130	0.2435	2.7	20	
Gallium	0.244	0.010	0.25	0	98	70	130	0.2442	0.1	20	
Lanthanum	0.261	0.010	0.25	0.0004546	104	70	130	0.2454	6.1	20	
Neodymium	0.256	0.0050	0.25	0	103	70	130	0.2499	2.6	20	
Niobium	0.249	0.0010	0.25	0.0002618	100	70	130	0.2486			
Palladium	0.247	0.010	0.25	0.0004772	99	70	130	0.2392	3.3	20	
Praseodymium	0.259	0.0010	0.25	0	104	70	130	0.2478			
Rubidium	0.248	0.010	0.25	0.0054	97	70	130	0.2492	0.6	20	
Tungsten	0.252	0.10	0.25	0.0004526	101	70	130	0.2514	0.3	20	
Zirconium	0.250	0.0050	0.25	0	100	70	130	0.254	1.4	20	

Associated samples: H23080918-002B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICPMS206-H_230831A: 133		SampType: Initial Calibration Verification Standard			Lab ID: ICV				Method: E200.8		
Analysis Date: 08/31/23 12:43		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0590	0.0010	0.06	0	98	90	110				

Associated samples: H23080918-002B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187811

Date: 13-Sep-23

Run ID :Run Order: ICPMS206-H_230831A: 143	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.8		
Analysis Date: 08/31/23 13:05	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0479	0.0010	0.05	0	96	85	115				

Associated samples: H23080918-002B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICPMS206-H_230831A: 158	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 08/31/23 13:36	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0493	0.0010	0.05	0	99	90	110				

Associated samples: H23080918-002B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICPMS206-H_230831A: 167	SampType: Sample Matrix Spike				Lab ID: H23080918-016BMS				Method: E200.8		
Analysis Date: 08/31/23 13:54	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.237	0.0050	0.25	0	95	70	130				

Associated samples: H23080918-002B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICPMS206-H_230831A: 168	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080918-016BMSD				Method: E200.8		
Analysis Date: 08/31/23 13:56	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.237	0.0050	0.25	0	95	70	130	0.2368	0.0	20	

Associated samples: H23080918-002B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080918

**BatchID:** R187869

**Date:** 13-Sep-23

Run ID :Run Order: <b>IC METROHM_230905A: 2</b>		SampType: <b>Method Blank</b>			Lab ID: <b>ICB</b>			Method: <b>E300.0</b>			
Analysis Date: <b>09/05/23 13:53</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.02									
Sulfate	ND	0.03									

Associated samples: **H23080918-003A, H23080918-007A, H23080918-008A, H23080918-015A**

Run ID :Run Order: <b>IC METROHM_230905A: 3</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>09/05/23 14:07</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	100	1.0	100	0	<b>100</b>	90	110				
Sulfate	390	1.0	400	0	<b>97</b>	90	110				

Associated samples: **H23080918-003A, H23080918-007A, H23080918-008A, H23080918-015A**

Run ID :Run Order: <b>IC METROHM_230905A: 4</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E300.0</b>			
Analysis Date: <b>09/05/23 14:22</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	24.8	1.0	25	0	<b>99</b>	90	110				
Sulfate	100	1.0	100	0	<b>100</b>	90	110				

Associated samples: **H23080918-003A, H23080918-007A, H23080918-008A, H23080918-015A**

Run ID :Run Order: <b>IC METROHM_230905A: 26</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>09/05/23 20:45</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	50.0	1.0	50	0	<b>100</b>	90	110				
Sulfate	197	1.0	200	0	<b>98</b>	90	110				

Associated samples: **H23080918-003A, H23080918-007A, H23080918-008A, H23080918-015A**

Run ID :Run Order: <b>IC METROHM_230905A: 41</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>09/06/23 00:21</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	50.2	1.0	50	0	<b>100</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187869

Date: 13-Sep-23

Run ID :Run Order: <b>IC METROHM_230905A: 41</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E300.0</b>								
Analysis Date: <b>09/06/23 00:21</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	200	1.0	200	0	<b>100</b>	90	110				

Associated samples: H23080918-003A, H23080918-007A, H23080918-008A, H23080918-015A

Run ID :Run Order: <b>IC METROHM_230905A: 53</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23081121-009AMS</b>	Method: <b>E300.0</b>								
Analysis Date: <b>09/06/23 03:14</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	28.0	1.0	25	1.591	<b>106</b>	90	110				
Sulfate	195	1.0	100	94.16	<b>101</b>	90	110				

Associated samples: H23080918-003A, H23080918-007A, H23080918-008A, H23080918-015A

Run ID :Run Order: <b>IC METROHM_230905A: 54</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23081121-009AMSD</b>	Method: <b>E300.0</b>								
Analysis Date: <b>09/06/23 03:28</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	28.0	1.0	25	1.591	<b>106</b>	90	110	28.01	<b>0</b>	20	
Sulfate	195	1.0	100	94.16	<b>101</b>	90	110	194.8	<b>0.3</b>	20	

Associated samples: H23080918-003A, H23080918-007A, H23080918-008A, H23080918-015A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice  
**Work Order:** H23080918

Prepared by Helena, MT Branch  
**BatchID:** R187884

**Date:** 13-Sep-23

Run ID :Run Order: ICPMS206-H_230905A: 12		SampType: Initial Calibration Verification Standard			Lab ID: ICV			Method: E200.8			
Analysis Date: 09/05/23 12:21		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.295	0.10	0.3	0	98	90	110				
Arsenic	0.0604	0.0050	0.06	0	101	90	110				
Beryllium	0.0297	0.0010	0.03	0	99	90	110				
Cobalt	0.0598	0.010	0.06	0	100	90	110				
Magnesium	3.03	0.50	3	0	101	90	110				
Titanium	0.0592	0.010	0.06	0	99	90	110				
Vanadium	0.0595	0.10	0.06	0	99	90	110				

Associated samples: H23080918-001B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICPMS206-H_230905A: 24		SampType: Laboratory Fortified Blank			Lab ID: LFB			Method: E200.8			
Analysis Date: 09/05/23 18:52		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0478	0.10	0.05	0	96	85	115				
Arsenic	0.0494	0.0050	0.05	0	99	85	115				
Beryllium	0.0457	0.0010	0.05	0	91	85	115				
Cobalt	0.0491	0.010	0.05	0	98	85	115				
Magnesium	0.994	0.50	1	0	99	85	115				
Titanium	0.0520	0.010	0.05	0	104	85	115				
Vanadium	0.0484	0.10	0.05	0	97	85	115				

Associated samples: H23080918-001B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICPMS206-H_230905A: 74		SampType: Initial Calibration Verification Standard			Lab ID: ICV			Method: E200.8			
Analysis Date: 09/05/23 21:59		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.292	0.10	0.3	0	97	90	110				
Arsenic	0.0614	0.0050	0.06	0	102	90	110				
Beryllium	0.0306	0.0010	0.03	0	102	90	110				
Cobalt	0.0603	0.010	0.06	0	100	90	110				
Magnesium	3.01	0.50	3	0	100	90	110				
Titanium	0.0593	0.010	0.06	0	99	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187884

Date: 13-Sep-23

Run ID :Run Order: ICPMS206-H_230905A: 74	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.8			
Analysis Date: 09/05/23 21:59	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	0.0598	0.10	0.06	0	100	90	110				

Associated samples: H23080918-001B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICPMS206-H_230905A: 84	SampType: Method Blank				Lab ID: LRB			Method: E200.8			
Analysis Date: 09/05/23 22:36	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.002									
Arsenic	ND	6E-06									
Beryllium	0.00006	0.00003									
Cobalt	ND	0.00001									
Magnesium	ND	0.0009									
Titanium	ND	0.0002									
Vanadium	ND	0.00001									

Associated samples: H23080918-001B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICPMS206-H_230905A: 123	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 09/06/23 01:00	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0487	0.10	0.05	0	97	90	110				
Arsenic	0.0494	0.0050	0.05	0	99	90	110				
Beryllium	0.0512	0.0010	0.05	0	102	90	110				
Cobalt	0.0497	0.010	0.05	0	99	90	110				
Magnesium	13.2	0.50	12.5	0	105	90	110				
Titanium	0.0473	0.010	0.05	0	95	90	110				
Vanadium	0.0495	0.10	0.05	0	99	90	110				

Associated samples: H23080918-001B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice  
**Work Order:** H23080918

Prepared by Helena, MT Branch  
**BatchID:** R187884

**Date:** 13-Sep-23

Run ID :Run Order: ICPMS206-H_230905A: 133		SampType: Sample Matrix Spike			Lab ID: H23080918-016BMS				Method: E200.8		
Analysis Date: 09/06/23 01:36		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.424	0.030	0.25	0.1958	91	70	130				
Arsenic	0.256	0.0010	0.25	0.0123	97	70	130				
Beryllium	0.250	0.0010	0.25	0.0003441	100	70	130				
Cobalt	0.273	0.0050	0.25	0.03014	97	70	130				
Magnesium	113	1.0	5	108		70	130				A
Titanium	0.246	0.0050	0.25	0	99	70	130				
Vanadium	0.243	0.010	0.25	0	97	70	130				

Associated samples: H23080918-001B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICPMS206-H_230905A: 134		SampType: Sample Matrix Spike Duplicate			Lab ID: H23080918-016BMSD				Method: E200.8		
Analysis Date: 09/06/23 01:40		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.421	0.030	0.25	0.1958	90	70	130	0.4238	0.7	20	
Arsenic	0.257	0.0010	0.25	0.0123	98	70	130	0.256	0.3	20	
Beryllium	0.246	0.0010	0.25	0.0003441	98	70	130	0.2505	1.8	20	
Cobalt	0.271	0.0050	0.25	0.03014	96	70	130	0.2733	0.8	20	
Magnesium	112	1.0	5	108		70	130	113.4	1.5	20	A
Titanium	0.244	0.0050	0.25	0	98	70	130	0.2462	0.8	20	
Vanadium	0.239	0.010	0.25	0	96	70	130	0.243	1.5	20	

Associated samples: H23080918-001B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICPMS206-H_230905A: 145		SampType: Continuing Calibration Verification Standar			Lab ID: CCV				Method: E200.8		
Analysis Date: 09/06/23 02:20		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0484	0.10	0.05	0	97	90	110				
Arsenic	0.0508	0.0050	0.05	0	102	90	110				
Beryllium	0.0501	0.0010	0.05	0	100	90	110				
Cobalt	0.0498	0.010	0.05	0	100	90	110				
Magnesium	12.6	0.50	12.5	0	101	90	110				
Titanium	0.0474	0.010	0.05	0	95	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187884

Date: 13-Sep-23

Run ID :Run Order: ICPMS206-H_230905A: 145	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.8								
Analysis Date: 09/06/23 02:20	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vanadium	0.0482	0.10	0.05	0	96	90	110				

Associated samples: H23080918-001B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICPMS206-H_230905A: 159	SampType: Sample Matrix Spike	Lab ID: H23080918-006BMS	Method: E200.8								
Analysis Date: 09/06/23 03:11	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.490	0.030	0.25	0.2744	86	70	130				
Arsenic	0.251	0.0010	0.25	0.005485	98	70	130				
Beryllium	0.245	0.0010	0.25	0.000913	98	70	130				
Cobalt	0.242	0.0050	0.25	0.00516	95	70	130				
Magnesium	104	1.0	5	98.95		70	130				A
Titanium	0.235	0.0050	0.25	0	94	70	130				
Vanadium	0.233	0.010	0.25	0	93	70	130				

Associated samples: H23080918-001B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Run ID :Run Order: ICPMS206-H_230905A: 160	SampType: Sample Matrix Spike Duplicate	Lab ID: H23080918-006BMSD	Method: E200.8								
Analysis Date: 09/06/23 03:14	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.481	0.030	0.25	0.2744	83	70	130	0.4904	1.9	20	
Arsenic	0.253	0.0010	0.25	0.005485	99	70	130	0.2506	1.0	20	
Beryllium	0.242	0.0010	0.25	0.000913	96	70	130	0.2447	1.0	20	
Cobalt	0.240	0.0050	0.25	0.00516	94	70	130	0.2424	1.0	20	
Magnesium	99.2	1.0	5	98.95		70	130	103.8	4.5	20	A
Titanium	0.230	0.0050	0.25	0	92	70	130	0.2354	2.3	20	
Vanadium	0.231	0.010	0.25	0	92	70	130	0.2326	0.7	20	

Associated samples: H23080918-001B, H23080918-003B, H23080918-004B, H23080918-005B, H23080918-009B, H23080918-010B, H23080918-011B, H23080918-014B, H23080918-015B, H23080918-016B, H23080918-017B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice  
**Work Order:** H23080918

Prepared by Helena, MT Branch  
**BatchID:** R187919

**Date:** 13-Sep-23

Run ID :Run Order: <b>ICPMS206-H_230906B: 12</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>09/06/23 16:10</b>	Units: <b>mg/L</b>		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>5</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0303	0.0010	0.03	0	<b>101</b>	90	110				
Chromium	0.0610	0.010	0.06	0	<b>102</b>	90	110				
Nickel	0.0613	0.010	0.06	0	<b>102</b>	90	110				
Selenium	0.0624	0.0050	0.06	0	<b>104</b>	90	110				
Zinc	0.0629	0.010	0.06	0	<b>105</b>	90	110				

Associated samples: **H23080918-002B, H23080918-003B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-017B**

Run ID :Run Order: <b>ICPMS206-H_230906B: 22</b>	SampType: <b>Method Blank</b>				Lab ID: <b>LRB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>09/06/23 16:47</b>	Units: <b>mg/L</b>		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>5</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	ND	0.00003									
Chromium	ND	0.00001									
Nickel	ND	0.00003									
Selenium	ND	0.00002									
Zinc	0.001	0.0007									

Associated samples: **H23080918-002B, H23080918-003B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-017B**

Run ID :Run Order: <b>ICPMS206-H_230906B: 23</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>			Method: <b>E200.8</b>			
Analysis Date: <b>09/06/23 16:51</b>	Units: <b>mg/L</b>		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>5</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0477	0.0010	0.05	0	<b>95</b>	85	115				
Chromium	0.0478	0.010	0.05	0	<b>96</b>	85	115				
Nickel	0.0485	0.010	0.05	0	<b>97</b>	85	115				
Selenium	0.0497	0.0050	0.05	0	<b>99</b>	85	115				
Zinc	0.0522	0.010	0.05	0	<b>104</b>	85	115				

Associated samples: **H23080918-002B, H23080918-003B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-017B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187919

Date: 13-Sep-23

Run ID :Run Order: ICPMS206-H_230906B: 49	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 09/06/23 18:27	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0491	0.0010	0.05	0	98	90	110				
Chromium	0.0482	0.010	0.05	0	96	90	110				
Nickel	0.0487	0.010	0.05	0	97	90	110				
Selenium	0.0513	0.0050	0.05	0	103	90	110				
Zinc	0.0514	0.010	0.05	0	103	90	110				

Associated samples: H23080918-002B, H23080918-003B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-017B

Run ID :Run Order: ICPMS206-H_230906B: 60	SampType: Sample Matrix Spike				Lab ID: H23080917-007BMS				Method: E200.8		
Analysis Date: 09/06/23 19:08	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0978	0.0010	0.1	0	98	70	130				
Chromium	0.0959	0.0050	0.1	0.0001881	96	70	130				
Nickel	0.0964	0.0050	0.1	0.0005064	96	70	130				
Selenium	0.102	0.0010	0.1	0.0001058	102	70	130				
Zinc	0.115	0.010	0.1	0.0115	104	70	130				

Associated samples: H23080918-002B, H23080918-003B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-017B

Run ID :Run Order: ICPMS206-H_230906B: 61	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080917-007BMSD				Method: E200.8		
Analysis Date: 09/06/23 19:11	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0999	0.0010	0.1	0	100	70	130	0.0978	2.2	20	
Chromium	0.0962	0.0050	0.1	0.0001881	96	70	130	0.09588	0.3	20	
Nickel	0.0974	0.0050	0.1	0.0005064	97	70	130	0.09642	1.0	20	
Selenium	0.102	0.0010	0.1	0.0001058	102	70	130	0.1022	0.2	20	
Zinc	0.117	0.010	0.1	0.0115	105	70	130	0.115	1.4	20	

Associated samples: H23080918-002B, H23080918-003B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-017B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice  
**Work Order:** H23080918

Prepared by Helena, MT Branch  
**BatchID:** R187919

**Date:** 13-Sep-23

Run ID :Run Order: ICPMS206-H_230906B: 224	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 09/07/23 05:09	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0481	0.0010	0.05	0	96	90	110				
Chromium	0.0467	0.010	0.05	0	93	90	110				
Nickel	0.0469	0.010	0.05	0	94	90	110				
Selenium	0.0509	0.0050	0.05	0	102	90	110				
Zinc	0.0511	0.010	0.05	0	102	90	110				

Associated samples: H23080918-002B, H23080918-003B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-017B

Run ID :Run Order: ICPMS206-H_230906B: 233	SampType: Sample Matrix Spike				Lab ID: H23080918-017BMS				Method: E200.8		
Analysis Date: 09/07/23 05:42	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.236	0.0010	0.25	0.005185	92	70	130				
Chromium	0.224	0.0050	0.25	0.0002628	89	70	130				
Nickel	0.543	0.0050	0.25	0.3212	89	70	130				
Selenium	0.242	0.0010	0.25	0	97	70	130				
Zinc	134	0.010	0.25	138.7		70	130				AE

Associated samples: H23080918-002B, H23080918-003B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-017B

Run ID :Run Order: ICPMS206-H_230906B: 234	SampType: Sample Matrix Spike Duplicate				Lab ID: H23080918-017BMSD				Method: E200.8		
Analysis Date: 09/07/23 05:46	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.238	0.0010	0.25	0.005185	93	70	130	0.2357	0.8	20	
Chromium	0.226	0.0050	0.25	0.0002628	90	70	130	0.2238	1.2	20	
Nickel	0.546	0.0050	0.25	0.3212	90	70	130	0.543	0.5	20	
Selenium	0.240	0.0010	0.25	0	96	70	130	0.2424	0.8	20	
Zinc	139	0.010	0.25	138.7		70	130	133.6	3.6	20	AE

Associated samples: H23080918-002B, H23080918-003B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-017B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187919

Date: 13-Sep-23

Run ID :Run Order: ICPMS206-H_230906B: 268	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.8			
Analysis Date: 09/07/23 09:59	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0305	0.0010	0.03	0	102	90	110				
Chromium	0.0609	0.010	0.06	0	102	90	110				
Nickel	0.0616	0.010	0.06	0	103	90	110				
Selenium	0.0623	0.0050	0.06	0	104	90	110				
Zinc	0.0634	0.010	0.06	0	106	90	110				

Associated samples: H23080918-002B, H23080918-003B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-017B

Run ID :Run Order: ICPMS206-H_230906B: 276	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 09/07/23 10:28	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0486	0.0010	0.05	0	97	90	110				
Chromium	0.0503	0.010	0.05	0	101	90	110				
Nickel	0.0508	0.010	0.05	0	102	90	110				
Selenium	0.0502	0.0050	0.05	0	100	90	110				
Zinc	0.0516	0.010	0.05	0	103	90	110				

Associated samples: H23080918-002B, H23080918-003B, H23080918-006B, H23080918-007B, H23080918-008B, H23080918-012B, H23080918-013B, H23080918-014B, H23080918-015B, H23080918-017B



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: R187944

Date: 13-Sep-23

Run ID :Run Order: <b>SEAL AA500_230906B: 12</b>	SampType: <b>Method Blank</b>	Lab ID: <b>ICB</b>	Method: <b>E353.2</b>								
Analysis Date: <b>09/06/23 15:33</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.01									

Associated samples: H23080918-004C, H23080918-010C, H23080918-012C, H23080918-013C

Run ID :Run Order: <b>SEAL AA500_230906B: 14</b>	SampType: <b>Initial Calibration Verification Standard</b>	Lab ID: <b>ICV</b>	Method: <b>E353.2</b>								
Analysis Date: <b>09/06/23 15:35</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.00	0.010	1	0	100	90	110				

Associated samples: H23080918-004C, H23080918-010C, H23080918-012C, H23080918-013C

Run ID :Run Order: <b>SEAL AA500_230906B: 15</b>	SampType: <b>Laboratory Fortified Blank</b>	Lab ID: <b>LFB</b>	Method: <b>E353.2</b>								
Analysis Date: <b>09/06/23 15:36</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.03	0.011	1	0	103	90	110				

Associated samples: H23080918-004C, H23080918-010C, H23080918-012C, H23080918-013C

Run ID :Run Order: <b>SEAL AA500_230906B: 44</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E353.2</b>								
Analysis Date: <b>09/06/23 16:07</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.01	0.010	1	0	101	90	110				

Associated samples: H23080918-004C, H23080918-010C, H23080918-012C, H23080918-013C

Run ID :Run Order: <b>SEAL AA500_230906B: 55</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23081082-001EMS</b>	Method: <b>E353.2</b>								
Analysis Date: <b>09/06/23 16:18</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.13	0.011	1	0.1475	98	90	110				

Associated samples: H23080918-004C, H23080918-010C, H23080918-012C, H23080918-013C

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23080918

**BatchID:** R187944

**Date:** 13-Sep-23

Run ID :Run Order: <b>SEAL AA500_230906B: 56</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23081082-001EMSD</b>				Method: <b>E353.2</b>		
Analysis Date: <b>09/06/23 16:19</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.15	0.011	1	0.1475	<b>100</b>	90	110	1.131	<b>1.4</b>	10	

Associated samples: **H23080918-004C, H23080918-010C, H23080918-012C, H23080918-013C**

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23080918

BatchID: TDS230825B

Date: 13-Sep-23

Run ID :Run Order: ACCU-124 (14410200)_230825B: 2	SampType: Method Blank	Lab ID: MB-47_230825	Method: A2540 C								
Analysis Date: 08/25/23 14:49	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	ND	7									
Associated samples: H23080918-001A, H23080918-002A, H23080918-003A, H23080918-004A, H23080918-005A, H23080918-006A, H23080918-007A, H23080918-008A, H23080918-009A, H23080918-010A, H23080918-011A, H23080918-012A, H23080918-013A, H23080918-014A, H23080918-015A, H23080918-016A, H23080918-017A											

Run ID :Run Order: ACCU-124 (14410200)_230825B: 2	SampType: Laboratory Control Sample	Lab ID: LCS-48_230825	Method: A2540 C								
Analysis Date: 08/25/23 14:49	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	2010	50	2000	0	101	90	110				
Associated samples: H23080918-001A, H23080918-002A, H23080918-003A, H23080918-004A, H23080918-005A, H23080918-006A, H23080918-007A, H23080918-008A, H23080918-009A, H23080918-010A, H23080918-011A, H23080918-012A, H23080918-013A, H23080918-014A, H23080918-015A, H23080918-016A, H23080918-017A											

Run ID :Run Order: ACCU-124 (14410200)_230825B: 5	SampType: Sample Duplicate	Lab ID: H23080918-013A DUP	Method: A2540 C								
Analysis Date: 08/25/23 14:41	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	4350	100		0				4340	0.3	10	
Associated samples: H23080918-001A, H23080918-002A, H23080918-003A, H23080918-004A, H23080918-005A, H23080918-006A, H23080918-007A, H23080918-008A, H23080918-009A, H23080918-010A, H23080918-011A, H23080918-012A, H23080918-013A, H23080918-014A, H23080918-015A, H23080918-016A, H23080918-017A											



# Work Order Receipt Checklist

MT Dept of Justice

H23080918

Login completed by: Wanda Johnson

Date Received: 8/23/2023

Reviewed by: tjones

Received by: rrs

Reviewed Date: 8/30/2023

Carrier name: Hand Deliver

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	3.6°C On Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

## Contact and Corrective Action Comments:

The Temperature Blank temperature for shipping container shipping container 3 was 0.1°C, shipping container 4 was 0.2°C, shipping container 5 was 1.3°C and shipping container 6 was 3.6°C. All samples came from shipping containers 3 through 6.

Sample containers Dup 4 both are marked as unfiltered, however, the label for one says filtered and upon observing the sample, one does have particulate in one of the bottles. They were labeled appropriately as filtered and dissolved.  
wj 8/23/2023





# Chain of Custody & Analytical Request Record

[www.energylab.com](http://www.energylab.com)

Account Information <small>(Billing information)</small>	Report Information <small>(if different than Account Information)</small>	Comments
Company/Name: MT DOJ / Natural Resource Damage Program	Company/Name: Water & Environmental Technologies	Please do not use any "EB" or "FB" samples for MS/MSD.  C1-4.0° C2-1.1° C3-0.1° C4-0.2° C5-1.3° C6-3.6°
Contact: Jim Ford	Contact: Janelle Garza	
Phone: (406) 439-2108	Phone: (406) 565-4291	
Mailing Address: 1720 9th Avenue	Mailing Address: 480 East Park Street	
City, State, Zip: Helena, Montana 59620-1425	City, State, Zip: Butte, Montana 59701	
Email: jford@mt.gov	Email: jgarza@waterenvtech.com	
Receive Invoice: <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	Receive Report: <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	
Purchase Order: Quote: 2187	Bottle Order: 44881 & 44883	
Special Report/Formats: <input type="checkbox"/> LEVEL IV <input type="checkbox"/> INELAC <input checked="" type="checkbox"/> EDD/EDT (contact laboratory) <input type="checkbox"/> Other		

Project Information	Matrix Codes	Analysis Requested	Notes																											
Project Name, PWSID, Permit, etc.: NRDPM16 TO2 - Task 001	A - Air	<table border="1" style="width: 100%; text-align: center;"> <tr> <td>pH &amp; pH Meas. Temp</td> <td>Conductivity</td> <td>TDS</td> <td>CaCO3, HCO3, CO3</td> <td>Cl(-), SO4(2-), Br(-), F(-)</td> <td>Hardness</td> <td>DOC &amp; TOC</td> <td>Nitrate+Nitrite</td> <td>Dissolved Metals</td> </tr> <tr> <td>A4500-H B</td> <td>A25510 B</td> <td>A2540 C</td> <td>A2320 B</td> <td>E300.0</td> <td>A2340 B</td> <td>A5310 C</td> <td>E353.2</td> <td>E200.7/8</td> </tr> <tr> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> </table>	pH & pH Meas. Temp	Conductivity	TDS	CaCO3, HCO3, CO3	Cl(-), SO4(2-), Br(-), F(-)	Hardness	DOC & TOC	Nitrate+Nitrite	Dissolved Metals	A4500-H B	A25510 B	A2540 C	A2320 B	E300.0	A2340 B	A5310 C	E353.2	E200.7/8	✓	✓	✓	✓	✓	✓	✓	✓	✓	All turnaround times are standard unless marked as RUSH.  Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page
pH & pH Meas. Temp	Conductivity		TDS	CaCO3, HCO3, CO3	Cl(-), SO4(2-), Br(-), F(-)	Hardness	DOC & TOC	Nitrate+Nitrite	Dissolved Metals																					
A4500-H B	A25510 B		A2540 C	A2320 B	E300.0	A2340 B	A5310 C	E353.2	E200.7/8																					
✓	✓		✓	✓	✓	✓	✓	✓	✓																					
Sampler Name: Janelle Garza	W - Water																													
Sampler Phone: (406) 599-6770	S - Soils/ Solids																													
Sample Origin State: Montana	V - Vegetation																													
EPA/State Compliance: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	B - Bioassay																													
URANIUM MINING CLIENTS MUST indicate sample type	O - Oil																													
<input type="checkbox"/> Unprocessed Ore	DW - Drinking Water																													
<input type="checkbox"/> Processed Ore (Ground or Refined) **CALL BEFORE SENDING																														
<input type="checkbox"/> 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)																														

	Sample Identification <small>(Name, Location, Interval, etc.)</small>	Collection		Number of Containers	Matrix <small>(See Codes Above)</small>	Analysis Requested									See Attached	RUSH TAT	ELI LAB ID <small>Laboratory Use Only</small>
		Date	Time			pH & pH Meas. Temp	Conductivity	TDS	CaCO3, HCO3, CO3	Cl(-), SO4(2-), Br(-), F(-)	Hardness	DOC & TOC	Nitrate+Nitrite	Dissolved Metals			
C5	1 PMP-08A	08/22/2023	9:48 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	H23080918	
C4	2 AMW-08	08/22/2023	10:00 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓			
C4	3 PMP-04B	08/22/2023	10:47 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓			
C4	4 PMP-01A	08/22/2023	11:26 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓			
C5	5 AMC-24B	08/22/2023	12:27 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓			
C4	6 AMW-01C	08/22/2023	1:17 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓			
C3	7 PMP-02B	08/22/2023	1:55 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓			
C3	8 AMW-20	08/22/2023	2:30 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓			
C5	9 PMP-07B	08/22/2023	2:42 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓			

**ELI is REQUIRED to provide preservative traceability.** If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
		Janelle Garza	8-23-23/1400	<i>JG</i>	Jace Rhodes	8-23-23/1400
	Jace Rhodes	8-23-23/1514	<i>JR</i>	R SPONHOLZ	082323 1514	<i>RS</i>

LABORATORY USE ONLY									
Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number
HAND	Y	Y (N) C B	Y N	TOP °C	(Y) N	(Y) N	CC Cash Check	\$	(cash/check only)

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.





# Chain of Custody & Analytical Request Record

www.energylab.com

### Account Information (Billing information)

Company/Name MT DOJ / Natural Resource Damage Program		
Contact Jim Ford		
Phone (406) 439-2108		
Mailing Address 1720 9th Avenue		
City, State, Zip Helena, Montana 59620-1425		
Email jford@mt.gov		
Receive Invoice <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	
Purchase Order	Quote 2187	Bottle Order 44881 & 44883

### Report Information (if different than Account Information)

Company/Name Water & Environmental Technologies		
Contact Janelle Garza		
Phone (406) 565-4291		
Mailing Address 480 East Park Street		
City, State, Zip Butte, Montana 59701		
Email jgarza@waterenvtech.com		
Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email		
Special Report/Formats		
<input type="checkbox"/> LEVEL IV <input type="checkbox"/> INELAC <input checked="" type="checkbox"/> EDD/EDT (contact laboratory) <input type="checkbox"/> Other		

### Comments

Please do not use any "EB" or "FB" samples for MS/MSD.

C1-4.0°  
C2-1.1°  
C3-0.1°  
C4-0.2°  
C5-1.3°  
C6-3.6°

### Project Information

Project Name, PWSID, Permit, etc. NRDPM16 TO2 - Task 001	
Sampler Name Janelle Garza	Sampler Phone (406) 599-6770
Sample Origin State Montana	EPA/State Compliance <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
URANIUM MINING CLIENTS MUST indicate sample type	
<input type="checkbox"/> Unprocessed Ore	
<input type="checkbox"/> Processed Ore (Ground or Refined) **CALL BEFORE SENDING	
<input type="checkbox"/> 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)	

### Matrix Codes

- A - Air
- W - Water
- S - Soils/Solids
- V - Vegetation
- B - Bioassay
- O - Oil
- DW - Drinking Water

### Analysis Requested

	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	pH & pH Meas. Temp A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO <sub>3</sub> , HCO <sub>3</sub> , CO <sub>3</sub> A2320 B	Cl(-), SO <sub>4</sub> (2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353.2	Dissolved Metals E200.7/8	See Attached	RUSH	TAT	ELI LAB ID	Laboratory Use Only	
C5 1 MSD-02A	✓	✓	✓	✓	✓	✓	✓	✓	✓				H23080918		
C3 2 FB-4	✓	✓	✓	✓	✓	✓	✓	✓	✓						
C3 3 AMW-01B	✓	✓	✓	✓	✓	✓	✓	✓	✓						
C6 4 DUP-4	✓	✓	✓	✓	✓	✓	✓	✓	✓						
C6 5 EB-4	✓	✓	✓	✓	✓	✓	✓	✓	✓						
C5 6 PMP-02A	✓	✓	✓	✓	✓	✓	✓	✓	✓						
C6 7 AMW-01A	✓	✓	✓	✓	✓	✓	✓	✓	✓						
C6 8 PMP-03A	✓	✓	✓	✓	✓	✓	✓	✓	✓						
9															

All turnaround times are standard unless marked as RUSH.  
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page

C5  
C3  
C3  
C6  
C6  
C5  
C6  
C6

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print) Janelle Garza	Date/Time 8-23-23/1400	Signature <i>JGarza</i>	Received by (print) Jace Rhodes	Date/Time 8-23-23/1400	Signature <i>JRhodes</i>
	Relinquished by (print) Jace Rhodes	Date/Time 8-23-23/1514	Signature <i>JRhodes</i>	Received by Laboratory (print) R SPONHOLZ	Date/Time 082323 1514	Signature <i>RSPONHOLZ</i>
LABORATORY USE ONLY						
Shipped By HAND	Cooler ID(s) Y	Custody Seals Y (N) C B	Intact Y N	Receipt Temp TOP °C	Temp Blank (Y) N	On Ice (Y) N
Payment Type CC Cash Check			Amount \$	Receipt Number (cash/check only)		

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly noted on your analytical report.



# ANALYTICAL SUMMARY REPORT

December 08, 2023

MT Dept of Justice  
Natural Resource Damage Program  
Helena, MT 59620-1425

Work Order: H23090922      Quote ID: H2187  
Project Name: NRDPM16 TO2/001

Energy Laboratories Inc Helena MT received the following 3 samples for MT Dept of Justice on 9/28/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H23090922-001	MH-MSD108	09/28/23 8:38	09/28/23	Surface Water	Rare Earth Metals, Dissolved Rare Earth Metals, Total Recoverable Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity to pH 4.5 Anion - Cation Balance Carbon, Dissolved Organic Conductivity Carbon, Total Organic Services Provided by Lab Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Metals Digestion by E200.2 Rare Metals Digestion by E200.2 Solids, Total Dissolved
H23090922-002	MH-MSD113	09/28/23 9:54	09/28/23	Surface Water	Same As Above
H23090922-003	MH-MSD116	09/28/23 10:36	09/28/23	Surface Water	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

  
Project Management

Digitally signed by  
Ravyn R. Sponholz  
Date: 2023.12.08 11:07:12 -07:00



**CLIENT:** MT Dept of Justice  
**Project:** NRDPM16 TO2/001  
**Work Order:** H23090922

**Revised Date:** 12/08/23

**Report Date:** 10/19/23

## CASE NARRATIVE

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Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002.

Per J. Garza this report was revised to make the following correction: Sample ID for -001 was changed from MH-MSD106 to MH-MSD108. The sample checklist comments were also updated to clarify incorrect preservation of nutrient containers with phosphoric acid per client COC. No other data has been changed. RRS 12082023



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD108  
**Lab ID:** H23090922-001  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 09/28/23 08:38  
**Report Date:** 10/19/23  
**Date Received:** 09/28/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.9	s.u.	H	0.1		A4500-H B	09/28/23 16:00 / eek		PHSC_101-H_230928A : 80		R188589
pH Measurement Temp	16.7	°C				A4500-H B	09/28/23 16:00 / eek		PHSC_101-H_230928A : 80		R188589
Conductivity @ 25 C	1510	umhos/cm		5		A2510 B	09/28/23 16:00 / eek		PHSC_101-H_230928A : 81		R188589
Solids, Total Dissolved TDS @ 180 C	1210	mg/L		20		A2540 C	09/28/23 15:39 / eek		124 (14410200)_230928B : 31		TDS230928A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	39	mg/L		4		A2320 B	10/01/23 12:47 / ams		PHSC_101-H_231001A : 28		R188658
Bicarbonate as HCO3	48	mg/L		4		A2320 B	10/01/23 12:47 / ams		PHSC_101-H_231001A : 28		R188658
Carbonate as CO3	ND	mg/L		4		A2320 B	10/01/23 12:47 / ams		PHSC_101-H_231001A : 28		R188658
Chloride	85	mg/L		1		E300.0	10/05/23 05:53 / SR		IC METROHM_231004A : 64		R188838
Sulfate	709	mg/L		1		E300.0	10/05/23 05:53 / SR		IC METROHM_231004A : 64		R188838
Bromide	ND	mg/L		0.5		E300.0	10/05/23 05:53 / SR		IC METROHM_231004A : 64		R188838
Fluoride	0.7	mg/L		0.1		E300.0	10/05/23 05:53 / SR		IC METROHM_231004A : 64		R188838
Hardness as CaCO3	620	mg/L		1		A2340 B	10/10/23 18:44 / SR		CALC_231012B : 1477		R189057
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.6	mg/L		0.5		A5310 C	10/06/23 22:48 / eli-c		SUB-C299664 : 10		C_R299664
Organic Carbon, Total (TOC)	1.7	mg/L		0.5		A5310 C	10/06/23 14:45 / eli-c		SUB-C299664 : 4		C_R299664
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	1.88	mg/L		0.02		E353.2	10/05/23 19:07 / JAR		SEAL AA500_231005A : 235		R188863
<b>METALS, DISSOLVED</b>											
Aluminum	0.582	mg/L		0.009		E200.8	10/10/23 18:44 / dck		ICPMS205-H_231010A : 106		R188960
Antimony	ND	mg/L		0.0005		E200.8	10/10/23 18:44 / dck		ICPMS205-H_231010A : 106		R188960
Arsenic	0.005	mg/L		0.001		E200.8	10/10/23 18:44 / dck		ICPMS205-H_231010A : 106		R188960
Barium	0.026	mg/L		0.003		E200.8	10/10/23 18:44 / dck		ICPMS205-H_231010A : 106		R188960
Beryllium	ND	mg/L		0.0008		E200.8	10/10/23 18:44 / dck		ICPMS205-H_231010A : 106		R188960
Boron	0.41	mg/L		0.05		E200.7	09/29/23 18:52 / slj		ICP2-HE_230929B : 146		R188671
Cadmium	0.0952	mg/L		0.00004		E200.8	10/10/23 18:44 / dck		ICPMS205-H_231010A : 106		R188960
Cesium	ND	mg/L		0.01		E200.8	10/17/23 17:35 / dck		ICPMS205-H_231017B : 39		R189215

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD108  
**Lab ID:** H23090922-001  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 09/28/23 08:38  
**Report Date:** 10/19/23  
**Date Received:** 09/28/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	174	mg/L		1		E200.8	10/10/23 18:44 / dck		ICPMS205-H_231010A : 106		R188960
Chromium	ND	mg/L		0.005		E200.8	10/10/23 18:44 / dck		ICPMS205-H_231010A : 106		R188960
Cobalt	0.078	mg/L		0.005		E200.8	10/10/23 18:44 / dck		ICPMS205-H_231010A : 106		R188960
Copper	9.66	mg/L		0.01		E200.7	09/29/23 18:52 / slj		ICP2-HE_230929B : 146		R188671
Gallium	ND	mg/L		0.01		E200.8	10/17/23 17:35 / dck		ICPMS205-H_231017B : 39		R189215
Iron	15.6	mg/L		0.02		E200.7	09/29/23 18:52 / slj		ICP2-HE_230929B : 146		R188671
Lead	0.0143	mg/L		0.0003		E200.8	10/10/23 18:44 / dck		ICPMS205-H_231010A : 106		R188960
Lanthanum	ND	mg/L		0.01		E200.8	10/17/23 17:35 / dck		ICPMS205-H_231017B : 39		R189215
Lithium	0.2	mg/L		0.1		E200.7	09/29/23 18:52 / slj		ICP2-HE_230929B : 146		R188671
Magnesium	45	mg/L		1		E200.7	09/29/23 18:52 / slj		ICP2-HE_230929B : 146		R188671
Neodymium	ND	mg/L		0.005		E200.8	10/17/23 17:35 / dck		ICPMS205-H_231017B : 39		R189215
Niobium	ND	mg/L		0.01		E200.8	10/17/23 17:35 / dck		ICPMS205-H_231017B : 39		R189215
Manganese	15.1	mg/L		0.001		E200.7	09/29/23 18:52 / slj		ICP2-HE_230929B : 146		R188671
Molybdenum	0.004	mg/L		0.001		E200.8	10/10/23 18:44 / dck		ICPMS205-H_231010A : 106		R188960
Nickel	0.040	mg/L		0.002		E200.8	10/10/23 18:44 / dck		ICPMS205-H_231010A : 106		R188960
Palladium	ND	mg/L		0.01		E200.8	10/17/23 17:35 / dck		ICPMS205-H_231017B : 39		R189215
Praseodymium	ND	mg/L		0.01		E200.8	10/17/23 17:35 / dck		ICPMS205-H_231017B : 39		R189215
Rubidium	ND	mg/L		0.01		E200.8	10/17/23 17:35 / dck		ICPMS205-H_231017B : 39		R189215
Potassium	10	mg/L		1		E200.7	09/29/23 18:52 / slj		ICP2-HE_230929B : 146		R188671
Selenium	ND	mg/L		0.001		E200.8	10/10/23 18:44 / dck		ICPMS205-H_231010A : 106		R188960
Silver	ND	mg/L		0.0002		E200.8	10/10/23 18:44 / dck		ICPMS205-H_231010A : 106		R188960
Sodium	57	mg/L		1		E200.7	09/29/23 18:52 / slj		ICP2-HE_230929B : 146		R188671
Strontium	1.22	mg/L		0.01		E200.7	09/29/23 18:52 / slj		ICP2-HE_230929B : 146		R188671
Thallium	ND	mg/L		0.0002		E200.8	10/10/23 18:44 / dck		ICPMS205-H_231010A : 106		R188960
Thorium	ND	mg/L		0.005		E200.8	10/12/23 20:23 / dck		ICPMS206-H_231012A : 150		R189087
Tin	ND	mg/L		0.05		E200.8	10/10/23 18:44 / dck		ICPMS205-H_231010A : 106		R188960
Titanium	ND	mg/L		0.005		E200.8	10/10/23 18:44 / dck		ICPMS205-H_231010A : 106		R188960
Tungsten	ND	mg/L		0.1		E200.8	10/17/23 17:35 / dck		ICPMS205-H_231017B : 39		R189215
Uranium	0.0102	mg/L		0.0002		E200.8	10/10/23 18:44 / dck		ICPMS205-H_231010A : 106		R188960
Vanadium	ND	mg/L		0.01		E200.8	10/10/23 18:44 / dck		ICPMS205-H_231010A : 106		R188960
Zinc	17.6	mg/L		0.008		E200.7	09/29/23 18:52 / slj		ICP2-HE_230929B : 146		R188671
Zirconium	ND	mg/L		0.005		E200.8	10/17/23 17:35 / dck		ICPMS205-H_231017B : 39		R189215

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD108  
**Lab ID:** H23090922-001  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 09/28/23 08:38  
**Report Date:** 10/19/23  
**Date Received:** 09/28/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	1.24	mg/L		0.04		E200.7	10/04/23 22:33 / slj	10/02/23 16:02	ICP2-HE_231004A : 198		68603
Antimony	ND	mg/L		0.0005		E200.8	10/10/23 18:47 / dck	10/02/23 16:02	ICPMS205-H_231010A : 107		68603
Arsenic	0.007	mg/L		0.001		E200.8	10/10/23 18:47 / dck	10/02/23 16:02	ICPMS205-H_231010A : 107		68603
Barium	0.027	mg/L		0.003		E200.8	10/10/23 18:47 / dck	10/02/23 16:02	ICPMS205-H_231010A : 107		68603
Beryllium	0.0010	mg/L		0.0008		E200.8	10/10/23 18:47 / dck	10/02/23 16:02	ICPMS205-H_231010A : 107		68603
Cesium	ND	mg/L		0.01		E200.8	10/17/23 17:37 / dck	10/03/23 09:33	ICPMS205-H_231017B : 40		68614
Cadmium	0.0969	mg/L		0.00005		E200.8	10/10/23 18:47 / dck	10/02/23 16:02	ICPMS205-H_231010A : 107		68603
Chromium	ND	mg/L		0.005		E200.8	10/10/23 18:47 / dck	10/02/23 16:02	ICPMS205-H_231010A : 107		68603
Cobalt	0.080	mg/L		0.005		E200.8	10/10/23 18:47 / dck	10/02/23 16:02	ICPMS205-H_231010A : 107		68603
Copper	10.6	mg/L		0.006		E200.7	10/04/23 05:32 / slj	10/02/23 16:02	ICP2-HE_231003C : 262		68603
Gallium	ND	mg/L		0.01		E200.8	10/17/23 17:37 / dck	10/03/23 09:33	ICPMS205-H_231017B : 40		68614
Iron	17.5	mg/L		0.02		E200.7	10/04/23 05:32 / slj	10/02/23 16:02	ICP2-HE_231003C : 262		68603
Lead	0.0277	mg/L		0.0003		E200.8	10/10/23 18:47 / dck	10/02/23 16:02	ICPMS205-H_231010A : 107		68603
Lanthanum	ND	mg/L		0.1		E200.8	10/17/23 17:37 / dck	10/03/23 09:33	ICPMS205-H_231017B : 40		68614
Lithium	0.2	mg/L		0.1		E200.7	10/04/23 05:32 / slj	10/02/23 16:02	ICP2-HE_231003C : 262		68603
Neodymium	ND	mg/L		0.01		E200.8	10/17/23 17:37 / dck	10/03/23 09:33	ICPMS205-H_231017B : 40		68614
Niobium	ND	mg/L		0.01		E200.8	10/17/23 17:37 / dck	10/03/23 09:33	ICPMS205-H_231017B : 40		68614
Manganese	15.8	mg/L		0.002		E200.7	10/04/23 05:32 / slj	10/02/23 16:02	ICP2-HE_231003C : 262		68603
Molybdenum	0.004	mg/L		0.001		E200.8	10/10/23 18:47 / dck	10/02/23 16:02	ICPMS205-H_231010A : 107		68603
Nickel	0.042	mg/L		0.002		E200.8	10/10/23 18:47 / dck	10/02/23 16:02	ICPMS205-H_231010A : 107		68603
Palladium	ND	mg/L		0.01		E200.8	10/17/23 17:37 / dck	10/03/23 09:33	ICPMS205-H_231017B : 40		68614
Praseodymium	ND	mg/L		0.01		E200.8	10/17/23 17:37 / dck	10/03/23 09:33	ICPMS205-H_231017B : 40		68614
Rubidium	ND	mg/L		0.01		E200.8	10/17/23 17:37 / dck	10/03/23 09:33	ICPMS205-H_231017B : 40		68614
Selenium	ND	mg/L		0.001		E200.8	10/10/23 18:47 / dck	10/02/23 16:02	ICPMS205-H_231010A : 107		68603
Silver	ND	mg/L		0.0002		E200.8	10/10/23 18:47 / dck	10/02/23 16:02	ICPMS205-H_231010A : 107		68603
Strontium	1.31	mg/L		0.01		E200.7	10/04/23 05:32 / slj	10/02/23 16:02	ICP2-HE_231003C : 262		68603
Thallium	ND	mg/L		0.0002		E200.8	10/10/23 18:47 / dck	10/02/23 16:02	ICPMS205-H_231010A : 107		68603
Tungsten	ND	mg/L		0.1		E200.8	10/17/23 17:37 / dck	10/03/23 09:33	ICPMS205-H_231017B : 40		68614
Tin	ND	mg/L		0.05		E200.8	10/10/23 18:47 / dck	10/02/23 16:02	ICPMS205-H_231010A : 107		68603
Titanium	ND	mg/L		0.005		E200.8	10/10/23 18:47 / dck	10/02/23 16:02	ICPMS205-H_231010A : 107		68603
Thorium	ND	mg/L		0.005		E200.8	10/10/23 18:47 / dck	10/02/23 16:02	ICPMS205-H_231010A : 107		68603
Uranium	0.0131	mg/L		0.0003		E200.8	10/10/23 18:47 / dck	10/02/23 16:02	ICPMS205-H_231010A : 107		68603

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD108  
**Lab ID:** H23090922-001  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 09/28/23 08:38 **DateReceived:** 09/28/23  
**Report Date:** 10/19/23 **Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	10/10/23 18:47 / dck	10/02/23 16:02	ICPMS205-H_231010A : 107		68603
Zinc	18.2	mg/L		0.008		E200.7	10/04/23 05:32 / slj	10/02/23 16:02	ICP2-HE_231003C : 262		68603
Zirconium	ND	mg/L		0.005		E200.8	10/17/23 17:37 / dck	10/03/23 09:33	ICPMS205-H_231017B : 40		68614
<b>DATA QUALITY</b>											
A/C Balance	-4.89	%				A1030 E	10/12/23 13:49 / SR		CALC_231012B : 1475		R189057
Cation/Anion Balance includes selected metals											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD113  
**Lab ID:** H23090922-002  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 09/28/23 09:54  
**Report Date:** 10/19/23  
**Date Received:** 09/28/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.5	s.u.	H	0.1		A4500-H B	09/28/23 16:02 / eek		PHSC_101-H_230928A : 82		R188589
pH Measurement Temp	16.5	°C				A4500-H B	09/28/23 16:02 / eek		PHSC_101-H_230928A : 82		R188589
Conductivity @ 25 C	2210	umhos/cm		5		A2510 B	09/28/23 16:02 / eek		PHSC_101-H_230928A : 83		R188589
Solids, Total Dissolved TDS @ 180 C	1910	mg/L		50		A2540 C	09/28/23 15:39 / eek		124 (14410200)_230928B : 32		TDS230928A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	9	mg/L		4		A2320 B	10/01/23 12:53 / ams		PHSC_101-H_231001A : 30		R188658
Bicarbonate as HCO3	10	mg/L		4		A2320 B	10/01/23 12:53 / ams		PHSC_101-H_231001A : 30		R188658
Carbonate as CO3	ND	mg/L		4		A2320 B	10/01/23 12:53 / ams		PHSC_101-H_231001A : 30		R188658
Chloride	199	mg/L		1		E300.0	10/05/23 06:08 / SR		IC METROHM_231004A : 65		R188838
Sulfate	1060	mg/L		1		E300.0	10/05/23 06:08 / SR		IC METROHM_231004A : 65		R188838
Bromide	0.6	mg/L		0.5		E300.0	10/05/23 06:08 / SR		IC METROHM_231004A : 65		R188838
Fluoride	1.2	mg/L		0.1		E300.0	10/05/23 06:08 / SR		IC METROHM_231004A : 65		R188838
Hardness as CaCO3	872	mg/L		1		A2340 B	10/13/23 15:53 / abc		CALC_231016B : 498		R189152
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.4	mg/L		0.5		A5310 C	10/06/23 23:38 / eli-c		SUB-C299664 : 13		C_R299664
Organic Carbon, Total (TOC)	2.4	mg/L		0.5		A5310 C	10/06/23 15:44 / eli-c		SUB-C299664 : 7		C_R299664
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.67	mg/L		0.01		E353.2	10/05/23 19:08 / JAR		SEAL AA500_231005A : 236		R188863
<b>METALS, DISSOLVED</b>											
Aluminum	2.44	mg/L		0.06		E200.7	09/29/23 18:55 / slj		ICP2-HE_230929B : 147		R188671
Antimony	ND	mg/L		0.0005		E200.8	10/10/23 18:51 / dck		ICPMS205-H_231010A : 108		R188960
Arsenic	0.017	mg/L		0.001		E200.8	10/10/23 18:51 / dck		ICPMS205-H_231010A : 108		R188960
Barium	0.027	mg/L		0.003		E200.8	10/10/23 18:51 / dck		ICPMS205-H_231010A : 108		R188960
Beryllium	0.0020	mg/L		0.0008		E200.8	10/10/23 18:51 / dck		ICPMS205-H_231010A : 108		R188960
Boron	0.52	mg/L		0.05		E200.7	09/29/23 18:55 / slj		ICP2-HE_230929B : 147		R188671
Cadmium	0.212	mg/L		0.00004		E200.8	10/10/23 18:51 / dck		ICPMS205-H_231010A : 108		R188960
Cesium	ND	mg/L		0.01		E200.8	10/17/23 17:39 / dck		ICPMS205-H_231017B : 41		R189215

**Report** RL - Analyte Reporting Limit

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ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD113  
**Lab ID:** H23090922-002  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 09/28/23 09:54  
**Report Date:** 10/19/23  
**Date Received:** 09/28/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	249	mg/L		1		E200.7	10/13/23 15:53 / slj		ICP2-HE_231013B : 108		R189094
Chromium	ND	mg/L		0.005		E200.8	10/10/23 18:51 / dck		ICPMS205-H_231010A : 108		R188960
Cobalt	0.263	mg/L		0.005		E200.8	10/10/23 18:51 / dck		ICPMS205-H_231010A : 108		R188960
Copper	16.1	mg/L		0.02		E200.7	09/29/23 18:55 / slj		ICP2-HE_230929B : 147		R188671
Gallium	ND	mg/L		0.01		E200.8	10/17/23 17:39 / dck		ICPMS205-H_231017B : 41		R189215
Iron	62.5	mg/L		0.02		E200.7	09/29/23 18:55 / slj		ICP2-HE_230929B : 147		R188671
Lead	0.0228	mg/L		0.0003		E200.8	10/10/23 18:51 / dck		ICPMS205-H_231010A : 108		R188960
Lanthanum	0.03	mg/L		0.01		E200.8	10/17/23 17:39 / dck		ICPMS205-H_231017B : 41		R189215
Lithium	0.4	mg/L		0.1		E200.7	09/29/23 18:55 / slj		ICP2-HE_230929B : 147		R188671
Magnesium	61	mg/L		1		E200.7	09/29/23 18:55 / slj		ICP2-HE_230929B : 147		R188671
Neodymium	0.016	mg/L		0.005		E200.8	10/17/23 17:39 / dck		ICPMS205-H_231017B : 41		R189215
Niobium	ND	mg/L		0.01		E200.8	10/17/23 17:39 / dck		ICPMS205-H_231017B : 41		R189215
Manganese	42.6	mg/L		0.003		E200.7	09/29/23 18:55 / slj		ICP2-HE_230929B : 147		R188671
Molybdenum	0.005	mg/L		0.001		E200.8	10/10/23 18:51 / dck		ICPMS205-H_231010A : 108		R188960
Nickel	0.107	mg/L		0.002		E200.8	10/10/23 18:51 / dck		ICPMS205-H_231010A : 108		R188960
Palladium	ND	mg/L		0.01		E200.8	10/17/23 17:39 / dck		ICPMS205-H_231017B : 41		R189215
Praseodymium	ND	mg/L		0.01		E200.8	10/17/23 17:39 / dck		ICPMS205-H_231017B : 41		R189215
Rubidium	ND	mg/L		0.01		E200.8	10/17/23 17:39 / dck		ICPMS205-H_231017B : 41		R189215
Potassium	11	mg/L		1		E200.7	09/29/23 18:55 / slj		ICP2-HE_230929B : 147		R188671
Selenium	ND	mg/L		0.001		E200.8	10/10/23 18:51 / dck		ICPMS205-H_231010A : 108		R188960
Silver	0.0003	mg/L		0.0002		E200.8	10/10/23 18:51 / dck		ICPMS205-H_231010A : 108		R188960
Sodium	80	mg/L		1		E200.7	09/29/23 18:55 / slj		ICP2-HE_230929B : 147		R188671
Strontium	1.35	mg/L		0.01		E200.7	09/29/23 18:55 / slj		ICP2-HE_230929B : 147		R188671
Thallium	ND	mg/L		0.0002		E200.8	10/10/23 18:51 / dck		ICPMS205-H_231010A : 108		R188960
Thorium	ND	mg/L		0.005		E200.8	10/12/23 20:31 / dck		ICPMS206-H_231012A : 152		R189087
Tin	ND	mg/L		0.05		E200.8	10/10/23 18:51 / dck		ICPMS205-H_231010A : 108		R188960
Titanium	ND	mg/L		0.005		E200.8	10/10/23 18:51 / dck		ICPMS205-H_231010A : 108		R188960
Tungsten	ND	mg/L		0.1		E200.8	10/17/23 17:39 / dck		ICPMS205-H_231017B : 41		R189215
Uranium	0.0176	mg/L		0.0002		E200.8	10/10/23 18:51 / dck		ICPMS205-H_231010A : 108		R188960
Vanadium	ND	mg/L		0.01		E200.8	10/10/23 18:51 / dck		ICPMS205-H_231010A : 108		R188960
Zinc	40.4	mg/L		0.008		E200.7	09/29/23 18:55 / slj		ICP2-HE_230929B : 147		R188671
Zirconium	ND	mg/L		0.005		E200.8	10/17/23 17:39 / dck		ICPMS205-H_231017B : 41		R189215

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD113  
**Lab ID:** H23090922-002  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 09/28/23 09:54  
**Report Date:** 10/19/23  
**Date Received:** 09/28/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	3.39	mg/L		0.04		E200.7	10/04/23 22:37 / slj	10/02/23 16:02	ICP2-HE_231004A : 199		68603
Antimony	ND	mg/L		0.0005		E200.8	10/10/23 18:54 / dck	10/02/23 16:02	ICPMS205-H_231010A : 109		68603
Arsenic	0.019	mg/L		0.001		E200.8	10/10/23 18:54 / dck	10/02/23 16:02	ICPMS205-H_231010A : 109		68603
Barium	0.027	mg/L		0.003		E200.8	10/10/23 18:54 / dck	10/02/23 16:02	ICPMS205-H_231010A : 109		68603
Beryllium	0.0024	mg/L		0.0008		E200.8	10/10/23 18:54 / dck	10/02/23 16:02	ICPMS205-H_231010A : 109		68603
Cesium	ND	mg/L		0.01		E200.8	10/17/23 17:41 / dck	10/03/23 09:33	ICPMS205-H_231017B : 42		68614
Cadmium	0.212	mg/L		0.00005		E200.8	10/10/23 18:54 / dck	10/02/23 16:02	ICPMS205-H_231010A : 109		68603
Chromium	ND	mg/L		0.005		E200.8	10/10/23 18:54 / dck	10/02/23 16:02	ICPMS205-H_231010A : 109		68603
Cobalt	0.265	mg/L		0.005		E200.8	10/10/23 18:54 / dck	10/02/23 16:02	ICPMS205-H_231010A : 109		68603
Copper	16.6	mg/L		0.006		E200.7	10/04/23 05:35 / slj	10/02/23 16:02	ICP2-HE_231003C : 263		68603
Gallium	ND	mg/L		0.01		E200.8	10/17/23 17:41 / dck	10/03/23 09:33	ICPMS205-H_231017B : 42		68614
Iron	66.3	mg/L		0.02		E200.7	10/04/23 05:35 / slj	10/02/23 16:02	ICP2-HE_231003C : 263		68603
Lead	0.0246	mg/L		0.0003		E200.8	10/10/23 18:54 / dck	10/02/23 16:02	ICPMS205-H_231010A : 109		68603
Lanthanum	ND	mg/L		0.1		E200.8	10/17/23 17:41 / dck	10/03/23 09:33	ICPMS205-H_231017B : 42		68614
Lithium	0.4	mg/L		0.1		E200.7	10/04/23 05:35 / slj	10/02/23 16:02	ICP2-HE_231003C : 263		68603
Neodymium	0.02	mg/L		0.01		E200.8	10/17/23 17:41 / dck	10/03/23 09:33	ICPMS205-H_231017B : 42		68614
Niobium	ND	mg/L		0.01		E200.8	10/17/23 17:41 / dck	10/03/23 09:33	ICPMS205-H_231017B : 42		68614
Manganese	42.5	mg/L		0.002		E200.7	10/04/23 05:35 / slj	10/02/23 16:02	ICP2-HE_231003C : 263		68603
Molybdenum	0.005	mg/L		0.001		E200.8	10/10/23 18:54 / dck	10/02/23 16:02	ICPMS205-H_231010A : 109		68603
Nickel	0.109	mg/L		0.002		E200.8	10/10/23 18:54 / dck	10/02/23 16:02	ICPMS205-H_231010A : 109		68603
Palladium	ND	mg/L		0.01		E200.8	10/17/23 17:41 / dck	10/03/23 09:33	ICPMS205-H_231017B : 42		68614
Praseodymium	ND	mg/L		0.01		E200.8	10/17/23 17:41 / dck	10/03/23 09:33	ICPMS205-H_231017B : 42		68614
Rubidium	ND	mg/L		0.01		E200.8	10/17/23 17:41 / dck	10/03/23 09:33	ICPMS205-H_231017B : 42		68614
Selenium	ND	mg/L		0.001		E200.8	10/10/23 18:54 / dck	10/02/23 16:02	ICPMS205-H_231010A : 109		68603
Silver	0.0005	mg/L		0.0002		E200.8	10/10/23 18:54 / dck	10/02/23 16:02	ICPMS205-H_231010A : 109		68603
Strontium	1.40	mg/L		0.01		E200.7	10/04/23 05:35 / slj	10/02/23 16:02	ICP2-HE_231003C : 263		68603
Thallium	ND	mg/L		0.0002		E200.8	10/10/23 18:54 / dck	10/02/23 16:02	ICPMS205-H_231010A : 109		68603
Tungsten	ND	mg/L		0.1		E200.8	10/17/23 17:41 / dck	10/03/23 09:33	ICPMS205-H_231017B : 42		68614
Tin	ND	mg/L		0.05		E200.8	10/10/23 18:54 / dck	10/02/23 16:02	ICPMS205-H_231010A : 109		68603
Titanium	ND	mg/L		0.005		E200.8	10/10/23 18:54 / dck	10/02/23 16:02	ICPMS205-H_231010A : 109		68603
Thorium	ND	mg/L		0.005		E200.8	10/10/23 18:54 / dck	10/02/23 16:02	ICPMS205-H_231010A : 109		68603
Uranium	0.0196	mg/L		0.0003		E200.8	10/10/23 18:54 / dck	10/02/23 16:02	ICPMS205-H_231010A : 109		68603

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD113  
**Lab ID:** H23090922-002  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 09/28/23 09:54  
**Report Date:** 10/19/23  
**Date Received:** 09/28/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	10/10/23 18:54 / dck	10/02/23 16:02	ICPMS205-H_231010A : 109		68603
Zinc	40.2	mg/L		0.008		E200.7	10/04/23 05:35 / slj	10/02/23 16:02	ICP2-HE_231003C : 263		68603
Zirconium	ND	mg/L		0.005		E200.8	10/17/23 17:41 / dck	10/03/23 09:33	ICPMS205-H_231017B : 42		68614
<b>DATA QUALITY</b>											
A/C Balance	-4.14	%				A1030 E	10/16/23 14:15 / abc		CALC_231016B : 496		R189152
Cation/Anion Balance includes selected metals											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD116  
**Lab ID:** H23090922-003  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 09/28/23 10:36  
**Report Date:** 10/19/23  
**Date Received:** 09/28/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.8	s.u.	H	0.1		A4500-H B	09/28/23 16:04 / eek		PHSC_101-H_230928A : 84		R188589
pH Measurement Temp	17.4	°C				A4500-H B	09/28/23 16:04 / eek		PHSC_101-H_230928A : 84		R188589
Conductivity @ 25 C	3450	umhos/cm		5		A2510 B	09/28/23 16:04 / eek		PHSC_101-H_230928A : 85		R188589
Solids, Total Dissolved TDS @ 180 C	3550	mg/L		50		A2540 C	09/28/23 15:42 / eek		124 (14410200)_230928B : 33		TDS230928A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	10/01/23 13:00 / ams		PHSC_101-H_231001A : 32		R188658
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	10/01/23 13:00 / ams		PHSC_101-H_231001A : 32		R188658
Carbonate as CO3	ND	mg/L		4		A2320 B	10/01/23 13:00 / ams		PHSC_101-H_231001A : 32		R188658
Chloride	269	mg/L		1		E300.0	10/05/23 06:51 / SR		IC METROHM_231004A : 68		R188838
Sulfate	2070	mg/L		1		E300.0	10/05/23 06:51 / SR		IC METROHM_231004A : 68		R188838
Bromide	0.7	mg/L		0.5		E300.0	10/05/23 06:51 / SR		IC METROHM_231004A : 68		R188838
Fluoride	2.6	mg/L		0.1		E300.0	10/05/23 06:51 / SR		IC METROHM_231004A : 68		R188838
Hardness as CaCO3	1370	mg/L		1		A2340 B	10/13/23 15:57 / abc		CALC_231016B : 509		R189152
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.5	mg/L		0.5		A5310 C	10/06/23 23:57 / eli-c		SUB-C299664 : 14		C_R299664
Organic Carbon, Total (TOC)	2.5	mg/L		0.5		A5310 C	10/06/23 16:03 / eli-c		SUB-C299664 : 8		C_R299664
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.49	mg/L		0.01		E353.2	10/05/23 19:09 / JAR		SEAL AA500_231005A : 237		R188863
<b>METALS, DISSOLVED</b>											
Aluminum	6.52	mg/L		0.06		E200.7	09/29/23 18:59 / slj		ICP2-HE_230929B : 148		R188671
Antimony	ND	mg/L		0.0005		E200.8	10/10/23 18:58 / dck		ICPMS205-H_231010A : 110		R188960
Arsenic	0.015	mg/L		0.001		E200.8	10/10/23 18:58 / dck		ICPMS205-H_231010A : 110		R188960
Barium	0.014	mg/L		0.003		E200.8	10/10/23 18:58 / dck		ICPMS205-H_231010A : 110		R188960
Beryllium	0.0054	mg/L		0.0008		E200.8	10/10/23 18:58 / dck		ICPMS205-H_231010A : 110		R188960
Boron	0.36	mg/L		0.05		E200.7	09/29/23 18:59 / slj		ICP2-HE_230929B : 148		R188671
Cadmium	0.641	mg/L		0.00004		E200.8	10/10/23 18:58 / dck		ICPMS205-H_231010A : 110		R188960
Cesium	ND	mg/L		0.01		E200.8	10/17/23 17:43 / dck		ICPMS205-H_231017B : 43		R189215

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD116  
**Lab ID:** H23090922-003  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 09/28/23 10:36  
**Report Date:** 10/19/23  
**Date Received:** 09/28/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	373	mg/L		1		E200.7	10/13/23 15:57 / slj		ICP2-HE_231013B : 109		R189094
Chromium	ND	mg/L		0.005		E200.8	10/10/23 18:58 / dck		ICPMS205-H_231010A : 110		R188960
Cobalt	0.616	mg/L		0.005		E200.8	10/10/23 18:58 / dck		ICPMS205-H_231010A : 110		R188960
Copper	38.9	mg/L		0.02		E200.7	09/29/23 18:59 / slj		ICP2-HE_230929B : 148		R188671
Gallium	ND	mg/L		0.01		E200.8	10/17/23 17:43 / dck		ICPMS205-H_231017B : 43		R189215
Iron	247	mg/L		0.02		E200.7	10/13/23 15:57 / slj		ICP2-HE_231013B : 109		R189094
Lead	0.0432	mg/L		0.0003		E200.8	10/10/23 18:58 / dck		ICPMS205-H_231010A : 110		R188960
Lanthanum	0.07	mg/L		0.01		E200.8	10/17/23 17:43 / dck		ICPMS205-H_231017B : 43		R189215
Lithium	0.5	mg/L		0.1		E200.7	09/29/23 18:59 / slj		ICP2-HE_230929B : 148		R188671
Magnesium	107	mg/L		1		E200.7	10/13/23 15:57 / slj		ICP2-HE_231013B : 109		R189094
Neodymium	0.039	mg/L		0.005		E200.8	10/17/23 17:43 / dck		ICPMS205-H_231017B : 43		R189215
Niobium	ND	mg/L		0.01		E200.8	10/17/23 17:43 / dck		ICPMS205-H_231017B : 43		R189215
Manganese	85.5	mg/L		0.003		E200.7	09/29/23 18:59 / slj		ICP2-HE_230929B : 148		R188671
Molybdenum	ND	mg/L		0.001		E200.8	10/10/23 18:58 / dck		ICPMS205-H_231010A : 110		R188960
Nickel	0.265	mg/L		0.002		E200.8	10/10/23 18:58 / dck		ICPMS205-H_231010A : 110		R188960
Palladium	ND	mg/L		0.01		E200.8	10/17/23 17:43 / dck		ICPMS205-H_231017B : 43		R189215
Praseodymium	0.01	mg/L		0.01		E200.8	10/17/23 17:43 / dck		ICPMS205-H_231017B : 43		R189215
Rubidium	ND	mg/L		0.01		E200.8	10/17/23 17:43 / dck		ICPMS205-H_231017B : 43		R189215
Potassium	13	mg/L		1		E200.7	09/29/23 18:59 / slj		ICP2-HE_230929B : 148		R188671
Selenium	ND	mg/L		0.001		E200.8	10/10/23 18:58 / dck		ICPMS205-H_231010A : 110		R188960
Silver	0.0008	mg/L		0.0002		E200.8	10/10/23 18:58 / dck		ICPMS205-H_231010A : 110		R188960
Sodium	105	mg/L		1		E200.7	10/13/23 15:57 / slj		ICP2-HE_231013B : 109		R189094
Strontium	1.82	mg/L		0.01		E200.7	09/29/23 18:59 / slj		ICP2-HE_230929B : 148		R188671
Thallium	ND	mg/L		0.0002		E200.8	10/10/23 18:58 / dck		ICPMS205-H_231010A : 110		R188960
Thorium	ND	mg/L		0.005		E200.8	10/12/23 20:38 / dck		ICPMS206-H_231012A : 154		R189087
Tin	ND	mg/L		0.05		E200.8	10/10/23 18:58 / dck		ICPMS205-H_231010A : 110		R188960
Titanium	ND	mg/L		0.005		E200.8	10/10/23 18:58 / dck		ICPMS205-H_231010A : 110		R188960
Tungsten	ND	mg/L		0.1		E200.8	10/17/23 17:43 / dck		ICPMS205-H_231017B : 43		R189215
Uranium	0.0274	mg/L		0.0002		E200.8	10/10/23 18:58 / dck		ICPMS205-H_231010A : 110		R188960
Vanadium	ND	mg/L		0.01		E200.8	10/10/23 18:58 / dck		ICPMS205-H_231010A : 110		R188960
Zinc	103	mg/L		0.008		E200.7	09/29/23 18:59 / slj		ICP2-HE_230929B : 148		R188671
Zirconium	ND	mg/L		0.005		E200.8	10/17/23 17:43 / dck		ICPMS205-H_231017B : 43		R189215

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD116  
**Lab ID:** H23090922-003  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 09/28/23 10:36  
**Report Date:** 10/19/23  
**Date Received:** 09/28/23  
**Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	7.7	mg/L		0.1		E200.7	10/04/23 22:40 / slj	10/02/23 16:02	ICP2-HE_231004A : 200		68603
Antimony	ND	mg/L		0.0005		E200.8	10/10/23 19:01 / dck	10/02/23 16:02	ICPMS205-H_231010A : 111		68603
Arsenic	0.016	mg/L		0.001		E200.8	10/10/23 19:01 / dck	10/02/23 16:02	ICPMS205-H_231010A : 111		68603
Barium	0.015	mg/L		0.003		E200.8	10/10/23 19:01 / dck	10/02/23 16:02	ICPMS205-H_231010A : 111		68603
Beryllium	0.0055	mg/L		0.0008		E200.8	10/10/23 19:01 / dck	10/02/23 16:02	ICPMS205-H_231010A : 111		68603
Cesium	ND	mg/L		0.01		E200.8	10/17/23 17:45 / dck	10/03/23 09:33	ICPMS205-H_231017B : 44		68614
Cadmium	0.657	mg/L		0.00005		E200.8	10/10/23 19:01 / dck	10/02/23 16:02	ICPMS205-H_231010A : 111		68603
Chromium	ND	mg/L		0.005		E200.8	10/10/23 19:01 / dck	10/02/23 16:02	ICPMS205-H_231010A : 111		68603
Cobalt	0.635	mg/L		0.005		E200.8	10/10/23 19:01 / dck	10/02/23 16:02	ICPMS205-H_231010A : 111		68603
Copper	42.7	mg/L		0.01		E200.7	10/04/23 05:39 / slj	10/02/23 16:02	ICP2-HE_231003C : 264		68603
Gallium	ND	mg/L		0.01		E200.8	10/17/23 17:45 / dck	10/03/23 09:33	ICPMS205-H_231017B : 44		68614
Iron	224	mg/L		0.04		E200.7	10/04/23 05:39 / slj	10/02/23 16:02	ICP2-HE_231003C : 264		68603
Lead	0.0453	mg/L		0.0003		E200.8	10/10/23 19:01 / dck	10/02/23 16:02	ICPMS205-H_231010A : 111		68603
Lanthanum	ND	mg/L		0.1		E200.8	10/17/23 17:45 / dck	10/03/23 09:33	ICPMS205-H_231017B : 44		68614
Lithium	0.5	mg/L		0.1		E200.7	10/04/23 05:39 / slj	10/02/23 16:02	ICP2-HE_231003C : 264		68603
Neodymium	0.04	mg/L		0.01		E200.8	10/17/23 17:45 / dck	10/03/23 09:33	ICPMS205-H_231017B : 44		68614
Niobium	ND	mg/L		0.01		E200.8	10/17/23 17:45 / dck	10/03/23 09:33	ICPMS205-H_231017B : 44		68614
Manganese	90.0	mg/L		0.004		E200.7	10/04/23 05:39 / slj	10/02/23 16:02	ICP2-HE_231003C : 264		68603
Molybdenum	ND	mg/L		0.001		E200.8	10/10/23 19:01 / dck	10/02/23 16:02	ICPMS205-H_231010A : 111		68603
Nickel	0.275	mg/L		0.002		E200.8	10/10/23 19:01 / dck	10/02/23 16:02	ICPMS205-H_231010A : 111		68603
Palladium	ND	mg/L		0.01		E200.8	10/17/23 17:45 / dck	10/03/23 09:33	ICPMS205-H_231017B : 44		68614
Praseodymium	0.01	mg/L		0.01		E200.8	10/17/23 17:45 / dck	10/03/23 09:33	ICPMS205-H_231017B : 44		68614
Rubidium	ND	mg/L		0.01		E200.8	10/17/23 17:45 / dck	10/03/23 09:33	ICPMS205-H_231017B : 44		68614
Selenium	ND	mg/L		0.001		E200.8	10/10/23 19:01 / dck	10/02/23 16:02	ICPMS205-H_231010A : 111		68603
Silver	0.0008	mg/L		0.0002		E200.8	10/10/23 19:01 / dck	10/02/23 16:02	ICPMS205-H_231010A : 111		68603
Strontium	1.92	mg/L		0.01		E200.7	10/04/23 05:39 / slj	10/02/23 16:02	ICP2-HE_231003C : 264		68603
Thallium	ND	mg/L		0.0002		E200.8	10/10/23 19:01 / dck	10/02/23 16:02	ICPMS205-H_231010A : 111		68603
Tungsten	ND	mg/L		0.1		E200.8	10/17/23 17:45 / dck	10/03/23 09:33	ICPMS205-H_231017B : 44		68614
Tin	ND	mg/L		0.05		E200.8	10/10/23 19:01 / dck	10/02/23 16:02	ICPMS205-H_231010A : 111		68603
Titanium	ND	mg/L		0.005		E200.8	10/10/23 19:01 / dck	10/02/23 16:02	ICPMS205-H_231010A : 111		68603
Thorium	ND	mg/L		0.005		E200.8	10/10/23 19:01 / dck	10/02/23 16:02	ICPMS205-H_231010A : 111		68603
Uranium	0.0292	mg/L		0.0003		E200.8	10/10/23 19:01 / dck	10/02/23 16:02	ICPMS205-H_231010A : 111		68603

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD116  
**Lab ID:** H23090922-003  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 09/28/23 10:36 **DateReceived:** 09/28/23  
**Report Date:** 10/19/23 **Revised Date:** 12/08/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	10/10/23 19:01 / dck	10/02/23 16:02	ICPMS205-H_231010A : 111		68603
Zinc	107	mg/L		0.008		E200.7	10/04/23 05:39 / slj	10/02/23 16:02	ICP2-HE_231003C : 264		68603
Zirconium	ND	mg/L		0.005		E200.8	10/17/23 17:45 / dck	10/03/23 09:33	ICPMS205-H_231017B : 44		68614
<b>DATA QUALITY</b>											
A/C Balance	-3.72	%				A1030 E	10/19/23 14:27 / JCS		CALC_231019C : 1		R189284
Cation/Anion Balance includes selected metals											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23090922

BatchID: 68603

Date: 08-Dec-23

Run ID :Run Order: ICP2-HE_231003C: 237	SampType: Method Blank				Lab ID: MB-68603				Method: E200.7		
Analysis Date: 10/04/23 03:57	Units: mg/L				Prep Info: Prep Date: 10/2/2023				Prep Method: E200.2		
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.02									
Copper	ND	0.006									
Iron	ND	0.02									
Lithium	ND	0.003									
Manganese	ND	0.002									
Strontium	ND	0.0003									
Zinc	ND	0.004									

Associated samples: H23090922-001F, H23090922-002F, H23090922-003F

Run ID :Run Order: ICP2-HE_231003C: 240	SampType: Laboratory Control Sample				Lab ID: LCS-68603				Method: E200.7		
Analysis Date: 10/04/23 04:08	Units: mg/L				Prep Info: Prep Date: 10/2/2023				Prep Method: E200.2		
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.60	0.030	2.5	0	104	85	115				
Copper	0.462	0.0057	0.5	0	92	85	115				
Iron	2.37	0.020	2.5	0	95	85	115				
Lithium	0.507	0.10	0.5	0	101	85	115				
Manganese	2.37	0.0018	2.5	0	95	85	115				
Strontium	0.451	0.010	0.5	0	90	85	115				
Zinc	0.456	0.010	0.5	0	91	85	115				

Associated samples: H23090922-001F, H23090922-002F, H23090922-003F

Run ID :Run Order: ICP2-HE_231003C: 248	SampType: Serial Dilution				Lab ID: H23090913-004CDIL				Method: E200.7		
Analysis Date: 10/04/23 04:38	Units: mg/L				Prep Info: Prep Date: 10/2/2023				Prep Method:		
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.10		0		0	0	0		10	
Copper	ND	0.029		0		0	0	0		10	
Iron	ND	0.092		0		0	0	0		10	
Lithium	ND	0.10		0		0	0	0		10	
Manganese	ND	0.0089		0		0	0	0		10	
Strontium	0.0529	0.010		0		0	0	0.05291	0.1	10	
Zinc	ND	0.020		0		0	0	0.01089		10	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23090922

BatchID: 68603

Date: 08-Dec-23

Run ID :Run Order: ICP2-HE_231003C: 248	SampType: Serial Dilution	Lab ID: H23090913-004CDIL	Method: E200.7								
Analysis Date: 10/04/23 04:38	Units: mg/L	Prep Info: Prep Date: 10/2/2023	Prep Method:								
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23090922-001F, H23090922-002F, H23090922-003F

Run ID :Run Order: ICP2-HE_231003C: 260	SampType: Sample Matrix Spike	Lab ID: H23090913-004CMS3	Method: E200.7								
Analysis Date: 10/04/23 05:24	Units: mg/L	Prep Info: Prep Date: 10/2/2023	Prep Method: E200.2								
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.56	0.030	2.5	0	102	70	130				
Copper	0.497	0.0057	0.5	0	99	70	130				
Iron	2.44	0.020	2.5	0	98	70	130				
Lithium	0.533	0.10	0.5	0	107	70	130				
Manganese	2.47	0.0018	2.5	0	99	70	130				
Strontium	0.544	0.010	0.5	0.05291	98	70	130				
Zinc	0.506	0.010	0.5	0.01089	99	70	130				

Associated samples: H23090922-001F, H23090922-002F, H23090922-003F

Run ID :Run Order: ICP2-HE_231003C: 261	SampType: Sample Matrix Spike Duplicate	Lab ID: H23090913-004CMSD3	Method: E200.7								
Analysis Date: 10/04/23 05:28	Units: mg/L	Prep Info: Prep Date: 10/2/2023	Prep Method: E200.2								
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.46	0.030	2.5	0	98	70	130	2.557	3.8	20	
Copper	0.498	0.0057	0.5	0	100	70	130	0.4967	0.2	20	
Iron	2.40	0.020	2.5	0	96	70	130	2.438	1.5	20	
Lithium	0.543	0.10	0.5	0	109	70	130	0.5331	1.8	20	
Manganese	2.42	0.0018	2.5	0	97	70	130	2.468	1.9	20	
Strontium	0.531	0.010	0.5	0.05291	96	70	130	0.5436	2.4	20	
Zinc	0.495	0.010	0.5	0.01089	97	70	130	0.5057	2.1	20	

Associated samples: H23090922-001F, H23090922-002F, H23090922-003F

Run ID :Run Order: ICP2-HE_231004A: 182	SampType: Method Blank	Lab ID: MB-68603	Method: E200.7								
Analysis Date: 10/04/23 21:33	Units: mg/L	Prep Info: Prep Date: 10/2/2023	Prep Method: E200.2								
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.02									

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23090922

BatchID: 68603

Date: 08-Dec-23

Run ID :Run Order: ICP2-HE_231004A: 182	SampType: Method Blank				Lab ID: MB-68603				Method: E200.7		
Analysis Date: 10/04/23 21:33	Units: mg/L				Prep Info: Prep Date: 10/2/2023				Prep Method: E200.2		
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	ND	0.006									
Iron	ND	0.02									
Lithium	ND	0.003									
Manganese	ND	0.002									
Strontium	ND	0.0003									
Zinc	ND	0.004									

Associated samples: H23090922-001F, H23090922-002F, H23090922-003F

Run ID :Run Order: ICP2-HE_231004A: 183	SampType: Laboratory Control Sample				Lab ID: LCS-68603				Method: E200.7		
Analysis Date: 10/04/23 21:37	Units: mg/L				Prep Info: Prep Date: 10/2/2023				Prep Method: E200.2		
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.45	0.030	2.5	0	98	85	115				
Copper	0.490	0.0057	0.5	0	98	85	115				
Iron	2.44	0.020	2.5	0	98	85	115				
Lithium	0.549	0.10	0.5	0	110	85	115				
Manganese	2.51	0.0018	2.5	0	101	85	115				
Strontium	0.487	0.010	0.5	0	97	85	115				
Zinc	0.510	0.010	0.5	0	102	85	115				

Associated samples: H23090922-001F, H23090922-002F, H23090922-003F

Run ID :Run Order: ICP2-HE_231004A: 192	SampType: Serial Dilution				Lab ID: H23090913-004CDIL				Method: E200.7		
Analysis Date: 10/04/23 22:10	Units: mg/L				Prep Info: Prep Date: 10/2/2023				Prep Method:		
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.10		0		0	0	0		10	
Copper	ND	0.029		0		0	0	0		10	
Iron	ND	0.092		0		0	0	0		10	
Lithium	ND	0.10		0		0	0	0		10	
Manganese	ND	0.0089		0		0	0	0		10	
Strontium	0.0572	0.010		0		0	0	0.05738	0.2	10	
Zinc	0.0202	0.020		0		0	0	0.01324		10	N

Associated samples: H23090922-001F, H23090922-002F, H23090922-003F

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23090922

BatchID: 68603

Date: 08-Dec-23

Run ID :Run Order: ICP2-HE_231004A: 194	SampType: Sample Matrix Spike				Lab ID: H23090913-004CMS3				Method: E200.7		
Analysis Date: 10/04/23 22:18	Units: mg/L				Prep Info: Prep Date: 10/2/2023				Prep Method: E200.2		
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.50	0.030	2.5	0	100	70	130				
Copper	0.480	0.0057	0.5	0	96	70	130				
Iron	2.46	0.020	2.5	0	98	70	130				
Lithium	0.525	0.10	0.5	0	105	70	130				
Manganese	2.54	0.0018	2.5	0	101	70	130				
Strontium	0.529	0.010	0.5	0.05738	94	70	130				
Zinc	0.520	0.010	0.5	0.01324	101	70	130				

Associated samples: H23090922-001F, H23090922-002F, H23090922-003F

Run ID :Run Order: ICP2-HE_231004A: 195	SampType: Sample Matrix Spike Duplicate				Lab ID: H23090913-004CMSD3				Method: E200.7		
Analysis Date: 10/04/23 22:22	Units: mg/L				Prep Info: Prep Date: 10/2/2023				Prep Method: E200.2		
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.47	0.030	2.5	0	99	70	130	2.498	0.9	20	
Copper	0.475	0.0057	0.5	0	95	70	130	0.4804	1.1	20	
Iron	2.46	0.020	2.5	0	98	70	130	2.462	0.3	20	
Lithium	0.523	0.10	0.5	0	105	70	130	0.5246	0.4	20	
Manganese	2.54	0.0018	2.5	0	102	70	130	2.536	0.1	20	
Strontium	0.511	0.010	0.5	0.05738	91	70	130	0.529	3.4	20	
Zinc	0.520	0.010	0.5	0.01324	101	70	130	0.5202	0.1	20	

Associated samples: H23090922-001F, H23090922-002F, H23090922-003F



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23090922

BatchID: 68603

Date: 08-Dec-23

Run ID :Run Order: ICPMS206-H_231005A: 144	SampType: Method Blank				Lab ID: MB-68603				Method: E200.8		
Analysis Date: 10/05/23 21:49	Units: mg/L		Prep Info: Prep Date: 10/2/2023				Prep Method: E200.2				
Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.00006	0.00006									
Arsenic	0.0001	0.00002									
Barium	0.0005	0.00004									
Beryllium	ND	0.00005									
Cadmium	0.00004	5E-06									
Chromium	0.0001	0.00007									
Cobalt	0.00008	0.00002									
Lead	0.0002	0.00005									
Molybdenum	0.0002	0.00002									
Nickel	ND	0.0001									
Selenium	0.0001	0.00001									
Silver	0.00005	8E-06									
Thallium	0.0001	8E-06									
Tin	ND	0.0008									
Thorium	0.00005	9E-06									
Titanium	0.0006	0.0003									
Uranium	0.0002	4E-06									
Vanadium	0.0004	0.00002									

Associated samples: H23090922-001F, H23090922-002F, H23090922-003F

Run ID :Run Order: ICPMS206-H_231005A: 153	SampType: Laboratory Control Sample				Lab ID: LCS-68603				Method: E200.8		
Analysis Date: 10/05/23 22:25	Units: mg/L		Prep Info: Prep Date: 10/2/2023				Prep Method: E200.2				
Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.518	0.0010	0.5	0	103	85	115				
Arsenic	0.470	0.0010	0.5	0	94	85	115				
Barium	0.497	0.050	0.5	0	99	85	115				
Beryllium	0.252	0.0010	0.25	0	101	85	115				
Cadmium	0.246	0.0010	0.25	0	98	85	115				
Chromium	0.488	0.0050	0.5	0	97	85	115				
Cobalt	0.520	0.0050	0.5	0	104	85	115				
Lead	0.476	0.0010	0.5	0	95	85	115				
Molybdenum	0.477	0.0010	0.5	0	95	85	115				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23090922

BatchID: 68603

Date: 08-Dec-23

Run ID :Run Order: ICPMS206-H_231005A: 153	SampType: Laboratory Control Sample				Lab ID: LCS-68603				Method: E200.8		
Analysis Date: 10/05/23 22:25	Units: mg/L				Prep Info: Prep Date: 10/2/2023				Prep Method: E200.2		
Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	0.481	0.0050	0.5	0	96	85	115				
Selenium	0.502	0.0010	0.5	0	100	85	115				
Silver	0.0464	0.0010	0.05	0	93	85	115				
Thallium	0.474	0.00050	0.5	0	95	85	115				
Tin	0.497	0.050	0.5	0	99	85	115				
Thorium	0.0467	0.0050	0.05	0	93	85	115				
Titanium	0.500	0.0050	0.5	0	100	85	115				
Uranium	0.468	0.00030	0.5	0	94	85	115				
Vanadium	0.489	0.010	0.5	0	98	85	115				

Associated samples: H23090922-001F, H23090922-002F, H23090922-003F

Run ID :Run Order: ICPMS206-H_231005A: 154	SampType: Sample Matrix Spike				Lab ID: H23090898-001DMS3				Method: E200.8		
Analysis Date: 10/05/23 22:28	Units: mg/L				Prep Info: Prep Date: 10/2/2023				Prep Method: E200.2		
Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.522	0.0010	0.5	0.0002069	104	70	130				
Arsenic	0.488	0.0010	0.5	0.01168	95	70	130				
Barium	0.706	0.050	0.5	0.2005	101	70	130				
Beryllium	0.239	0.0010	0.25	0.0000552	95	70	130				
Cadmium	0.244	0.0010	0.25	0.00005364	97	70	130				
Chromium	0.489	0.0050	0.5	0.0003549	98	70	130				
Cobalt	0.506	0.0050	0.5	0.0002267	101	70	130				
Lead	0.501	0.0010	0.5	0.0002887	100	70	130				
Molybdenum	0.491	0.0010	0.5	0.004872	97	70	130				
Nickel	0.478	0.0050	0.5	0	96	70	130				
Selenium	0.487	0.0010	0.5	0.001016	97	70	130				
Silver	0.0462	0.0010	0.05	0.00004412	92	70	130				
Thallium	0.491	0.00050	0.5	0.0001181	98	70	130				
Tin	0.503	0.050	0.5	0	101	70	130				
Thorium	0.0492	0.0050	0.05	0.00008151	98	70	130				
Titanium	0.503	0.0050	0.5	0.005601	99	70	130				
Uranium	0.520	0.00030	0.5	0.02486	99	70	130				
Vanadium	0.514	0.010	0.5	0.02154	99	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23090922

BatchID: 68603

Date: 08-Dec-23

Run ID :Run Order: ICPMS206-H_231005A: 154	SampType: Sample Matrix Spike	Lab ID: H23090898-001DMS3	Method: E200.8								
Analysis Date: 10/05/23 22:28	Units: mg/L	Prep Info: Prep Date: 10/2/2023	Prep Method: E200.2								
Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23090922-001F, H23090922-002F, H23090922-003F

Run ID :Run Order: ICPMS206-H_231005A: 155	SampType: Sample Matrix Spike Duplicate	Lab ID: H23090898-001DMSD3	Method: E200.8								
Analysis Date: 10/05/23 22:32	Units: mg/L	Prep Info: Prep Date: 10/2/2023	Prep Method: E200.2								
Analytes 18	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.525	0.0010	0.5	0.0002069	105	70	130	0.5216	0.7	20	
Arsenic	0.491	0.0010	0.5	0.01168	96	70	130	0.4881	0.6	20	
Barium	0.710	0.050	0.5	0.2005	102	70	130	0.7056	0.6	20	
Beryllium	0.237	0.0010	0.25	0.0000552	95	70	130	0.2387	0.8	20	
Cadmium	0.244	0.0010	0.25	0.00005364	97	70	130	0.2437	0	20	
Chromium	0.490	0.0050	0.5	0.0003549	98	70	130	0.4894	0.1	20	
Cobalt	0.509	0.0050	0.5	0.0002267	102	70	130	0.5064	0.5	20	
Lead	0.501	0.0010	0.5	0.0002887	100	70	130	0.5014	0	20	
Molybdenum	0.491	0.0010	0.5	0.004872	97	70	130	0.4912	0	20	
Nickel	0.479	0.0050	0.5	0	96	70	130	0.4779	0.2	20	
Selenium	0.487	0.0010	0.5	0.001016	97	70	130	0.4872	0.0	20	
Silver	0.0462	0.0010	0.05	0.00004412	92	70	130	0.04616	0.2	20	
Thallium	0.487	0.00050	0.5	0.0001181	97	70	130	0.4914	0.9	20	
Tin	0.502	0.050	0.5	0	100	70	130	0.5026	0.1	20	
Thorium	0.0493	0.0050	0.05	0.00008151	98	70	130	0.04915	0.3	20	
Titanium	0.509	0.0050	0.5	0.005601	101	70	130	0.5026	1.2	20	
Uranium	0.515	0.00030	0.5	0.02486	98	70	130	0.5197	0.9	20	
Vanadium	0.516	0.010	0.5	0.02154	99	70	130	0.5142	0.4	20	

Associated samples: H23090922-001F, H23090922-002F, H23090922-003F

Run ID :Run Order: ICPMS205-H_231010A: 48	SampType: Method Blank	Lab ID: MB-68603	Method: E200.8								
Analysis Date: 10/10/23 12:40	Units: mg/L	Prep Info: Prep Date: 10/2/2023	Prep Method: E200.2								
Analytes 17	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.0002									
Arsenic	ND	0.0001									
Barium	ND	0.0002									

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23090922

**BatchID:** 68603

**Date:** 08-Dec-23

Run ID :Run Order: <b>ICPMS205-H_231010A: 48</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MB-68603</b>				Method: <b>E200.8</b>		
Analysis Date: <b>10/10/23 12:40</b>	Units: <b>mg/L</b>			Prep Info: Prep Date: <b>10/2/2023</b>				Prep Method: <b>E200.2</b>			
Analytes <b>17</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	ND	0.0002									
Cadmium	ND	0.00003									
Chromium	ND	0.0002									
Cobalt	ND	0.0003									
Lead	ND	0.0001									
Molybdenum	ND	0.0002									
Nickel	ND	0.0002									
Selenium	ND	0.0001									
Silver	ND	0.00006									
Thallium	ND	0.0001									
Tin	0.0004	0.0004									
Titanium	ND	0.002									
Uranium	ND	0.00003									
Vanadium	ND	0.0001									

Associated samples: **H23090922-001F, H23090922-002F, H23090922-003F**



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23090922

**BatchID:** 68614

**Date:** 08-Dec-23

Run ID :Run Order: <b>ICPMS205-H_231017B: 38</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MB-68614</b>				Method: <b>E200.8</b>		
Analysis Date: <b>10/17/23 17:33</b>	Units: <b>mg/L</b>				Prep Info: Prep Date: <b>10/3/2023</b>				Prep Method: <b>E200.2</b>		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	ND	0.0002									
Gallium	ND	0.0001									
Lanthanum	ND	0.00009									
Neodymium	ND	0.0001									
Niobium	0.0005	0.0004									
Palladium	ND	0.0001									
Praseodymium	ND	0.0001									
Rubidium	ND	0.00009									
Tungsten	0.0002	0.0001									
Zirconium	ND	0.0008									

Associated samples: **H23090922-001F, H23090922-002F, H23090922-003F**

Run ID :Run Order: <b>ICPMS205-H_231017B: 45</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS-68614</b>				Method: <b>E200.8</b>		
Analysis Date: <b>10/17/23 17:47</b>	Units: <b>mg/L</b>				Prep Info: Prep Date: <b>10/3/2023</b>				Prep Method: <b>E200.2</b>		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0492	0.010	0.05	0	98	85	115				
Gallium	0.0528	0.010	0.05	0	106	85	115				
Lanthanum	0.0499	0.10	0.05	0	100	85	115				
Neodymium	0.0498	0.0010	0.05	0	100	85	115				
Niobium	0.0523	0.0010	0.05	0	105	85	115				
Palladium	0.0500	0.010	0.05	0	100	85	115				
Praseodymium	0.0500	0.0010	0.05	0	100	85	115				
Rubidium	0.0505	0.010	0.05	0	101	85	115				
Tungsten	0.0500	0.10	0.05	0	100	85	115				
Zirconium	0.0471	0.0050	0.05	0	94	85	115				

Associated samples: **H23090922-001F, H23090922-002F, H23090922-003F**

Run ID :Run Order: <b>ICPMS205-H_231017B: 46</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23090922-001FMS3</b>				Method: <b>E200.8</b>		
Analysis Date: <b>10/17/23 17:49</b>	Units: <b>mg/L</b>				Prep Info: Prep Date: <b>10/3/2023</b>				Prep Method: <b>E200.2</b>		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0511	0.010	0.05	0	102	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23090922

BatchID: 68614

Date: 08-Dec-23

Run ID :Run Order: ICPMS205-H_231017B: 46	SampType: Sample Matrix Spike				Lab ID: H23090922-001FMS3				Method: E200.8		
Analysis Date: 10/17/23 17:49	Units: mg/L				Prep Info: Prep Date: 10/3/2023				Prep Method: E200.2		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gallium	0.0579	0.010	0.05	0.000853	114	70	130				
Lanthanum	0.0591	0.10	0.05	0.00719	104	70	130				
Neodymium	0.0577	0.0010	0.05	0.00553	104	70	130				
Niobium	0.0632	0.0022	0.05	0	126	70	130				
Palladium	0.0506	0.010	0.05	0	101	70	130				
Praseodymium	0.0532	0.0010	0.05	0.001529	103	70	130				
Rubidium	0.0582	0.010	0.05	0.004688	107	70	130				
Tungsten	0.0519	0.10	0.05	0	104	70	130				
Zirconium	0.0458	0.0050	0.05	0	92	70	130				

Associated samples: H23090922-001F, H23090922-002F, H23090922-003F

Run ID :Run Order: ICPMS205-H_231017B: 47	SampType: Sample Matrix Spike Duplicate				Lab ID: H23090922-001FMSD3				Method: E200.8		
Analysis Date: 10/17/23 17:51	Units: mg/L				Prep Info: Prep Date: 10/3/2023				Prep Method: E200.2		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0522	0.010	0.05	0	104	70	130	0.0511	2.1	20	
Gallium	0.0573	0.010	0.05	0.000853	113	70	130	0.0579	1.0	20	
Lanthanum	0.0598	0.10	0.05	0.00719	105	70	130	0.0591		20	
Neodymium	0.0592	0.0010	0.05	0.00553	107	70	130	0.0577	2.6	20	
Niobium	0.0623	0.0022	0.05	0	125	70	130	0.06315	1.4	20	
Palladium	0.0515	0.010	0.05	0	103	70	130	0.0506	1.8	20	
Praseodymium	0.0540	0.0010	0.05	0.001529	105	70	130	0.05315	1.5	20	
Rubidium	0.0572	0.010	0.05	0.004688	105	70	130	0.0582	1.6	20	
Tungsten	0.0514	0.10	0.05	0	103	70	130	0.0519		20	
Zirconium	0.0455	0.0050	0.05	0	91	70	130	0.04578	0.5	20	

Associated samples: H23090922-001F, H23090922-002F, H23090922-003F

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23090922

**BatchID:** C\_R299664

**Date:** 08-Dec-23

Run ID :Run Order: <b>SUB-C299664: 1</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>10/06/23 12:51</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	ND	0.1									

Associated samples: H23090922-001D, H23090922-001E, H23090922-002D, H23090922-002E, H23090922-003D, H23090922-003E

Run ID :Run Order: <b>SUB-C299664: 2</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>10/06/23 13:11</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	4.73	0.50	5	0	95	90	111	0			

Associated samples: H23090922-001D, H23090922-001E, H23090922-002D, H23090922-002E, H23090922-003D, H23090922-003E

Run ID :Run Order: <b>SUB-C299664: 3</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>10/06/23 13:27</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	4.77	0.50	5	0	95	90	110	0			

Associated samples: H23090922-001D, H23090922-001E, H23090922-002D, H23090922-002E, H23090922-003D, H23090922-003E

Run ID :Run Order: <b>SUB-C299664: 5</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23090922-001E</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>10/06/23 15:11</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	6.44	0.50	5	1.675	95	90	111	0			

Associated samples: H23090922-001D, H23090922-001E, H23090922-002D, H23090922-002E, H23090922-003D, H23090922-003E

Run ID :Run Order: <b>SUB-C299664: 6</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23090922-001E</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>10/06/23 15:27</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	6.53	0.50	5	1.675	97	90	111	6.44	1.4	20	

Associated samples: H23090922-001D, H23090922-001E, H23090922-002D, H23090922-002E, H23090922-003D, H23090922-003E

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23090922

BatchID: C\_R299664

Date: 08-Dec-23

Run ID :Run Order: <b>SUB-C299664: 9</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV-11940</b>	Method: <b>A5310 C</b>					
Analysis Date: <b>10/06/23 22:33</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:	Prep Method:					
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.92	0.50	5	0	<b>98</b>	90	110	0			
Associated samples: <b>H23090922-001D, H23090922-001E, H23090922-002D, H23090922-002E, H23090922-003D, H23090922-003E</b>											

Run ID :Run Order: <b>SUB-C299664: 11</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>C23100060-001DMS</b>	Method: <b>A5310 C</b>					
Analysis Date: <b>10/06/23 23:04</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:	Prep Method:					
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	6.49	0.50	5	1.636	<b>97</b>	88	112	0			
Associated samples: <b>H23090922-001D, H23090922-001E, H23090922-002D, H23090922-002E, H23090922-003D, H23090922-003E</b>											

Run ID :Run Order: <b>SUB-C299664: 12</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>C23100060-001DMSD</b>	Method: <b>A5310 C</b>					
Analysis Date: <b>10/06/23 23:20</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:	Prep Method:					
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	6.64	0.50	5	1.636	<b>100</b>	88	112	6.487	<b>2.3</b>	20	
Associated samples: <b>H23090922-001D, H23090922-001E, H23090922-002D, H23090922-002E, H23090922-003D, H23090922-003E</b>											

Run ID :Run Order: <b>SUB-C299664: 15</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS-11923</b>	Method: <b>A5310 C</b>					
Analysis Date: <b>10/06/23 21:59</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:	Prep Method:					
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.93	0.50	5	0	<b>99</b>	88	112	0			
Associated samples: <b>H23090922-001D, H23090922-001E, H23090922-002D, H23090922-002E, H23090922-003D, H23090922-003E</b>											

Run ID :Run Order: <b>SUB-C299664: 16</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>	Method: <b>A5310 C</b>					
Analysis Date: <b>10/06/23 22:14</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:	Prep Method:					
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	ND	0.1									
Associated samples: <b>H23090922-001D, H23090922-001E, H23090922-002D, H23090922-002E, H23090922-003D, H23090922-003E</b>											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23090922

BatchID: R188589

Date: 08-Dec-23

Run ID :Run Order: PHSC_101-H_230928A: 2	SampType: Initial Calibration Verification Standard				Lab ID: SC 150			Method: A2510 B			
Analysis Date: 09/28/23 08:51	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	152	5.0	150	0	101	90	110				

Associated samples: H23090922-001A, H23090922-002A, H23090922-003A

Run ID :Run Order: PHSC_101-H_230928A: 3	SampType: Initial Calibration Verification Standard				Lab ID: SC 20000			Method: A2510 B			
Analysis Date: 09/28/23 08:53	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	19500	5.0	20000	0	97	90	110				

Associated samples: H23090922-001A, H23090922-002A, H23090922-003A

Run ID :Run Order: PHSC_101-H_230928A: 4	SampType: Initial Calibration Verification Standard				Lab ID: SC 5000			Method: A2510 B			
Analysis Date: 09/28/23 08:55	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	4940	5.0	5000	0	99	90	110				

Associated samples: H23090922-001A, H23090922-002A, H23090922-003A

Run ID :Run Order: PHSC_101-H_230928A: 5	SampType: Laboratory Control Sample				Lab ID: SC 1000			Method: A2510 B			
Analysis Date: 09/28/23 08:57	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	992	5.0	1000	0	99	90	110				

Associated samples: H23090922-001A, H23090922-002A, H23090922-003A

Run ID :Run Order: PHSC_101-H_230928A: 6	SampType: Method Blank				Lab ID: MBLK			Method: A2510 B			
Analysis Date: 09/28/23 14:38	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	ND	5									

Associated samples: H23090922-001A, H23090922-002A, H23090922-003A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23090922

**BatchID:** R188589

**Date:** 08-Dec-23

Run ID :Run Order: <b>PHSC_101-H_230928A: 10</b>	SampType: <b>Sample Duplicate</b>				Lab ID: <b>H23090911-005ADUP</b>				Method: <b>A2510 B</b>		
Analysis Date: <b>09/28/23 14:42</b>	Units: <b>umhos/cm</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	209	5.0		0				209	<b>0.2</b>	10	

Associated samples: **H23090922-001A, H23090922-002A, H23090922-003A**

Run ID :Run Order: <b>PHSC_101-H_230928A: 52</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV - SC 1413</b>				Method: <b>A2510 B</b>		
Analysis Date: <b>09/28/23 15:26</b>	Units: <b>umhos/cm</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1400	5.0	1413	0	<b>99</b>	90	110				

Associated samples: **H23090922-001A, H23090922-002A, H23090922-003A**



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23090922

BatchID: R188589

Date: 08-Dec-23

Run ID :Run Order: PHSC_101-H_230928A: 1	SampType: Initial Calibration Verification Standard				Lab ID: pH 7				Method: A4500-H B		
Analysis Date: 09/28/23 08:46	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	19.4			0		0	0				

Associated samples: H23090922-001A, H23090922-002A, H23090922-003A

Run ID :Run Order: PHSC_101-H_230928A: 49	SampType: Sample Duplicate				Lab ID: H23090913-002ADUP				Method: A4500-H B		
Analysis Date: 09/28/23 15:21	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.7	0.1		0				7.72	0.0	3	H
pH Measurement Temp	15.5			0				15.4			

Associated samples: H23090922-001A, H23090922-002A, H23090922-003A

Run ID :Run Order: PHSC_101-H_230928A: 51	SampType: Continuing Calibration Verification Standard				Lab ID: CCV - pH 7				Method: A4500-H B		
Analysis Date: 09/28/23 15:23	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	20.2			0		0	0				

Associated samples: H23090922-001A, H23090922-002A, H23090922-003A



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23090922

BatchID: R188658

Date: 08-Dec-23

Run ID :Run Order: <b>PHSC_101-H_231001A: 6</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A2320 B</b>		
Analysis Date: <b>10/01/23 11:28</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	2	2									

Associated samples: H23090922-001A, H23090922-002A, H23090922-003A

Run ID :Run Order: <b>PHSC_101-H_231001A: 7</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS</b>				Method: <b>A2320 B</b>		
Analysis Date: <b>10/01/23 11:34</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	610	4.0	600	0	<b>102</b>	90	110				

Associated samples: H23090922-001A, H23090922-002A, H23090922-003A

Run ID :Run Order: <b>PHSC_101-H_231001A: 50</b>	SampType: <b>Sample Duplicate</b>				Lab ID: <b>H23090940-002BDUP</b>				Method: <b>A2320 B</b>		
Analysis Date: <b>10/01/23 14:06</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	11	4.0		0				11.05	<b>0.9</b>	10	
Bicarbonate as HCO3	13	4.0		0				12.87	<b>0.9</b>	10	
Carbonate as CO3	ND	4.0		0				0		10	

Associated samples: H23090922-001A, H23090922-002A, H23090922-003A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23090922

BatchID: R188671

Date: 08-Dec-23

Run ID :Run Order: ICP2-HE_230929B: 6	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.7			
Analysis Date: 09/29/23 09:43	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>11</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.09	0.10	4	0	102	95	105				
Boron	0.797	0.10	0.8	0	100	95	105				
Copper	0.811	0.012	0.8	0	101	95	105				
Iron	4.05	0.020	4	0	101	95	105				
Lithium	0.804	0.10	0.8	0	100	95	105				
Magnesium	39.5	1.0	40	0	99	95	105				
Manganese	4.03	0.010	4	0	101	95	105				
Potassium	40.3	1.0	40	0	101	95	105				
Sodium	40.0	1.0	40	0	100	95	105				
Strontium	0.816	0.10	0.8	0	102	95	105				
Zinc	0.809	0.010	0.8	0	101	95	105				

Associated samples: H23090922-001B, H23090922-002B, H23090922-003B

Run ID :Run Order: ICP2-HE_230929B: 7	SampType: Continuing Calibration Verification Standard				Lab ID: CCV-1			Method: E200.7			
Analysis Date: 09/29/23 09:46	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>11</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.50	0.10	2.5	0	100	95	105				
Boron	2.53	0.10	2.5	0	101	95	105				
Copper	2.54	0.012	2.5	0	102	95	105				
Iron	2.52	0.020	2.5	0	101	95	105				
Lithium	1.27	0.10	1.25	0	101	95	105				
Magnesium	24.9	1.0	25	0	100	95	105				
Manganese	2.50	0.010	2.5	0	100	95	105				
Potassium	25.6	1.0	25	0	102	95	105				
Sodium	25.4	1.0	25	0	102	95	105				
Strontium	2.57	0.10	2.5	0	103	95	105				
Zinc	2.53	0.010	2.5	0	101	95	105				

Associated samples: H23090922-001B, H23090922-002B, H23090922-003B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23090922

BatchID: R188671

Date: 08-Dec-23

Run ID :Run Order: ICP2-HE_230929B: 13	SampType: Method Blank				Lab ID: MB				Method: E200.7		
Analysis Date: 09/29/23 10:09	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 11	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.03									
Boron	ND	0.004									
Copper	ND	0.01									
Iron	ND	0.008									
Lithium	ND	0.002									
Magnesium	ND	0.05									
Manganese	ND	0.001									
Potassium	ND	0.06									
Sodium	0.08	0.03									
Strontium	ND	0.0003									
Zinc	ND	0.003									

Associated samples: H23090922-001B, H23090922-002B, H23090922-003B

Run ID :Run Order: ICP2-HE_230929B: 14	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.7		
Analysis Date: 09/29/23 10:13	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 11	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.18	0.10	5	0	104	85	115				
Boron	0.936	0.10	1	0	94	85	115				
Copper	1.03	0.012	1	0	103	85	115				
Iron	5.02	0.020	5	0	100	85	115				
Lithium	1.04	0.10	1	0	104	85	115				
Magnesium	50.1	1.0	50	0	100	85	115				
Manganese	4.99	0.010	5	0	100	85	115				
Potassium	51.6	1.0	50	0	103	85	115				
Sodium	51.6	1.0	50	0	103	85	115				
Strontium	1.03	0.10	1	0	103	85	115				
Zinc	0.943	0.010	1	0	94	85	115				

Associated samples: H23090922-001B, H23090922-002B, H23090922-003B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23090922

BatchID: R188671

Date: 08-Dec-23

Run ID :Run Order: ICP2-HE_230929B: 142	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.7		
Analysis Date: 09/29/23 18:37	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>11</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.47	0.10	2.5	0	99	90	110				
Boron	2.48	0.10	2.5	0	99	90	110				
Copper	2.47	0.012	2.5	0	99	90	110				
Iron	2.36	0.020	2.5	0	95	90	110				
Lithium	1.28	0.10	1.25	0	102	90	110				
Magnesium	23.9	1.0	25	0	96	90	110				
Manganese	2.49	0.010	2.5	0	100	90	110				
Potassium	25.6	1.0	25	0	103	90	110				
Sodium	25.4	1.0	25	0	102	90	110				
Strontium	2.44	0.10	2.5	0	98	90	110				
Zinc	2.52	0.010	2.5	0	101	90	110				

Associated samples: H23090922-001B, H23090922-002B, H23090922-003B

Run ID :Run Order: ICP2-HE_230929B: 152	SampType: Sample Matrix Spike				Lab ID: H23090886-002BMS2				Method: E200.7		
Analysis Date: 09/29/23 19:14	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>11</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.97	0.030	5	0.03481	99	70	130				
Boron	2.10	0.050	1	1.245	86	70	130				
Copper	0.976	0.012	1	0	98	70	130				
Iron	4.47	0.020	5	0	89	70	130				
Lithium	1.23	0.10	1	0.1934	104	70	130				
Magnesium	77.2	1.0	50	32.88	89	70	130				
Manganese	4.53	0.0014	5	0.02024	90	70	130				
Potassium	63.6	1.0	50	12.45	102	70	130				
Sodium	294	1.0	50	233.5		70	130				A
Strontium	1.54	0.010	1	0.6438	90	70	130				
Zinc	0.963	0.010	1	0.00418	96	70	130				

Associated samples: H23090922-001B, H23090922-002B, H23090922-003B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23090922

BatchID: R188671

Date: 08-Dec-23

Run ID :Run Order: ICP2-HE_230929B: 153	SampType: Sample Matrix Spike Duplicate				Lab ID: H23090886-002BMSD2				Method: E200.7		
Analysis Date: 09/29/23 19:18	Units: mg/L			Prep Info: Prep Date:			Prep Method:				
Analytes 11	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.24	0.030	5	0.03481	104	70	130	4.97	5.2	20	
Boron	2.21	0.050	1	1.245	97	70	130	2.102	5.0	20	
Copper	1.01	0.012	1	0	101	70	130	0.9761	3.2	20	
Iron	4.71	0.020	5	0	94	70	130	4.47	5.2	20	
Lithium	1.26	0.10	1	0.1934	107	70	130	1.229	2.4	20	
Magnesium	81.6	1.0	50	32.88	97	70	130	77.15	5.6	20	
Manganese	4.89	0.0014	5	0.02024	97	70	130	4.532	7.7	20	
Potassium	64.6	1.0	50	12.45	104	70	130	63.57	1.7	20	
Sodium	287	1.0	50	233.5		70	130	294.5	2.5	20	A
Strontium	1.64	0.010	1	0.6438	99	70	130	1.542	6.0	20	
Zinc	0.959	0.010	1	0.00418	95	70	130	0.9634	0.5	20	

Associated samples: H23090922-001B, H23090922-002B, H23090922-003B





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23090922

BatchID: R188784

Date: 08-Dec-23

Run ID :Run Order: ICP2-HE_231003C: 6	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.7			
Analysis Date: 10/03/23 10:09	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.809	0.012	0.8	0	101	95	105				
Iron	3.92	0.020	4	0	98	95	105				
Lithium	0.833	0.10	0.8	0	104	95	105				
Manganese	3.98	0.010	4	0	100	95	105				
Strontium	0.791	0.10	0.8	0	99	95	105				
Zinc	0.806	0.010	0.8	0	101	95	105				

Associated samples: H23090922-001F, H23090922-002F, H23090922-003F

Run ID :Run Order: ICP2-HE_231003C: 8	SampType: Continuing Calibration Verification Standard				Lab ID: CCV-1			Method: E200.7			
Analysis Date: 10/03/23 10:17	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	2.53	0.012	2.5	0	101	95	105				
Iron	2.46	0.020	2.5	0	98	95	105				
Lithium	1.31	0.10	1.25	0	105	95	105				
Manganese	2.46	0.010	2.5	0	98	95	105				
Strontium	2.48	0.10	2.5	0	99	95	105				
Zinc	2.51	0.010	2.5	0	101	95	105				

Associated samples: H23090922-001F, H23090922-002F, H23090922-003F

Run ID :Run Order: ICP2-HE_231003C: 257	SampType: Continuing Calibration Verification Standard				Lab ID: CCV			Method: E200.7			
Analysis Date: 10/04/23 05:13	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	2.55	0.012	2.5	0	102	90	110				
Iron	2.51	0.020	2.5	0	100	90	110				
Lithium	1.33	0.10	1.25	0	106	90	110				
Manganese	2.54	0.010	2.5	0	102	90	110				
Strontium	2.47	0.10	2.5	0	99	90	110				
Zinc	2.54	0.010	2.5	0	102	90	110				

Associated samples: H23090922-001F, H23090922-002F, H23090922-003F

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23090922

BatchID: R188796

Date: 08-Dec-23

Run ID :Run Order: ICP2-HE_231004A: 6	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.7			
Analysis Date: 10/04/23 10:09	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.07	0.10	4	0	102	95	105				

Associated samples: H23090922-001F, H23090922-002F, H23090922-003F

Run ID :Run Order: ICP2-HE_231004A: 7	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.7			
Analysis Date: 10/04/23 10:14	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.01	0.10	4	0	100	95	105				

Associated samples: H23090922-001F, H23090922-002F, H23090922-003F

Run ID :Run Order: ICP2-HE_231004A: 8	SampType: Continuing Calibration Verification Standard				Lab ID: CCV-1			Method: E200.7			
Analysis Date: 10/04/23 10:17	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.44	0.10	2.5	0	98	95	105				

Associated samples: H23090922-001F, H23090922-002F, H23090922-003F

Run ID :Run Order: ICP2-HE_231004A: 196	SampType: Continuing Calibration Verification Standard				Lab ID: CCV			Method: E200.7			
Analysis Date: 10/04/23 22:25	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.51	0.10	2.5	0	100	90	110				

Associated samples: H23090922-001F, H23090922-002F, H23090922-003F

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23090922

BatchID: R188838

Date: 08-Dec-23

Run ID :Run Order: IC METROHM_231004A: 2		SampType: Method Blank			Lab ID: ICB				Method: E300.0		
Analysis Date: 10/04/23 14:46		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.02									
Sulfate	ND	0.03									
Bromide	ND	0.001									
Fluoride	ND	0.01									

Associated samples: H23090922-001A, H23090922-002A, H23090922-003A

Run ID :Run Order: IC METROHM_231004A: 3		SampType: Initial Calibration Verification Standard			Lab ID: ICV				Method: E300.0		
Analysis Date: 10/04/23 15:01		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	102	1.0	100	0	102	90	110				
Sulfate	401	1.0	400	0	100	90	110				
Bromide	4.90	0.50	5	0	98	90	110				
Fluoride	5.42	0.10	5	0	108	90	110				

Associated samples: H23090922-001A, H23090922-002A, H23090922-003A

Run ID :Run Order: IC METROHM_231004A: 4		SampType: Laboratory Fortified Blank			Lab ID: LFB				Method: E300.0		
Analysis Date: 10/04/23 15:15		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	25.0	1.0	25	0	100	90	110				
Sulfate	103	1.0	100	0	103	90	110				
Bromide	1.23	0.50	1.25	0	99	90	110				
Fluoride	1.19	0.10	1.25	0	95	90	110				

Associated samples: H23090922-001A, H23090922-002A, H23090922-003A

Run ID :Run Order: IC METROHM_231004A: 52		SampType: Continuing Calibration Verification Standard			Lab ID: CCV				Method: E300.0		
Analysis Date: 10/05/23 03:01		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	51.8	1.0	50	0	104	90	110				
Sulfate	207	1.0	200	0	103	90	110				
Bromide	2.42	0.50	2.5	0	97	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23090922

BatchID: R188838

Date: 08-Dec-23

Run ID :Run Order: <b>IC METROHM_231004A: 52</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>	Method: <b>E300.0</b>					
Analysis Date: <b>10/05/23 03:01</b>	Units: <b>mg/L</b>				Prep Info:	Prep Date:			Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.52	0.10	2.5	0	<b>101</b>	90	110				

Associated samples: H23090922-001A, H23090922-002A, H23090922-003A

Run ID :Run Order: <b>IC METROHM_231004A: 62</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23090914-006AMS</b>	Method: <b>E300.0</b>					
Analysis Date: <b>10/05/23 05:24</b>	Units: <b>mg/L</b>				Prep Info:	Prep Date:			Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	42.1	1.0	25	15.68	<b>106</b>	90	110				
Sulfate	114	1.0	100	9.211	<b>104</b>	90	110				
Bromide	1.47	0.50	1.25	0.318	<b>92</b>	90	110				
Fluoride	1.24	0.10	1.25	0.043	<b>96</b>	90	110				

Associated samples: H23090922-001A, H23090922-002A, H23090922-003A

Run ID :Run Order: <b>IC METROHM_231004A: 63</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23090914-006AMSD</b>	Method: <b>E300.0</b>					
Analysis Date: <b>10/05/23 05:39</b>	Units: <b>mg/L</b>				Prep Info:	Prep Date:			Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	42.0	1.0	25	15.68	<b>105</b>	90	110	42.09	<b>0.2</b>	20	
Sulfate	115	1.0	100	9.211	<b>106</b>	90	110	113.7	<b>1.4</b>	20	
Bromide	1.48	0.50	1.25	0.318	<b>93</b>	90	110	1.472	<b>0.5</b>	20	
Fluoride	1.25	0.10	1.25	0.043	<b>97</b>	90	110	1.242	<b>0.8</b>	20	

Associated samples: H23090922-001A, H23090922-002A, H23090922-003A

Run ID :Run Order: <b>IC METROHM_231004A: 66</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>	Method: <b>E300.0</b>					
Analysis Date: <b>10/05/23 06:22</b>	Units: <b>mg/L</b>				Prep Info:	Prep Date:			Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	51.5	1.0	50	0	<b>103</b>	90	110				
Sulfate	209	1.0	200	0	<b>104</b>	90	110				
Bromide	2.42	0.50	2.5	0	<b>97</b>	90	110				
Fluoride	2.50	0.10	2.5	0	<b>100</b>	90	110				

Associated samples: H23090922-001A, H23090922-002A, H23090922-003A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23090922

BatchID: R188863

Date: 08-Dec-23

Run ID :Run Order: <b>SEAL AA500_231005A: 12</b>	SampType: <b>Method Blank</b>				Lab ID: <b>ICB</b>				Method: <b>E353.2</b>		
Analysis Date: <b>10/05/23 15:23</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.01									

Associated samples: H23090922-001C, H23090922-002C, H23090922-003C

Run ID :Run Order: <b>SEAL AA500_231005A: 14</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>				Method: <b>E353.2</b>		
Analysis Date: <b>10/05/23 15:25</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.02	0.010	1	0	<b>102</b>	90	110				

Associated samples: H23090922-001C, H23090922-002C, H23090922-003C

Run ID :Run Order: <b>SEAL AA500_231005A: 15</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>				Method: <b>E353.2</b>		
Analysis Date: <b>10/05/23 15:26</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.01	0.011	1	0	<b>101</b>	90	110				

Associated samples: H23090922-001C, H23090922-002C, H23090922-003C

Run ID :Run Order: <b>SEAL AA500_231005A: 224</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>E353.2</b>		
Analysis Date: <b>10/05/23 18:56</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.918	0.010	1	0	<b>92</b>	90	110				

Associated samples: H23090922-001C, H23090922-002C, H23090922-003C

Run ID :Run Order: <b>SEAL AA500_231005A: 230</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23090892-001AMS</b>				Method: <b>E353.2</b>		
Analysis Date: <b>10/05/23 19:02</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.933	0.011	1	0	<b>93</b>	90	110				

Associated samples: H23090922-001C, H23090922-002C, H23090922-003C

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23090922

**BatchID:** R188863

**Date:** 08-Dec-23

Run ID :Run Order: <b>SEAL AA500_231005A: 231</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23090892-001AMSD</b>				Method: <b>E353.2</b>		
Analysis Date: <b>10/05/23 19:03</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.933	0.011	1	0	<b>93</b>	90	110	0.9334	<b>0.1</b>	10	

Associated samples: **H23090922-001C, H23090922-002C, H23090922-003C**

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23090922

BatchID: R188960

Date: 08-Dec-23

Run ID :Run Order: ICPMS205-H_231010A: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.8			
Analysis Date: 10/10/23 10:22	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>20</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.307	0.10	0.3	0	102	90	110				
Antimony	0.0590	0.050	0.06	0	98	90	110				
Arsenic	0.0601	0.0050	0.06	0	100	90	110				
Barium	0.0596	0.10	0.06	0	99	90	110				
Beryllium	0.0303	0.0010	0.03	0	101	90	110				
Cadmium	0.0305	0.0010	0.03	0	102	90	110				
Calcium	3.11	0.50	3	0	104	90	110				
Chromium	0.0617	0.010	0.06	0	103	90	110				
Cobalt	0.0622	0.010	0.06	0	104	90	110				
Lead	0.0601	0.010	0.06	0	100	90	110				
Molybdenum	0.0592	0.0050	0.06	0	99	90	110				
Nickel	0.0619	0.010	0.06	0	103	90	110				
Selenium	0.0613	0.0050	0.06	0	102	90	110				
Silver	0.0301	0.0050	0.03	0	100	90	110				
Thallium	0.0616	0.10	0.06	0	103	90	110				
Thorium	0.0615	0.0010	0.06	0	102	90	110				
Tin	0.0595	0.10	0.06	0	99	90	110				
Titanium	0.0640	0.010	0.06	0	107	90	110				
Uranium	0.0602	0.00030	0.06	0	100	90	110				
Vanadium	0.0610	0.10	0.06	0	102	90	110				

Associated samples: H23090922-001B, H23090922-001F, H23090922-002B, H23090922-002F, H23090922-003B, H23090922-003F

Run ID :Run Order: ICPMS205-H_231010A: 22	SampType: Method Blank				Lab ID: LRB			Method: E200.8			
Analysis Date: 10/10/23 11:03	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>19</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	ND	0.0002									
Arsenic	ND	0.0002									
Barium	ND	0.0002									
Beryllium	ND	0.0002									
Cadmium	ND	0.00002									
Calcium	ND	0.2									

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23090922

BatchID: R188960

Date: 08-Dec-23

Run ID :Run Order: ICPMS205-H_231010A: 22		SampType: Method Blank			Lab ID: LRB				Method: E200.8		
Analysis Date: 10/10/23 11:03		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	0.0001									
Cobalt	ND	0.001									
Lead	ND	0.0001									
Molybdenum	ND	0.0003									
Nickel	ND	0.0002									
Selenium	ND	0.00007									
Silver	ND	0.00008									
Thallium	ND	0.00008									
Tin	ND	0.0002									
Titanium	ND	0.0005									
Uranium	ND	0.00002									
Vanadium	ND	0.0001									

Associated samples: H23090922-001B, H23090922-002B, H23090922-003B

Run ID :Run Order: ICPMS205-H_231010A: 23		SampType: Laboratory Fortified Blank			Lab ID: LFB				Method: E200.8		
Analysis Date: 10/10/23 11:06		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0468	0.10	0.05	0	94	85	115				
Antimony	0.0492	0.050	0.05	0	98	85	115				
Arsenic	0.0496	0.0050	0.05	0	99	85	115				
Barium	0.0495	0.10	0.05	0	99	85	115				
Beryllium	0.0493	0.0010	0.05	0	99	85	115				
Cadmium	0.0510	0.0010	0.05	0	102	85	115				
Calcium	1.04	0.50	1	0	103	85	115				
Chromium	0.0500	0.010	0.05	0	100	85	115				
Cobalt	0.0504	0.010	0.05	0	101	85	115				
Lead	0.0496	0.010	0.05	0	99	85	115				
Molybdenum	0.0496	0.0050	0.05	0	99	85	115				
Nickel	0.0500	0.010	0.05	0	100	85	115				
Selenium	0.0496	0.0050	0.05	0	99	85	115				
Silver	0.0204	0.0050	0.02	0	102	85	115				
Thallium	0.0504	0.10	0.05	0	101	85	115				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23090922

BatchID: R188960

Date: 08-Dec-23

Run ID :Run Order: ICPMS205-H_231010A: 23		SampType: Laboratory Fortified Blank			Lab ID: LFB			Method: E200.8			
Analysis Date: 10/10/23 11:06		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes <b>19</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tin	0.0473	0.10	0.05	0	95	85	115				
Titanium	0.0502	0.010	0.05	0	100	85	115				
Uranium	0.0481	0.00030	0.05	0	96	85	115				
Vanadium	0.0494	0.10	0.05	0	99	85	115				

Associated samples: H23090922-001B, H23090922-002B, H23090922-003B

Run ID :Run Order: ICPMS205-H_231010A: 94		SampType: Initial Calibration Verification Standard			Lab ID: ICV			Method: E200.8			
Analysis Date: 10/10/23 18:02		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes <b>20</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.296	0.10	0.3	0	99	90	110				
Antimony	0.0572	0.050	0.06	0	95	90	110				
Arsenic	0.0569	0.0050	0.06	0	95	90	110				
Barium	0.0577	0.10	0.06	0	96	90	110				
Beryllium	0.0296	0.0010	0.03	0	99	90	110				
Cadmium	0.0288	0.0010	0.03	0	96	90	110				
Calcium	2.96	0.50	3	0	99	90	110				
Chromium	0.0575	0.010	0.06	0	96	90	110				
Cobalt	0.0578	0.010	0.06	0	96	90	110				
Lead	0.0570	0.010	0.06	0	95	90	110				
Molybdenum	0.0551	0.0050	0.06	0	92	90	110				
Nickel	0.0574	0.010	0.06	0	96	90	110				
Selenium	0.0582	0.0050	0.06	0	97	90	110				
Silver	0.0284	0.0050	0.03	0	95	90	110				
Thallium	0.0596	0.10	0.06	0	99	90	110				
Thorium	0.0564	0.0010	0.06	0	94	90	110				
Tin	0.0573	0.10	0.06	0	96	90	110				
Titanium	0.0564	0.010	0.06	0	94	90	110				
Uranium	0.0546	0.00030	0.06	0	91	90	110				
Vanadium	0.0564	0.10	0.06	0	94	90	110				

Associated samples: H23090922-001B, H23090922-001F, H23090922-002B, H23090922-002F, H23090922-003B, H23090922-003F

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23090922

**BatchID:** R188960

**Date:** 08-Dec-23

Run ID :Run Order: ICPMS205-H_231010A: 102	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 10/10/23 18:30	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>20</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0544	0.10	0.05	0	109	90	110				
Antimony	0.0505	0.050	0.05	0	101	90	110				
Arsenic	0.0507	0.0050	0.05	0	101	90	110				
Barium	0.0510	0.10	0.05	0	102	90	110				
Beryllium	0.0531	0.0010	0.05	0	106	90	110				
Cadmium	0.0509	0.0010	0.05	0	102	90	110				
Calcium	12.3	0.50	12.5	0	98	90	110				
Chromium	0.0504	0.010	0.05	0	101	90	110				
Cobalt	0.0508	0.010	0.05	0	102	90	110				
Lead	0.0507	0.010	0.05	0	101	90	110				
Molybdenum	0.0514	0.0050	0.05	0	103	90	110				
Nickel	0.0508	0.010	0.05	0	102	90	110				
Selenium	0.0510	0.0050	0.05	0	102	90	110				
Silver	0.0201	0.0050	0.02	0	101	90	110				
Thallium	0.0517	0.10	0.05	0	103	90	110				
Thorium	0.0480	0.0010	0.05	0	96	90	110				
Tin	0.0515	0.10	0.05	0	103	90	110				
Titanium	0.0493	0.010	0.05	0	99	90	110				
Uranium	0.0497	0.00030	0.05	0	99	90	110				
Vanadium	0.0506	0.10	0.05	0	101	90	110				

Associated samples: H23090922-001B, H23090922-001F, H23090922-002B, H23090922-002F, H23090922-003B, H23090922-003F

Run ID :Run Order: ICPMS205-H_231010A: 118	SampType: Sample Matrix Spike				Lab ID: H23090948-005AMS				Method: E200.8		
Analysis Date: 10/10/23 19:26	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>19</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0524	0.030	0.05	0	105	70	130				
Antimony	0.0496	0.0010	0.05	0	99	70	130				
Arsenic	0.0497	0.0010	0.05	0	99	70	130				
Barium	0.0733	0.050	0.05	0.02347	100	70	130				
Beryllium	0.0578	0.0010	0.05	0	116	70	130				
Cadmium	0.0505	0.0010	0.05	0	101	70	130				
Calcium	37.7	1.0	1	37.24		70	130				A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23090922

BatchID: R188960

Date: 08-Dec-23

Run ID :Run Order: ICPMS205-H_231010A: 118	SampType: Sample Matrix Spike				Lab ID: H23090948-005AMS				Method: E200.8		
Analysis Date: 10/10/23 19:26	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.0497	0.0050	0.05	0	99	70	130				
Cobalt	0.0502	0.0050	0.05	0	100	70	130				
Lead	0.0512	0.0010	0.05	0	102	70	130				
Molybdenum	0.0498	0.0010	0.05	0.0006935	98	70	130				
Nickel	0.0494	0.0050	0.05	0	99	70	130				
Selenium	0.0498	0.0010	0.05	0	100	70	130				
Silver	0.0200	0.0010	0.02	0	100	70	130				
Thallium	0.0536	0.00050	0.05	0	107	70	130				
Tin	0.0424	0.050	0.05	0	85	70	130				
Titanium	0.0520	0.0050	0.05	0	104	70	130				
Uranium	0.0484	0.00030	0.05	0.00009842	97	70	130				
Vanadium	0.0498	0.010	0.05	0	100	70	130				

Associated samples: H23090922-001B, H23090922-002B, H23090922-003B

Run ID :Run Order: ICPMS205-H_231010A: 119	SampType: Sample Matrix Spike Duplicate				Lab ID: H23090948-005AMSD				Method: E200.8		
Analysis Date: 10/10/23 19:29	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0568	0.030	0.05	0	114	70	130	0.05241	8.0	20	
Antimony	0.0491	0.0010	0.05	0	98	70	130	0.04959	1.0	20	
Arsenic	0.0514	0.0010	0.05	0	103	70	130	0.04966	3.5	20	
Barium	0.0735	0.050	0.05	0.02347	100	70	130	0.07331	0.3	20	
Beryllium	0.0587	0.0010	0.05	0	117	70	130	0.05783	1.5	20	
Cadmium	0.0503	0.0010	0.05	0	101	70	130	0.05047	0.4	20	
Calcium	37.5	1.0	1	37.24		70	130	37.71	0.5	20	A
Chromium	0.0504	0.0050	0.05	0	101	70	130	0.04966	1.5	20	
Cobalt	0.0508	0.0050	0.05	0	102	70	130	0.05015	1.4	20	
Lead	0.0512	0.0010	0.05	0	102	70	130	0.05124	0.1	20	
Molybdenum	0.0505	0.0010	0.05	0.0006935	100	70	130	0.04975	1.5	20	
Nickel	0.0502	0.0050	0.05	0	100	70	130	0.04937	1.6	20	
Selenium	0.0503	0.0010	0.05	0	101	70	130	0.04985	0.8	20	
Silver	0.0198	0.0010	0.02	0	99	70	130	0.02001	1.2	20	
Thallium	0.0536	0.00050	0.05	0	107	70	130	0.05365	0.1	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23090922

**BatchID:** R188960

**Date:** 08-Dec-23

Run ID :Run Order: ICPMS205-H_231010A: 119	SampType: Sample Matrix Spike Duplicate				Lab ID: H23090948-005AMSD				Method: E200.8		
Analysis Date: 10/10/23 19:29	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>19</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tin	0.0434	0.050	0.05	0	87	70	130	0.04244		20	
Titanium	0.0488	0.0050	0.05	0	98	70	130	0.05205	6.4	20	
Uranium	0.0484	0.00030	0.05	0.00009842	97	70	130	0.04835	0.1	20	
Vanadium	0.0501	0.010	0.05	0	100	70	130	0.04976	0.7	20	

Associated samples: H23090922-001B, H23090922-002B, H23090922-003B

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23090922

BatchID: R189087

Date: 08-Dec-23

Run ID :Run Order: ICPMS206-H_231012A: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV	Method: E200.8					
Analysis Date: 10/12/23 10:29	Units: mg/L				Prep Info:	Prep Date:			Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0588	0.0010	0.06	0	98	90	110				

Associated samples: H23090922-001B, H23090922-002B, H23090922-003B

Run ID :Run Order: ICPMS206-H_231012A: 22	SampType: Method Blank				Lab ID: LRB	Method: E200.8					
Analysis Date: 10/12/23 12:33	Units: mg/L				Prep Info:	Prep Date:			Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	8E-06	4E-06									

Associated samples: H23090922-001B, H23090922-002B, H23090922-003B

Run ID :Run Order: ICPMS206-H_231012A: 23	SampType: Laboratory Fortified Blank				Lab ID: LFB	Method: E200.8					
Analysis Date: 10/12/23 12:37	Units: mg/L				Prep Info:	Prep Date:			Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0470	0.0010	0.05	0	94	85	115				

Associated samples: H23090922-001B, H23090922-002B, H23090922-003B

Run ID :Run Order: ICPMS206-H_231012A: 144	SampType: Sample Matrix Spike				Lab ID: H23090938-002CMS	Method: E200.8					
Analysis Date: 10/12/23 20:01	Units: mg/L				Prep Info:	Prep Date:			Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.270	0.0050	0.25	0.000556	108	70	130				

Associated samples: H23090922-001B, H23090922-002B, H23090922-003B

Run ID :Run Order: ICPMS206-H_231012A: 145	SampType: Sample Matrix Spike Duplicate				Lab ID: H23090938-002CMSD	Method: E200.8					
Analysis Date: 10/12/23 20:05	Units: mg/L				Prep Info:	Prep Date:			Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.262	0.0050	0.25	0.000556	105	70	130	0.2698	2.9	20	

Associated samples: H23090922-001B, H23090922-002B, H23090922-003B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23090922

**BatchID:** R189087

**Date:** 08-Dec-23

Run ID :Run Order: <b>ICPMS206-H_231012A: 146</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>10/12/23 20:08</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0492	0.0010	0.05	0	<b>98</b>	90	110				

Associated samples: **H23090922-001B, H23090922-002B, H23090922-003B**

Run ID :Run Order: <b>ICPMS206-H_231012A: 342</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>10/13/23 09:45</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thorium	0.0621	0.0010	0.06	0	<b>104</b>	90	110				

Associated samples: **H23090922-001B, H23090922-002B, H23090922-003B**

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23090922

BatchID: R189094

Date: 08-Dec-23

Run ID :Run Order: ICP2-HE_231013B: 6	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.7		
Analysis Date: 10/13/23 08:14	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	41.1	1.0	40	0	103	95	105				
Iron	3.99	0.020	4	0	100	95	105				
Magnesium	40.1	1.0	40	0	100	95	105				
Sodium	42.2	1.0	40	0	105	95	105				

Associated samples: H23090922-002B, H23090922-003B

Run ID :Run Order: ICP2-HE_231013B: 7	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.7		
Analysis Date: 10/13/23 08:22	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	39.7	1.0	40	0	99	95	105				
Iron	3.92	0.020	4	0	98	95	105				
Magnesium	39.6	1.0	40	0	99	95	105				
Sodium	40.1	1.0	40	0	100	95	105				

Associated samples: H23090922-002B, H23090922-003B

Run ID :Run Order: ICP2-HE_231013B: 8	SampType: Continuing Calibration Verification Standard				Lab ID: CCV-1				Method: E200.7		
Analysis Date: 10/13/23 08:26	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	25.4	1.0	25	0	102	95	105				
Iron	2.49	0.020	2.5	0	100	95	105				
Magnesium	24.6	1.0	25	0	98	95	105				
Sodium	25.1	1.0	25	0	100	95	105				

Associated samples: H23090922-002B, H23090922-003B

Run ID :Run Order: ICP2-HE_231013B: 14	SampType: Method Blank				Lab ID: MB				Method: E200.7		
Analysis Date: 10/13/23 08:49	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.2									
Iron	ND	0.008									
Magnesium	ND	0.05									

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23090922

**BatchID:** R189094

**Date:** 08-Dec-23

Run ID :Run Order: <b>ICP2-HE_231013B: 14</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MB</b>				Method: <b>E200.7</b>		
Analysis Date: <b>10/13/23 08:49</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	0.07	0.03									

Associated samples: **H23090922-002B, H23090922-003B**

Run ID :Run Order: <b>ICP2-HE_231013B: 15</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>				Method: <b>E200.7</b>		
Analysis Date: <b>10/13/23 08:53</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	52.3	1.0	50	0	<b>105</b>	85	115				
Iron	5.02	0.020	5	0	<b>100</b>	85	115				
Magnesium	50.6	1.0	50	0	<b>101</b>	85	115				
Sodium	53.8	1.0	50	0	<b>108</b>	85	115				

Associated samples: **H23090922-002B, H23090922-003B**

Run ID :Run Order: <b>ICP2-HE_231013B: 101</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>E200.7</b>		
Analysis Date: <b>10/13/23 15:27</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	25.6	1.0	25	0	<b>102</b>	90	110				
Iron	2.59	0.020	2.5	0	<b>103</b>	90	110				
Magnesium	26.2	1.0	25	0	<b>105</b>	90	110				
Sodium	27.1	1.0	25	0	<b>108</b>	90	110				

Associated samples: **H23090922-002B, H23090922-003B**

Run ID :Run Order: <b>ICP2-HE_231013B: 104</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23100477-004BMS2</b>				Method: <b>E200.7</b>		
Analysis Date: <b>10/13/23 15:38</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	312	1.0	250	69.83	<b>97</b>	70	130				
Iron	26.2	0.041	25	1.291	<b>99</b>	70	130				
Magnesium	266	1.0	250	16.73	<b>100</b>	70	130				
Sodium	331	1.0	250	61.18	<b>108</b>	70	130				

Associated samples: **H23090922-002B, H23090922-003B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23090922

BatchID: R189094

Date: 08-Dec-23

Run ID :Run Order: ICP2-HE_231013B: 105	SampType: Sample Matrix Spike Duplicate				Lab ID: H23100477-004BMSD2				Method: E200.7		
Analysis Date: 10/13/23 15:42	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	331	1.0	250	69.83	104	70	130	311.6	5.9	20	
Iron	27.9	0.041	25	1.291	106	70	130	26.15	6.5	20	
Magnesium	282	1.0	250	16.73	106	70	130	265.9	5.8	20	
Sodium	343	1.0	250	61.18	113	70	130	331.4	3.6	20	

Associated samples: H23090922-002B, H23090922-003B

Qualifiers: ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23090922

BatchID: R189215

Date: 08-Dec-23

Run ID :Run Order: ICPMS205-H_231017B: 15	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 10/17/23 16:35	Units: mg/L		Prep Info: Prep Date:				Prep Method:				
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0595	0.010	0.06	0	99	90	110				
Gallium	0.0641	0.010	0.06	0	107	90	110				
Lanthanum	0.0598	0.010	0.06	0	100	90	110				
Neodymium	0.0593	0.0050	0.06	0	99	90	110				
Niobium	0.0603	0.0010	0.06	0	100	90	110				
Palladium	0.0596	0.010	0.06	0	99	90	110				
Praseodymium	0.0602	0.0010	0.06	0	100	90	110				
Rubidium	0.0606	0.010	0.06	0	101	90	110				
Tungsten	0.0574	0.10	0.06	0	96	90	110				
Zirconium	0.0558	0.0050	0.06	0	93	90	110				

Associated samples: H23090922-001B, H23090922-001F, H23090922-002B, H23090922-002F, H23090922-003B, H23090922-003F

Run ID :Run Order: ICPMS205-H_231017B: 23	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 10/17/23 17:02	Units: mg/L		Prep Info: Prep Date:				Prep Method:				
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	ND	0.0002									
Gallium	ND	0.0002									
Lanthanum	ND	0.0001									
Neodymium	ND	0.00009									
Niobium	ND	0.0003									
Palladium	ND	0.0002									
Praseodymium	ND	0.0001									
Rubidium	ND	0.00007									
Tungsten	ND	0.0001									
Zirconium	ND	0.0003									

Associated samples: H23090922-001B, H23090922-002B, H23090922-003B

Run ID :Run Order: ICPMS205-H_231017B: 24	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.8		
Analysis Date: 10/17/23 17:04	Units: mg/L		Prep Info: Prep Date:				Prep Method:				
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0488	0.010	0.05	0	98	85	115				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23090922

BatchID: R189215

Date: 08-Dec-23

Run ID :Run Order: ICPMS205-H_231017B: 24	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.8		
Analysis Date: 10/17/23 17:04	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gallium	0.0508	0.010	0.05	0	101	85	115				
Lanthanum	0.0483	0.010	0.05	0	97	85	115				
Neodymium	0.0482	0.0050	0.05	0	96	85	115				
Niobium	0.0553	0.0010	0.05	0	111	85	115				
Palladium	0.0482	0.010	0.05	0	96	85	115				
Praseodymium	0.0484	0.0010	0.05	0	97	85	115				
Rubidium	0.0484	0.010	0.05	0	97	85	115				
Tungsten	0.0479	0.10	0.05	0	96	85	115				
Zirconium	0.0457	0.0050	0.05	0	91	85	115				

Associated samples: H23090922-001B, H23090922-002B, H23090922-003B

Run ID :Run Order: ICPMS205-H_231017B: 36	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 10/17/23 17:29	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0493	0.010	0.05	0	99	90	110				
Gallium	0.0508	0.010	0.05	0	102	90	110				
Lanthanum	0.0500	0.010	0.05	0	100	90	110				
Neodymium	0.0501	0.0050	0.05	0	100	90	110				
Niobium	0.0508	0.0010	0.05	0	101	90	110				
Palladium	0.0499	0.010	0.05	0	100	90	110				
Praseodymium	0.0500	0.0010	0.05	0	100	90	110				
Rubidium	0.0501	0.010	0.05	0	100	90	110				
Tungsten	0.0500	0.10	0.05	0	100	90	110				
Zirconium	0.0536	0.0050	0.05	0	107	90	110				

Associated samples: H23090922-001B, H23090922-001F, H23090922-002B, H23090922-002F, H23090922-003B, H23090922-003F

Run ID :Run Order: ICPMS205-H_231017B: 49	SampType: Sample Matrix Spike				Lab ID: H23090922-001BMS				Method: E200.8		
Analysis Date: 10/17/23 17:55	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.241	0.010	0.25	0	96	70	130				
Gallium	0.258	0.010	0.25	0	103	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23090922

BatchID: R189215

Date: 08-Dec-23

Run ID :Run Order: ICPMS205-H_231017B: 49		SampType: Sample Matrix Spike			Lab ID: H23090922-001BMS				Method: E200.8		
Analysis Date: 10/17/23 17:55		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lanthanum	0.253	0.010	0.25	0.00652	99	70	130				
Neodymium	0.248	0.0050	0.25	0.004421	98	70	130				
Niobium	0.263	0.0015	0.25	0.001695	104	70	130				
Palladium	0.242	0.010	0.25	0	97	70	130				
Praseodymium	0.245	0.0010	0.25	0.001218	98	70	130				
Rubidium	0.249	0.010	0.25	0.004482	98	70	130				
Tungsten	0.245	0.10	0.25	0.0005685	98	70	130				
Zirconium	0.248	0.0050	0.25	0	99	70	130				

Associated samples: H23090922-001B, H23090922-002B, H23090922-003B

Run ID :Run Order: ICPMS205-H_231017B: 50		SampType: Sample Matrix Spike Duplicate			Lab ID: H23090922-001BMSD				Method: E200.8		
Analysis Date: 10/17/23 17:58		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.239	0.010	0.25	0	96	70	130	0.2408	0.7	20	
Gallium	0.259	0.010	0.25	0	103	70	130	0.2575	0.5	20	
Lanthanum	0.252	0.010	0.25	0.00652	98	70	130	0.2531	0.3	20	
Neodymium	0.251	0.0050	0.25	0.004421	99	70	130	0.2484	1.0	20	
Niobium	0.271	0.0015	0.25	0.001695	108	70	130	0.2627			
Palladium	0.242	0.010	0.25	0	97	70	130	0.2416	0.1	20	
Praseodymium	0.246	0.0010	0.25	0.001218	98	70	130	0.2453			
Rubidium	0.254	0.010	0.25	0.004482	100	70	130	0.2494	1.7	20	
Tungsten	0.249	0.10	0.25	0.0005685	99	70	130	0.2453	1.3	20	
Zirconium	0.244	0.0050	0.25	0	98	70	130	0.2484	1.8	20	

Associated samples: H23090922-001B, H23090922-002B, H23090922-003B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23090922

**BatchID:** TDS230928A

**Date:** 08-Dec-23

Run ID :Run Order: <b>ACCU-124 (14410200)_230928B: 1</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MB-1_230928</b>	Method: <b>A2540 C</b>								
Analysis Date: <b>09/28/23 15:28</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	ND	6									
Associated samples: <b>H23090922-001A, H23090922-002A, H23090922-003A</b>											

Run ID :Run Order: <b>ACCU-124 (14410200)_230928B: 2</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS-2_230928</b>	Method: <b>A2540 C</b>								
Analysis Date: <b>09/28/23 15:28</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	1940	50	2000	0	<b>97</b>	90	110				
Associated samples: <b>H23090922-001A, H23090922-002A, H23090922-003A</b>											

Run ID :Run Order: <b>ACCU-124 (14410200)_230928B: 4</b>	SampType: <b>Sample Duplicate</b>	Lab ID: <b>H23090911-005A DUP</b>	Method: <b>A2540 C</b>								
Analysis Date: <b>09/28/23 15:29</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	126	25		0				129	<b>2.4</b>	10	
Associated samples: <b>H23090922-001A, H23090922-002A, H23090922-003A</b>											





# Work Order Receipt Checklist

MT Dept of Justice

H23090922

Login completed by: Taylor K. Jones

Date Received: 9/28/2023

Reviewed by: rtooke

Received by: rrs

Reviewed Date: 10/2/2023

Carrier name: Hand Deliver

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	2.7°C On Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

## Contact and Corrective Action Comments:

Per client COC the sample containers for Nutrients were preserved with Phosphoric acid prior to receipt at the laboratory. The laboratory was unable to determine which samples this impacted. All samples for Nutrients were then subsampled and preserved to pH <2 with 2 mL of sulfuric acid per 250 mL in the laboratory upon receipt. Samples for DOC and TOC were still able to be analyzed despite being sulfuric acid preserved. The sample ID on the containers is MH-MSD108 and on the COC it is MH-MSD106. Used ID provided on the COC. tj



## Work Order Receipt Checklist - Continued

MT Dept of Justice

H23090922

9/28/23







# ANALYTICAL SUMMARY REPORT

December 27, 2023

MT Dept of Justice  
Natural Resource Damage Program  
Helena, MT 59620-1425

Work Order: H23110570      Quote ID: H2187  
Project Name: NRDPM16 TO2/001

Energy Laboratories Inc Helena MT received the following 3 samples for MT Dept of Justice on 11/15/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H23110570-001	MH-MSD108	11/14/23 10:10	11/15/23	Surface Water	Rare Earth Metals, Dissolved Rare Earth Metals, Total Recoverable Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity to pH 4.5 Anion - Cation Balance Carbon, Dissolved Organic Conductivity Carbon, Total Organic Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Metals Digestion by E200.2 Rare Metals Digestion by E200.2 Solids, Total Dissolved
H23110570-002	MH-MSD113	11/14/23 11:15	11/15/23	Aqueous	Same As Above
H23110570-003	MH-MSD116	11/14/23 11:53	11/15/23	Aqueous	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

  
Project Management

Digitally signed by  
Ravyn R. Sponholz  
Date: 2023.12.27 10:17:31 -07:00



**CLIENT:** MT Dept of Justice  
**Project:** NRDPM16 TO2/001  
**Work Order:** H23110570

**Report Date:** 12/27/23

## **CASE NARRATIVE**

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Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002.



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD108  
**Lab ID:** H23110570-001  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 11/14/23 10:10  
**Date Received:** 11/15/23  
**Report Date:** 12/27/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.9	s.u.	H	0.1		A4500-H B	11/16/23 09:22 / eek		PHSC_101-H_231116A : 7		R190121
pH Measurement Temp	13.4	°C				A4500-H B	11/16/23 09:22 / eek		PHSC_101-H_231116A : 7		R190121
Conductivity @ 25 C	1530	umhos/cm		5		A2510 B	11/16/23 09:22 / eek		PHSC_101-H_231116A : 8		R190121
Solids, Total Dissolved TDS @ 180 C	1240	mg/L		20		A2540 C	11/16/23 13:02 / dpw		-124 (14410200)_231116B : 6		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	41	mg/L		4		A2320 B	11/17/23 11:13 / eek		PHSC_101-H_231117A : 49		R190164
Bicarbonate as HCO3	49	mg/L		4		A2320 B	11/17/23 11:13 / eek		PHSC_101-H_231117A : 49		R190164
Carbonate as CO3	ND	mg/L		4		A2320 B	11/17/23 11:13 / eek		PHSC_101-H_231117A : 49		R190164
Chloride	89	mg/L		1		E300.0	11/17/23 03:35 / SR		IC METROHM_231116A : 68		R190187
Sulfate	688	mg/L		1		E300.0	11/17/23 03:35 / SR		IC METROHM_231116A : 68		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 03:35 / SR		IC METROHM_231116A : 68		R190187
Fluoride	0.8	mg/L		0.1		E300.0	11/17/23 03:35 / SR		IC METROHM_231116A : 68		R190187
Hardness as CaCO3	648	mg/L		1		A2340 B	11/26/23 20:17 / SR		CALC_231128A : 652		R190371
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.8	mg/L		0.5		A5310 C	11/22/23 00:28 / eli-c		SUB-C301289 : 14		C_R301289
Organic Carbon, Total (TOC)	1.7	mg/L		0.5		A5310 C	11/21/23 13:58 / eli-c		SUB-C301289 : 4		C_R301289
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	2.08	mg/L		0.02		E353.2	11/20/23 16:14 / JAR		SEAL AA500_231120A : 43		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	0.410	mg/L		0.009		E200.8	12/19/23 23:15 / dck		ICPMS206-H_231219A : 134		R191058
Antimony	ND	mg/L		0.0005		E200.8	12/15/23 13:49 / dck		ICPMS206-H_231215A : 55		R190901
Arsenic	0.012	mg/L		0.001		E200.8	12/15/23 13:49 / dck		ICPMS206-H_231215A : 55		R190901
Barium	0.022	mg/L		0.003		E200.8	12/15/23 13:49 / dck		ICPMS206-H_231215A : 55		R190901
Beryllium	ND	mg/L		0.0008		E200.8	12/19/23 23:15 / dck		ICPMS206-H_231219A : 134		R191058
Boron	0.39	mg/L		0.05		E200.7	11/26/23 20:17 / slj		ICP2-HE_231126B : 116		R190339
Cadmium	0.0684	mg/L		0.00003		E200.8	12/15/23 13:49 / dck		ICPMS206-H_231215A : 55		R190901
Cesium	ND	mg/L		0.01		E200.8	11/30/23 13:22 / dck		ICPMS206-H_231130A : 61		R190453

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD108  
**Lab ID:** H23110570-001  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 11/14/23 10:10  
**Date Received:** 11/15/23  
**Report Date:** 12/27/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	183	mg/L		1		E200.7	11/26/23 20:17 / slj		ICP2-HE_231126B : 116		R190339
Chromium	ND	mg/L		0.005		E200.8	12/15/23 13:49 / dck		ICPMS206-H_231215A : 55		R190901
Cobalt	0.074	mg/L		0.005		E200.8	12/15/23 13:49 / dck		ICPMS206-H_231215A : 55		R190901
Copper	6.28	mg/L		0.01		E200.7	11/26/23 20:17 / slj		ICP2-HE_231126B : 116		R190339
Gallium	ND	mg/L		0.01		E200.8	11/30/23 13:22 / dck		ICPMS206-H_231130A : 61		R190453
Iron	19.3	mg/L		0.02		E200.7	11/26/23 20:17 / slj		ICP2-HE_231126B : 116		R190339
Lead	0.0046	mg/L		0.0003		E200.8	12/15/23 13:49 / dck		ICPMS206-H_231215A : 55		R190901
Lanthanum	ND	mg/L		0.01		E200.8	11/30/23 13:22 / dck		ICPMS206-H_231130A : 61		R190453
Lithium	0.2	mg/L		0.1		E200.7	11/26/23 20:17 / slj		ICP2-HE_231126B : 116		R190339
Magnesium	46	mg/L		1		E200.7	11/26/23 20:17 / slj		ICP2-HE_231126B : 116		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/30/23 13:22 / dck		ICPMS206-H_231130A : 61		R190453
Niobium	ND	mg/L		0.01		E200.8	11/30/23 13:22 / dck		ICPMS206-H_231130A : 61		R190453
Manganese	16.1	mg/L		0.001		E200.7	11/26/23 20:17 / slj		ICP2-HE_231126B : 116		R190339
Molybdenum	0.004	mg/L		0.001		E200.8	12/15/23 13:49 / dck		ICPMS206-H_231215A : 55		R190901
Nickel	0.037	mg/L		0.002		E200.8	12/15/23 13:49 / dck		ICPMS206-H_231215A : 55		R190901
Palladium	ND	mg/L		0.01		E200.8	11/30/23 13:22 / dck		ICPMS206-H_231130A : 61		R190453
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 13:22 / dck		ICPMS206-H_231130A : 61		R190453
Rubidium	ND	mg/L		0.01		E200.8	11/30/23 13:22 / dck		ICPMS206-H_231130A : 61		R190453
Potassium	9	mg/L		1		E200.7	11/26/23 20:17 / slj		ICP2-HE_231126B : 116		R190339
Selenium	ND	mg/L		0.001		E200.8	12/15/23 13:49 / dck		ICPMS206-H_231215A : 55		R190901
Silver	ND	mg/L		0.0002		E200.8	12/19/23 23:15 / dck		ICPMS206-H_231219A : 134		R191058
Sodium	51	mg/L		1		E200.7	11/26/23 20:17 / slj		ICP2-HE_231126B : 116		R190339
Strontium	1.32	mg/L		0.01		E200.7	11/26/23 20:17 / slj		ICP2-HE_231126B : 116		R190339
Thallium	ND	mg/L		0.0002		E200.8	12/15/23 13:49 / dck		ICPMS206-H_231215A : 55		R190901
Thorium	ND	mg/L		0.005		E200.8	12/15/23 13:49 / dck		ICPMS206-H_231215A : 55		R190901
Tin	ND	mg/L		0.05		E200.8	12/15/23 13:49 / dck		ICPMS206-H_231215A : 55		R190901
Titanium	ND	mg/L		0.005		E200.8	12/15/23 13:49 / dck		ICPMS206-H_231215A : 55		R190901
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 13:22 / dck		ICPMS206-H_231130A : 61		R190453
Uranium	0.0082	mg/L		0.0002		E200.8	12/15/23 13:49 / dck		ICPMS206-H_231215A : 55		R190901
Vanadium	ND	mg/L		0.01		E200.8	12/15/23 13:49 / dck		ICPMS206-H_231215A : 55		R190901
Zinc	16.8	mg/L		0.008		E200.8	12/19/23 23:15 / dck		ICPMS206-H_231219A : 134		R191058
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 13:22 / dck		ICPMS206-H_231130A : 61		R190453

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD108  
**Lab ID:** H23110570-001  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 11/14/23 10:10  
**Date Received:** 11/15/23  
**Report Date:** 12/27/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	0.94	mg/L		0.01		E200.8	12/19/23 23:18 / dck	11/19/23 18:20	ICPMS206-H_231219A : 135		69391
Antimony	ND	mg/L		0.0005		E200.8	12/15/23 13:52 / dck	11/19/23 18:20	ICPMS206-H_231215A : 56		69391
Arsenic	0.015	mg/L		0.001		E200.8	12/15/23 13:52 / dck	11/19/23 18:20	ICPMS206-H_231215A : 56		69391
Barium	0.022	mg/L		0.003		E200.8	12/15/23 13:52 / dck	11/19/23 18:20	ICPMS206-H_231215A : 56		69391
Beryllium	ND	mg/L		0.0008		E200.8	12/19/23 23:18 / dck	11/19/23 18:20	ICPMS206-H_231219A : 135		69391
Cesium	ND	mg/L		0.01		E200.8	11/30/23 13:24 / dck	11/21/23 09:54	ICPMS206-H_231130A : 62		69431
Cadmium	0.0718	mg/L		0.00003		E200.8	12/15/23 13:52 / dck	11/19/23 18:20	ICPMS206-H_231215A : 56		69391
Chromium	ND	mg/L		0.005		E200.8	12/15/23 13:52 / dck	11/19/23 18:20	ICPMS206-H_231215A : 56		69391
Cobalt	0.076	mg/L		0.005		E200.8	12/15/23 13:52 / dck	11/19/23 18:20	ICPMS206-H_231215A : 56		69391
Copper	6.44	mg/L		0.002		E200.8	12/15/23 13:52 / dck	11/19/23 18:20	ICPMS206-H_231215A : 56		69391
Gallium	ND	mg/L		0.01		E200.8	11/30/23 13:24 / dck	11/21/23 09:54	ICPMS206-H_231130A : 62		69431
Iron	21.0	mg/L		0.02		E200.8	12/15/23 13:52 / dck	11/19/23 18:20	ICPMS206-H_231215A : 56		69391
Lead	0.0138	mg/L		0.0003		E200.8	12/15/23 13:52 / dck	11/19/23 18:20	ICPMS206-H_231215A : 56		69391
Lanthanum	ND	mg/L		0.1		E200.8	11/30/23 13:24 / dck	11/21/23 09:54	ICPMS206-H_231130A : 62		69431
Lithium	0.2	mg/L		0.1		E200.8	12/19/23 23:18 / dck	11/19/23 18:20	ICPMS206-H_231219A : 135		69391
Neodymium	ND	mg/L		0.01		E200.8	11/30/23 13:24 / dck	11/21/23 09:54	ICPMS206-H_231130A : 62		69431
Niobium	ND	mg/L		0.01		E200.8	11/30/23 13:24 / dck	11/21/23 09:54	ICPMS206-H_231130A : 62		69431
Manganese	17.0	mg/L		0.001		E200.8	12/19/23 23:18 / dck	11/19/23 18:20	ICPMS206-H_231219A : 135		69391
Molybdenum	0.005	mg/L		0.001		E200.8	12/15/23 13:52 / dck	11/19/23 18:20	ICPMS206-H_231215A : 56		69391
Nickel	0.039	mg/L		0.002		E200.8	12/15/23 13:52 / dck	11/19/23 18:20	ICPMS206-H_231215A : 56		69391
Palladium	ND	mg/L		0.01		E200.8	11/30/23 13:24 / dck	11/21/23 09:54	ICPMS206-H_231130A : 62		69431
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 13:24 / dck	11/21/23 09:54	ICPMS206-H_231130A : 62		69431
Rubidium	ND	mg/L		0.01		E200.8	11/30/23 13:24 / dck	11/21/23 09:54	ICPMS206-H_231130A : 62		69431
Selenium	ND	mg/L		0.001		E200.8	12/15/23 13:52 / dck	11/19/23 18:20	ICPMS206-H_231215A : 56		69391
Silver	ND	mg/L		0.0002		E200.8	12/19/23 23:18 / dck	11/19/23 18:20	ICPMS206-H_231219A : 135		69391
Strontium	1.50	mg/L		0.01		E200.8	12/15/23 13:52 / dck	11/19/23 18:20	ICPMS206-H_231215A : 56		69391
Thallium	ND	mg/L		0.0002		E200.8	12/15/23 13:52 / dck	11/19/23 18:20	ICPMS206-H_231215A : 56		69391
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 13:24 / dck	11/21/23 09:54	ICPMS206-H_231130A : 62		69431
Tin	ND	mg/L		0.05		E200.8	12/15/23 13:52 / dck	11/19/23 18:20	ICPMS206-H_231215A : 56		69391
Titanium	ND	mg/L		0.005		E200.8	12/15/23 13:52 / dck	11/19/23 18:20	ICPMS206-H_231215A : 56		69391
Thorium	ND	mg/L		0.005		E200.8	12/15/23 13:52 / dck	11/19/23 18:20	ICPMS206-H_231215A : 56		69391
Uranium	0.0102	mg/L		0.0003		E200.8	12/15/23 13:52 / dck	11/19/23 18:20	ICPMS206-H_231215A : 56		69391

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD108  
**Lab ID:** H23110570-001  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2/001  
**Collection Date:** 11/14/23 10:10 **DateReceived:** 11/15/23  
**Report Date:** 12/27/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	12/15/23 13:52 / dck	11/19/23 18:20	ICPMS206-H_231215A : 56		69391
Zinc	17.6	mg/L		0.008		E200.8	12/19/23 23:18 / dck	11/19/23 18:20	ICPMS206-H_231219A : 135		69391
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 13:24 / dck	11/21/23 09:54	ICPMS206-H_231130A : 62		69431
<b>DATA QUALITY</b>											
A/C Balance	-2.87	%				A1030 E	11/28/23 09:06 / SR		CALC_231128A : 650		R190371
Cation/Anion Balance includes selected metals											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD113  
**Lab ID:** H23110570-002  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2/001  
**Collection Date:** 11/14/23 11:15  
**Date Received:** 11/15/23  
**Report Date:** 12/27/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.2	s.u.	H	0.1		A4500-H B	11/16/23 09:26 / eek		PHSC_101-H_231116A : 11		R190121
pH Measurement Temp	11.0	°C				A4500-H B	11/16/23 09:26 / eek		PHSC_101-H_231116A : 11		R190121
Conductivity @ 25 C	2330	umhos/cm		5		A2510 B	11/16/23 09:26 / eek		PHSC_101-H_231116A : 12		R190121
Solids, Total Dissolved TDS @ 180 C	1990	mg/L		50		A2540 C	11/16/23 13:02 / dpw		-124 (14410200)_231116B : 7		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	8	mg/L		4		A2320 B	11/17/23 11:21 / eek		PHSC_101-H_231117A : 51		R190164
Bicarbonate as HCO3	9	mg/L		4		A2320 B	11/17/23 11:21 / eek		PHSC_101-H_231117A : 51		R190164
Carbonate as CO3	ND	mg/L		4		A2320 B	11/17/23 11:21 / eek		PHSC_101-H_231117A : 51		R190164
Chloride	209	mg/L		1		E300.0	11/29/23 02:12 / SR		IC METROHM_231128A : 67		R190403
Sulfate	1070	mg/L		1		E300.0	11/29/23 02:12 / SR		IC METROHM_231128A : 67		R190403
Bromide	0.6	mg/L		0.5		E300.0	11/17/23 03:49 / SR		IC METROHM_231116A : 69		R190187
Fluoride	1.3	mg/L		0.1		E300.0	11/17/23 03:49 / SR		IC METROHM_231116A : 69		R190187
Hardness as CaCO3	852	mg/L		1		A2340 B	11/26/23 20:20 / SR		CALC_231212B : 80		R190781
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.4	mg/L		0.5		A5310 C	11/22/23 00:51 / eli-c		SUB-C301289 : 15		C_R301289
Organic Carbon, Total (TOC)	2.5	mg/L		0.5		A5310 C	11/21/23 14:54 / eli-c		SUB-C301289 : 7		C_R301289
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.41	mg/L		0.01		E353.2	11/20/23 16:17 / JAR		SEAL AA500_231120A : 46		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	2.56	mg/L		0.06		E200.7	11/26/23 20:20 / slj		ICP2-HE_231126B : 117		R190339
Antimony	ND	mg/L		0.0005		E200.8	12/15/23 13:55 / dck		ICPMS206-H_231215A : 57		R190901
Arsenic	0.020	mg/L		0.001		E200.8	12/15/23 13:55 / dck		ICPMS206-H_231215A : 57		R190901
Barium	0.022	mg/L		0.003		E200.8	12/15/23 13:55 / dck		ICPMS206-H_231215A : 57		R190901
Beryllium	0.0018	mg/L		0.0008		E200.8	12/19/23 23:22 / dck		ICPMS206-H_231219A : 136		R191058
Boron	0.48	mg/L		0.05		E200.7	11/26/23 20:20 / slj		ICP2-HE_231126B : 117		R190339
Cadmium	0.186	mg/L		0.00003		E200.8	12/15/23 13:55 / dck		ICPMS206-H_231215A : 57		R190901
Cesium	ND	mg/L		0.01		E200.8	11/30/23 13:27 / dck		ICPMS206-H_231130A : 63		R190453

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD113  
**Lab ID:** H23110570-002  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2/001  
**Collection Date:** 11/14/23 11:15  
**Date Received:** 11/15/23  
**Report Date:** 12/27/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	241	mg/L		1		E200.7	11/26/23 20:20 / slj		ICP2-HE_231126B : 117		R190339
Chromium	ND	mg/L		0.005		E200.8	12/15/23 13:55 / dck		ICPMS206-H_231215A : 57		R190901
Cobalt	0.271	mg/L		0.005		E200.8	12/15/23 13:55 / dck		ICPMS206-H_231215A : 57		R190901
Copper	15.6	mg/L		0.02		E200.7	11/26/23 20:20 / slj		ICP2-HE_231126B : 117		R190339
Gallium	ND	mg/L		0.01		E200.8	11/30/23 13:27 / dck		ICPMS206-H_231130A : 63		R190453
Iron	72.1	mg/L		0.02		E200.7	11/26/23 20:20 / slj		ICP2-HE_231126B : 117		R190339
Lead	0.0195	mg/L		0.0003		E200.8	12/15/23 13:55 / dck		ICPMS206-H_231215A : 57		R190901
Lanthanum	0.03	mg/L		0.01		E200.8	11/30/23 13:27 / dck		ICPMS206-H_231130A : 63		R190453
Lithium	0.3	mg/L		0.1		E200.7	11/26/23 20:20 / slj		ICP2-HE_231126B : 117		R190339
Magnesium	61	mg/L		1		E200.7	11/26/23 20:20 / slj		ICP2-HE_231126B : 117		R190339
Neodymium	0.018	mg/L		0.005		E200.8	11/30/23 13:27 / dck		ICPMS206-H_231130A : 63		R190453
Niobium	ND	mg/L		0.01		E200.8	11/30/23 13:27 / dck		ICPMS206-H_231130A : 63		R190453
Manganese	46.3	mg/L		0.003		E200.7	11/26/23 20:20 / slj		ICP2-HE_231126B : 117		R190339
Molybdenum	0.005	mg/L		0.001		E200.8	12/15/23 13:55 / dck		ICPMS206-H_231215A : 57		R190901
Nickel	0.109	mg/L		0.002		E200.8	12/15/23 13:55 / dck		ICPMS206-H_231215A : 57		R190901
Palladium	ND	mg/L		0.01		E200.8	11/30/23 13:27 / dck		ICPMS206-H_231130A : 63		R190453
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 13:27 / dck		ICPMS206-H_231130A : 63		R190453
Rubidium	ND	mg/L		0.01		E200.8	11/30/23 13:27 / dck		ICPMS206-H_231130A : 63		R190453
Potassium	11	mg/L		1		E200.7	11/26/23 20:20 / slj		ICP2-HE_231126B : 117		R190339
Selenium	ND	mg/L		0.001		E200.8	12/15/23 13:55 / dck		ICPMS206-H_231215A : 57		R190901
Silver	0.0003	mg/L		0.0002		E200.8	12/19/23 23:22 / dck		ICPMS206-H_231219A : 136		R191058
Sodium	79	mg/L		1		E200.7	12/11/23 15:31 / slj		ICP2-HE_231211B : 96		R190737
Strontium	1.42	mg/L		0.01		E200.7	11/26/23 20:20 / slj		ICP2-HE_231126B : 117		R190339
Thallium	ND	mg/L		0.0002		E200.8	12/15/23 13:55 / dck		ICPMS206-H_231215A : 57		R190901
Thorium	ND	mg/L		0.005		E200.8	12/15/23 13:55 / dck		ICPMS206-H_231215A : 57		R190901
Tin	ND	mg/L		0.05		E200.8	12/15/23 13:55 / dck		ICPMS206-H_231215A : 57		R190901
Titanium	ND	mg/L		0.005		E200.8	12/15/23 13:55 / dck		ICPMS206-H_231215A : 57		R190901
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 13:27 / dck		ICPMS206-H_231130A : 63		R190453
Uranium	0.0158	mg/L		0.0002		E200.8	12/15/23 13:55 / dck		ICPMS206-H_231215A : 57		R190901
Vanadium	ND	mg/L		0.01		E200.8	12/15/23 13:55 / dck		ICPMS206-H_231215A : 57		R190901
Zinc	39.0	mg/L		0.008		E200.7	12/11/23 15:31 / slj		ICP2-HE_231211B : 96		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 13:27 / dck		ICPMS206-H_231130A : 63		R190453

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD113  
**Lab ID:** H23110570-002  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2/001  
**Collection Date:** 11/14/23 11:15 **DateReceived:** 11/15/23  
**Report Date:** 12/27/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	3.33	mg/L		0.01		E200.8	12/19/23 23:25 / dck	11/19/23 18:20	ICPMS206-H_231219A : 137		69391
Antimony	ND	mg/L		0.0005		E200.8	12/15/23 13:59 / dck	11/19/23 18:20	ICPMS206-H_231215A : 58		69391
Arsenic	0.022	mg/L		0.001		E200.8	12/15/23 13:59 / dck	11/19/23 18:20	ICPMS206-H_231215A : 58		69391
Barium	0.023	mg/L		0.003		E200.8	12/15/23 13:59 / dck	11/19/23 18:20	ICPMS206-H_231215A : 58		69391
Beryllium	0.0021	mg/L		0.0008		E200.8	12/19/23 23:25 / dck	11/19/23 18:20	ICPMS206-H_231219A : 137		69391
Cesium	ND	mg/L		0.01		E200.8	11/30/23 13:29 / dck	11/21/23 09:54	ICPMS206-H_231130A : 64		69431
Cadmium	0.191	mg/L		0.00003		E200.8	12/15/23 13:59 / dck	11/19/23 18:20	ICPMS206-H_231215A : 58		69391
Chromium	ND	mg/L		0.005		E200.8	12/15/23 13:59 / dck	11/19/23 18:20	ICPMS206-H_231215A : 58		69391
Cobalt	0.285	mg/L		0.005		E200.8	12/15/23 13:59 / dck	11/19/23 18:20	ICPMS206-H_231215A : 58		69391
Copper	15.5	mg/L		0.002		E200.8	12/19/23 23:25 / dck	11/19/23 18:20	ICPMS206-H_231219A : 137		69391
Gallium	ND	mg/L		0.01		E200.8	11/30/23 13:29 / dck	11/21/23 09:54	ICPMS206-H_231130A : 64		69431
Iron	76.4	mg/L		0.02		E200.8	12/19/23 23:25 / dck	11/19/23 18:20	ICPMS206-H_231219A : 137		69391
Lead	0.0219	mg/L		0.0003		E200.8	12/15/23 13:59 / dck	11/19/23 18:20	ICPMS206-H_231215A : 58		69391
Lanthanum	ND	mg/L		0.1		E200.8	11/30/23 13:29 / dck	11/21/23 09:54	ICPMS206-H_231130A : 64		69431
Lithium	0.3	mg/L		0.1		E200.8	12/19/23 23:25 / dck	11/19/23 18:20	ICPMS206-H_231219A : 137		69391
Neodymium	0.02	mg/L		0.01		E200.8	11/30/23 13:29 / dck	11/21/23 09:54	ICPMS206-H_231130A : 64		69431
Niobium	ND	mg/L		0.01		E200.8	11/30/23 13:29 / dck	11/21/23 09:54	ICPMS206-H_231130A : 64		69431
Manganese	44.6	mg/L		0.02		E200.8	12/21/23 15:16 / dck	11/19/23 18:20	ICPMS205-H_231221A : 29		69391
Molybdenum	0.005	mg/L		0.001		E200.8	12/15/23 13:59 / dck	11/19/23 18:20	ICPMS206-H_231215A : 58		69391
Nickel	0.112	mg/L		0.002		E200.8	12/15/23 13:59 / dck	11/19/23 18:20	ICPMS206-H_231215A : 58		69391
Palladium	ND	mg/L		0.01		E200.8	11/30/23 13:29 / dck	11/21/23 09:54	ICPMS206-H_231130A : 64		69431
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 13:29 / dck	11/21/23 09:54	ICPMS206-H_231130A : 64		69431
Rubidium	ND	mg/L		0.01		E200.8	11/30/23 13:29 / dck	11/21/23 09:54	ICPMS206-H_231130A : 64		69431
Selenium	ND	mg/L		0.001		E200.8	12/15/23 13:59 / dck	11/19/23 18:20	ICPMS206-H_231215A : 58		69391
Silver	0.0004	mg/L		0.0002		E200.8	12/19/23 23:25 / dck	11/19/23 18:20	ICPMS206-H_231219A : 137		69391
Strontium	1.59	mg/L		0.01		E200.8	12/15/23 13:59 / dck	11/19/23 18:20	ICPMS206-H_231215A : 58		69391
Thallium	ND	mg/L		0.0002		E200.8	12/15/23 13:59 / dck	11/19/23 18:20	ICPMS206-H_231215A : 58		69391
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 13:29 / dck	11/21/23 09:54	ICPMS206-H_231130A : 64		69431
Tin	ND	mg/L		0.05		E200.8	12/15/23 13:59 / dck	11/19/23 18:20	ICPMS206-H_231215A : 58		69391
Titanium	ND	mg/L		0.005		E200.8	12/15/23 13:59 / dck	11/19/23 18:20	ICPMS206-H_231215A : 58		69391
Thorium	ND	mg/L		0.005		E200.8	12/15/23 13:59 / dck	11/19/23 18:20	ICPMS206-H_231215A : 58		69391
Uranium	0.0183	mg/L		0.0003		E200.8	12/15/23 13:59 / dck	11/19/23 18:20	ICPMS206-H_231215A : 58		69391

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD113  
**Lab ID:** H23110570-002  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2/001  
**Collection Date:** 11/14/23 11:15 **DateReceived:** 11/15/23  
**Report Date:** 12/27/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	12/15/23 13:59 / dck	11/19/23 18:20	ICPMS206-H_231215A : 58		69391
Zinc	44.9	mg/L		0.008		E200.8	12/19/23 23:25 / dck	11/19/23 18:20	ICPMS206-H_231219A : 137		69391
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 13:29 / dck	11/21/23 09:54	ICPMS206-H_231130A : 64		69431
<b>DATA QUALITY</b>											
A/C Balance	-4.76	%				A1030 E	12/12/23 10:52 / SR		CALC_231212B : 78		R190781
Cation/Anion Balance includes selected metals											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD116  
**Lab ID:** H23110570-003  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2/001  
**Collection Date:** 11/14/23 11:53  
**Date Received:** 11/15/23  
**Report Date:** 12/27/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.3	s.u.	H	0.1		A4500-H B	11/16/23 09:28 / eek		PHSC_101-H_231116A : 13		R190121
pH Measurement Temp	11.3	°C				A4500-H B	11/16/23 09:28 / eek		PHSC_101-H_231116A : 13		R190121
Conductivity @ 25 C	4260	umhos/cm		5		A2510 B	11/16/23 09:28 / eek		PHSC_101-H_231116A : 14		R190121
Solids, Total Dissolved TDS @ 180 C	4410	mg/L		100		A2540 C	11/16/23 13:03 / dpw		-124 (14410200)_231116B : 8		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	11/17/23 11:27 / eek		PHSC_101-H_231117A : 53		R190164
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	11/17/23 11:27 / eek		PHSC_101-H_231117A : 53		R190164
Carbonate as CO3	ND	mg/L		4		A2320 B	11/17/23 11:27 / eek		PHSC_101-H_231117A : 53		R190164
Chloride	379	mg/L		1		E300.0	11/17/23 04:04 / SR		IC METROHM_231116A : 70		R190187
Sulfate	2480	mg/L		1		E300.0	11/17/23 04:04 / SR		IC METROHM_231116A : 70		R190187
Bromide	0.8	mg/L		0.5		E300.0	11/17/23 04:04 / SR		IC METROHM_231116A : 70		R190187
Fluoride	3.8	mg/L		0.1		E300.0	11/17/23 04:04 / SR		IC METROHM_231116A : 70		R190187
Hardness as CaCO3	1500	mg/L		1		A2340 B	11/26/23 20:24 / SR		CALC_231212B : 91		R190781
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.7	mg/L		0.5		A5310 C	11/22/23 01:18 / eli-c		SUB-C301289 : 16		C_R301289
Organic Carbon, Total (TOC)	2.6	mg/L		0.5		A5310 C	11/21/23 15:15 / eli-c		SUB-C301289 : 8		C_R301289
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.38	mg/L		0.01		E353.2	11/20/23 16:20 / JAR		SEAL AA500_231120A : 49		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	16.9	mg/L		0.06		E200.7	11/26/23 20:24 / slj		ICP2-HE_231126B : 118		R190339
Antimony	ND	mg/L		0.0005		E200.8	12/15/23 14:02 / dck		ICPMS206-H_231215A : 59		R190901
Arsenic	0.016	mg/L		0.001		E200.8	12/15/23 14:02 / dck		ICPMS206-H_231215A : 59		R190901
Barium	0.010	mg/L		0.003		E200.8	12/15/23 14:02 / dck		ICPMS206-H_231215A : 59		R190901
Beryllium	0.0099	mg/L		0.0008		E200.8	12/19/23 23:29 / dck		ICPMS206-H_231219A : 138		R191058
Boron	0.60	mg/L		0.05		E200.7	11/26/23 20:24 / slj		ICP2-HE_231126B : 118		R190339
Cadmium	0.744	mg/L		0.00003		E200.8	12/15/23 14:02 / dck		ICPMS206-H_231215A : 59		R190901
Cesium	ND	mg/L		0.01		E200.8	11/30/23 13:31 / dck		ICPMS206-H_231130A : 65		R190453

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD116  
**Lab ID:** H23110570-003  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2/001  
**Collection Date:** 11/14/23 11:53 **DateReceived:** 11/15/23  
**Report Date:** 12/27/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	426	mg/L		1		E200.7	11/26/23 20:24 / slj		ICP2-HE_231126B : 118		R190339
Chromium	ND	mg/L		0.005		E200.8	12/15/23 14:02 / dck		ICPMS206-H_231215A : 59		R190901
Cobalt	0.674	mg/L		0.005		E200.8	12/15/23 14:02 / dck		ICPMS206-H_231215A : 59		R190901
Copper	70.7	mg/L		0.02		E200.7	11/26/23 20:24 / slj		ICP2-HE_231126B : 118		R190339
Gallium	ND	mg/L		0.01		E200.8	11/30/23 13:31 / dck		ICPMS206-H_231130A : 65		R190453
Iron	274	mg/L		0.02		E200.7	11/26/23 20:24 / slj		ICP2-HE_231126B : 118		R190339
Lead	0.0894	mg/L		0.0003		E200.8	12/15/23 14:02 / dck		ICPMS206-H_231215A : 59		R190901
Lanthanum	0.13	mg/L		0.01		E200.8	11/30/23 13:31 / dck		ICPMS206-H_231130A : 65		R190453
Lithium	0.5	mg/L		0.1		E200.7	11/26/23 20:24 / slj		ICP2-HE_231126B : 118		R190339
Magnesium	106	mg/L		1		E200.7	11/26/23 20:24 / slj		ICP2-HE_231126B : 118		R190339
Neodymium	0.086	mg/L		0.005		E200.8	11/30/23 13:31 / dck		ICPMS206-H_231130A : 65		R190453
Niobium	ND	mg/L		0.01		E200.8	11/30/23 13:31 / dck		ICPMS206-H_231130A : 65		R190453
Manganese	110	mg/L		0.003		E200.7	11/26/23 20:24 / slj		ICP2-HE_231126B : 118		R190339
Molybdenum	ND	mg/L		0.001		E200.8	12/15/23 14:02 / dck		ICPMS206-H_231215A : 59		R190901
Nickel	0.309	mg/L		0.002		E200.8	12/15/23 14:02 / dck		ICPMS206-H_231215A : 59		R190901
Palladium	ND	mg/L		0.01		E200.8	11/30/23 13:31 / dck		ICPMS206-H_231130A : 65		R190453
Praseodymium	0.02	mg/L		0.01		E200.8	11/30/23 13:31 / dck		ICPMS206-H_231130A : 65		R190453
Rubidium	ND	mg/L		0.01		E200.8	11/30/23 13:31 / dck		ICPMS206-H_231130A : 65		R190453
Potassium	15	mg/L		1		E200.7	11/26/23 20:24 / slj		ICP2-HE_231126B : 118		R190339
Selenium	0.001	mg/L		0.001		E200.8	12/15/23 14:02 / dck		ICPMS206-H_231215A : 59		R190901
Silver	0.0018	mg/L		0.0002		E200.8	12/19/23 23:29 / dck		ICPMS206-H_231219A : 138		R191058
Sodium	112	mg/L		1		E200.7	11/26/23 20:24 / slj		ICP2-HE_231126B : 118		R190339
Strontium	2.18	mg/L		0.01		E200.7	11/26/23 20:24 / slj		ICP2-HE_231126B : 118		R190339
Thallium	ND	mg/L		0.0002		E200.8	12/15/23 14:02 / dck		ICPMS206-H_231215A : 59		R190901
Thorium	ND	mg/L		0.005		E200.8	12/15/23 14:02 / dck		ICPMS206-H_231215A : 59		R190901
Tin	ND	mg/L		0.05		E200.8	12/15/23 14:02 / dck		ICPMS206-H_231215A : 59		R190901
Titanium	ND	mg/L		0.005		E200.8	12/15/23 14:02 / dck		ICPMS206-H_231215A : 59		R190901
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 13:31 / dck		ICPMS206-H_231130A : 65		R190453
Uranium	0.0496	mg/L		0.0002		E200.8	12/15/23 14:02 / dck		ICPMS206-H_231215A : 59		R190901
Vanadium	0.02	mg/L		0.01		E200.8	12/15/23 14:02 / dck		ICPMS206-H_231215A : 59		R190901
Zinc	128	mg/L		0.01		E200.7	12/11/23 15:46 / slj		ICP2-HE_231211B : 100		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 13:31 / dck		ICPMS206-H_231130A : 65		R190453

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD116  
**Lab ID:** H23110570-003  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2/001  
**Collection Date:** 11/14/23 11:53 **DateReceived:** 11/15/23  
**Report Date:** 12/27/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	15.5	mg/L		0.02		E200.8	12/19/23 23:32 / dck	11/19/23 18:20	ICPMS206-H_231219A : 139		69391
Antimony	ND	mg/L		0.0005		E200.8	12/15/23 14:29 / dck	11/19/23 18:20	ICPMS206-H_231215A : 61		69391
Arsenic	0.016	mg/L		0.001		E200.8	12/15/23 14:29 / dck	11/19/23 18:20	ICPMS206-H_231215A : 61		69391
Barium	0.010	mg/L		0.003		E200.8	12/15/23 14:29 / dck	11/19/23 18:20	ICPMS206-H_231215A : 61		69391
Beryllium	0.0103	mg/L		0.0008		E200.8	12/19/23 23:32 / dck	11/19/23 18:20	ICPMS206-H_231219A : 139		69391
Cesium	ND	mg/L		0.01		E200.8	11/30/23 13:35 / dck	11/21/23 09:54	ICPMS206-H_231130A : 67		69431
Cadmium	0.757	mg/L		0.00003		E200.8	12/15/23 14:29 / dck	11/19/23 18:20	ICPMS206-H_231215A : 61		69391
Chromium	ND	mg/L		0.005		E200.8	12/15/23 14:29 / dck	11/19/23 18:20	ICPMS206-H_231215A : 61		69391
Cobalt	0.643	mg/L		0.005		E200.8	12/15/23 14:29 / dck	11/19/23 18:20	ICPMS206-H_231215A : 61		69391
Copper	74.3	mg/L		0.002		E200.8	12/19/23 23:32 / dck	11/19/23 18:20	ICPMS206-H_231219A : 139		69391
Gallium	ND	mg/L		0.01		E200.8	11/30/23 13:35 / dck	11/21/23 09:54	ICPMS206-H_231130A : 67		69431
Iron	278	mg/L		0.05		E200.8	12/19/23 23:32 / dck	11/19/23 18:20	ICPMS206-H_231219A : 139		69391
Lead	0.0900	mg/L		0.0003		E200.8	12/15/23 14:29 / dck	11/19/23 18:20	ICPMS206-H_231215A : 61		69391
Lanthanum	0.1	mg/L		0.1		E200.8	11/30/23 13:35 / dck	11/21/23 09:54	ICPMS206-H_231130A : 67		69431
Lithium	0.5	mg/L		0.1		E200.8	12/19/23 23:32 / dck	11/19/23 18:20	ICPMS206-H_231219A : 139		69391
Neodymium	0.09	mg/L		0.01		E200.8	11/30/23 13:35 / dck	11/21/23 09:54	ICPMS206-H_231130A : 67		69431
Niobium	ND	mg/L		0.01		E200.8	11/30/23 13:35 / dck	11/21/23 09:54	ICPMS206-H_231130A : 67		69431
Manganese	110	mg/L		0.02		E200.8	12/20/23 17:45 / dck	11/19/23 18:20	ICPMS205-H_231220A : 50		69391
Molybdenum	ND	mg/L		0.001		E200.8	12/15/23 14:29 / dck	11/19/23 18:20	ICPMS206-H_231215A : 61		69391
Nickel	0.303	mg/L		0.002		E200.8	12/15/23 14:29 / dck	11/19/23 18:20	ICPMS206-H_231215A : 61		69391
Palladium	ND	mg/L		0.01		E200.8	11/30/23 13:35 / dck	11/21/23 09:54	ICPMS206-H_231130A : 67		69431
Praseodymium	0.03	mg/L		0.01		E200.8	11/30/23 13:35 / dck	11/21/23 09:54	ICPMS206-H_231130A : 67		69431
Rubidium	ND	mg/L		0.01		E200.8	11/30/23 13:35 / dck	11/21/23 09:54	ICPMS206-H_231130A : 67		69431
Selenium	ND	mg/L		0.001		E200.8	12/15/23 14:29 / dck	11/19/23 18:20	ICPMS206-H_231215A : 61		69391
Silver	0.0018	mg/L		0.0002		E200.8	12/19/23 23:32 / dck	11/19/23 18:20	ICPMS206-H_231219A : 139		69391
Strontium	2.22	mg/L		0.01		E200.8	12/15/23 14:29 / dck	11/19/23 18:20	ICPMS206-H_231215A : 61		69391
Thallium	ND	mg/L		0.0002		E200.8	12/15/23 14:29 / dck	11/19/23 18:20	ICPMS206-H_231215A : 61		69391
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 13:35 / dck	11/21/23 09:54	ICPMS206-H_231130A : 67		69431
Tin	ND	mg/L		0.05		E200.8	12/15/23 14:29 / dck	11/19/23 18:20	ICPMS206-H_231215A : 61		69391
Titanium	ND	mg/L		0.005		E200.8	12/15/23 14:29 / dck	11/19/23 18:20	ICPMS206-H_231215A : 61		69391
Thorium	ND	mg/L		0.005		E200.8	12/15/23 14:29 / dck	11/19/23 18:20	ICPMS206-H_231215A : 61		69391
Uranium	0.0523	mg/L		0.0003		E200.8	12/15/23 14:29 / dck	11/19/23 18:20	ICPMS206-H_231215A : 61		69391

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MH-MSD116  
**Lab ID:** H23110570-003  
**Matrix:** Aqueous

**Project:** NRDPM16 TO2/001  
**Collection Date:** 11/14/23 11:53 **DateReceived:** 11/15/23  
**Report Date:** 12/27/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	0.02	mg/L		0.01		E200.8	12/15/23 14:29 / dck	11/19/23 18:20	ICPMS206-H_231215A : 61		69391
Zinc	140	mg/L		0.06		E200.8	12/20/23 17:45 / dck	11/19/23 18:20	ICPMS205-H_231220A : 50		69391
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 13:35 / dck	11/21/23 09:54	ICPMS206-H_231130A : 67		69431
<b>DATA QUALITY</b>											
A/C Balance	-7.85	%				A1030 E	12/12/23 10:53 / SR		CALC_231212B : 89		R190781
Cation/Anion Balance includes selected metals											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110570

BatchID: 69391

Date: 27-Dec-23

Run ID :Run Order: ICPMS206-H_231129A: 65	SampType: Laboratory Control Sample				Lab ID: LCS-69391				Method: E200.8		
Analysis Date: 11/29/23 14:14	Units: mg/L				Prep Info: Prep Date: 11/19/2023				Prep Method: E200.2		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.49	0.030	2.5	0	99	85	115				
Antimony	0.536	0.0010	0.5	0	107	85	115				
Arsenic	0.478	0.0010	0.5	0	96	85	115				
Barium	0.509	0.050	0.5	0	102	85	115				
Beryllium	0.260	0.0010	0.25	0	104	85	115				
Cadmium	0.252	0.0010	0.25	0	101	85	115				
Chromium	0.495	0.0050	0.5	0	99	85	115				
Cobalt	0.502	0.0050	0.5	0	100	85	115				
Copper	0.502	0.0050	0.5	0	100	85	115				
Iron	2.47	0.020	2.5	0	99	85	115				
Lead	0.510	0.0010	0.5	0	102	85	115				
Lithium	0.503	0.10	0.5	0	101	85	115				
Manganese	2.56	0.0010	2.5	0	102	85	115				
Molybdenum	0.483	0.0010	0.5	0	97	85	115				
Nickel	0.494	0.0050	0.5	0	99	85	115				
Selenium	0.493	0.0010	0.5	0	99	85	115				
Silver	0.0479	0.0010	0.05	0	96	85	115				
Strontium	0.499	0.010	0.5	0	100	85	115				
Thallium	0.511	0.00050	0.5	0	102	85	115				
Tin	0.503	0.050	0.5	0	101	85	115				
Titanium	0.489	0.0050	0.5	0	98	85	115				
Thorium	0.0537	0.0050	0.05	0	107	85	115				
Uranium	0.514	0.00030	0.5	0	103	85	115				
Vanadium	0.496	0.010	0.5	0	99	85	115				
Zinc	0.493	0.010	0.5	0	99	85	115				

Associated samples: H23110570-001F, H23110570-002F, H23110570-003F

Run ID :Run Order: ICPMS206-H_231129A: 75	SampType: Sample Matrix Spike				Lab ID: H23110551-007CMS3				Method: E200.8		
Analysis Date: 11/29/23 14:50	Units: mg/L				Prep Info: Prep Date: 11/19/2023				Prep Method: E200.2		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.58	0.030	2.5	0.1002	99	70	130				
Antimony	0.515	0.0010	0.5	0.0005961	103	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110570

BatchID: 69391

Date: 27-Dec-23

Run ID :Run Order: ICPMS206-H_231129A: 75		SampType: Sample Matrix Spike			Lab ID: H23110551-007CMS3				Method: E200.8		
Analysis Date: 11/29/23 14:50		Units: mg/L			Prep Info: Prep Date: 11/19/2023				Prep Method: E200.2		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.497	0.0010	0.5	0.02354	95	70	130				
Barium	0.561	0.050	0.5	0.04783	103	70	130				
Beryllium	0.256	0.0010	0.25	0	102	70	130				
Cadmium	0.251	0.0010	0.25	0.000008666	101	70	130				
Chromium	0.487	0.0050	0.5	0.0005446	97	70	130				
Cobalt	0.486	0.0050	0.5	0.00004182	97	70	130				
Copper	0.483	0.0050	0.5	0.0008834	96	70	130				
Iron	2.50	0.020	2.5	0.09702	96	70	130				
Lead	0.519	0.0010	0.5	0.0001287	104	70	130				
Lithium	0.537	0.10	0.5	0.05457	96	70	130				
Manganese	2.51	0.0010	2.5	0.05648	98	70	130				
Molybdenum	0.488	0.0010	0.5	0.002622	97	70	130				
Nickel	0.486	0.0050	0.5	0.0003532	97	70	130				
Selenium	0.487	0.0010	0.5	0.0002403	97	70	130				
Silver	0.0476	0.0010	0.05	0	95	70	130				
Strontium	0.733	0.010	0.5	0.2007	106	70	130				
Thallium	0.532	0.00050	0.5	0	106	70	130				
Tin	0.501	0.050	0.5	0	100	70	130				
Titanium	0.486	0.0050	0.5	0.002176	97	70	130				
Thorium	0.0530	0.0050	0.05	0.00002944	106	70	130				
Uranium	0.518	0.00030	0.5	0.001931	103	70	130				
Vanadium	0.489	0.010	0.5	0.001893	97	70	130				
Zinc	0.482	0.010	0.5	0.0008768	96	70	130				

Associated samples: H23110570-001F, H23110570-002F, H23110570-003F

Run ID :Run Order: ICPMS206-H_231129A: 76		SampType: Sample Matrix Spike Duplicate			Lab ID: H23110551-007CMSD3				Method: E200.8		
Analysis Date: 11/29/23 14:53		Units: mg/L			Prep Info: Prep Date: 11/19/2023				Prep Method: E200.2		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.57	0.030	2.5	0.1002	99	70	130	2.582	0.5	20	
Antimony	0.522	0.0010	0.5	0.0005961	104	70	130	0.5153	1.3	20	
Arsenic	0.496	0.0010	0.5	0.02354	94	70	130	0.497	0.3	20	
Barium	0.557	0.050	0.5	0.04783	102	70	130	0.5607	0.7	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110570

BatchID: 69391

Date: 27-Dec-23

Run ID :Run Order: ICPMS206-H_231129A: 76	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110551-007CMSD3				Method: E200.8		
Analysis Date: 11/29/23 14:53	Units: mg/L				Prep Info: Prep Date: 11/19/2023				Prep Method: E200.2		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.261	0.0010	0.25	0	104	70	130	0.2556	2.0	20	
Cadmium	0.250	0.0010	0.25	0.00008666	100	70	130	0.2514	0.8	20	
Chromium	0.486	0.0050	0.5	0.0005446	97	70	130	0.4874	0.3	20	
Cobalt	0.485	0.0050	0.5	0.00004182	97	70	130	0.4862	0.2	20	
Copper	0.481	0.0050	0.5	0.0008834	96	70	130	0.4832	0.4	20	
Iron	2.54	0.020	2.5	0.09702	98	70	130	2.496	1.8	20	
Lead	0.503	0.0010	0.5	0.0001287	101	70	130	0.5188	3.1	20	
Lithium	0.546	0.10	0.5	0.05457	98	70	130	0.5368	1.8	20	
Manganese	2.49	0.0010	2.5	0.05648	98	70	130	2.507	0.5	20	
Molybdenum	0.485	0.0010	0.5	0.002622	96	70	130	0.4875	0.5	20	
Nickel	0.483	0.0050	0.5	0.0003532	97	70	130	0.4861	0.6	20	
Selenium	0.490	0.0010	0.5	0.0002403	98	70	130	0.4871	0.6	20	
Silver	0.0473	0.0010	0.05	0	95	70	130	0.0476	0.7	20	
Strontium	0.714	0.010	0.5	0.2007	103	70	130	0.7327	2.5	20	
Thallium	0.516	0.00050	0.5	0	103	70	130	0.5316	2.9	20	
Tin	0.497	0.050	0.5	0	99	70	130	0.5014	1.0	20	
Titanium	0.477	0.0050	0.5	0.002176	95	70	130	0.4864	2.0	20	
Thorium	0.0524	0.0050	0.05	0.00002944	105	70	130	0.05295	1.0	20	
Uranium	0.501	0.00030	0.5	0.001931	100	70	130	0.5176	3.2	20	
Vanadium	0.479	0.010	0.5	0.001893	95	70	130	0.4886	2.1	20	
Zinc	0.476	0.010	0.5	0.0008768	95	70	130	0.4815	1.1	20	

Associated samples: H23110570-001F, H23110570-002F, H23110570-003F

Run ID :Run Order: ICPMS206-H_231215A: 54	SampType: Method Blank				Lab ID: MB-69391				Method: E200.8		
Analysis Date: 12/15/23 13:45	Units: mg/L				Prep Info: Prep Date: 11/19/2023				Prep Method: E200.2		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.002									
Antimony	ND	0.00006									
Arsenic	0.0005	0.00002									
Barium	0.00009	0.00004									
Beryllium	ND	0.00005									
Cadmium	0.00001	5E-06									

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110570

**BatchID:** 69391

**Date:** 27-Dec-23

Run ID :Run Order: ICPMS206-H_231215A: 54	SampType: Method Blank				Lab ID: MB-69391				Method: E200.8		
Analysis Date: 12/15/23 13:45	Units: mg/L		Prep Info: Prep Date: 11/19/2023				Prep Method: E200.2				
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	0.00007									
Cobalt	ND	0.00002									
Copper	ND	0.0001									
Iron	ND	0.005									
Lead	ND	0.00005									
Lithium	0.002	0.0005									
Manganese	ND	0.0002									
Molybdenum	0.00005	0.00002									
Nickel	ND	0.0001									
Selenium	0.0003	0.00001									
Silver	0.0001	8E-06									
Strontium	0.0003	0.00002									
Thallium	0.00004	8E-06									
Tin	ND	0.0008									
Titanium	ND	0.0003									
Thorium	0.00004	9E-06									
Uranium	0.00002	4E-06									
Vanadium	0.006	0.00002									
Zinc	ND	0.0006									

Associated samples: H23110570-001F, H23110570-002F, H23110570-003F

Run ID :Run Order: ICPMS206-H_231219A: 133	SampType: Method Blank				Lab ID: MB-69391				Method: E200.8		
Analysis Date: 12/19/23 23:11	Units: mg/L		Prep Info: Prep Date: 11/19/2023				Prep Method: E200.2				
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.002									
Antimony	ND	0.00006									
Arsenic	0.0001	0.00002									
Barium	ND	0.00004									
Beryllium	ND	0.00005									
Cadmium	ND	5E-06									
Chromium	ND	0.00007									
Cobalt	ND	0.00002									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110570

BatchID: 69391

Date: 27-Dec-23

Run ID :Run Order: ICPMS206-H_231219A: 133	SampType: Method Blank				Lab ID: MB-69391				Method: E200.8		
Analysis Date: 12/19/23 23:11	Units: mg/L		Prep Info: Prep Date: 11/19/2023				Prep Method: E200.2				
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	ND	0.0001									
Iron	ND	0.005									
Lead	ND	0.00005									
Lithium	0.0007	0.0005									
Manganese	ND	0.0002									
Molybdenum	ND	0.00002									
Nickel	ND	0.0001									
Selenium	0.00003	0.00001									
Silver	0.00002	8E-06									
Strontium	0.00003	0.00002									
Thallium	9E-06	8E-06									
Tin	ND	0.0008									
Titanium	ND	0.0003									
Thorium	0.00005	9E-06									
Uranium	8E-06	4E-06									
Vanadium	0.001	0.00002									
Zinc	ND	0.0006									

Associated samples: H23110570-001F, H23110570-002F, H23110570-003F

Run ID :Run Order: ICPMS205-H_231220A: 48	SampType: Method Blank				Lab ID: MB-69391				Method: E200.8		
Analysis Date: 12/20/23 17:38	Units: mg/L		Prep Info: Prep Date: 11/19/2023				Prep Method: E200.2				
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.006									
Antimony	ND	0.0002									
Arsenic	ND	0.0001									
Barium	ND	0.0002									
Beryllium	ND	0.0002									
Cadmium	ND	0.00003									
Chromium	ND	0.0002									
Cobalt	ND	0.0003									
Copper	ND	0.0003									
Iron	ND	0.009									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice  
**Work Order:** H23110570

Prepared by Helena, MT Branch  
**BatchID:** 69391

**Date:** 27-Dec-23

Run ID :Run Order: ICPMS205-H_231220A: 48		SampType: Method Blank			Lab ID: MB-69391				Method: E200.8		
Analysis Date: 12/20/23 17:38		Units: mg/L			Prep Info: Prep Date: 11/19/2023				Prep Method: E200.2		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	0.0001									
Lithium	ND	0.001									
Manganese	ND	0.0003									
Molybdenum	ND	0.0002									
Nickel	ND	0.0002									
Selenium	ND	0.0001									
Silver	ND	0.00006									
Strontium	ND	0.0002									
Thallium	ND	0.0001									
Tin	ND	0.0004									
Titanium	ND	0.002									
Thorium	0.0004	0.0003									
Uranium	ND	0.00003									
Vanadium	ND	0.0001									
Zinc	ND	0.001									

Associated samples: H23110570-001F, H23110570-002F, H23110570-003F

Run ID :Run Order: ICPMS205-H_231221A: 26		SampType: Method Blank			Lab ID: MB-69391				Method: E200.8		
Analysis Date: 12/21/23 15:07		Units: mg/L			Prep Info: Prep Date: 11/19/2023				Prep Method: E200.2		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.006									
Antimony	ND	0.0002									
Arsenic	ND	0.0001									
Barium	ND	0.0002									
Beryllium	ND	0.0002									
Cadmium	ND	0.00003									
Chromium	ND	0.0002									
Cobalt	ND	0.0003									
Copper	ND	0.0003									
Iron	ND	0.009									
Lead	ND	0.0001									
Lithium	ND	0.001									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110570

**BatchID:** 69391

**Date:** 27-Dec-23

Run ID :Run Order: ICPMS205-H_231221A: 26	SampType: Method Blank				Lab ID: MB-69391				Method: E200.8		
Analysis Date: 12/21/23 15:07	Units: mg/L			Prep Info: Prep Date: 11/19/2023				Prep Method: E200.2			
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	ND	0.0003									
Molybdenum	ND	0.0002									
Nickel	ND	0.0002									
Selenium	ND	0.0001									
Silver	ND	0.00006									
Strontium	ND	0.0002									
Thallium	ND	0.0001									
Tin	ND	0.0004									
Titanium	ND	0.002									
Thorium	ND	0.0003									
Uranium	ND	0.00003									
Vanadium	ND	0.0001									
Zinc	ND	0.001									

Associated samples: H23110570-001F, H23110570-002F, H23110570-003F



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110570

BatchID: 69431

Date: 27-Dec-23

Run ID :Run Order: ICPMS206-H_231130A: 60	SampType: Method Blank				Lab ID: MB-69431				Method: E200.8		
Analysis Date: 11/30/23 13:20	Units: mg/L				Prep Info: Prep Date: 11/21/2023				Prep Method: E200.2		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	ND	0.0003									
Gallium	0.00007	0.00005									
Lanthanum	ND	0.00005									
Neodymium	ND	0.00004									
Niobium	ND	0.00004									
Palladium	ND	0.00004									
Praseodymium	ND	0.00005									
Rubidium	ND	0.00003									
Tungsten	0.00008	0.00008									
Zirconium	ND	0.00006									

Associated samples: H23110570-001F, H23110570-002F, H23110570-003F

Run ID :Run Order: ICPMS206-H_231130A: 68	SampType: Laboratory Control Sample				Lab ID: LCS-69431				Method: E200.8		
Analysis Date: 11/30/23 13:37	Units: mg/L				Prep Info: Prep Date: 11/21/2023				Prep Method: E200.2		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0526	0.010	0.05	0	105	85	115				
Gallium	0.0513	0.010	0.05	0	103	85	115				
Lanthanum	0.0529	0.10	0.05	0	106	85	115				
Neodymium	0.0528	0.0010	0.05	0	106	85	115				
Niobium	0.0538	0.0010	0.05	0	108	85	115				
Palladium	0.0501	0.010	0.05	0	100	85	115				
Praseodymium	0.0529	0.0010	0.05	0	106	85	115				
Rubidium	0.0541	0.010	0.05	0	108	85	115				
Tungsten	0.0493	0.10	0.05	0	99	85	115				
Zirconium	0.0553	0.0050	0.05	0	111	85	115				

Associated samples: H23110570-001F, H23110570-002F, H23110570-003F

Run ID :Run Order: ICPMS206-H_231130A: 84	SampType: Sample Matrix Spike				Lab ID: H23110658-005CMS3				Method: E200.8		
Analysis Date: 11/30/23 14:12	Units: mg/L				Prep Info: Prep Date: 11/21/2023				Prep Method: E200.2		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.106	0.010	0.1	0	106	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110570

BatchID: 69431

Date: 27-Dec-23

Run ID :Run Order: ICPMS206-H_231130A: 84	SampType: Sample Matrix Spike				Lab ID: H23110658-005CMS3				Method: E200.8		
Analysis Date: 11/30/23 14:12	Units: mg/L				Prep Info: Prep Date: 11/21/2023				Prep Method: E200.2		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gallium	0.101	0.010	0.1	0.0008166	101	70	130				
Lanthanum	0.107	0.10	0.1	0.002082	105	70	130				
Neodymium	0.109	0.0010	0.1	0.001517	107	70	130				
Niobium	0.0841	0.0010	0.1	0.0003374	84	70	130				
Palladium	0.0853	0.010	0.1	0.0001048	85	70	130				
Praseodymium	0.107	0.0010	0.1	0.000409	107	70	130				
Rubidium	0.110	0.010	0.1	0.006856	103	70	130				
Tungsten	0.0956	0.10	0.1	0.001452	94	70	130				
Zirconium	0.0766	0.0050	0.1	0.0005142	76	70	130				

Associated samples: H23110570-001F, H23110570-002F, H23110570-003F

Run ID :Run Order: ICPMS206-H_231130A: 85	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110658-005CMSD3				Method: E200.8		
Analysis Date: 11/30/23 14:14	Units: mg/L				Prep Info: Prep Date: 11/21/2023				Prep Method: E200.2		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.105	0.010	0.1	0	105	70	130	0.1059	1.3	20	
Gallium	0.102	0.010	0.1	0.0008166	101	70	130	0.1014	0.3	20	
Lanthanum	0.110	0.10	0.1	0.002082	108	70	130	0.1071	2.7	20	
Neodymium	0.109	0.0010	0.1	0.001517	108	70	130	0.1086	0.7	20	
Niobium	0.0847	0.0010	0.1	0.0003374	84	70	130	0.0841	0.7	20	
Palladium	0.0850	0.010	0.1	0.0001048	85	70	130	0.0853	0.4	20	
Praseodymium	0.109	0.0010	0.1	0.000409	108	70	130	0.1074	1.1	20	
Rubidium	0.109	0.010	0.1	0.006856	103	70	130	0.11	0.6	20	
Tungsten	0.0952	0.10	0.1	0.001452	94	70	130	0.09556		20	
Zirconium	0.0782	0.0050	0.1	0.0005142	78	70	130	0.0766	2.1	20	

Associated samples: H23110570-001F, H23110570-002F, H23110570-003F

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110570

BatchID: C\_R301289

Date: 27-Dec-23

Run ID :Run Order: <b>SUB-C301289: 1</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/21/23 13:07</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	ND	0.1									

Associated samples: H23110570-001D, H23110570-001E, H23110570-002D, H23110570-002E, H23110570-003D, H23110570-003E

Run ID :Run Order: <b>SUB-C301289: 2</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/21/23 13:26</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.09	0.50	5	0	102	90	111	0			

Associated samples: H23110570-001D, H23110570-001E, H23110570-002D, H23110570-002E, H23110570-003D, H23110570-003E

Run ID :Run Order: <b>SUB-C301289: 3</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/21/23 13:42</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.17	0.50	5	0	103	90	110	0			

Associated samples: H23110570-001D, H23110570-001E, H23110570-002D, H23110570-002E, H23110570-003D, H23110570-003E

Run ID :Run Order: <b>SUB-C301289: 5</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>C23110688-001EMS</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/21/23 14:19</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	6.85	0.50	5	1.709	103	90	111	0			

Associated samples: H23110570-001D, H23110570-001E, H23110570-002D, H23110570-002E, H23110570-003D, H23110570-003E

Run ID :Run Order: <b>SUB-C301289: 6</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>C23110688-001EMSD</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/21/23 14:36</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	6.81	0.50	5	1.709	102	90	111	6.846	0.5	20	

Associated samples: H23110570-001D, H23110570-001E, H23110570-002D, H23110570-002E, H23110570-003D, H23110570-003E

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110570

**BatchID:** C\_R301289

**Date:** 27-Dec-23

Run ID :Run Order: <b>SUB-C301289: 9</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS-11923</b>	Method: <b>A5310 C</b>					
Analysis Date: <b>11/21/23 22:30</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:	Prep Method:					
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.02	0.50	5	0	<b>100</b>	88	112	0			

Associated samples: **H23110570-001D, H23110570-001E, H23110570-002D, H23110570-002E, H23110570-003D, H23110570-003E**

Run ID :Run Order: <b>SUB-C301289: 10</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>	Method: <b>A5310 C</b>					
Analysis Date: <b>11/21/23 22:45</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:	Prep Method:					
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	ND	0.1									

Associated samples: **H23110570-001D, H23110570-001E, H23110570-002D, H23110570-002E, H23110570-003D, H23110570-003E**

Run ID :Run Order: <b>SUB-C301289: 11</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV-11940</b>	Method: <b>A5310 C</b>					
Analysis Date: <b>11/21/23 23:05</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:	Prep Method:					
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.01	0.50	5	0	<b>100</b>	90	110	0			

Associated samples: **H23110570-001D, H23110570-001E, H23110570-002D, H23110570-002E, H23110570-003D, H23110570-003E**

Run ID :Run Order: <b>SUB-C301289: 12</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>C23110665-001FMS</b>	Method: <b>A5310 C</b>					
Analysis Date: <b>11/21/23 23:37</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:	Prep Method:					
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	8.69	0.50	5	3.853	<b>97</b>	88	112	0			

Associated samples: **H23110570-001D, H23110570-001E, H23110570-002D, H23110570-002E, H23110570-003D, H23110570-003E**

Run ID :Run Order: <b>SUB-C301289: 13</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>C23110665-001FMSD</b>	Method: <b>A5310 C</b>					
Analysis Date: <b>11/21/23 23:53</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:	Prep Method:					
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	8.78	0.50	5	3.853	<b>99</b>	88	112	8.688	<b>1.1</b>	20	

Associated samples: **H23110570-001D, H23110570-001E, H23110570-002D, H23110570-002E, H23110570-003D, H23110570-003E**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110570

**BatchID:** R190121

**Date:** 27-Dec-23

Run ID :Run Order: <b>PHSC_101-H_231116A: 2</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>SC 150</b>			Method: <b>A2510 B</b>				
Analysis Date: <b>11/16/23 08:35</b>		Units: <b>umhos/cm</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C		152	5.0	150	0	<b>101</b>	90	110				

Associated samples: **H23110570-001A, H23110570-002A, H23110570-003A**

Run ID :Run Order: <b>PHSC_101-H_231116A: 3</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>SC 20000</b>			Method: <b>A2510 B</b>				
Analysis Date: <b>11/16/23 08:37</b>		Units: <b>umhos/cm</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C		19800	5.0	20000	0	<b>99</b>	90	110				

Associated samples: **H23110570-001A, H23110570-002A, H23110570-003A**

Run ID :Run Order: <b>PHSC_101-H_231116A: 4</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>SC 5000</b>			Method: <b>A2510 B</b>				
Analysis Date: <b>11/16/23 08:39</b>		Units: <b>umhos/cm</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C		4920	5.0	5000	0	<b>98</b>	90	110				

Associated samples: **H23110570-001A, H23110570-002A, H23110570-003A**

Run ID :Run Order: <b>PHSC_101-H_231116A: 5</b>		SampType: <b>Laboratory Control Sample</b>			Lab ID: <b>SC 1000</b>			Method: <b>A2510 B</b>				
Analysis Date: <b>11/16/23 08:41</b>		Units: <b>umhos/cm</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C		992	5.0	1000	0	<b>99</b>	90	110				

Associated samples: **H23110570-001A, H23110570-002A, H23110570-003A**

Run ID :Run Order: <b>PHSC_101-H_231116A: 6</b>		SampType: <b>Method Blank</b>			Lab ID: <b>MBLK</b>			Method: <b>A2510 B</b>				
Analysis Date: <b>11/16/23 09:19</b>		Units: <b>umhos/cm</b>			Prep Info: Prep Date:			Prep Method:				
Analytes <b>1</b>		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C		ND	5									

Associated samples: **H23110570-001A, H23110570-002A, H23110570-003A**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110570

**BatchID:** R190121

**Date:** 27-Dec-23

Run ID :Run Order: <b>PHSC_101-H_231116A: 10</b>	SampType: <b>Sample Duplicate</b>	Lab ID: <b>H23110570-001ADUP</b>	Method: <b>A2510 B</b>								
Analysis Date: <b>11/16/23 09:24</b>	Units: <b>umhos/cm</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1540	5.0		0				1533	<b>0.5</b>	10	

Associated samples: **H23110570-001A, H23110570-002A, H23110570-003A**

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110570

BatchID: R190121

Date: 27-Dec-23

Run ID :Run Order: PHSC_101-H_231116A: 1	SampType: Initial Calibration Verification Standard				Lab ID: pH 7				Method: A4500-H B		
Analysis Date: 11/16/23 08:30	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	99	98	102				
pH Measurement Temp	20.5			0		0	0				

Associated samples: H23110570-001A, H23110570-002A, H23110570-003A

Run ID :Run Order: PHSC_101-H_231116A: 9	SampType: Sample Duplicate				Lab ID: H23110570-001ADUP				Method: A4500-H B		
Analysis Date: 11/16/23 09:24	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	5.9	0.1		0				5.86	0.5	3	H
pH Measurement Temp	12.8			0				13.4			

Associated samples: H23110570-001A, H23110570-002A, H23110570-003A

Run ID :Run Order: PHSC_101-H_231116A: 188	SampType: Continuing Calibration Verification Standard				Lab ID: CCV - pH 7				Method: A4500-H B		
Analysis Date: 11/16/23 13:40	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	19.9			0		0	0				

Associated samples: H23110570-001A, H23110570-002A, H23110570-003A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110570

BatchID: R190164

Date: 27-Dec-23

Run ID :Run Order: <b>PHSC_101-H_231117A: 47</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A2320 B</b>		
Analysis Date: <b>11/17/23 10:56</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									
Associated samples: <b>H23110570-001A, H23110570-002A, H23110570-003A</b>											

Run ID :Run Order: <b>PHSC_101-H_231117A: 48</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS</b>				Method: <b>A2320 B</b>		
Analysis Date: <b>11/17/23 11:02</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	580	4.0	600	0	<b>97</b>	90	110				
Associated samples: <b>H23110570-001A, H23110570-002A, H23110570-003A</b>											

Run ID :Run Order: <b>PHSC_101-H_231117A: 57</b>	SampType: <b>Sample Duplicate</b>				Lab ID: <b>H23110317-001BDUP</b>				Method: <b>A2320 B</b>		
Analysis Date: <b>11/17/23 12:02</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	600	4.0		0				626.6	<b>4.4</b>	10	
Bicarbonate as HCO3	730	4.0		0				763.9	<b>4.4</b>	10	
Carbonate as CO3	ND	4.0		0				0		10	
Associated samples: <b>H23110570-001A, H23110570-002A, H23110570-003A</b>											



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110570

BatchID: R190187

Date: 27-Dec-23

Run ID :Run Order: IC METROHM_231116A: 2		SampType: Method Blank			Lab ID: ICB				Method: E300.0		
Analysis Date: 11/16/23 11:45		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.02									
Sulfate	ND	0.03									
Bromide	ND	0.001									
Fluoride	ND	0.01									

Associated samples: H23110570-001A, H23110570-002A, H23110570-003A

Run ID :Run Order: IC METROHM_231116A: 3		SampType: Initial Calibration Verification Standard			Lab ID: ICV				Method: E300.0		
Analysis Date: 11/16/23 12:00		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	102	1.0	100	0	102	90	110				
Sulfate	399	1.0	400	0	100	90	110				
Bromide	4.99	0.50	5	0	100	90	110				
Fluoride	5.41	0.10	5	0	108	90	110				

Associated samples: H23110570-001A, H23110570-002A, H23110570-003A

Run ID :Run Order: IC METROHM_231116A: 4		SampType: Laboratory Fortified Blank			Lab ID: LFB				Method: E300.0		
Analysis Date: 11/16/23 12:14		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	24.5	1.0	25	0	98	90	110				
Sulfate	101	1.0	100	0	101	90	110				
Bromide	1.19	0.50	1.25	0	95	90	110				
Fluoride	1.15	0.10	1.25	0	92	90	110				

Associated samples: H23110570-001A, H23110570-002A, H23110570-003A

Run ID :Run Order: IC METROHM_231116A: 62		SampType: Continuing Calibration Verification Standard			Lab ID: CCV				Method: E300.0		
Analysis Date: 11/17/23 02:09		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	50.2	1.0	50	0	100	90	110				
Sulfate	202	1.0	200	0	101	90	110				
Bromide	2.36	0.50	2.5	0	95	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110570

**BatchID:** R190187

**Date:** 27-Dec-23

Run ID :Run Order: <b>IC METROHM_231116A: 62</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>E300.0</b>		
Analysis Date: <b>11/17/23 02:09</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.45	0.10	2.5	0	<b>98</b>	90	110				

Associated samples: **H23110570-001A, H23110570-002A, H23110570-003A**

Run ID :Run Order: <b>IC METROHM_231116A: 74</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23110571-003AMS</b>				Method: <b>E300.0</b>		
Analysis Date: <b>11/17/23 05:02</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	38.1	1.0	25	12.64	<b>102</b>	90	110				
Sulfate	138	1.0	100	37.36	<b>100</b>	90	110				
Bromide	1.17	0.50	1.25	0.054	<b>90</b>	90	110				
Fluoride	3.12	0.10	1.25	1.791	<b>106</b>	90	110				

Associated samples: **H23110570-001A, H23110570-002A, H23110570-003A**

Run ID :Run Order: <b>IC METROHM_231116A: 75</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23110571-003AMSD</b>				Method: <b>E300.0</b>		
Analysis Date: <b>11/17/23 05:16</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	38.1	1.0	25	12.64	<b>102</b>	90	110	38.08	<b>0.2</b>	20	
Sulfate	139	1.0	100	37.36	<b>101</b>	90	110	137.8	<b>0.6</b>	20	
Bromide	1.18	0.50	1.25	0.054	<b>90</b>	90	110	1.175	<b>0.2</b>	20	
Fluoride	3.11	0.10	1.25	1.791	<b>106</b>	90	110	3.117	<b>0.2</b>	20	

Associated samples: **H23110570-001A, H23110570-002A, H23110570-003A**

Run ID :Run Order: <b>IC METROHM_231116A: 95</b>	SampType: <b>Sample Duplicate</b>				Lab ID: <b>H23110571-016ADUP</b>				Method: <b>E300.0</b>		
Analysis Date: <b>11/17/23 10:04</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	1.62	1.0		0				1.546	<b>4.4</b>	20	
Sulfate	0.757	1.0		0				0.784		20	
Bromide	ND	0.50		0				0		20	
Fluoride	0.0190	0.10		0				0.017		20	

Associated samples: **H23110570-001A, H23110570-002A, H23110570-003A**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110570

BatchID: R190261

Date: 27-Dec-23

Run ID :Run Order: <b>SEAL AA500_231120A: 12</b>	SampType: <b>Method Blank</b>				Lab ID: <b>ICB</b>				Method: <b>E353.2</b>		
Analysis Date: <b>11/20/23 15:41</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.01									

Associated samples: H23110570-001C, H23110570-002C, H23110570-003C

Run ID :Run Order: <b>SEAL AA500_231120A: 14</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>				Method: <b>E353.2</b>		
Analysis Date: <b>11/20/23 15:43</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.01	0.010	1	0	<b>101</b>	90	110				

Associated samples: H23110570-001C, H23110570-002C, H23110570-003C

Run ID :Run Order: <b>SEAL AA500_231120A: 15</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>				Method: <b>E353.2</b>		
Analysis Date: <b>11/20/23 15:44</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.02	0.011	1	0	<b>102</b>	90	110				

Associated samples: H23110570-001C, H23110570-002C, H23110570-003C

Run ID :Run Order: <b>SEAL AA500_231120A: 29</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>E353.2</b>		
Analysis Date: <b>11/20/23 15:58</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.01	0.010	1	0	<b>101</b>	90	110				

Associated samples: H23110570-001C, H23110570-002C, H23110570-003C

Run ID :Run Order: <b>SEAL AA500_231120A: 44</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>E353.2</b>		
Analysis Date: <b>11/20/23 16:15</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.02	0.010	1	0	<b>101</b>	90	110				

Associated samples: H23110570-001C, H23110570-002C, H23110570-003C

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110570

**BatchID:** R190261

**Date:** 27-Dec-23

Run ID :Run Order: <b>SEAL AA500_231120A: 47</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23110570-002CMS</b>				Method: <b>E353.2</b>		
Analysis Date: <b>11/20/23 16:18</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.36	0.011	1	0.4115	<b>95</b>	90	110				

Associated samples: **H23110570-001C, H23110570-002C, H23110570-003C**

Run ID :Run Order: <b>SEAL AA500_231120A: 48</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23110570-002CMSD</b>				Method: <b>E353.2</b>		
Analysis Date: <b>11/20/23 16:19</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.35	0.011	1	0.4115	<b>94</b>	90	110	1.36	<b>0.7</b>	10	

Associated samples: **H23110570-001C, H23110570-002C, H23110570-003C**

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110570

**BatchID:** R190339

**Date:** 27-Dec-23

Run ID :Run Order: ICP2-HE_231126B: 6	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.7		
Analysis Date: 11/26/23 12:12	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>11</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3.97	0.10	4	0	99	95	105				
Boron	0.815	0.10	0.8	0	102	95	105				
Calcium	38.6	1.0	40	0	96	95	105				
Copper	0.792	0.012	0.8	0	99	95	105				
Iron	3.92	0.020	4	0	98	95	105				
Lithium	0.829	0.10	0.8	0	104	95	105				
Magnesium	37.8	1.0	40	0	95	95	105				
Manganese	3.93	0.010	4	0	98	95	105				
Potassium	39.9	1.0	40	0	100	95	105				
Sodium	39.8	1.0	40	0	100	95	105				
Strontium	0.796	0.10	0.8	0	99	95	105				

Associated samples: H23110570-001B, H23110570-002B, H23110570-003B

Run ID :Run Order: ICP2-HE_231126B: 7	SampType: Continuing Calibration Verification Standard				Lab ID: CCV-1				Method: E200.7		
Analysis Date: 11/26/23 12:16	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>11</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.50	0.10	2.5	0	100	95	105				
Boron	2.54	0.10	2.5	0	101	95	105				
Calcium	24.5	1.0	25	0	98	95	105				
Copper	2.56	0.012	2.5	0	102	95	105				
Iron	2.49	0.020	2.5	0	100	95	105				
Lithium	1.27	0.10	1.25	0	102	95	105				
Magnesium	24.2	1.0	25	0	97	95	105				
Manganese	2.60	0.010	2.5	0	104	95	105				
Potassium	25.8	1.0	25	0	103	95	105				
Sodium	25.7	1.0	25	0	103	95	105				
Strontium	2.54	0.10	2.5	0	101	95	105				

Associated samples: H23110570-001B, H23110570-002B, H23110570-003B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110570

**BatchID:** R190339

**Date:** 27-Dec-23

Run ID :Run Order: ICP2-HE_231126B: 13	SampType: Method Blank				Lab ID: MB				Method: E200.7		
Analysis Date: 11/26/23 12:42	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>11</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.03									
Boron	ND	0.004									
Calcium	ND	0.2									
Copper	ND	0.01									
Iron	ND	0.008									
Lithium	ND	0.002									
Magnesium	ND	0.05									
Manganese	ND	0.001									
Potassium	ND	0.06									
Sodium	0.08	0.03									
Strontium	ND	0.0003									

Associated samples: H23110570-001B, H23110570-002B, H23110570-003B

Run ID :Run Order: ICP2-HE_231126B: 14	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.7		
Analysis Date: 11/26/23 12:46	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>11</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.45	0.10	5	0	109	85	115				
Boron	0.987	0.10	1	0	99	85	115				
Calcium	50.2	1.0	50	0	100	85	115				
Copper	1.10	0.012	1	0	110	85	115				
Iron	5.26	0.020	5	0	105	85	115				
Lithium	1.15	0.10	1	0	115	85	115				
Magnesium	50.8	1.0	50	0	102	85	115				
Manganese	5.15	0.010	5	0	103	85	115				
Potassium	54.7	1.0	50	0	109	85	115				
Sodium	54.9	1.0	50	0	110	85	115				
Strontium	1.07	0.10	1	0	107	85	115				

Associated samples: H23110570-001B, H23110570-002B, H23110570-003B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110570

BatchID: R190339

Date: 27-Dec-23

Run ID :Run Order: ICP2-HE_231126B: 111	SampType: Sample Matrix Spike				Lab ID: H23110559-005BMS2				Method: E200.7		
Analysis Date: 11/26/23 19:56	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>11</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9.40	0.058	10	0	94	70	130				
Boron	2.18	0.050	2	0.3185	93	70	130				
Calcium	107	1.0	100	12.38	95	70	130				
Copper	1.95	0.024	2	0	97	70	130				
Iron	9.72	0.020	10	0.04574	97	70	130				
Lithium	2.35	0.10	2	0.3916	98	70	130				
Magnesium	98.5	1.0	100	8.029	90	70	130				
Manganese	9.51	0.0027	10	0.01212	95	70	130				
Potassium	135	1.0	100	40.58	95	70	130				
Sodium	892	1.0	100	768.7		70	130				A
Strontium	1.99	0.010	2	0.1292	93	70	130				

Associated samples: H23110570-001B, H23110570-002B, H23110570-003B

Run ID :Run Order: ICP2-HE_231126B: 112	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110559-005BMSD2				Method: E200.7		
Analysis Date: 11/26/23 20:00	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>11</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9.95	0.058	10	0	99	70	130	9.403	5.6	20	
Boron	2.28	0.050	2	0.3185	98	70	130	2.18	4.7	20	
Calcium	113	1.0	100	12.38	101	70	130	107.2	5.2	20	
Copper	2.07	0.024	2	0	103	70	130	1.95	5.8	20	
Iron	10.4	0.020	10	0.04574	104	70	130	9.721	6.8	20	
Lithium	2.44	0.10	2	0.3916	103	70	130	2.354	3.7	20	
Magnesium	104	1.0	100	8.029	96	70	130	98.5	5.0	20	
Manganese	10.1	0.0027	10	0.01212	100	70	130	9.51	5.6	20	
Potassium	141	1.0	100	40.58	101	70	130	135.4	4.1	20	
Sodium	871	1.0	100	768.7		70	130	891.6	2.3	20	A
Strontium	2.10	0.010	2	0.1292	99	70	130	1.992	5.3	20	

Associated samples: H23110570-001B, H23110570-002B, H23110570-003B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110570

BatchID: R190339

Date: 27-Dec-23

Run ID :Run Order: ICP2-HE_231126B: 114	SampType: Continuing Calibration Verification Standard				Lab ID: CCV			Method: E200.7			
Analysis Date: 11/26/23 20:08	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>11</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.46	0.10	2.5	0	98	90	110				
Boron	2.50	0.10	2.5	0	100	90	110				
Calcium	25.3	1.0	25	0	101	90	110				
Copper	2.55	0.012	2.5	0	102	90	110				
Iron	2.58	0.020	2.5	0	103	90	110				
Lithium	1.27	0.10	1.25	0	101	90	110				
Magnesium	24.1	1.0	25	0	96	90	110				
Manganese	2.73	0.010	2.5	0	109	90	110				
Potassium	25.9	1.0	25	0	104	90	110				
Sodium	25.5	1.0	25	0	102	90	110				
Strontium	2.51	0.10	2.5	0	101	90	110				

Associated samples: H23110570-001B, H23110570-002B, H23110570-003B



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110570

BatchID: R190403

Date: 27-Dec-23

Run ID :Run Order: <b>IC METROHM_231128A: 2</b>	SampType: <b>Method Blank</b>				Lab ID: <b>ICB</b>				Method: <b>E300.0</b>		
Analysis Date: <b>11/28/23 10:37</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.02									
Sulfate	ND	0.03									

Associated samples: H23110570-002A

Run ID :Run Order: <b>IC METROHM_231128A: 3</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>				Method: <b>E300.0</b>		
Analysis Date: <b>11/28/23 10:51</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	103	1.0	100	0	<b>103</b>	90	110				
Sulfate	408	1.0	400	0	<b>102</b>	90	110				

Associated samples: H23110570-002A

Run ID :Run Order: <b>IC METROHM_231128A: 4</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>				Method: <b>E300.0</b>		
Analysis Date: <b>11/28/23 11:05</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	24.8	1.0	25	0	<b>99</b>	90	110				
Sulfate	103	1.0	100	0	<b>103</b>	90	110				

Associated samples: H23110570-002A

Run ID :Run Order: <b>IC METROHM_231128A: 63</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23110551-012AMS</b>				Method: <b>E300.0</b>		
Analysis Date: <b>11/29/23 01:14</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	38.5	1.0	25	13.25	<b>101</b>	90	110				
Sulfate	101	1.0	100	0	<b>101</b>	90	110				

Associated samples: H23110570-002A

Run ID :Run Order: <b>IC METROHM_231128A: 64</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23110551-012AMSD</b>				Method: <b>E300.0</b>		
Analysis Date: <b>11/29/23 01:29</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	38.5	1.0	25	13.25	<b>101</b>	90	110	38.53	<b>0</b>	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110570

BatchID: R190403

Date: 27-Dec-23

Run ID :Run Order: <b>IC METROHM_231128A: 64</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23110551-012AMSD</b>				Method: <b>E300.0</b>		
Analysis Date: <b>11/29/23 01:29</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	102	1.0	100	0	<b>102</b>	90	110	101.5	<b>0.8</b>	20	

Associated samples: H23110570-002A

Run ID :Run Order: <b>IC METROHM_231128A: 65</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>				Method: <b>E300.0</b>		
Analysis Date: <b>11/29/23 01:43</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	50.4	1.0	50	0	<b>101</b>	90	110				
Sulfate	202	1.0	200	0	<b>101</b>	90	110				

Associated samples: H23110570-002A

Run ID :Run Order: <b>IC METROHM_231128A: 85</b>	SampType: <b>Sample Duplicate</b>				Lab ID: <b>H23110571-026ADUP</b>				Method: <b>E300.0</b>		
Analysis Date: <b>11/29/23 06:30</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	22.2	1.0		0				23.06	<b>3.8</b>	20	
Sulfate	536	1.0		0				562.2	<b>4.9</b>	20	

Associated samples: H23110570-002A





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110570

**BatchID:** R190453

**Date:** 27-Dec-23

Run ID :Run Order: ICPMS206-H_231130A: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 11/30/23 10:59	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0612	0.010	0.06	0	102	90	110				
Gallium	0.0602	0.010	0.06	0	100	90	110				
Lanthanum	0.0623	0.010	0.06	0	104	90	110				
Neodymium	0.0627	0.0050	0.06	0	105	90	110				
Niobium	0.0549	0.0010	0.06	0	92	90	110				
Palladium	0.0618	0.010	0.06	0	103	90	110				
Praseodymium	0.0615	0.0010	0.06	0	103	90	110				
Rubidium	0.0603	0.010	0.06	0	101	90	110				
Tungsten	0.0570	0.10	0.06	0	95	90	110				
Zirconium	0.0630	0.0050	0.06	0	105	90	110				

Associated samples: H23110570-001B, H23110570-001F, H23110570-002B, H23110570-002F, H23110570-003B, H23110570-003F

Run ID :Run Order: ICPMS206-H_231130A: 22	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 11/30/23 11:41	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	ND	0.0003									
Gallium	ND	0.00004									
Lanthanum	ND	0.00004									
Neodymium	ND	0.00004									
Niobium	0.00004	0.00004									
Palladium	ND	0.00004									
Praseodymium	ND	0.00005									
Rubidium	ND	0.00003									
Tungsten	ND	0.00003									
Zirconium	ND	0.00006									

Associated samples: H23110570-001B, H23110570-002B, H23110570-003B

Run ID :Run Order: ICPMS206-H_231130A: 23	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.8		
Analysis Date: 11/30/23 11:43	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0521	0.010	0.05	0	104	85	115				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110570

BatchID: R190453

Date: 27-Dec-23

Run ID :Run Order: ICPMS206-H_231130A: 23	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.8		
Analysis Date: 11/30/23 11:43	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gallium	0.0503	0.010	0.05	0	101	85	115				
Lanthanum	0.0514	0.010	0.05	0	103	85	115				
Neodymium	0.0508	0.0050	0.05	0	101	85	115				
Niobium	0.0524	0.0010	0.05	0	105	85	115				
Palladium	0.0503	0.010	0.05	0	101	85	115				
Praseodymium	0.0506	0.0010	0.05	0	101	85	115				
Rubidium	0.0509	0.010	0.05	0	102	85	115				
Tungsten	0.0512	0.10	0.05	0	102	85	115				
Zirconium	0.0502	0.0050	0.05	0	100	85	115				

Associated samples: H23110570-001B, H23110570-002B, H23110570-003B

Run ID :Run Order: ICPMS206-H_231130A: 58	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.8		
Analysis Date: 11/30/23 12:56	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0529	0.010	0.05	0	106	90	110				
Gallium	0.0490	0.010	0.05	0	98	90	110				
Lanthanum	0.0533	0.010	0.05	0	107	90	110				
Neodymium	0.0527	0.0050	0.05	0	105	90	110				
Niobium	0.0510	0.0010	0.05	0	102	90	110				
Palladium	0.0507	0.010	0.05	0	101	90	110				
Praseodymium	0.0530	0.0010	0.05	0	106	90	110				
Rubidium	0.0509	0.010	0.05	0	102	90	110				
Tungsten	0.0477	0.10	0.05	0	95	90	110				
Zirconium	0.0510	0.0050	0.05	0	102	90	110				

Associated samples: H23110570-001B, H23110570-001F, H23110570-002B, H23110570-002F, H23110570-003B, H23110570-003F

Run ID :Run Order: ICPMS206-H_231130A: 69	SampType: Sample Matrix Spike				Lab ID: H23110570-001BMS				Method: E200.8		
Analysis Date: 11/30/23 13:39	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0514	0.010	0.05	0	103	70	130				
Gallium	0.0486	0.010	0.05	0.0001167	97	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110570

BatchID: R190453

Date: 27-Dec-23

Run ID :Run Order: ICPMS206-H_231130A: 69	SampType: Sample Matrix Spike				Lab ID: H23110570-001BMS				Method: E200.8		
Analysis Date: 11/30/23 13:39	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lanthanum	0.0590	0.010	0.05	0.00593	106	70	130				
Neodymium	0.0568	0.0050	0.05	0.00394	106	70	130				
Niobium	0.0503	0.0010	0.05	0	101	70	130				
Palladium	0.0477	0.010	0.05	0.0005462	94	70	130				
Praseodymium	0.0536	0.0010	0.05	0.001089	105	70	130				
Rubidium	0.0548	0.010	0.05	0.003565	102	70	130				
Tungsten	0.0483	0.10	0.05	0.00003066	97	70	130				
Zirconium	0.0523	0.0050	0.05	0.00006839	104	70	130				

Associated samples: H23110570-001B, H23110570-002B, H23110570-003B

Run ID :Run Order: ICPMS206-H_231130A: 70	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110570-001BMSD				Method: E200.8		
Analysis Date: 11/30/23 13:41	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0493	0.010	0.05	0	99	70	130	0.05144	4.3	20	
Gallium	0.0488	0.010	0.05	0.0001167	97	70	130	0.04855	0.4	20	
Lanthanum	0.0593	0.010	0.05	0.00593	107	70	130	0.05905	0.4	20	
Neodymium	0.0558	0.0050	0.05	0.00394	104	70	130	0.05684	1.9	20	
Niobium	0.0528	0.0010	0.05	0	106	70	130	0.05028			
Palladium	0.0463	0.010	0.05	0.0005462	92	70	130	0.04769	3.0	20	
Praseodymium	0.0528	0.0010	0.05	0.001089	103	70	130	0.05355			
Rubidium	0.0547	0.010	0.05	0.003565	102	70	130	0.05479	0.2	20	
Tungsten	0.0491	0.10	0.05	0.00003066	98	70	130	0.04833		20	
Zirconium	0.0526	0.0050	0.05	0.00006839	105	70	130	0.0523	0.6	20	

Associated samples: H23110570-001B, H23110570-002B, H23110570-003B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110570

BatchID: R190737

Date: 27-Dec-23

Run ID :Run Order: ICP2-HE_231211B: 6	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.7		
Analysis Date: 12/11/23 08:52	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	39.7	1.0	40	0	99	95	105				
Zinc	0.824	0.010	0.8	0	103	95	105				

Associated samples: H23110570-002B, H23110570-003B

Run ID :Run Order: ICP2-HE_231211B: 7	SampType: Continuing Calibration Verification Standard				Lab ID: CCV-1				Method: E200.7		
Analysis Date: 12/11/23 08:56	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	24.6	1.0	25	0	98	95	105				
Zinc	2.61	0.010	2.5	0	104	95	105				

Associated samples: H23110570-002B, H23110570-003B

Run ID :Run Order: ICP2-HE_231211B: 13	SampType: Method Blank				Lab ID: MB				Method: E200.7		
Analysis Date: 12/11/23 09:19	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	0.04	0.03									
Zinc	ND	0.003									

Associated samples: H23110570-002B, H23110570-003B

Run ID :Run Order: ICP2-HE_231211B: 17	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.7		
Analysis Date: 12/11/23 09:37	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	50.1	1.0	50	0	100	85	115				
Zinc	0.970	0.010	1	0	97	85	115				

Associated samples: H23110570-002B, H23110570-003B

Run ID :Run Order: ICP2-HE_231211B: 90	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.7		
Analysis Date: 12/11/23 15:05	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	24.4	1.0	25	0	98	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110570

BatchID: R190737

Date: 27-Dec-23

Run ID :Run Order: ICP2-HE_231211B: 90	SampType: Continuing Calibration Verification Standard				Lab ID: CCV				Method: E200.7		
Analysis Date: 12/11/23 15:05	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <u>2</u>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	2.71	0.010	2.5	0	109	90	110				

Associated samples: H23110570-002B, H23110570-003B

Run ID :Run Order: ICP2-HE_231211B: 98	SampType: Sample Matrix Spike				Lab ID: H23110570-002BMS2				Method: E200.7		
Analysis Date: 12/11/23 15:39	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <u>2</u>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	191	1.0	100	78.58	112	70	130				
Zinc	40.4	0.010	2	39		70	130				A

Associated samples: H23110570-002B, H23110570-003B

Run ID :Run Order: ICP2-HE_231211B: 99	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110570-002BMSD2				Method: E200.7		
Analysis Date: 12/11/23 15:42	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <u>2</u>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	191	1.0	100	78.58	113	70	130	190.8	0.2	20	
Zinc	41.2	0.010	2	39		70	130	40.45	1.8	20	A

Associated samples: H23110570-002B, H23110570-003B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110570

BatchID: R190901

Date: 27-Dec-23

Run ID :Run Order: ICPMS206-H_231215A: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.8			
Analysis Date: 12/15/23 11:04	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 19	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0594	0.050	0.06	0	99	90	110				
Arsenic	0.0586	0.0050	0.06	0	98	90	110				
Barium	0.0593	0.10	0.06	0	99	90	110				
Cadmium	0.0296	0.0010	0.03	0	99	90	110				
Chromium	0.0595	0.010	0.06	0	99	90	110				
Cobalt	0.0594	0.010	0.06	0	99	90	110				
Copper	0.0604	0.010	0.06	0	101	90	110				
Iron	0.303	0.020	0.3	0	101	90	110				
Lead	0.0574	0.010	0.06	0	96	90	110				
Molybdenum	0.0571	0.0050	0.06	0	95	90	110				
Nickel	0.0598	0.010	0.06	0	100	90	110				
Selenium	0.0591	0.0050	0.06	0	98	90	110				
Strontium	0.0591	0.10	0.06	0	98	90	110				
Thallium	0.0591	0.10	0.06	0	98	90	110				
Thorium	0.0600	0.0010	0.06	0	100	90	110				
Tin	0.0590	0.10	0.06	0	98	90	110				
Titanium	0.0598	0.010	0.06	0	100	90	110				
Uranium	0.0560	0.00030	0.06	0	93	90	110				
Vanadium	0.0617	0.10	0.06	0	103	90	110				

Associated samples: H23110570-001B, H23110570-001F, H23110570-002B, H23110570-002F, H23110570-003B, H23110570-003F

Run ID :Run Order: ICPMS206-H_231215A: 22	SampType: Method Blank				Lab ID: LRB			Method: E200.8			
Analysis Date: 12/15/23 11:51	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 16	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	ND	0.00002									
Arsenic	ND	0.00001									
Barium	ND	0.0003									
Cadmium	ND	7E-06									
Chromium	ND	0.00001									
Cobalt	ND	0.00001									
Lead	ND	0.00002									
Molybdenum	0.00003	7E-06									

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110570

BatchID: R190901

Date: 27-Dec-23

Run ID :Run Order: ICPMS206-H_231215A: 22		SampType: Method Blank			Lab ID: LRB				Method: E200.8		
Analysis Date: 12/15/23 11:51		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes <b>16</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	ND	0.00003									
Selenium	ND	0.00002									
Thallium	ND	7E-06									
Thorium	6E-06	4E-06									
Tin	ND	0.0003									
Titanium	ND	0.0002									
Uranium	3E-06	3E-06									
Vanadium	ND	0.00001									

Associated samples: H23110570-001B, H23110570-002B, H23110570-003B

Run ID :Run Order: ICPMS206-H_231215A: 23		SampType: Laboratory Fortified Blank			Lab ID: LFB				Method: E200.8		
Analysis Date: 12/15/23 11:55		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes <b>16</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0484	0.050	0.05	0	97	85	115				
Arsenic	0.0497	0.0050	0.05	0	99	85	115				
Barium	0.0484	0.10	0.05	0	97	85	115				
Cadmium	0.0480	0.0010	0.05	0	96	85	115				
Chromium	0.0505	0.010	0.05	0	101	85	115				
Cobalt	0.0510	0.010	0.05	0	102	85	115				
Lead	0.0489	0.010	0.05	0	98	85	115				
Molybdenum	0.0478	0.0050	0.05	0	96	85	115				
Nickel	0.0503	0.010	0.05	0	101	85	115				
Selenium	0.0497	0.0050	0.05	0	99	85	115				
Thallium	0.0488	0.10	0.05	0	97	85	115				
Thorium	0.0474	0.0010	0.05	0	95	85	115				
Tin	0.0493	0.10	0.05	0	99	85	115				
Titanium	0.0508	0.010	0.05	0	102	85	115				
Uranium	0.0477	0.00030	0.05	0	95	85	115				
Vanadium	0.0492	0.10	0.05	0	98	85	115				

Associated samples: H23110570-001B, H23110570-002B, H23110570-003B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110570

BatchID: R190901

Date: 27-Dec-23

Run ID :Run Order: ICPMS206-H_231215A: 45	SampType: Sample Matrix Spike				Lab ID: H23120402-001BMS				Method: E200.8		
Analysis Date: 12/15/23 13:13	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>11</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.244	0.0010	0.25	0	98	70	130				
Arsenic	0.261	0.0010	0.25	0.01838	97	70	130				
Barium	0.280	0.050	0.25	0.04151	95	70	130				
Cadmium	0.230	0.0010	0.25	0.00003965	92	70	130				
Chromium	0.244	0.0050	0.25	0	98	70	130				
Cobalt	0.242	0.0050	0.25	0	97	70	130				
Molybdenum	0.242	0.0010	0.25	0.0002148	97	70	130				
Nickel	0.236	0.0050	0.25	0	94	70	130				
Tin	0.244	0.050	0.25	0	98	70	130				
Titanium	0.265	0.0050	0.25	0	106	70	130				
Vanadium	0.256	0.010	0.25	0.001482	102	70	130				

Associated samples: H23110570-001B, H23110570-002B, H23110570-003B

Run ID :Run Order: ICPMS206-H_231215A: 47	SampType: Sample Matrix Spike Duplicate				Lab ID: H23120402-001BMSD				Method: E200.8		
Analysis Date: 12/15/23 13:20	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>11</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.248	0.0010	0.25	0	99	70	130	0.2442	1.5	20	
Arsenic	0.262	0.0010	0.25	0.01838	98	70	130	0.261	0.6	20	
Barium	0.282	0.050	0.25	0.04151	96	70	130	0.2796	1.0	20	
Cadmium	0.236	0.0010	0.25	0.00003965	94	70	130	0.2302	2.4	20	
Chromium	0.246	0.0050	0.25	0	98	70	130	0.2438	0.8	20	
Cobalt	0.247	0.0050	0.25	0	99	70	130	0.2419	1.9	20	
Molybdenum	0.248	0.0010	0.25	0.0002148	99	70	130	0.2418	2.5	20	
Nickel	0.242	0.0050	0.25	0	97	70	130	0.2362	2.4	20	
Tin	0.251	0.050	0.25	0	100	70	130	0.244	2.7	20	
Titanium	0.266	0.0050	0.25	0	106	70	130	0.2654	0.3	20	
Vanadium	0.257	0.010	0.25	0.001482	102	70	130	0.2562	0.2	20	

Associated samples: H23110570-001B, H23110570-002B, H23110570-003B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice  
**Work Order:** H23110570

Prepared by Helena, MT Branch  
**BatchID:** R190901

**Date:** 27-Dec-23

Run ID :Run Order: ICPMS206-H_231215A: 52	SampType: Continuing Calibration Verification Standard				Lab ID: CCV			Method: E200.8			
Analysis Date: 12/15/23 13:38	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>19</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0476	0.050	0.05	0	95	90	110				
Arsenic	0.0502	0.0050	0.05	0	100	90	110				
Barium	0.0474	0.10	0.05	0	95	90	110				
Cadmium	0.0468	0.0010	0.05	0	94	90	110				
Chromium	0.0502	0.010	0.05	0	100	90	110				
Cobalt	0.0502	0.010	0.05	0	100	90	110				
Copper	0.0497	0.010	0.05	0	99	90	110				
Iron	1.33	0.020	1.3	0	102	90	110				
Lead	0.0477	0.010	0.05	0	95	90	110				
Molybdenum	0.0477	0.0050	0.05	0	95	90	110				
Nickel	0.0495	0.010	0.05	0	99	90	110				
Selenium	0.0476	0.0050	0.05	0	95	90	110				
Strontium	0.0514	0.10	0.05	0	103	90	110				
Thallium	0.0461	0.10	0.05	0	92	90	110				
Thorium	0.0458	0.0010	0.05	0	92	90	110				
Tin	0.0477	0.10	0.05	0	95	90	110				
Titanium	0.0531	0.010	0.05	0	106	90	110				
Uranium	0.0478	0.00030	0.05	0	96	90	110				
Vanadium	0.0540	0.10	0.05	0	108	90	110				

Associated samples: H23110570-001B, H23110570-001F, H23110570-002B, H23110570-002F, H23110570-003B, H23110570-003F



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110570

BatchID: R191040

Date: 27-Dec-23

Run ID :Run Order: ICPMS205-H_231220A: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.8			
Analysis Date: 12/20/23 11:27	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.304	0.010	0.3	0	101	90	110				
Zinc	0.0634	0.010	0.06	0	106	90	110				

Associated samples: H23110570-003F

Run ID :Run Order: ICPMS205-H_231220A: 42	SampType: Continuing Calibration Verification Standard				Lab ID: CCV			Method: E200.8			
Analysis Date: 12/20/23 17:19	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.0526	0.010	0.05	0	105	90	110				
Zinc	0.0532	0.010	0.05	0	106	90	110				

Associated samples: H23110570-003F



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110570

**BatchID:** R191058

**Date:** 27-Dec-23

Run ID :Run Order: ICPMS206-H_231219A: 22		SampType: Method Blank			Lab ID: LRB				Method: E200.8		
Analysis Date: 12/19/23 13:28		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.002									
Beryllium	0.0001	0.00003									
Silver	ND	3E-06									
Zinc	ND	0.0007									

Associated samples: H23110570-001B, H23110570-002B, H23110570-003B

Run ID :Run Order: ICPMS206-H_231219A: 23		SampType: Laboratory Fortified Blank			Lab ID: LFB				Method: E200.8		
Analysis Date: 12/19/23 13:31		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0530	0.10	0.05	0	106	85	115				
Beryllium	0.0526	0.0010	0.05	0	105	85	115				
Silver	0.0217	0.0050	0.02	0	109	85	115				
Zinc	0.0538	0.010	0.05	0	108	85	115				

Associated samples: H23110570-001B, H23110570-002B, H23110570-003B

Run ID :Run Order: ICPMS206-H_231219A: 55		SampType: Sample Matrix Spike			Lab ID: H23120477-003CMS				Method: E200.8		
Analysis Date: 12/19/23 16:03		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0722	0.030	0.05	0.01919	106	70	130				
Beryllium	0.0593	0.0010	0.05	0	119	70	130				
Silver	0.0204	0.0010	0.02	0	102	70	130				
Zinc	0.0551	0.010	0.05	0.001402	107	70	130				

Associated samples: H23110570-001B, H23110570-002B, H23110570-003B

Run ID :Run Order: ICPMS206-H_231219A: 56		SampType: Sample Matrix Spike Duplicate			Lab ID: H23120477-003CMSD				Method: E200.8		
Analysis Date: 12/19/23 16:07		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0731	0.030	0.05	0.01919	108	70	130	0.07223	1.2	20	
Beryllium	0.0628	0.0010	0.05	0	126	70	130	0.05934	5.6	20	
Silver	0.0214	0.0010	0.02	0	107	70	130	0.02037	5.0	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110570

**BatchID:** R191058

**Date:** 27-Dec-23

Run ID :Run Order: <b>ICPMS206-H_231219A: 56</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23120477-003CMSD</b>	Method: <b>E200.8</b>					
Analysis Date: <b>12/19/23 16:07</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:	Prep Method:					
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.0562	0.010	0.05	0.001402	<b>110</b>	70	130	0.0551	<b>2.1</b>	20	

Associated samples: **H23110570-001B, H23110570-002B, H23110570-003B**

Run ID :Run Order: <b>ICPMS206-H_231219A: 100</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>	Method: <b>E200.8</b>					
Analysis Date: <b>12/19/23 21:11</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:	Prep Method:					
Analytes <b>8</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.306	0.10	0.3	0	<b>102</b>	90	110				
Beryllium	0.0296	0.0010	0.03	0	<b>99</b>	90	110				
Copper	0.0595	0.010	0.06	0	<b>99</b>	90	110				
Iron	0.293	0.020	0.3	0	<b>98</b>	90	110				
Lithium	0.0609	0.10	0.06	0	<b>102</b>	90	110				
Manganese	0.298	0.010	0.3	0	<b>99</b>	90	110				
Silver	0.0306	0.0050	0.03	0	<b>102</b>	90	110				
Zinc	0.0595	0.010	0.06	0	<b>99</b>	90	110				

Associated samples: **H23110570-001B, H23110570-001F, H23110570-002B, H23110570-002F, H23110570-003B, H23110570-003F**

Run ID :Run Order: <b>ICPMS206-H_231219A: 131</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>	Method: <b>E200.8</b>					
Analysis Date: <b>12/19/23 23:04</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:	Prep Method:					
Analytes <b>8</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0473	0.10	0.05	0	<b>95</b>	90	110				
Beryllium	0.0505	0.0010	0.05	0	<b>101</b>	90	110				
Copper	0.0498	0.010	0.05	0	<b>100</b>	90	110				
Iron	1.25	0.020	1.3	0	<b>96</b>	90	110				
Lithium	0.614	0.10	0.625	0	<b>98</b>	90	110				
Manganese	0.0499	0.010	0.05	0	<b>100</b>	90	110				
Silver	0.0203	0.0050	0.02	0	<b>102</b>	90	110				
Zinc	0.0499	0.010	0.05	0	<b>100</b>	90	110				

Associated samples: **H23110570-001B, H23110570-001F, H23110570-002B, H23110570-002F, H23110570-003B, H23110570-003F**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110570

BatchID: R191083

Date: 27-Dec-23

Run ID :Run Order: <b>ICPMS205-H_231221A: 12</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>12/21/23 12:34</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.298	0.010	0.3	0	<b>99</b>	90	110				

Associated samples: **H23110570-002F**

Run ID :Run Order: <b>ICPMS205-H_231221A: 20</b>	SampType: <b>Continuing Calibration Verification Standard</b>				Lab ID: <b>CCV</b>			Method: <b>E200.8</b>			
Analysis Date: <b>12/21/23 14:12</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.0500	0.010	0.05	0	<b>100</b>	90	110				

Associated samples: **H23110570-002F**

Qualifiers: ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110570

BatchID: TDS231116A

Date: 27-Dec-23

Run ID :Run Order: ACCU-124 (14410200)_231116B: 1	SampType: Method Blank	Lab ID: MB-1_231116	Method: A2540 C								
Analysis Date: 11/16/23 12:59	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	ND	6									
Associated samples: H23110570-001A, H23110570-002A, H23110570-003A											

Run ID :Run Order: ACCU-124 (14410200)_231116B: 2	SampType: Laboratory Control Sample	Lab ID: LCS-2_231116	Method: A2540 C								
Analysis Date: 11/16/23 12:59	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	1940	50	2000	0	97	90	110				
Associated samples: H23110570-001A, H23110570-002A, H23110570-003A											

Run ID :Run Order: ACCU-124 (14410200)_231116B: 4	SampType: Sample Duplicate	Lab ID: H23110571-014A DUP	Method: A2540 C								
Analysis Date: 11/16/23 13:01	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	5370	100		0				5400	0.6	10	
Associated samples: H23110570-001A, H23110570-002A, H23110570-003A											





# Work Order Receipt Checklist

MT Dept of Justice

H23110570

Login completed by: Wanda Johnson

Date Received: 11/15/2023

Reviewed by: tjones

Received by: wjj

Reviewed Date: 11/17/2023

Carrier name: Hand Deliver

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	4.6°C On Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

## Contact and Corrective Action Comments:

Sample container states MH-MSD108. COC states MH-MSD106, client notified to determine which ID is correct. wjj 11/15/2023

Per J. Garza it should be MH-MSD108. wjj 11/15/2023





# ANALYTICAL SUMMARY REPORT

January 04, 2024

MT Dept of Justice  
Natural Resource Damage Program  
Helena, MT 59620-1425

Work Order: H23110571      Quote ID: H2187

Project Name: NRDPM16 TO2-Task 001

Energy Laboratories Inc Helena MT received the following 55 samples for MT Dept of Justice on 11/15/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H23110571-001	PMP-11A	11/13/23 11:13	11/15/23	Groundwater	Rare Earth Metals, Dissolved Metals by ICP/ICPMS, Dissolved Alkalinity to pH 4.5 Anion - Cation Balance Carbon, Dissolved Organic Conductivity Carbon, Total Organic Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Solids, Total Dissolved
H23110571-002	BPS07-07B	11/13/23 11:26	11/15/23	Groundwater	Same As Above
H23110571-003	BPS07-07	11/13/23 11:54	11/15/23	Groundwater	Same As Above
H23110571-004	BPS07-23	11/13/23 12:34	11/15/23	Groundwater	Same As Above
H23110571-005	MSD-03	11/13/23 12:55	11/15/23	Groundwater	Same As Above
H23110571-006	AMW-13B	11/13/23 13:27	11/15/23	Groundwater	Same As Above
H23110571-007	MF-11	11/13/23 13:42	11/15/23	Groundwater	Same As Above
H23110571-008	AMW-13B2	11/13/23 13:48	11/15/23	Groundwater	Same As Above
H23110571-009	MSD-04	11/13/23 14:10	11/15/23	Groundwater	Same As Above
H23110571-010	AMW-13C	11/13/23 14:23	11/15/23	Groundwater	Same As Above
H23110571-011	PMP-09A	11/13/23 15:02	11/15/23	Groundwater	Same As Above
H23110571-012	PMP-07A	11/13/23 15:07	11/15/23	Groundwater	Same As Above
H23110571-013	FB-2	11/13/23 16:02	11/15/23	Groundwater	Same As Above
H23110571-014	MSD-02B	11/13/23 16:16	11/15/23	Groundwater	Same As Above
H23110571-015	DUP-2	11/13/23 16:17	11/15/23	Groundwater	Same As Above
H23110571-016	EB-2	11/13/23 16:30	11/15/23	Groundwater	Same As Above
H23110571-017	FB-4	11/14/23 9:40	11/15/23	Groundwater	Same As Above
H23110571-018	BPS11-18B	11/14/23 9:41	11/15/23	Groundwater	Same As Above
H23110571-019	PMP-08A2	11/14/23 9:42	11/15/23	Groundwater	Same As Above
H23110571-020	PMP-08B	11/14/23 10:02	11/15/23	Groundwater	Same As Above
H23110571-021	BPS11-18C	11/14/23 10:22	11/15/23	Groundwater	Same As Above





## ANALYTICAL SUMMARY REPORT

H23110571-022	PMP-11B	11/14/23 10:45	11/15/23	Groundwater	Same As Above
H23110571-023	DUP-4	11/14/23 10:46	11/15/23	Groundwater	Same As Above
H23110571-024	BPS11-10A	11/14/23 11:03	11/15/23	Groundwater	Same As Above
H23110571-025	PMP-05A	11/14/23 11:07	11/15/23	Groundwater	Same As Above
H23110571-026	BPS11-10B	11/14/23 11:30	11/15/23	Groundwater	Same As Above
H23110571-027	PMP-05BR	11/14/23 11:33	11/15/23	Groundwater	Same As Above
H23110571-028	BPS11-10C	11/14/23 12:08	11/15/23	Groundwater	Same As Above
H23110571-029	AMW-13A	11/14/23 12:25	11/15/23	Groundwater	Same As Above
H23110571-030	BPS11-17C	11/14/23 13:39	11/15/23	Groundwater	Same As Above
H23110571-031	GS-28	11/14/23 14:00	11/15/23	Groundwater	Same As Above
H23110571-032	MF-07	11/14/23 14:25	11/15/23	Groundwater	Same As Above
H23110571-033	BPS11-11A1	11/14/23 14:32	11/15/23	Groundwater	Same As Above
H23110571-034	MF-07B	11/14/23 14:50	11/15/23	Groundwater	Same As Above
H23110571-035	BPS11-11A2	11/14/23 14:51	11/15/23	Groundwater	Same As Above
H23110571-036	GS-28B	11/14/23 15:13	11/15/23	Groundwater	Same As Above
H23110571-037	BPS11-11B	11/14/23 15:18	11/15/23	Groundwater	Same As Above
H23110571-038	DUP-1	11/14/23 15:19	11/15/23	Groundwater	Same As Above
H23110571-039	PMP-06A	11/14/23 15:19	11/15/23	Groundwater	Same As Above
H23110571-040	EB-1	11/14/23 15:30	11/15/23	Groundwater	Same As Above
H23110571-041	PMP-08A	11/14/23 15:43	11/15/23	Groundwater	Same As Above
H23110571-042	FB-1	11/14/23 15:45	11/15/23	Groundwater	Same As Above
H23110571-043	PMP-06B	11/14/23 15:50	11/15/23	Groundwater	Same As Above
H23110571-044	BPS11-11C	11/14/23 16:13	11/15/23	Groundwater	Same As Above
H23110571-045	BPS07-11A	11/15/23 9:28	11/15/23	Groundwater	Same As Above
H23110571-046	GS-29SR	11/15/23 9:29	11/15/23	Groundwater	Same As Above
H23110571-047	BPS07-11B	11/15/23 9:49	11/15/23	Groundwater	Same As Above
H23110571-048	PMP-10A	11/15/23 10:03	11/15/23	Groundwater	Same As Above
H23110571-049	PMP-10B	11/15/23 10:26	11/15/23	Groundwater	Same As Above
H23110571-050	AMW-01B	11/15/23 10:47	11/15/23	Groundwater	Same As Above
H23110571-051	AMC-24C	11/15/23 11:03	11/15/23	Groundwater	Same As Above
H23110571-052	BPS11-14A	11/15/23 11:52	11/15/23	Groundwater	Same As Above
H23110571-053	BPS11-14B	11/15/23 12:16	11/15/23	Groundwater	Same As Above
H23110571-054	AMC-23B	11/15/23 12:27	11/15/23	Groundwater	Same As Above
H23110571-055	AMW-01C	11/15/23 12:56	11/15/23	Groundwater	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.




## ANALYTICAL SUMMARY REPORT

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

  
Logn

Digitally signed by  
Jessica C. Smith  
Date: 2024.01.04 10:19:18 -07:00



**CLIENT:** MT Dept of Justice  
**Project:** NRDPM16 TO2-Task 001  
**Work Order:** H23110571

**Report Date:** 01/04/24

## **CASE NARRATIVE**

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Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002.

Sample AMW-13B for alkalinity was reran for confirmation past the method recommended hold time and those results are reported. jcs 01/04/2024



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-11A  
**Lab ID:** H23110571-001  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 11:13 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.1	s.u.	H	0.1		A4500-H B	11/16/23 09:30 / eek		PHSC_101-H_231116A : 15		R190121
pH Measurement Temp	12.1	°C				A4500-H B	11/16/23 09:30 / eek		PHSC_101-H_231116A : 15		R190121
Conductivity @ 25 C	309	umhos/cm		5		A2510 B	11/16/23 09:30 / eek		PHSC_101-H_231116A : 16		R190121
Solids, Total Dissolved TDS @ 180 C	212	mg/L		20		A2540 C	11/16/23 13:03 / dpw		-124 (14410200)_231116B : 9		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	97	mg/L		4		A2320 B	11/17/23 13:08 / eek		PHSC_101-H_231117A : 73		R190164
Bicarbonate as HCO3	120	mg/L		4		A2320 B	11/17/23 13:08 / eek		PHSC_101-H_231117A : 73		R190164
Carbonate as CO3	ND	mg/L		4		A2320 B	11/17/23 13:08 / eek		PHSC_101-H_231117A : 73		R190164
Chloride	13	mg/L		1		E300.0	11/17/23 04:18 / SR		IC METROHM_231116A : 71		R190187
Sulfate	33	mg/L		1		E300.0	11/17/23 04:18 / SR		IC METROHM_231116A : 71		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 04:18 / SR		IC METROHM_231116A : 71		R190187
Fluoride	1.1	mg/L		0.1		E300.0	11/17/23 04:18 / SR		IC METROHM_231116A : 71		R190187
Hardness as CaCO3	99	mg/L		1		A2340 B	11/26/23 20:27 / SR		CALC_231128A : 322		R190371
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.5	mg/L		0.5		A5310 C	11/22/23 01:37 / eli-c		SUB-C301289 : 35		C_R301289
Organic Carbon, Total (TOC)	0.5	mg/L		0.5		A5310 C	11/21/23 15:41 / eli-c		SUB-C301289 : 17		C_R301289
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.70	mg/L		0.01		E353.2	11/20/23 16:21 / JAR		SEAL AA500_231120A : 50		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 03:22 / dck		ICPMS205-H_231116C : 26		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 03:22 / dck		ICPMS205-H_231116C : 26		R190627
Arsenic	0.002	mg/L		0.001		E200.8	11/17/23 03:22 / dck		ICPMS205-H_231116C : 26		R190627
Barium	0.043	mg/L		0.003		E200.8	11/17/23 03:22 / dck		ICPMS205-H_231116C : 26		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 03:22 / dck		ICPMS205-H_231116C : 26		R190627
Boron	ND	mg/L		0.05		E200.7	11/26/23 20:27 / slj		ICP2-HE_231126B : 119		R190339
Cadmium	0.00022	mg/L		0.00003		E200.8	11/17/23 03:22 / dck		ICPMS205-H_231116C : 26		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 18:18 / dck		ICPMS205-H_231116B : 46		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-11A  
**Lab ID:** H23110571-001  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 11:13 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	28	mg/L		1		E200.7	11/26/23 20:27 / slj		ICP2-HE_231126B : 119		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 03:22 / dck		ICPMS205-H_231116C : 26		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 03:22 / dck		ICPMS205-H_231116C : 26		R190627
Copper	ND	mg/L		0.002		E200.8	11/17/23 03:22 / dck		ICPMS205-H_231116C : 26		R190627
Gallium	ND	mg/L		0.01		E200.8	11/16/23 18:18 / dck		ICPMS205-H_231116B : 46		R190225
Iron	ND	mg/L		0.02		E200.8	11/17/23 03:22 / dck		ICPMS205-H_231116C : 26		R190627
Lead	ND	mg/L		0.0003		E200.8	11/17/23 03:22 / dck		ICPMS205-H_231116C : 26		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 18:18 / dck		ICPMS205-H_231116B : 46		R190225
Lithium	ND	mg/L		0.1		E200.7	11/26/23 20:27 / slj		ICP2-HE_231126B : 119		R190339
Magnesium	7	mg/L		1		E200.7	11/26/23 20:27 / slj		ICP2-HE_231126B : 119		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 18:18 / dck		ICPMS205-H_231116B : 46		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 18:18 / dck		ICPMS205-H_231116B : 46		R190225
Manganese	0.002	mg/L		0.001		E200.8	11/17/23 03:22 / dck		ICPMS205-H_231116C : 26		R190627
Molybdenum	0.020	mg/L		0.001		E200.8	11/17/23 03:22 / dck		ICPMS205-H_231116C : 26		R190627
Nickel	ND	mg/L		0.002		E200.8	11/17/23 03:22 / dck		ICPMS205-H_231116C : 26		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 18:18 / dck		ICPMS205-H_231116B : 46		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 18:18 / dck		ICPMS205-H_231116B : 46		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 18:18 / dck		ICPMS205-H_231116B : 46		R190225
Potassium	3	mg/L		1		E200.7	11/26/23 20:27 / slj		ICP2-HE_231126B : 119		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 03:22 / dck		ICPMS205-H_231116C : 26		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 03:22 / dck		ICPMS205-H_231116C : 26		R190627
Sodium	20	mg/L		1		E200.7	11/26/23 20:27 / slj		ICP2-HE_231126B : 119		R190339
Strontium	0.23	mg/L		0.01		E200.8	11/17/23 03:22 / dck		ICPMS205-H_231116C : 26		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 03:22 / dck		ICPMS205-H_231116C : 26		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 13:23 / dck		ICPMS206-H_231228A : 26		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 03:22 / dck		ICPMS205-H_231116C : 26		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 03:22 / dck		ICPMS205-H_231116C : 26		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 18:18 / dck		ICPMS205-H_231116B : 46		R190225
Uranium	0.0041	mg/L		0.0002		E200.8	11/17/23 03:22 / dck		ICPMS205-H_231116C : 26		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 03:22 / dck		ICPMS205-H_231116C : 26		R190627
Zinc	0.048	mg/L		0.008		E200.8	11/17/23 03:22 / dck		ICPMS205-H_231116C : 26		R190627
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 18:18 / dck		ICPMS205-H_231116B : 46		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-11A  
**Lab ID:** H23110571-001  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 11:13    **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-2.58	%				A1030 E	11/28/23 08:08 / SR		CALC_231128A : 320		R190371

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-07B  
**Lab ID:** H23110571-002  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 11:26 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.9	s.u.	H	0.1		A4500-H B	11/16/23 09:32 / eek		PHSC_101-H_231116A : 17		R190121
pH Measurement Temp	11.9	°C				A4500-H B	11/16/23 09:32 / eek		PHSC_101-H_231116A : 17		R190121
Conductivity @ 25 C	687	umhos/cm		5		A2510 B	11/16/23 09:32 / eek		PHSC_101-H_231116A : 18		R190121
Solids, Total Dissolved TDS @ 180 C	481	mg/L		20		A2540 C	11/16/23 13:03 / dpw		124 (14410200)_231116B : 10		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	75	mg/L		4		A2320 B	11/17/23 13:15 / eek		PHSC_101-H_231117A : 75		R190164
Bicarbonate as HCO3	91	mg/L		4		A2320 B	11/17/23 13:15 / eek		PHSC_101-H_231117A : 75		R190164
Carbonate as CO3	ND	mg/L		4		A2320 B	11/17/23 13:15 / eek		PHSC_101-H_231117A : 75		R190164
Chloride	9	mg/L		1		E300.0	11/17/23 04:33 / SR		IC METROHM_231116A : 72		R190187
Sulfate	247	mg/L		1		E300.0	11/17/23 04:33 / SR		IC METROHM_231116A : 72		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 04:33 / SR		IC METROHM_231116A : 72		R190187
Fluoride	1.6	mg/L		0.1		E300.0	11/17/23 04:33 / SR		IC METROHM_231116A : 72		R190187
Hardness as CaCO3	205	mg/L		1		A2340 B	11/26/23 20:31 / SR		CALC_231208A : 113		R190695
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	11/22/23 01:57 / eli-c		SUB-C301289 : 36		C_R301289
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	11/21/23 16:02 / eli-c		SUB-C301289 : 18		C_R301289
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.39	mg/L		0.01		E353.2	11/20/23 16:22 / JAR		SEAL AA500_231120A : 51		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 03:25 / dck		ICPMS205-H_231116C : 27		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 03:25 / dck		ICPMS205-H_231116C : 27		R190627
Arsenic	0.010	mg/L		0.001		E200.8	11/17/23 03:25 / dck		ICPMS205-H_231116C : 27		R190627
Barium	0.009	mg/L		0.003		E200.8	11/17/23 03:25 / dck		ICPMS205-H_231116C : 27		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 03:25 / dck		ICPMS205-H_231116C : 27		R190627
Boron	0.07	mg/L		0.05		E200.7	11/26/23 20:31 / slj		ICP2-HE_231126B : 120		R190339
Cadmium	0.00251	mg/L		0.00003		E200.8	11/17/23 03:25 / dck		ICPMS205-H_231116C : 27		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 18:21 / dck		ICPMS205-H_231116B : 47		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-07B  
**Lab ID:** H23110571-002  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 11:26 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	60	mg/L		1		E200.7	11/26/23 20:31 / slj		ICP2-HE_231126B : 120		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 03:25 / dck		ICPMS205-H_231116C : 27		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 03:25 / dck		ICPMS205-H_231116C : 27		R190627
Copper	ND	mg/L		0.002		E200.8	11/17/23 03:25 / dck		ICPMS205-H_231116C : 27		R190627
Gallium	ND	mg/L		0.01		E200.8	11/16/23 18:21 / dck		ICPMS205-H_231116B : 47		R190225
Iron	ND	mg/L		0.02		E200.8	11/17/23 03:25 / dck		ICPMS205-H_231116C : 27		R190627
Lead	ND	mg/L		0.0003		E200.8	11/17/23 03:25 / dck		ICPMS205-H_231116C : 27		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 18:21 / dck		ICPMS205-H_231116B : 47		R190225
Lithium	0.1	mg/L		0.1		E200.7	11/26/23 20:31 / slj		ICP2-HE_231126B : 120		R190339
Magnesium	13	mg/L		1		E200.7	11/26/23 20:31 / slj		ICP2-HE_231126B : 120		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 18:21 / dck		ICPMS205-H_231116B : 47		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 18:21 / dck		ICPMS205-H_231116B : 47		R190225
Manganese	ND	mg/L		0.001		E200.8	11/17/23 03:25 / dck		ICPMS205-H_231116C : 27		R190627
Molybdenum	0.069	mg/L		0.001		E200.8	11/17/23 03:25 / dck		ICPMS205-H_231116C : 27		R190627
Nickel	ND	mg/L		0.002		E200.8	11/17/23 03:25 / dck		ICPMS205-H_231116C : 27		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 18:21 / dck		ICPMS205-H_231116B : 47		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 18:21 / dck		ICPMS205-H_231116B : 47		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 18:21 / dck		ICPMS205-H_231116B : 47		R190225
Potassium	7	mg/L		1		E200.7	11/26/23 20:31 / slj		ICP2-HE_231126B : 120		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 03:25 / dck		ICPMS205-H_231116C : 27		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 03:25 / dck		ICPMS205-H_231116C : 27		R190627
Sodium	56	mg/L		1		E200.8	11/17/23 03:25 / dck		ICPMS205-H_231116C : 27		R190627
Strontium	0.62	mg/L		0.01		E200.8	11/17/23 03:25 / dck		ICPMS205-H_231116C : 27		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 03:25 / dck		ICPMS205-H_231116C : 27		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 13:25 / dck		ICPMS206-H_231228A : 27		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 03:25 / dck		ICPMS205-H_231116C : 27		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 03:25 / dck		ICPMS205-H_231116C : 27		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 18:21 / dck		ICPMS205-H_231116B : 47		R190225
Uranium	0.0019	mg/L		0.0002		E200.8	11/17/23 03:25 / dck		ICPMS205-H_231116C : 27		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 03:25 / dck		ICPMS205-H_231116C : 27		R190627
Zinc	0.208	mg/L		0.008		E200.8	11/17/23 03:25 / dck		ICPMS205-H_231116C : 27		R190627
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 18:21 / dck		ICPMS205-H_231116B : 47		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-07B  
**Lab ID:** H23110571-002  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 11:26    **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-2.43	%				A1030 E	12/08/23 15:44 / SR		CALC_231208A : 111		R190695

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-07  
**Lab ID:** H23110571-003  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 11:54 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.8	s.u.	H	0.1		A4500-H B	11/16/23 09:34 / eek		PHSC_101-H_231116A : 19		R190121
pH Measurement Temp	12.2	°C				A4500-H B	11/16/23 09:34 / eek		PHSC_101-H_231116A : 19		R190121
Conductivity @ 25 C	300	umhos/cm		5		A2510 B	11/16/23 09:34 / eek		PHSC_101-H_231116A : 20		R190121
Solids, Total Dissolved TDS @ 180 C	197	mg/L		20		A2540 C	11/16/23 13:04 / dpw		124 (14410200)_231116B : 11		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	87	mg/L		4		A2320 B	11/17/23 13:21 / eek		PHSC_101-H_231117A : 77		R190164
Bicarbonate as HCO3	110	mg/L		4		A2320 B	11/17/23 13:21 / eek		PHSC_101-H_231117A : 77		R190164
Carbonate as CO3	ND	mg/L		4		A2320 B	11/17/23 13:21 / eek		PHSC_101-H_231117A : 77		R190164
Chloride	13	mg/L		1		E300.0	11/17/23 04:47 / SR		IC METROHM_231116A : 73		R190187
Sulfate	37	mg/L		1		E300.0	11/17/23 04:47 / SR		IC METROHM_231116A : 73		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 04:47 / SR		IC METROHM_231116A : 73		R190187
Fluoride	1.8	mg/L		0.1		E300.0	11/17/23 04:47 / SR		IC METROHM_231116A : 73		R190187
Hardness as CaCO3	88	mg/L		1		A2340 B	11/26/23 20:35 / SR		CALC_231128A : 333		R190371
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.3	mg/L		0.5		A5310 C	11/22/23 02:17 / eli-c		SUB-C301289 : 37		C_R301289
Organic Carbon, Total (TOC)	1.2	mg/L		0.5		A5310 C	11/21/23 16:22 / eli-c		SUB-C301289 : 19		C_R301289
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.05	mg/L		0.01		E353.2	11/20/23 16:23 / JAR		SEAL AA500_231120A : 52		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 03:29 / dck		ICPMS205-H_231116C : 28		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 03:29 / dck		ICPMS205-H_231116C : 28		R190627
Arsenic	0.007	mg/L		0.001		E200.8	11/17/23 03:29 / dck		ICPMS205-H_231116C : 28		R190627
Barium	0.022	mg/L		0.003		E200.8	11/17/23 03:29 / dck		ICPMS205-H_231116C : 28		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 03:29 / dck		ICPMS205-H_231116C : 28		R190627
Boron	0.07	mg/L		0.05		E200.7	11/26/23 20:35 / slj		ICP2-HE_231126B : 121		R190339
Cadmium	0.00005	mg/L		0.00003		E200.8	11/17/23 03:29 / dck		ICPMS205-H_231116C : 28		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 18:24 / dck		ICPMS205-H_231116B : 48		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-07  
**Lab ID:** H23110571-003  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 11:54 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	24	mg/L		1		E200.7	11/26/23 20:35 / slj		ICP2-HE_231126B : 121		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 03:29 / dck		ICPMS205-H_231116C : 28		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 03:29 / dck		ICPMS205-H_231116C : 28		R190627
Copper	0.013	mg/L		0.002		E200.8	11/17/23 03:29 / dck		ICPMS205-H_231116C : 28		R190627
Gallium	ND	mg/L		0.01		E200.8	11/16/23 18:24 / dck		ICPMS205-H_231116B : 48		R190225
Iron	0.56	mg/L		0.02		E200.8	11/17/23 03:29 / dck		ICPMS205-H_231116C : 28		R190627
Lead	ND	mg/L		0.0003		E200.8	11/17/23 03:29 / dck		ICPMS205-H_231116C : 28		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 18:24 / dck		ICPMS205-H_231116B : 48		R190225
Lithium	ND	mg/L		0.1		E200.7	11/26/23 20:35 / slj		ICP2-HE_231126B : 121		R190339
Magnesium	6	mg/L		1		E200.7	11/26/23 20:35 / slj		ICP2-HE_231126B : 121		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 18:24 / dck		ICPMS205-H_231116B : 48		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 18:24 / dck		ICPMS205-H_231116B : 48		R190225
Manganese	0.260	mg/L		0.001		E200.8	11/17/23 03:29 / dck		ICPMS205-H_231116C : 28		R190627
Molybdenum	0.009	mg/L		0.001		E200.8	11/17/23 03:29 / dck		ICPMS205-H_231116C : 28		R190627
Nickel	ND	mg/L		0.002		E200.8	11/17/23 03:29 / dck		ICPMS205-H_231116C : 28		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 18:24 / dck		ICPMS205-H_231116B : 48		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 18:24 / dck		ICPMS205-H_231116B : 48		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 18:24 / dck		ICPMS205-H_231116B : 48		R190225
Potassium	5	mg/L		1		E200.7	11/26/23 20:35 / slj		ICP2-HE_231126B : 121		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 03:29 / dck		ICPMS205-H_231116C : 28		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 03:29 / dck		ICPMS205-H_231116C : 28		R190627
Sodium	25	mg/L		1		E200.7	01/02/24 19:33 / slj		ICP2-HE_240102A : 166		R191281
Strontium	0.17	mg/L		0.01		E200.8	11/17/23 03:29 / dck		ICPMS205-H_231116C : 28		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 03:29 / dck		ICPMS205-H_231116C : 28		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 13:27 / dck		ICPMS206-H_231228A : 28		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 03:29 / dck		ICPMS205-H_231116C : 28		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 03:29 / dck		ICPMS205-H_231116C : 28		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 18:24 / dck		ICPMS205-H_231116B : 48		R190225
Uranium	0.0005	mg/L		0.0002		E200.8	11/17/23 03:29 / dck		ICPMS205-H_231116C : 28		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 03:29 / dck		ICPMS205-H_231116C : 28		R190627
Zinc	0.019	mg/L		0.008		E200.8	11/17/23 03:29 / dck		ICPMS205-H_231116C : 28		R190627
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 18:24 / dck		ICPMS205-H_231116B : 48		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-07  
**Lab ID:** H23110571-003  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 11:54      **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-2.58	%				A1030 E	11/28/23 08:08 / SR		CALC_231128A : 331		R190371
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-23  
**Lab ID:** H23110571-004  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 12:34 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.0	s.u.	H	0.1		A4500-H B	11/16/23 10:02 / eek		PHSC_101-H_231116A : 47		R190121
pH Measurement Temp	13.7	°C				A4500-H B	11/16/23 10:02 / eek		PHSC_101-H_231116A : 47		R190121
Conductivity @ 25 C	1470	umhos/cm		5		A2510 B	11/16/23 10:02 / eek		PHSC_101-H_231116A : 48		R190121
Solids, Total Dissolved TDS @ 180 C	967	mg/L		20		A2540 C	11/16/23 13:04 / dpw		124 (14410200)_231116B : 12		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	430	mg/L		4		A2320 B	11/17/23 13:28 / eek		PHSC_101-H_231117A : 79		R190164
Bicarbonate as HCO3	530	mg/L		4		A2320 B	11/17/23 13:28 / eek		PHSC_101-H_231117A : 79		R190164
Carbonate as CO3	ND	mg/L		4		A2320 B	11/17/23 13:28 / eek		PHSC_101-H_231117A : 79		R190164
Chloride	109	mg/L		1		E300.0	11/17/23 05:59 / SR		IC METROHM_231116A : 78		R190187
Sulfate	246	mg/L		1		E300.0	11/17/23 05:59 / SR		IC METROHM_231116A : 78		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 05:59 / SR		IC METROHM_231116A : 78		R190187
Fluoride	1.4	mg/L		0.1		E300.0	11/17/23 05:59 / SR		IC METROHM_231116A : 78		R190187
Hardness as CaCO3	584	mg/L		1		A2340 B	11/26/23 20:39 / SR		CALC_231128A : 344		R190371
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	11.6	mg/L		0.5		A5310 C	11/22/23 02:34 / eli-c		SUB-C301289 : 38		C_R301289
Organic Carbon, Total (TOC)	6.5	mg/L		0.5		A5310 C	11/21/23 16:39 / eli-c		SUB-C301289 : 20		C_R301289
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	11/20/23 16:24 / JAR		SEAL AA500_231120A : 53		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 03:32 / dck		ICPMS205-H_231116C : 29		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 03:32 / dck		ICPMS205-H_231116C : 29		R190627
Arsenic	0.177	mg/L		0.001		E200.8	11/17/23 03:32 / dck		ICPMS205-H_231116C : 29		R190627
Barium	0.067	mg/L		0.003		E200.8	11/17/23 03:32 / dck		ICPMS205-H_231116C : 29		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 03:32 / dck		ICPMS205-H_231116C : 29		R190627
Boron	0.35	mg/L		0.05		E200.7	11/26/23 20:39 / slj		ICP2-HE_231126B : 122		R190339
Cadmium	0.00004	mg/L		0.00003		E200.8	11/17/23 03:32 / dck		ICPMS205-H_231116C : 29		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 18:27 / dck		ICPMS205-H_231116B : 49		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-23  
**Lab ID:** H23110571-004  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 12:34 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	165	mg/L		1		E200.7	11/26/23 20:39 / slj		ICP2-HE_231126B : 122		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 03:32 / dck		ICPMS205-H_231116C : 29		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 03:32 / dck		ICPMS205-H_231116C : 29		R190627
Copper	ND	mg/L		0.002		E200.8	11/17/23 03:32 / dck		ICPMS205-H_231116C : 29		R190627
Gallium	ND	mg/L		0.01		E200.8	11/16/23 18:27 / dck		ICPMS205-H_231116B : 49		R190225
Iron	10.6	mg/L		0.02		E200.7	11/26/23 20:39 / slj		ICP2-HE_231126B : 122		R190339
Lead	ND	mg/L		0.0003		E200.8	11/17/23 03:32 / dck		ICPMS205-H_231116C : 29		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 18:27 / dck		ICPMS205-H_231116B : 49		R190225
Lithium	ND	mg/L		0.1		E200.7	11/26/23 20:39 / slj		ICP2-HE_231126B : 122		R190339
Magnesium	42	mg/L		1		E200.7	11/26/23 20:39 / slj		ICP2-HE_231126B : 122		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 18:27 / dck		ICPMS205-H_231116B : 49		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 18:27 / dck		ICPMS205-H_231116B : 49		R190225
Manganese	3.14	mg/L		0.001		E200.7	11/26/23 20:39 / slj		ICP2-HE_231126B : 122		R190339
Molybdenum	0.015	mg/L		0.001		E200.8	11/17/23 03:32 / dck		ICPMS205-H_231116C : 29		R190627
Nickel	ND	mg/L		0.002		E200.8	11/17/23 03:32 / dck		ICPMS205-H_231116C : 29		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 18:27 / dck		ICPMS205-H_231116B : 49		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 18:27 / dck		ICPMS205-H_231116B : 49		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 18:27 / dck		ICPMS205-H_231116B : 49		R190225
Potassium	12	mg/L		1		E200.7	11/26/23 20:39 / slj		ICP2-HE_231126B : 122		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 03:32 / dck		ICPMS205-H_231116C : 29		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 03:32 / dck		ICPMS205-H_231116C : 29		R190627
Sodium	89	mg/L		1		E200.7	01/02/24 19:44 / slj		ICP2-HE_240102A : 169		R191281
Strontium	1.46	mg/L		0.01		E200.7	11/26/23 20:39 / slj		ICP2-HE_231126B : 122		R190339
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 03:32 / dck		ICPMS205-H_231116C : 29		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 15:02 / dck		ICPMS206-H_231228A : 67		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 03:32 / dck		ICPMS205-H_231116C : 29		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 03:32 / dck		ICPMS205-H_231116C : 29		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 18:27 / dck		ICPMS205-H_231116B : 49		R190225
Uranium	0.0273	mg/L		0.0002		E200.8	11/17/23 03:32 / dck		ICPMS205-H_231116C : 29		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 03:32 / dck		ICPMS205-H_231116C : 29		R190627
Zinc	0.084	mg/L		0.008		E200.8	11/17/23 03:32 / dck		ICPMS205-H_231116C : 29		R190627
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 18:27 / dck		ICPMS205-H_231116B : 49		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-23  
**Lab ID:** H23110571-004  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 12:34      **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-4.69	%				A1030 E	11/28/23 08:08 / SR		CALC_231128A : 342		R190371

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-03  
**Lab ID:** H23110571-005  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 12:55 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.9	s.u.	H	0.1		A4500-H B	11/16/23 09:36 / eek		PHSC_101-H_231116A : 21		R190121
pH Measurement Temp	12.2	°C				A4500-H B	11/16/23 09:36 / eek		PHSC_101-H_231116A : 21		R190121
Conductivity @ 25 C	2720	umhos/cm		5		A2510 B	11/16/23 09:36 / eek		PHSC_101-H_231116A : 22		R190121
Solids, Total Dissolved TDS @ 180 C	2540	mg/L		50		A2540 C	11/16/23 13:04 / dpw		124 (14410200)_231116B : 13		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	56	mg/L		4		A2320 B	11/17/23 13:48 / eek		PHSC_101-H_231117A : 83		R190164
Bicarbonate as HCO3	67	mg/L		4		A2320 B	11/17/23 13:48 / eek		PHSC_101-H_231117A : 83		R190164
Carbonate as CO3	ND	mg/L		4		A2320 B	11/17/23 13:48 / eek		PHSC_101-H_231117A : 83		R190164
Chloride	114	mg/L		1		E300.0	11/17/23 06:14 / SR		IC METROHM_231116A : 79		R190187
Sulfate	1570	mg/L		1		E300.0	11/17/23 06:14 / SR		IC METROHM_231116A : 79		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 06:14 / SR		IC METROHM_231116A : 79		R190187
Fluoride	0.3	mg/L		0.1		E300.0	11/17/23 06:14 / SR		IC METROHM_231116A : 79		R190187
Hardness as CaCO3	1440	mg/L		1		A2340 B	11/26/23 20:43 / SR		CALC_231208A : 124		R190695
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.3	mg/L		0.5		A5310 C	11/22/23 02:52 / eli-c		SUB-C301289 : 39		C_R301289
Organic Carbon, Total (TOC)	1.3	mg/L		0.5		A5310 C	11/21/23 16:57 / eli-c		SUB-C301289 : 21		C_R301289
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	5.34	mg/L		0.05		E353.2	11/20/23 16:25 / JAR		SEAL AA500_231120A : 54		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	0.016	mg/L		0.009		E200.8	11/17/23 03:35 / dck		ICPMS205-H_231116C : 30		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 03:35 / dck		ICPMS205-H_231116C : 30		R190627
Arsenic	0.002	mg/L		0.001		E200.8	11/17/23 03:35 / dck		ICPMS205-H_231116C : 30		R190627
Barium	0.018	mg/L		0.003		E200.8	11/17/23 03:35 / dck		ICPMS205-H_231116C : 30		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 03:35 / dck		ICPMS205-H_231116C : 30		R190627
Boron	0.19	mg/L		0.05		E200.7	11/26/23 20:43 / slj		ICP2-HE_231126B : 123		R190339
Cadmium	0.0809	mg/L		0.00003		E200.8	11/17/23 03:35 / dck		ICPMS205-H_231116C : 30		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 18:30 / dck		ICPMS205-H_231116B : 50		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-03  
**Lab ID:** H23110571-005  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 12:55 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	373	mg/L		1		E200.7	11/26/23 20:43 / slj		ICP2-HE_231126B : 123		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 03:35 / dck		ICPMS205-H_231116C : 30		R190627
Cobalt	0.035	mg/L		0.005		E200.8	11/17/23 03:35 / dck		ICPMS205-H_231116C : 30		R190627
Copper	1.97	mg/L		0.02		E200.7	11/26/23 20:43 / slj		ICP2-HE_231126B : 123		R190339
Gallium	ND	mg/L		0.01		E200.8	11/16/23 18:30 / dck		ICPMS205-H_231116B : 50		R190225
Iron	0.09	mg/L		0.02		E200.8	11/17/23 03:35 / dck		ICPMS205-H_231116C : 30		R190627
Lead	0.0047	mg/L		0.0003		E200.8	11/17/23 03:35 / dck		ICPMS205-H_231116C : 30		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 18:30 / dck		ICPMS205-H_231116B : 50		R190225
Lithium	0.4	mg/L		0.1		E200.7	11/26/23 20:43 / slj		ICP2-HE_231126B : 123		R190339
Magnesium	123	mg/L		1		E200.8	11/17/23 03:35 / dck		ICPMS205-H_231116C : 30		R190627
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 18:30 / dck		ICPMS205-H_231116B : 50		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 18:30 / dck		ICPMS205-H_231116B : 50		R190225
Manganese	51.0	mg/L		0.003		E200.7	11/26/23 20:43 / slj		ICP2-HE_231126B : 123		R190339
Molybdenum	0.001	mg/L		0.001		E200.8	11/17/23 03:35 / dck		ICPMS205-H_231116C : 30		R190627
Nickel	0.117	mg/L		0.002		E200.8	11/17/23 03:35 / dck		ICPMS205-H_231116C : 30		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 18:30 / dck		ICPMS205-H_231116B : 50		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 18:30 / dck		ICPMS205-H_231116B : 50		R190225
Rubidium	0.01	mg/L		0.01		E200.8	11/16/23 18:30 / dck		ICPMS205-H_231116B : 50		R190225
Potassium	15	mg/L		1		E200.7	11/26/23 20:43 / slj		ICP2-HE_231126B : 123		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 03:35 / dck		ICPMS205-H_231116C : 30		R190627
Silver	0.0020	mg/L		0.0002		E200.8	11/17/23 03:35 / dck		ICPMS205-H_231116C : 30		R190627
Sodium	77	mg/L		1		E200.8	11/17/23 03:35 / dck		ICPMS205-H_231116C : 30		R190627
Strontium	3.23	mg/L		0.01		E200.7	11/26/23 20:43 / slj		ICP2-HE_231126B : 123		R190339
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 03:35 / dck		ICPMS205-H_231116C : 30		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 16:51 / dck		ICPMS206-H_231228A : 112		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 03:35 / dck		ICPMS205-H_231116C : 30		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 03:35 / dck		ICPMS205-H_231116C : 30		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 18:30 / dck		ICPMS205-H_231116B : 50		R190225
Uranium	0.0007	mg/L		0.0002		E200.8	11/17/23 03:35 / dck		ICPMS205-H_231116C : 30		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 03:35 / dck		ICPMS205-H_231116C : 30		R190627
Zinc	25.0	mg/L		0.01		E200.7	12/11/23 12:11 / slj		ICP2-HE_231211B : 46		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 18:30 / dck		ICPMS205-H_231116B : 50		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-03  
**Lab ID:** H23110571-005  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 12:55    **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.32	%				A1030 E	12/08/23 15:45 / SR		CALC_231208A : 122		R190695

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13B  
**Lab ID:** H23110571-006  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 13:27 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.4	s.u.	H	0.1		A4500-H B	11/16/23 09:38 / eek		PHSC_101-H_231116A : 23		R190121
pH Measurement Temp	12.4	°C				A4500-H B	11/16/23 09:38 / eek		PHSC_101-H_231116A : 23		R190121
Conductivity @ 25 C	293	umhos/cm		5		A2510 B	11/16/23 09:38 / eek		PHSC_101-H_231116A : 24		R190121
Solids, Total Dissolved TDS @ 180 C	200	mg/L		20		A2540 C	11/16/23 13:05 / dpw		124 (14410200)_231116B : 14		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	88	mg/L	H	4		A2320 B	11/28/23 12:18 / dpw		PHSC_101-H_231128A : 34		R190372
Bicarbonate as HCO3	110	mg/L	H	4		A2320 B	11/28/23 12:18 / dpw		PHSC_101-H_231128A : 34		R190372
Carbonate as CO3	ND	mg/L	H	4		A2320 B	11/28/23 12:18 / dpw		PHSC_101-H_231128A : 34		R190372
Chloride	7	mg/L		1		E300.0	11/17/23 06:28 / SR		IC METROHM_231116A : 80		R190187
Sulfate	41	mg/L		1		E300.0	11/17/23 06:28 / SR		IC METROHM_231116A : 80		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 06:28 / SR		IC METROHM_231116A : 80		R190187
Fluoride	1.5	mg/L		0.1		E300.0	11/17/23 06:28 / SR		IC METROHM_231116A : 80		R190187
Hardness as CaCO3	82	mg/L		1		A2340 B	11/26/23 20:46 / SR		CALC_231201D : 36		R190494
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	11/22/23 03:48 / eli-c		SUB-C301289 : 41		C_R301289
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	11/21/23 17:18 / eli-c		SUB-C301289 : 22		C_R301289
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.60	mg/L		0.01		E353.2	11/20/23 16:26 / JAR		SEAL AA500_231120A : 55		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 03:38 / dck		ICPMS205-H_231116C : 31		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 03:38 / dck		ICPMS205-H_231116C : 31		R190627
Arsenic	0.004	mg/L		0.001		E200.8	11/17/23 03:38 / dck		ICPMS205-H_231116C : 31		R190627
Barium	0.030	mg/L		0.003		E200.8	11/17/23 03:38 / dck		ICPMS205-H_231116C : 31		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 03:38 / dck		ICPMS205-H_231116C : 31		R190627
Boron	ND	mg/L		0.05		E200.7	11/26/23 20:46 / slj		ICP2-HE_231126B : 124		R190339
Cadmium	0.00027	mg/L		0.00003		E200.8	11/17/23 03:38 / dck		ICPMS205-H_231116C : 31		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 18:33 / dck		ICPMS205-H_231116B : 51		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13B  
**Lab ID:** H23110571-006  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 13:27 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	24	mg/L		1		E200.7	11/26/23 20:46 / slj		ICP2-HE_231126B : 124		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 03:38 / dck		ICPMS205-H_231116C : 31		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 03:38 / dck		ICPMS205-H_231116C : 31		R190627
Copper	ND	mg/L		0.002		E200.8	11/17/23 03:38 / dck		ICPMS205-H_231116C : 31		R190627
Gallium	ND	mg/L		0.01		E200.8	11/16/23 18:33 / dck		ICPMS205-H_231116B : 51		R190225
Iron	ND	mg/L		0.02		E200.8	11/17/23 03:38 / dck		ICPMS205-H_231116C : 31		R190627
Lead	ND	mg/L		0.0003		E200.8	11/17/23 03:38 / dck		ICPMS205-H_231116C : 31		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 18:33 / dck		ICPMS205-H_231116B : 51		R190225
Lithium	ND	mg/L		0.1		E200.7	11/26/23 20:46 / slj		ICP2-HE_231126B : 124		R190339
Magnesium	5	mg/L		1		E200.7	11/26/23 20:46 / slj		ICP2-HE_231126B : 124		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 18:33 / dck		ICPMS205-H_231116B : 51		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 18:33 / dck		ICPMS205-H_231116B : 51		R190225
Manganese	ND	mg/L		0.001		E200.8	12/28/23 13:29 / dck		ICPMS206-H_231228A : 29		R191217
Molybdenum	0.039	mg/L		0.001		E200.8	11/17/23 03:38 / dck		ICPMS205-H_231116C : 31		R190627
Nickel	ND	mg/L		0.002		E200.8	11/17/23 03:38 / dck		ICPMS205-H_231116C : 31		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 18:33 / dck		ICPMS205-H_231116B : 51		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 18:33 / dck		ICPMS205-H_231116B : 51		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 18:33 / dck		ICPMS205-H_231116B : 51		R190225
Potassium	3	mg/L		1		E200.7	11/26/23 20:46 / slj		ICP2-HE_231126B : 124		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 03:38 / dck		ICPMS205-H_231116C : 31		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 03:38 / dck		ICPMS205-H_231116C : 31		R190627
Sodium	27	mg/L		1		E200.7	01/02/24 19:52 / slj		ICP2-HE_240102A : 171		R191281
Strontium	0.16	mg/L		0.01		E200.8	11/17/23 03:38 / dck		ICPMS205-H_231116C : 31		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 03:38 / dck		ICPMS205-H_231116C : 31		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 13:29 / dck		ICPMS206-H_231228A : 29		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 03:38 / dck		ICPMS205-H_231116C : 31		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 03:38 / dck		ICPMS205-H_231116C : 31		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 18:33 / dck		ICPMS205-H_231116B : 51		R190225
Uranium	0.0033	mg/L		0.0002		E200.8	11/17/23 03:38 / dck		ICPMS205-H_231116C : 31		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 03:38 / dck		ICPMS205-H_231116C : 31		R190627
Zinc	0.021	mg/L		0.008		E200.8	12/28/23 13:29 / dck		ICPMS206-H_231228A : 29		R191217
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 18:33 / dck		ICPMS205-H_231116B : 51		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13B  
**Lab ID:** H23110571-006  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 13:27      **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-3.12	%				A1030 E	12/01/23 11:47 / SR		CALC_231201D : 34		R190494
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-11  
**Lab ID:** H23110571-007  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 13:42 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.0	s.u.	H	0.1		A4500-H B	11/16/23 09:40 / eek		PHSC_101-H_231116A : 25		R190121
pH Measurement Temp	12.6	°C				A4500-H B	11/16/23 09:40 / eek		PHSC_101-H_231116A : 25		R190121
Conductivity @ 25 C	710	umhos/cm		5		A2510 B	11/16/23 09:40 / eek		PHSC_101-H_231116A : 26		R190121
Solids, Total Dissolved TDS @ 180 C	448	mg/L		20		A2540 C	11/16/23 13:05 / dpw		124 (14410200)_231116B : 15		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	180	mg/L		4		A2320 B	11/17/23 14:01 / eek		PHSC_101-H_231117A : 87		R190164
Bicarbonate as HCO3	220	mg/L		4		A2320 B	11/17/23 14:01 / eek		PHSC_101-H_231117A : 87		R190164
Carbonate as CO3	ND	mg/L		4		A2320 B	11/17/23 14:01 / eek		PHSC_101-H_231117A : 87		R190164
Chloride	61	mg/L		1		E300.0	11/17/23 06:42 / SR		IC METROHM_231116A : 81		R190187
Sulfate	85	mg/L		1		E300.0	11/17/23 06:42 / SR		IC METROHM_231116A : 81		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 06:42 / SR		IC METROHM_231116A : 81		R190187
Fluoride	0.6	mg/L		0.1		E300.0	11/17/23 06:42 / SR		IC METROHM_231116A : 81		R190187
Hardness as CaCO3	272	mg/L		1		A2340 B	11/26/23 21:09 / SR		CALC_231128A : 355		R190371
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.3	mg/L		0.5		A5310 C	11/22/23 04:41 / eli-c		SUB-C301289 : 44		C_R301289
Organic Carbon, Total (TOC)	2.3	mg/L		0.5		A5310 C	11/21/23 17:39 / eli-c		SUB-C301289 : 23		C_R301289
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	3.07	mg/L		0.02		E353.2	11/20/23 16:27 / JAR		SEAL AA500_231120A : 56		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 03:42 / dck		ICPMS205-H_231116C : 32		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 03:42 / dck		ICPMS205-H_231116C : 32		R190627
Arsenic	0.006	mg/L		0.001		E200.8	11/17/23 03:42 / dck		ICPMS205-H_231116C : 32		R190627
Barium	0.033	mg/L		0.003		E200.8	11/17/23 03:42 / dck		ICPMS205-H_231116C : 32		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 03:42 / dck		ICPMS205-H_231116C : 32		R190627
Boron	0.28	mg/L		0.05		E200.7	11/26/23 21:09 / slj		ICP2-HE_231126B : 130		R190339
Cadmium	0.00221	mg/L		0.00003		E200.8	11/17/23 03:42 / dck		ICPMS205-H_231116C : 32		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 18:36 / dck		ICPMS205-H_231116B : 52		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



**LABORATORY ANALYTICAL REPORT**

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-11  
**Lab ID:** H23110571-007  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 13:42 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	76	mg/L		1		E200.7	11/26/23 21:09 / slj		ICP2-HE_231126B : 130		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 03:42 / dck		ICPMS205-H_231116C : 32		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 03:42 / dck		ICPMS205-H_231116C : 32		R190627
Copper	0.010	mg/L		0.002		E200.8	11/17/23 03:42 / dck		ICPMS205-H_231116C : 32		R190627
Gallium	ND	mg/L		0.01		E200.8	11/16/23 18:36 / dck		ICPMS205-H_231116B : 52		R190225
Iron	0.04	mg/L		0.02		E200.8	11/17/23 03:42 / dck		ICPMS205-H_231116C : 32		R190627
Lead	ND	mg/L		0.0003		E200.8	11/17/23 03:42 / dck		ICPMS205-H_231116C : 32		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 18:36 / dck		ICPMS205-H_231116B : 52		R190225
Lithium	ND	mg/L		0.1		E200.7	11/26/23 21:09 / slj		ICP2-HE_231126B : 130		R190339
Magnesium	20	mg/L		1		E200.7	11/26/23 21:09 / slj		ICP2-HE_231126B : 130		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 18:36 / dck		ICPMS205-H_231116B : 52		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 18:36 / dck		ICPMS205-H_231116B : 52		R190225
Manganese	0.699	mg/L		0.001		E200.8	11/17/23 03:42 / dck		ICPMS205-H_231116C : 32		R190627
Molybdenum	0.026	mg/L		0.001		E200.8	11/17/23 03:42 / dck		ICPMS205-H_231116C : 32		R190627
Nickel	ND	mg/L		0.002		E200.8	11/17/23 03:42 / dck		ICPMS205-H_231116C : 32		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 18:36 / dck		ICPMS205-H_231116B : 52		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 18:36 / dck		ICPMS205-H_231116B : 52		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 18:36 / dck		ICPMS205-H_231116B : 52		R190225
Potassium	5	mg/L		1		E200.7	11/26/23 21:09 / slj		ICP2-HE_231126B : 130		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 03:42 / dck		ICPMS205-H_231116C : 32		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 03:42 / dck		ICPMS205-H_231116C : 32		R190627
Sodium	37	mg/L		1		E200.7	01/02/24 19:55 / slj		ICP2-HE_240102A : 172		R191281
Strontium	0.44	mg/L		0.01		E200.8	11/17/23 03:42 / dck		ICPMS205-H_231116C : 32		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 03:42 / dck		ICPMS205-H_231116C : 32		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 13:32 / dck		ICPMS206-H_231228A : 30		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 03:42 / dck		ICPMS205-H_231116C : 32		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 03:42 / dck		ICPMS205-H_231116C : 32		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 18:36 / dck		ICPMS205-H_231116B : 52		R190225
Uranium	0.0194	mg/L		0.0002		E200.8	11/17/23 03:42 / dck		ICPMS205-H_231116C : 32		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 03:42 / dck		ICPMS205-H_231116C : 32		R190627
Zinc	0.386	mg/L		0.008		E200.8	11/17/23 03:42 / dck		ICPMS205-H_231116C : 32		R190627
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 18:36 / dck		ICPMS205-H_231116B : 52		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-11  
**Lab ID:** H23110571-007  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 13:42    **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-2.52	%				A1030 E	11/28/23 08:08 / SR		CALC_231128A : 353		R190371

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13B2  
**Lab ID:** H23110571-008  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 13:48 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.3	s.u.	H	0.1		A4500-H B	11/16/23 09:41 / eek		PHSC_101-H_231116A : 27		R190121
pH Measurement Temp	12.7	°C				A4500-H B	11/16/23 09:41 / eek		PHSC_101-H_231116A : 27		R190121
Conductivity @ 25 C	358	umhos/cm		5		A2510 B	11/16/23 09:41 / eek		PHSC_101-H_231116A : 28		R190121
Solids, Total Dissolved TDS @ 180 C	241	mg/L		20		A2540 C	11/16/23 13:06 / dpw		124 (14410200)_231116B : 16		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	85	mg/L		4		A2320 B	11/17/23 14:08 / eek		PHSC_101-H_231117A : 89		R190164
Bicarbonate as HCO3	100	mg/L		4		A2320 B	11/17/23 14:08 / eek		PHSC_101-H_231117A : 89		R190164
Carbonate as CO3	ND	mg/L		4		A2320 B	11/17/23 14:08 / eek		PHSC_101-H_231117A : 89		R190164
Chloride	7	mg/L		1		E300.0	11/17/23 06:57 / SR		IC METROHM_231116A : 82		R190187
Sulfate	75	mg/L		1		E300.0	11/17/23 06:57 / SR		IC METROHM_231116A : 82		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 06:57 / SR		IC METROHM_231116A : 82		R190187
Fluoride	1.5	mg/L		0.1		E300.0	11/17/23 06:57 / SR		IC METROHM_231116A : 82		R190187
Hardness as CaCO3	106	mg/L		1		A2340 B	11/26/23 21:12 / SR		CALC_231128A : 366		R190371
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	11/22/23 04:57 / eli-c		SUB-C301289 : 45		C_R301289
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	11/21/23 18:29 / eli-c		SUB-C301289 : 25		C_R301289
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.52	mg/L		0.01		E353.2	11/20/23 16:28 / JAR		SEAL AA500_231120A : 57		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 03:45 / dck		ICPMS205-H_231116C : 33		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 03:45 / dck		ICPMS205-H_231116C : 33		R190627
Arsenic	0.005	mg/L		0.001		E200.8	11/17/23 03:45 / dck		ICPMS205-H_231116C : 33		R190627
Barium	0.029	mg/L		0.003		E200.8	11/17/23 03:45 / dck		ICPMS205-H_231116C : 33		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 03:45 / dck		ICPMS205-H_231116C : 33		R190627
Boron	ND	mg/L		0.05		E200.7	11/26/23 21:12 / slj		ICP2-HE_231126B : 131		R190339
Cadmium	0.00051	mg/L		0.00003		E200.8	11/17/23 03:45 / dck		ICPMS205-H_231116C : 33		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 18:39 / dck		ICPMS205-H_231116B : 53		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13B2  
**Lab ID:** H23110571-008  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 13:48 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	31	mg/L		1		E200.7	11/26/23 21:12 / slj		ICP2-HE_231126B : 131		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 03:45 / dck		ICPMS205-H_231116C : 33		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 03:45 / dck		ICPMS205-H_231116C : 33		R190627
Copper	0.002	mg/L		0.002		E200.8	11/17/23 03:45 / dck		ICPMS205-H_231116C : 33		R190627
Gallium	ND	mg/L		0.01		E200.8	11/16/23 18:39 / dck		ICPMS205-H_231116B : 53		R190225
Iron	ND	mg/L		0.02		E200.8	11/17/23 03:45 / dck		ICPMS205-H_231116C : 33		R190627
Lead	ND	mg/L		0.0003		E200.8	11/17/23 03:45 / dck		ICPMS205-H_231116C : 33		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 18:39 / dck		ICPMS205-H_231116B : 53		R190225
Lithium	ND	mg/L		0.1		E200.7	11/26/23 21:12 / slj		ICP2-HE_231126B : 131		R190339
Magnesium	7	mg/L		1		E200.7	11/26/23 21:12 / slj		ICP2-HE_231126B : 131		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 18:39 / dck		ICPMS205-H_231116B : 53		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 18:39 / dck		ICPMS205-H_231116B : 53		R190225
Manganese	0.001	mg/L		0.001		E200.8	11/17/23 03:45 / dck		ICPMS205-H_231116C : 33		R190627
Molybdenum	0.041	mg/L		0.001		E200.8	11/17/23 03:45 / dck		ICPMS205-H_231116C : 33		R190627
Nickel	ND	mg/L		0.002		E200.8	11/17/23 03:45 / dck		ICPMS205-H_231116C : 33		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 18:39 / dck		ICPMS205-H_231116B : 53		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 18:39 / dck		ICPMS205-H_231116B : 53		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 18:39 / dck		ICPMS205-H_231116B : 53		R190225
Potassium	3	mg/L		1		E200.7	11/26/23 21:12 / slj		ICP2-HE_231126B : 131		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 03:45 / dck		ICPMS205-H_231116C : 33		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 03:45 / dck		ICPMS205-H_231116C : 33		R190627
Sodium	32	mg/L		1		E200.7	01/02/24 19:59 / slj		ICP2-HE_240102A : 173		R191281
Strontium	0.21	mg/L		0.01		E200.8	11/17/23 03:45 / dck		ICPMS205-H_231116C : 33		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 03:45 / dck		ICPMS205-H_231116C : 33		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 13:34 / dck		ICPMS206-H_231228A : 31		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 03:45 / dck		ICPMS205-H_231116C : 33		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 03:45 / dck		ICPMS205-H_231116C : 33		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 18:39 / dck		ICPMS205-H_231116B : 53		R190225
Uranium	0.0038	mg/L		0.0002		E200.8	11/17/23 03:45 / dck		ICPMS205-H_231116C : 33		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 03:45 / dck		ICPMS205-H_231116C : 33		R190627
Zinc	0.056	mg/L		0.008		E200.8	11/17/23 03:45 / dck		ICPMS205-H_231116C : 33		R190627
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 18:39 / dck		ICPMS205-H_231116B : 53		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13B2  
**Lab ID:** H23110571-008  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 13:48    **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-2.82	%				A1030 E	11/28/23 08:09 / SR		CALC_231128A : 364		R190371

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-04  
**Lab ID:** H23110571-009  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 14:10 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.4	s.u.	H	0.1		A4500-H B	11/16/23 09:43 / eek		PHSC_101-H_231116A : 29		R190121
pH Measurement Temp	13.1	°C				A4500-H B	11/16/23 09:43 / eek		PHSC_101-H_231116A : 29		R190121
Conductivity @ 25 C	923	umhos/cm		5		A2510 B	11/16/23 09:43 / eek		PHSC_101-H_231116A : 30		R190121
Solids, Total Dissolved TDS @ 180 C	678	mg/L		20		A2540 C	11/16/23 13:07 / dpw		124 (14410200)_231116B : 17		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	61	mg/L		4		A2320 B	11/17/23 14:15 / eek		PHSC_101-H_231117A : 91		R190164
Bicarbonate as HCO3	74	mg/L		4		A2320 B	11/17/23 14:15 / eek		PHSC_101-H_231117A : 91		R190164
Carbonate as CO3	ND	mg/L		4		A2320 B	11/17/23 14:15 / eek		PHSC_101-H_231117A : 91		R190164
Chloride	45	mg/L		1		E300.0	11/17/23 07:11 / SR		IC METROHM_231116A : 83		R190187
Sulfate	341	mg/L		1		E300.0	11/17/23 07:11 / SR		IC METROHM_231116A : 83		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 07:11 / SR		IC METROHM_231116A : 83		R190187
Fluoride	0.3	mg/L		0.1		E300.0	11/17/23 07:11 / SR		IC METROHM_231116A : 83		R190187
Hardness as CaCO3	382	mg/L		1		A2340 B	11/26/23 21:16 / SR		CALC_231128A : 377		R190371
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.0	mg/L		0.5		A5310 C	11/22/23 05:17 / eli-c		SUB-C301289 : 46		C_R301289
Organic Carbon, Total (TOC)	1.0	mg/L		0.5		A5310 C	11/21/23 19:22 / eli-c		SUB-C301289 : 28		C_R301289
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	4.34	mg/L		0.02		E353.2	11/20/23 16:31 / JAR		SEAL AA500_231120A : 60		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 03:48 / dck		ICPMS205-H_231116C : 34		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 03:48 / dck		ICPMS205-H_231116C : 34		R190627
Arsenic	0.001	mg/L		0.001		E200.8	11/17/23 03:48 / dck		ICPMS205-H_231116C : 34		R190627
Barium	0.014	mg/L		0.003		E200.8	11/17/23 03:48 / dck		ICPMS205-H_231116C : 34		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 03:48 / dck		ICPMS205-H_231116C : 34		R190627
Boron	0.09	mg/L		0.05		E200.7	11/26/23 21:16 / slj		ICP2-HE_231126B : 132		R190339
Cadmium	0.00346	mg/L		0.00003		E200.8	11/17/23 03:48 / dck		ICPMS205-H_231116C : 34		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 18:42 / dck		ICPMS205-H_231116B : 54		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-04  
**Lab ID:** H23110571-009  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 14:10 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	104	mg/L		1		E200.7	11/26/23 21:16 / slj		ICP2-HE_231126B : 132		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 03:48 / dck		ICPMS205-H_231116C : 34		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 03:48 / dck		ICPMS205-H_231116C : 34		R190627
Copper	0.003	mg/L		0.002		E200.8	11/17/23 03:48 / dck		ICPMS205-H_231116C : 34		R190627
Gallium	ND	mg/L		0.01		E200.8	11/16/23 18:42 / dck		ICPMS205-H_231116B : 54		R190225
Iron	ND	mg/L		0.02		E200.8	11/17/23 03:48 / dck		ICPMS205-H_231116C : 34		R190627
Lead	ND	mg/L		0.0003		E200.8	11/17/23 03:48 / dck		ICPMS205-H_231116C : 34		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 18:42 / dck		ICPMS205-H_231116B : 54		R190225
Lithium	ND	mg/L		0.1		E200.7	11/26/23 21:16 / slj		ICP2-HE_231126B : 132		R190339
Magnesium	30	mg/L		1		E200.7	11/26/23 21:16 / slj		ICP2-HE_231126B : 132		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 18:42 / dck		ICPMS205-H_231116B : 54		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 18:42 / dck		ICPMS205-H_231116B : 54		R190225
Manganese	4.97	mg/L		0.001		E200.7	11/26/23 21:16 / slj		ICP2-HE_231126B : 132		R190339
Molybdenum	0.003	mg/L		0.001		E200.8	11/17/23 03:48 / dck		ICPMS205-H_231116C : 34		R190627
Nickel	0.005	mg/L		0.002		E200.8	11/17/23 03:48 / dck		ICPMS205-H_231116C : 34		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 18:42 / dck		ICPMS205-H_231116B : 54		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 18:42 / dck		ICPMS205-H_231116B : 54		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 18:42 / dck		ICPMS205-H_231116B : 54		R190225
Potassium	7	mg/L		1		E200.7	11/26/23 21:16 / slj		ICP2-HE_231126B : 132		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 03:48 / dck		ICPMS205-H_231116C : 34		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 03:48 / dck		ICPMS205-H_231116C : 34		R190627
Sodium	37	mg/L		1		E200.7	01/02/24 20:03 / slj		ICP2-HE_240102A : 174		R191281
Strontium	0.47	mg/L		0.01		E200.8	11/17/23 03:48 / dck		ICPMS205-H_231116C : 34		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 03:48 / dck		ICPMS205-H_231116C : 34		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 13:36 / dck		ICPMS206-H_231228A : 32		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 03:48 / dck		ICPMS205-H_231116C : 34		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 03:48 / dck		ICPMS205-H_231116C : 34		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 18:42 / dck		ICPMS205-H_231116B : 54		R190225
Uranium	0.0009	mg/L		0.0002		E200.8	11/17/23 03:48 / dck		ICPMS205-H_231116C : 34		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 03:48 / dck		ICPMS205-H_231116C : 34		R190627
Zinc	0.179	mg/L		0.008		E200.8	11/17/23 03:48 / dck		ICPMS205-H_231116C : 34		R190627
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 18:42 / dck		ICPMS205-H_231116B : 54		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-04  
**Lab ID:** H23110571-009  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 14:10    **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-3.44	%				A1030 E	11/28/23 08:09 / SR		CALC_231128A : 375		R190371

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



**LABORATORY ANALYTICAL REPORT**

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13C  
**Lab ID:** H23110571-010  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 14:23 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.9	s.u.	H	0.1		A4500-H B	11/16/23 09:45 / eek		PHSC_101-H_231116A : 31		R190121
pH Measurement Temp	12.6	°C				A4500-H B	11/16/23 09:45 / eek		PHSC_101-H_231116A : 31		R190121
Conductivity @ 25 C	664	umhos/cm		5		A2510 B	11/16/23 09:45 / eek		PHSC_101-H_231116A : 32		R190121
Solids, Total Dissolved TDS @ 180 C	488	mg/L		20		A2540 C	11/16/23 13:07 / dpw		124 (14410200)_231116B : 18		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	59	mg/L		4		A2320 B	11/20/23 10:06 / dpw		PHSC_101-H_231120A : 8		R190210
Bicarbonate as HCO3	71	mg/L		4		A2320 B	11/20/23 10:06 / dpw		PHSC_101-H_231120A : 8		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 10:06 / dpw		PHSC_101-H_231120A : 8		R190210
Chloride	7	mg/L		1		E300.0	11/17/23 07:26 / SR		IC METROHM_231116A : 84		R190187
Sulfate	261	mg/L		1		E300.0	11/17/23 07:26 / SR		IC METROHM_231116A : 84		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 07:26 / SR		IC METROHM_231116A : 84		R190187
Fluoride	1.2	mg/L		0.1		E300.0	11/17/23 07:26 / SR		IC METROHM_231116A : 84		R190187
Hardness as CaCO3	217	mg/L		1		A2340 B	11/26/23 21:20 / SR		CALC_231208A : 135		R190695
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	11/22/23 05:37 / eli-c		SUB-C301289 : 47		C_R301289
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	11/21/23 19:43 / eli-c		SUB-C301289 : 29		C_R301289
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.17	mg/L		0.01		E353.2	11/20/23 16:32 / JAR		SEAL AA500_231120A : 61		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 03:51 / dck		ICPMS205-H_231116C : 35		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 03:51 / dck		ICPMS205-H_231116C : 35		R190627
Arsenic	0.006	mg/L		0.001		E200.8	11/17/23 03:51 / dck		ICPMS205-H_231116C : 35		R190627
Barium	0.008	mg/L		0.003		E200.8	11/17/23 03:51 / dck		ICPMS205-H_231116C : 35		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 03:51 / dck		ICPMS205-H_231116C : 35		R190627
Boron	ND	mg/L		0.05		E200.7	11/26/23 21:20 / slj		ICP2-HE_231126B : 133		R190339
Cadmium	0.00180	mg/L		0.00003		E200.8	11/17/23 03:51 / dck		ICPMS205-H_231116C : 35		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 18:44 / dck		ICPMS205-H_231116B : 55		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13C  
**Lab ID:** H23110571-010  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 14:23 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	64	mg/L		1		E200.7	11/26/23 21:20 / slj		ICP2-HE_231126B : 133		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 03:51 / dck		ICPMS205-H_231116C : 35		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 03:51 / dck		ICPMS205-H_231116C : 35		R190627
Copper	ND	mg/L		0.002		E200.8	11/17/23 03:51 / dck		ICPMS205-H_231116C : 35		R190627
Gallium	ND	mg/L		0.01		E200.8	11/16/23 18:44 / dck		ICPMS205-H_231116B : 55		R190225
Iron	ND	mg/L		0.02		E200.8	11/17/23 03:51 / dck		ICPMS205-H_231116C : 35		R190627
Lead	ND	mg/L		0.0003		E200.8	11/17/23 03:51 / dck		ICPMS205-H_231116C : 35		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 18:44 / dck		ICPMS205-H_231116B : 55		R190225
Lithium	ND	mg/L		0.1		E200.7	11/26/23 21:20 / slj		ICP2-HE_231126B : 133		R190339
Magnesium	14	mg/L		1		E200.7	11/26/23 21:20 / slj		ICP2-HE_231126B : 133		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 18:44 / dck		ICPMS205-H_231116B : 55		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 18:44 / dck		ICPMS205-H_231116B : 55		R190225
Manganese	0.002	mg/L		0.001		E200.8	12/28/23 13:38 / dck		ICPMS206-H_231228A : 33		R191217
Molybdenum	0.159	mg/L		0.001		E200.8	11/17/23 03:51 / dck		ICPMS205-H_231116C : 35		R190627
Nickel	ND	mg/L		0.002		E200.8	11/17/23 03:51 / dck		ICPMS205-H_231116C : 35		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 18:44 / dck		ICPMS205-H_231116B : 55		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 18:44 / dck		ICPMS205-H_231116B : 55		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 18:44 / dck		ICPMS205-H_231116B : 55		R190225
Potassium	7	mg/L		1		E200.7	11/26/23 21:20 / slj		ICP2-HE_231126B : 133		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 03:51 / dck		ICPMS205-H_231116C : 35		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 03:51 / dck		ICPMS205-H_231116C : 35		R190627
Sodium	49	mg/L		1		E200.8	11/17/23 03:51 / dck		ICPMS205-H_231116C : 35		R190627
Strontium	0.42	mg/L		0.01		E200.8	11/17/23 03:51 / dck		ICPMS205-H_231116C : 35		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 03:51 / dck		ICPMS205-H_231116C : 35		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 13:38 / dck		ICPMS206-H_231228A : 33		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 03:51 / dck		ICPMS205-H_231116C : 35		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 03:51 / dck		ICPMS205-H_231116C : 35		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 18:44 / dck		ICPMS205-H_231116B : 55		R190225
Uranium	0.0014	mg/L		0.0002		E200.8	11/17/23 03:51 / dck		ICPMS205-H_231116C : 35		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 03:51 / dck		ICPMS205-H_231116C : 35		R190627
Zinc	0.158	mg/L		0.008		E200.8	11/17/23 03:51 / dck		ICPMS205-H_231116C : 35		R190627
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 18:44 / dck		ICPMS205-H_231116B : 55		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13C  
**Lab ID:** H23110571-010  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 14:23    **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-1.83	%				A1030 E	12/08/23 15:46 / SR		CALC_231208A : 133		R190695

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-09A  
**Lab ID:** H23110571-011  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 15:02 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.8	s.u.	H	0.1		A4500-H B	11/16/23 09:47 / eek		PHSC_101-H_231116A : 33		R190121
pH Measurement Temp	11.9	°C				A4500-H B	11/16/23 09:47 / eek		PHSC_101-H_231116A : 33		R190121
Conductivity @ 25 C	1370	umhos/cm		5		A2510 B	11/16/23 09:47 / eek		PHSC_101-H_231116A : 34		R190121
Solids, Total Dissolved TDS @ 180 C	978	mg/L		20		A2540 C	11/16/23 13:07 / dpw		124 (14410200)_231116B : 19		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	200	mg/L		4		A2320 B	11/20/23 10:20 / dpw		PHSC_101-H_231120A : 12		R190210
Bicarbonate as HCO3	250	mg/L		4		A2320 B	11/20/23 10:20 / dpw		PHSC_101-H_231120A : 12		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 10:20 / dpw		PHSC_101-H_231120A : 12		R190210
Chloride	71	mg/L		1		E300.0	11/17/23 07:40 / SR		IC METROHM_231116A : 85		R190187
Sulfate	432	mg/L		1		E300.0	11/17/23 07:40 / SR		IC METROHM_231116A : 85		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 07:40 / SR		IC METROHM_231116A : 85		R190187
Fluoride	0.9	mg/L		0.1		E300.0	11/17/23 07:40 / SR		IC METROHM_231116A : 85		R190187
Hardness as CaCO3	551	mg/L		1		A2340 B	11/26/23 21:24 / SR		CALC_231128A : 388		R190371
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.4	mg/L		0.5		A5310 C	11/22/23 05:58 / eli-c		SUB-C301289 : 48		C_R301289
Organic Carbon, Total (TOC)	1.4	mg/L		0.5		A5310 C	11/21/23 20:03 / eli-c		SUB-C301289 : 30		C_R301289
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	6.91	mg/L		0.05		E353.2	11/20/23 16:33 / JAR		SEAL AA500_231120A : 62		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 04:08 / dck		ICPMS205-H_231116C : 40		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 04:08 / dck		ICPMS205-H_231116C : 40		R190627
Arsenic	0.003	mg/L		0.001		E200.8	11/17/23 04:08 / dck		ICPMS205-H_231116C : 40		R190627
Barium	0.016	mg/L		0.003		E200.8	11/17/23 04:08 / dck		ICPMS205-H_231116C : 40		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 04:08 / dck		ICPMS205-H_231116C : 40		R190627
Boron	0.13	mg/L		0.05		E200.7	11/26/23 21:24 / slj		ICP2-HE_231126B : 134		R190339
Cadmium	0.00487	mg/L		0.00003		E200.8	11/17/23 04:08 / dck		ICPMS205-H_231116C : 40		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 18:59 / dck		ICPMS205-H_231116B : 60		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-09A  
**Lab ID:** H23110571-011  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 15:02 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	162	mg/L		1		E200.7	11/26/23 21:24 / slj		ICP2-HE_231126B : 134		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 04:08 / dck		ICPMS205-H_231116C : 40		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 04:08 / dck		ICPMS205-H_231116C : 40		R190627
Copper	0.047	mg/L		0.002		E200.8	11/17/23 04:08 / dck		ICPMS205-H_231116C : 40		R190627
Gallium	ND	mg/L		0.01		E200.8	11/16/23 18:59 / dck		ICPMS205-H_231116B : 60		R190225
Iron	ND	mg/L		0.02		E200.8	11/17/23 04:08 / dck		ICPMS205-H_231116C : 40		R190627
Lead	ND	mg/L		0.0003		E200.8	11/17/23 04:08 / dck		ICPMS205-H_231116C : 40		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 18:59 / dck		ICPMS205-H_231116B : 60		R190225
Lithium	0.2	mg/L		0.1		E200.7	11/26/23 21:24 / slj		ICP2-HE_231126B : 134		R190339
Magnesium	35	mg/L		1		E200.7	11/26/23 21:24 / slj		ICP2-HE_231126B : 134		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 18:59 / dck		ICPMS205-H_231116B : 60		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 18:59 / dck		ICPMS205-H_231116B : 60		R190225
Manganese	ND	mg/L		0.001		E200.8	11/17/23 04:08 / dck		ICPMS205-H_231116C : 40		R190627
Molybdenum	0.007	mg/L		0.001		E200.8	11/17/23 04:08 / dck		ICPMS205-H_231116C : 40		R190627
Nickel	0.002	mg/L		0.002		E200.8	11/17/23 04:08 / dck		ICPMS205-H_231116C : 40		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 18:59 / dck		ICPMS205-H_231116B : 60		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 18:59 / dck		ICPMS205-H_231116B : 60		R190225
Rubidium	0.01	mg/L		0.01		E200.8	11/16/23 18:59 / dck		ICPMS205-H_231116B : 60		R190225
Potassium	11	mg/L		1		E200.7	11/26/23 21:24 / slj		ICP2-HE_231126B : 134		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 04:08 / dck		ICPMS205-H_231116C : 40		R190627
Silver	0.0002	mg/L		0.0002		E200.8	11/17/23 04:08 / dck		ICPMS205-H_231116C : 40		R190627
Sodium	78	mg/L		1		E200.7	01/02/24 20:11 / slj		ICP2-HE_240102A : 176		R191281
Strontium	1.74	mg/L		0.01		E200.7	11/26/23 21:24 / slj		ICP2-HE_231126B : 134		R190339
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 04:08 / dck		ICPMS205-H_231116C : 40		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 15:04 / dck		ICPMS206-H_231228A : 68		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 04:08 / dck		ICPMS205-H_231116C : 40		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 04:08 / dck		ICPMS205-H_231116C : 40		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 18:59 / dck		ICPMS205-H_231116B : 60		R190225
Uranium	0.0552	mg/L		0.0002		E200.8	11/17/23 04:08 / dck		ICPMS205-H_231116C : 40		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 04:08 / dck		ICPMS205-H_231116C : 40		R190627
Zinc	0.632	mg/L		0.008		E200.8	11/17/23 04:08 / dck		ICPMS205-H_231116C : 40		R190627
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 18:59 / dck		ICPMS205-H_231116B : 60		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-09A  
**Lab ID:** H23110571-011  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 15:02    **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-4.40	%				A1030 E	11/28/23 08:09 / SR		CALC_231128A : 386		R190371

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-07A  
**Lab ID:** H23110571-012  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 15:07 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.8	s.u.	H	0.1		A4500-H B	11/16/23 09:49 / eek		PHSC_101-H_231116A : 35		R190121
pH Measurement Temp	12.2	°C				A4500-H B	11/16/23 09:49 / eek		PHSC_101-H_231116A : 35		R190121
Conductivity @ 25 C	835	umhos/cm		5		A2510 B	11/16/23 09:49 / eek		PHSC_101-H_231116A : 36		R190121
Solids, Total Dissolved TDS @ 180 C	565	mg/L		20		A2540 C	11/16/23 13:07 / dpw		124 (14410200)_231116B : 20		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	250	mg/L		4		A2320 B	11/20/23 10:27 / dpw		PHSC_101-H_231120A : 14		R190210
Bicarbonate as HCO3	300	mg/L		4		A2320 B	11/20/23 10:27 / dpw		PHSC_101-H_231120A : 14		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 10:27 / dpw		PHSC_101-H_231120A : 14		R190210
Chloride	37	mg/L		1		E300.0	11/17/23 07:55 / SR		IC METROHM_231116A : 86		R190187
Sulfate	141	mg/L		1		E300.0	11/17/23 07:55 / SR		IC METROHM_231116A : 86		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 07:55 / SR		IC METROHM_231116A : 86		R190187
Fluoride	0.4	mg/L		0.1		E300.0	11/17/23 07:55 / SR		IC METROHM_231116A : 86		R190187
Hardness as CaCO3	366	mg/L		1		A2340 B	11/26/23 21:27 / SR		CALC_231128A : 399		R190371
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	3.4	mg/L		0.5		A5310 C	11/22/23 06:17 / eli-c		SUB-C301289 : 49		C_R301289
Organic Carbon, Total (TOC)	3.3	mg/L		0.5		A5310 C	11/21/23 20:23 / eli-c		SUB-C301289 : 31		C_R301289
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.96	mg/L		0.01		E353.2	11/20/23 16:34 / JAR		SEAL AA500_231120A : 63		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 04:11 / dck		ICPMS205-H_231116C : 41		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 04:11 / dck		ICPMS205-H_231116C : 41		R190627
Arsenic	0.003	mg/L		0.001		E200.8	11/17/23 04:11 / dck		ICPMS205-H_231116C : 41		R190627
Barium	0.054	mg/L		0.003		E200.8	11/17/23 04:11 / dck		ICPMS205-H_231116C : 41		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 04:11 / dck		ICPMS205-H_231116C : 41		R190627
Boron	0.33	mg/L		0.05		E200.7	11/26/23 21:27 / slj		ICP2-HE_231126B : 135		R190339
Cadmium	0.00141	mg/L		0.00003		E200.8	11/17/23 04:11 / dck		ICPMS205-H_231116C : 41		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 19:02 / dck		ICPMS205-H_231116B : 61		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-07A  
**Lab ID:** H23110571-012  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 15:07 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	102	mg/L		1		E200.7	11/26/23 21:27 / slj		ICP2-HE_231126B : 135		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 04:11 / dck		ICPMS205-H_231116C : 41		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 04:11 / dck		ICPMS205-H_231116C : 41		R190627
Copper	0.009	mg/L		0.002		E200.8	11/17/23 04:11 / dck		ICPMS205-H_231116C : 41		R190627
Gallium	ND	mg/L		0.01		E200.8	11/16/23 19:02 / dck		ICPMS205-H_231116B : 61		R190225
Iron	ND	mg/L		0.02		E200.8	11/17/23 04:11 / dck		ICPMS205-H_231116C : 41		R190627
Lead	ND	mg/L		0.0003		E200.8	11/17/23 04:11 / dck		ICPMS205-H_231116C : 41		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 19:02 / dck		ICPMS205-H_231116B : 61		R190225
Lithium	ND	mg/L		0.1		E200.7	11/26/23 21:27 / slj		ICP2-HE_231126B : 135		R190339
Magnesium	27	mg/L		1		E200.7	11/26/23 21:27 / slj		ICP2-HE_231126B : 135		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 19:02 / dck		ICPMS205-H_231116B : 61		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 19:02 / dck		ICPMS205-H_231116B : 61		R190225
Manganese	3.22	mg/L		0.001		E200.7	11/26/23 21:27 / slj		ICP2-HE_231126B : 135		R190339
Molybdenum	0.022	mg/L		0.001		E200.8	11/17/23 04:11 / dck		ICPMS205-H_231116C : 41		R190627
Nickel	0.006	mg/L		0.002		E200.8	11/17/23 04:11 / dck		ICPMS205-H_231116C : 41		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 19:02 / dck		ICPMS205-H_231116B : 61		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 19:02 / dck		ICPMS205-H_231116B : 61		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 19:02 / dck		ICPMS205-H_231116B : 61		R190225
Potassium	8	mg/L		1		E200.7	11/26/23 21:27 / slj		ICP2-HE_231126B : 135		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 04:11 / dck		ICPMS205-H_231116C : 41		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 04:11 / dck		ICPMS205-H_231116C : 41		R190627
Sodium	32	mg/L		1		E200.7	01/02/24 20:33 / slj		ICP2-HE_240102A : 182		R191281
Strontium	0.68	mg/L		0.01		E200.8	11/17/23 04:11 / dck		ICPMS205-H_231116C : 41		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 04:11 / dck		ICPMS205-H_231116C : 41		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 13:40 / dck		ICPMS206-H_231228A : 34		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 04:11 / dck		ICPMS205-H_231116C : 41		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 04:11 / dck		ICPMS205-H_231116C : 41		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 19:02 / dck		ICPMS205-H_231116B : 61		R190225
Uranium	0.0626	mg/L		0.0002		E200.8	11/17/23 04:11 / dck		ICPMS205-H_231116C : 41		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 04:11 / dck		ICPMS205-H_231116C : 41		R190627
Zinc	0.333	mg/L		0.008		E200.8	11/17/23 04:11 / dck		ICPMS205-H_231116C : 41		R190627
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 19:02 / dck		ICPMS205-H_231116B : 61		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-07A  
**Lab ID:** H23110571-012  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 15:07      **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.87	%				A1030 E	11/28/23 08:09 / SR		CALC_231128A : 397		R190371

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-2  
**Lab ID:** H23110571-013  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 16:02 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.0	s.u.	H	0.1		A4500-H B	11/16/23 09:51 / eek		PHSC_101-H_231116A : 37		R190121
pH Measurement Temp	12.2	°C				A4500-H B	11/16/23 09:51 / eek		PHSC_101-H_231116A : 37		R190121
Conductivity @ 25 C	ND	umhos/cm		5		A2510 B	11/16/23 09:51 / eek		PHSC_101-H_231116A : 38		R190121
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	L	20		A2540 C	11/16/23 13:14 / dpw		124 (14410200)_231116B : 21		TDS231116A
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.											
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	11/20/23 10:35 / dpw		PHSC_101-H_231120A : 16		R190210
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	11/20/23 10:35 / dpw		PHSC_101-H_231120A : 16		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 10:35 / dpw		PHSC_101-H_231120A : 16		R190210
Chloride	ND	mg/L		1		E300.0	11/17/23 08:38 / SR		IC METROHM_231116A : 89		R190187
Sulfate	ND	mg/L		1		E300.0	11/17/23 08:38 / SR		IC METROHM_231116A : 89		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 08:38 / SR		IC METROHM_231116A : 89		R190187
Fluoride	ND	mg/L		0.1		E300.0	11/17/23 08:38 / SR		IC METROHM_231116A : 89		R190187
Hardness as CaCO3	ND	mg/L		1		A2340 B	11/26/23 21:31 / SR		CALC_231128A : 410		R190371
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	11/22/23 06:32 / eli-c		SUB-C301289 : 50		C_R301289
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	11/21/23 20:44 / eli-c		SUB-C301289 : 32		C_R301289
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	11/20/23 16:35 / JAR		SEAL AA500_231120A : 64		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 04:14 / dck		ICPMS205-H_231116C : 42		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 04:14 / dck		ICPMS205-H_231116C : 42		R190627
Arsenic	ND	mg/L		0.001		E200.8	11/17/23 04:14 / dck		ICPMS205-H_231116C : 42		R190627
Barium	ND	mg/L		0.003		E200.8	11/17/23 04:14 / dck		ICPMS205-H_231116C : 42		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 04:14 / dck		ICPMS205-H_231116C : 42		R190627
Boron	ND	mg/L		0.05		E200.7	11/26/23 21:31 / slj		ICP2-HE_231126B : 136		R190339
Cadmium	ND	mg/L		0.00003		E200.8	11/17/23 04:14 / dck		ICPMS205-H_231116C : 42		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 19:05 / dck		ICPMS205-H_231116B : 62		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time

L -Lowest available reporting limit for the analytical method used and/or volume submitted



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-2  
**Lab ID:** H23110571-013  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 16:02 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	ND	mg/L		1		E200.7	11/26/23 21:31 / slj		ICP2-HE_231126B : 136		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 04:14 / dck		ICPMS205-H_231116C : 42		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 04:14 / dck		ICPMS205-H_231116C : 42		R190627
Copper	ND	mg/L		0.002		E200.8	11/17/23 04:14 / dck		ICPMS205-H_231116C : 42		R190627
Gallium	ND	mg/L		0.01		E200.8	11/16/23 19:05 / dck		ICPMS205-H_231116B : 62		R190225
Iron	ND	mg/L		0.02		E200.8	11/17/23 04:14 / dck		ICPMS205-H_231116C : 42		R190627
Lead	ND	mg/L		0.0003		E200.8	11/17/23 04:14 / dck		ICPMS205-H_231116C : 42		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 19:05 / dck		ICPMS205-H_231116B : 62		R190225
Lithium	ND	mg/L		0.1		E200.7	11/26/23 21:31 / slj		ICP2-HE_231126B : 136		R190339
Magnesium	ND	mg/L		1		E200.7	11/26/23 21:31 / slj		ICP2-HE_231126B : 136		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 19:05 / dck		ICPMS205-H_231116B : 62		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 19:05 / dck		ICPMS205-H_231116B : 62		R190225
Manganese	ND	mg/L		0.001		E200.8	11/17/23 04:14 / dck		ICPMS205-H_231116C : 42		R190627
Molybdenum	ND	mg/L		0.001		E200.8	11/17/23 04:14 / dck		ICPMS205-H_231116C : 42		R190627
Nickel	ND	mg/L		0.002		E200.8	11/17/23 04:14 / dck		ICPMS205-H_231116C : 42		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 19:05 / dck		ICPMS205-H_231116B : 62		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 19:05 / dck		ICPMS205-H_231116B : 62		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 19:05 / dck		ICPMS205-H_231116B : 62		R190225
Potassium	ND	mg/L		1		E200.7	11/26/23 21:31 / slj		ICP2-HE_231126B : 136		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 04:14 / dck		ICPMS205-H_231116C : 42		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 04:14 / dck		ICPMS205-H_231116C : 42		R190627
Sodium	ND	mg/L		1		E200.7	11/26/23 21:31 / slj		ICP2-HE_231126B : 136		R190339
Strontium	ND	mg/L		0.01		E200.8	11/17/23 04:14 / dck		ICPMS205-H_231116C : 42		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 04:14 / dck		ICPMS205-H_231116C : 42		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 13:43 / dck		ICPMS206-H_231228A : 35		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 04:14 / dck		ICPMS205-H_231116C : 42		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 04:14 / dck		ICPMS205-H_231116C : 42		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 19:05 / dck		ICPMS205-H_231116B : 62		R190225
Uranium	ND	mg/L		0.0002		E200.8	11/17/23 04:14 / dck		ICPMS205-H_231116C : 42		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 04:14 / dck		ICPMS205-H_231116C : 42		R190627
Zinc	ND	mg/L		0.008		E200.8	11/17/23 04:14 / dck		ICPMS205-H_231116C : 42		R190627
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 19:05 / dck		ICPMS205-H_231116B : 62		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-2  
**Lab ID:** H23110571-013  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 16:02    **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	100	%				A1030 E	11/28/23 08:10 / SR		CALC_231128A : 408		R190371
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-02B  
**Lab ID:** H23110571-014  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 16:16 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.3	s.u.	H	0.1		A4500-H B	11/16/23 09:53 / eek		PHSC_101-H_231116A : 39		R190121
pH Measurement Temp	12.3	°C				A4500-H B	11/16/23 09:53 / eek		PHSC_101-H_231116A : 39		R190121
Conductivity @ 25 C	4580	umhos/cm		5		A2510 B	11/16/23 09:53 / eek		PHSC_101-H_231116A : 40		R190121
Solids, Total Dissolved TDS @ 180 C	5400	mg/L		100		A2540 C	11/16/23 13:00 / dpw		-124 (14410200)_231116B : 3		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	11/20/23 10:39 / dpw		PHSC_101-H_231120A : 18		R190210
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	11/20/23 10:39 / dpw		PHSC_101-H_231120A : 18		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 10:39 / dpw		PHSC_101-H_231120A : 18		R190210
Chloride	185	mg/L		1		E300.0	11/17/23 09:21 / SR		IC METROHM_231116A : 92		R190187
Sulfate	3280	mg/L		1		E300.0	11/17/23 09:21 / SR		IC METROHM_231116A : 92		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 09:21 / SR		IC METROHM_231116A : 92		R190187
Fluoride	1.2	mg/L		0.1		E300.0	11/17/23 09:21 / SR		IC METROHM_231116A : 92		R190187
Hardness as CaCO3	1870	mg/L		1		A2340 B	11/26/23 21:35 / SR		CALC_231208A : 146		R190695
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.6	mg/L		0.5		A5310 C	11/22/23 06:55 / eli-c		SUB-C301289 : 51		C_R301289
Organic Carbon, Total (TOC)	1.7	mg/L		0.5		A5310 C	11/21/23 21:06 / eli-c		SUB-C301289 : 33		C_R301289
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	11/20/23 16:36 / JAR		SEAL AA500_231120A : 65		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	3.7	mg/L		0.1		E200.7	11/26/23 21:35 / slj		ICP2-HE_231126B : 137		R190339
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 04:17 / dck		ICPMS205-H_231116C : 43		R190627
Arsenic	0.002	mg/L		0.001		E200.8	11/17/23 04:17 / dck		ICPMS205-H_231116C : 43		R190627
Barium	0.014	mg/L		0.003		E200.8	11/17/23 04:17 / dck		ICPMS205-H_231116C : 43		R190627
Beryllium	0.0086	mg/L		0.0008		E200.8	11/17/23 04:17 / dck		ICPMS205-H_231116C : 43		R190627
Boron	0.15	mg/L		0.05		E200.7	11/26/23 21:35 / slj		ICP2-HE_231126B : 137		R190339
Cadmium	1.02	mg/L		0.00003		E200.8	11/17/23 04:17 / dck		ICPMS205-H_231116C : 43		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 19:08 / dck		ICPMS205-H_231116B : 63		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-02B  
**Lab ID:** H23110571-014  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 16:16 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	485	mg/L		1		E200.7	11/26/23 21:35 / slj		ICP2-HE_231126B : 137		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 04:17 / dck		ICPMS205-H_231116C : 43		R190627
Cobalt	1.32	mg/L		0.005		E200.8	11/17/23 04:17 / dck		ICPMS205-H_231116C : 43		R190627
Copper	32.8	mg/L		0.06		E200.7	11/26/23 21:35 / slj		ICP2-HE_231126B : 137		R190339
Gallium	0.01	mg/L		0.01		E200.8	11/16/23 19:08 / dck		ICPMS205-H_231116B : 63		R190225
Iron	334	mg/L		0.04		E200.7	11/26/23 21:35 / slj		ICP2-HE_231126B : 137		R190339
Lead	0.0114	mg/L		0.0003		E200.8	11/17/23 04:17 / dck		ICPMS205-H_231116C : 43		R190627
Lanthanum	0.14	mg/L		0.01		E200.8	11/16/23 19:08 / dck		ICPMS205-H_231116B : 63		R190225
Lithium	0.7	mg/L		0.1		E200.7	11/26/23 21:35 / slj		ICP2-HE_231126B : 137		R190339
Magnesium	160	mg/L		1		E200.7	11/26/23 21:35 / slj		ICP2-HE_231126B : 137		R190339
Neodymium	0.072	mg/L		0.005		E200.8	11/16/23 19:08 / dck		ICPMS205-H_231116B : 63		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 19:08 / dck		ICPMS205-H_231116B : 63		R190225
Manganese	232	mg/L		0.007		E200.7	11/26/23 21:35 / slj		ICP2-HE_231126B : 137		R190339
Molybdenum	ND	mg/L		0.001		E200.8	11/17/23 04:17 / dck		ICPMS205-H_231116C : 43		R190627
Nickel	0.501	mg/L		0.002		E200.8	11/17/23 04:17 / dck		ICPMS205-H_231116C : 43		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 19:08 / dck		ICPMS205-H_231116B : 63		R190225
Praseodymium	0.02	mg/L		0.01		E200.8	11/16/23 19:08 / dck		ICPMS205-H_231116B : 63		R190225
Rubidium	0.02	mg/L		0.01		E200.8	11/16/23 19:08 / dck		ICPMS205-H_231116B : 63		R190225
Potassium	18	mg/L		1		E200.7	11/26/23 21:35 / slj		ICP2-HE_231126B : 137		R190339
Selenium	0.001	mg/L		0.001		E200.8	11/17/23 04:17 / dck		ICPMS205-H_231116C : 43		R190627
Silver	0.0064	mg/L		0.0002		E200.8	11/17/23 04:17 / dck		ICPMS205-H_231116C : 43		R190627
Sodium	107	mg/L		1		E200.7	01/02/24 20:37 / slj		ICP2-HE_240102A : 183		R191281
Strontium	3.25	mg/L		0.01		E200.7	11/26/23 21:35 / slj		ICP2-HE_231126B : 137		R190339
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 04:17 / dck		ICPMS205-H_231116C : 43		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 16:34 / dck		ICPMS206-H_231228A : 106		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 04:17 / dck		ICPMS205-H_231116C : 43		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 04:17 / dck		ICPMS205-H_231116C : 43		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 19:08 / dck		ICPMS205-H_231116B : 63		R190225
Uranium	0.0193	mg/L		0.0002		E200.8	11/17/23 04:17 / dck		ICPMS205-H_231116C : 43		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 04:17 / dck		ICPMS205-H_231116C : 43		R190627
Zinc	207	mg/L		0.03		E200.7	12/11/23 12:26 / slj		ICP2-HE_231211B : 50		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 19:08 / dck		ICPMS205-H_231116B : 63		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-02B  
**Lab ID:** H23110571-014  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 16:16      **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-5.62	%				A1030 E	12/08/23 15:48 / SR		CALC_231208A : 144		R190695

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-2  
**Lab ID:** H23110571-015  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 16:17 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.3	s.u.	H	0.1		A4500-H B	11/16/23 09:55 / eek		PHSC_101-H_231116A : 41		R190121
pH Measurement Temp	12.3	°C				A4500-H B	11/16/23 09:55 / eek		PHSC_101-H_231116A : 41		R190121
Conductivity @ 25 C	4630	umhos/cm		5		A2510 B	11/16/23 09:55 / eek		PHSC_101-H_231116A : 42		R190121
Solids, Total Dissolved TDS @ 180 C	5350	mg/L		100		A2540 C	11/16/23 13:14 / dpw		124 (14410200)_231116B : 22		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	11/20/23 10:43 / dpw		PHSC_101-H_231120A : 20		R190210
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	11/20/23 10:43 / dpw		PHSC_101-H_231120A : 20		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 10:43 / dpw		PHSC_101-H_231120A : 20		R190210
Chloride	183	mg/L		1		E300.0	11/17/23 09:36 / SR		IC METROHM_231116A : 93		R190187
Sulfate	3320	mg/L		1		E300.0	11/17/23 09:36 / SR		IC METROHM_231116A : 93		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 09:36 / SR		IC METROHM_231116A : 93		R190187
Fluoride	1.2	mg/L		0.1		E300.0	11/17/23 09:36 / SR		IC METROHM_231116A : 93		R190187
Hardness as CaCO3	1830	mg/L		1		A2340 B	12/08/23 14:42 / abc		CALC_231211A : 157		R190718
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.6	mg/L		0.5		A5310 C	11/22/23 07:23 / eli-c		SUB-C301289 : 52		C_R301289
Organic Carbon, Total (TOC)	1.6	mg/L		0.5		A5310 C	11/21/23 21:35 / eli-c		SUB-C301289 : 34		C_R301289
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	11/20/23 16:39 / JAR		SEAL AA500_231120A : 68		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	3.19	mg/L		0.009		E200.8	11/17/23 04:21 / dck		ICPMS205-H_231116C : 44		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 04:21 / dck		ICPMS205-H_231116C : 44		R190627
Arsenic	0.002	mg/L		0.001		E200.8	11/17/23 04:21 / dck		ICPMS205-H_231116C : 44		R190627
Barium	0.014	mg/L		0.003		E200.8	11/17/23 04:21 / dck		ICPMS205-H_231116C : 44		R190627
Beryllium	0.0089	mg/L		0.0008		E200.8	11/17/23 04:21 / dck		ICPMS205-H_231116C : 44		R190627
Boron	0.13	mg/L		0.05		E200.7	12/08/23 14:42 / slj		ICP2-HE_231208B : 39		R190705
Cadmium	0.998	mg/L		0.00003		E200.8	11/17/23 04:21 / dck		ICPMS205-H_231116C : 44		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 19:11 / dck		ICPMS205-H_231116B : 64		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-2  
**Lab ID:** H23110571-015  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 16:17 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	462	mg/L		1		E200.7	12/08/23 14:42 / slj		ICP2-HE_231208B : 39		R190705
Chromium	ND	mg/L		0.005		E200.8	11/17/23 04:21 / dck		ICPMS205-H_231116C : 44		R190627
Cobalt	1.32	mg/L		0.005		E200.8	11/17/23 04:21 / dck		ICPMS205-H_231116C : 44		R190627
Copper	32.1	mg/L		0.06		E200.7	12/08/23 14:42 / slj		ICP2-HE_231208B : 39		R190705
Gallium	0.01	mg/L		0.01		E200.8	11/16/23 19:11 / dck		ICPMS205-H_231116B : 64		R190225
Iron	314	mg/L		0.04		E200.7	12/08/23 14:42 / slj		ICP2-HE_231208B : 39		R190705
Lead	0.0112	mg/L		0.0003		E200.8	11/17/23 04:21 / dck		ICPMS205-H_231116C : 44		R190627
Lanthanum	0.14	mg/L		0.01		E200.8	11/16/23 19:11 / dck		ICPMS205-H_231116B : 64		R190225
Lithium	0.7	mg/L		0.1		E200.8	11/17/23 04:21 / dck		ICPMS205-H_231116C : 44		R190627
Magnesium	163	mg/L		1		E200.8	11/17/23 04:21 / dck		ICPMS205-H_231116C : 44		R190627
Neodymium	0.072	mg/L		0.005		E200.8	11/16/23 19:11 / dck		ICPMS205-H_231116B : 64		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 19:11 / dck		ICPMS205-H_231116B : 64		R190225
Manganese	220	mg/L		0.04		E200.7	12/08/23 14:42 / slj		ICP2-HE_231208B : 39		R190705
Molybdenum	ND	mg/L		0.001		E200.8	11/17/23 04:21 / dck		ICPMS205-H_231116C : 44		R190627
Nickel	0.496	mg/L		0.002		E200.8	11/17/23 04:21 / dck		ICPMS205-H_231116C : 44		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 19:11 / dck		ICPMS205-H_231116B : 64		R190225
Praseodymium	0.02	mg/L		0.01		E200.8	11/16/23 19:11 / dck		ICPMS205-H_231116B : 64		R190225
Rubidium	0.02	mg/L		0.01		E200.8	11/16/23 19:11 / dck		ICPMS205-H_231116B : 64		R190225
Potassium	18	mg/L		1		E200.8	11/17/23 04:21 / dck		ICPMS205-H_231116C : 44		R190627
Selenium	ND	mg/L		0.001		E200.8	11/17/23 04:21 / dck		ICPMS205-H_231116C : 44		R190627
Silver	0.0062	mg/L		0.0002		E200.8	11/17/23 04:21 / dck		ICPMS205-H_231116C : 44		R190627
Sodium	106	mg/L		1		E200.8	11/17/23 04:21 / dck		ICPMS205-H_231116C : 44		R190627
Strontium	2.95	mg/L		0.01		E200.8	11/17/23 04:21 / dck		ICPMS205-H_231116C : 44		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 04:21 / dck		ICPMS205-H_231116C : 44		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 16:40 / dck		ICPMS206-H_231228A : 108		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 04:21 / dck		ICPMS205-H_231116C : 44		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 04:21 / dck		ICPMS205-H_231116C : 44		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 19:11 / dck		ICPMS205-H_231116B : 64		R190225
Uranium	0.0189	mg/L		0.0002		E200.8	11/17/23 04:21 / dck		ICPMS205-H_231116C : 44		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 04:21 / dck		ICPMS205-H_231116C : 44		R190627
Zinc	211	mg/L		0.03		E200.7	12/11/23 12:30 / slj		ICP2-HE_231211B : 51		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 19:11 / dck		ICPMS205-H_231116B : 64		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-2  
**Lab ID:** H23110571-015  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 16:17      **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-7.30	%				A1030 E	12/11/23 09:22 / abc		CALC_231211A : 155		R190718

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-2  
**Lab ID:** H23110571-016  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 16:30 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.4	s.u.	H	0.1		A4500-H B	11/16/23 09:57 / eek		PHSC_101-H_231116A : 43		R190121
pH Measurement Temp	12.6	°C				A4500-H B	11/16/23 09:57 / eek		PHSC_101-H_231116A : 43		R190121
Conductivity @ 25 C	24	umhos/cm		5		A2510 B	11/16/23 09:57 / eek		PHSC_101-H_231116A : 44		R190121
Solids, Total Dissolved TDS @ 180 C	36	mg/L		20		A2540 C	11/16/23 13:15 / dpw		124 (14410200)_231116B : 23		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	11/20/23 10:47 / dpw		PHSC_101-H_231120A : 22		R190210
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	11/20/23 10:47 / dpw		PHSC_101-H_231120A : 22		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 10:47 / dpw		PHSC_101-H_231120A : 22		R190210
Chloride	2	mg/L		1		E300.0	11/17/23 09:50 / SR		IC METROHM_231116A : 94		R190187
Sulfate	ND	mg/L		1		E300.0	11/17/23 09:50 / SR		IC METROHM_231116A : 94		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 09:50 / SR		IC METROHM_231116A : 94		R190187
Fluoride	ND	mg/L		0.1		E300.0	11/17/23 09:50 / SR		IC METROHM_231116A : 94		R190187
Hardness as CaCO3	2	mg/L		1		A2340 B	11/26/23 21:52 / SR		CALC_231128A : 421		R190371
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	11/22/23 23:11 / eli-c		SUB-C301352 : 31		C_R301352
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	11/22/23 14:36 / eli-c		SUB-C301352 : 5		C_R301352
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	11/20/23 16:40 / JAR		SEAL AA500_231120A : 69		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 04:24 / dck		ICPMS205-H_231116C : 45		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 04:24 / dck		ICPMS205-H_231116C : 45		R190627
Arsenic	ND	mg/L		0.001		E200.8	11/17/23 04:24 / dck		ICPMS205-H_231116C : 45		R190627
Barium	ND	mg/L		0.003		E200.8	11/17/23 04:24 / dck		ICPMS205-H_231116C : 45		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 04:24 / dck		ICPMS205-H_231116C : 45		R190627
Boron	ND	mg/L		0.05		E200.7	12/08/23 15:00 / slj		ICP2-HE_231208B : 44		R190705
Cadmium	0.00080	mg/L		0.00003		E200.8	01/02/24 21:53 / dck		ICPMS205-H_240102A : 59		R191309
Cesium	ND	mg/L		0.01		E200.8	11/16/23 19:14 / dck		ICPMS205-H_231116B : 65		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-2  
**Lab ID:** H23110571-016  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 16:30 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	ND	mg/L		1		E200.8	11/17/23 04:24 / dck		ICPMS205-H_231116C : 45		R190627
Chromium	ND	mg/L		0.005		E200.8	11/17/23 04:24 / dck		ICPMS205-H_231116C : 45		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 04:24 / dck		ICPMS205-H_231116C : 45		R190627
Copper	0.029	mg/L		0.002		E200.8	12/28/23 14:15 / dck		ICPMS206-H_231228A : 48		R191217
Gallium	ND	mg/L		0.01		E200.8	11/16/23 19:14 / dck		ICPMS205-H_231116B : 65		R190225
Iron	0.71	mg/L		0.02		E200.8	01/02/24 21:53 / dck		ICPMS205-H_240102A : 59		R191309
Lead	ND	mg/L		0.0003		E200.8	11/17/23 04:24 / dck		ICPMS205-H_231116C : 45		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 19:14 / dck		ICPMS205-H_231116B : 65		R190225
Lithium	ND	mg/L		0.1		E200.8	11/17/23 04:24 / dck		ICPMS205-H_231116C : 45		R190627
Magnesium	ND	mg/L		1		E200.8	11/17/23 04:24 / dck		ICPMS205-H_231116C : 45		R190627
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 19:14 / dck		ICPMS205-H_231116B : 65		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 19:14 / dck		ICPMS205-H_231116B : 65		R190225
Manganese	0.172	mg/L		0.001		E200.8	01/02/24 21:53 / dck		ICPMS205-H_240102A : 59		R191309
Molybdenum	ND	mg/L		0.001		E200.8	11/17/23 04:24 / dck		ICPMS205-H_231116C : 45		R190627
Nickel	ND	mg/L		0.002		E200.8	11/17/23 04:24 / dck		ICPMS205-H_231116C : 45		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 19:14 / dck		ICPMS205-H_231116B : 65		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 19:14 / dck		ICPMS205-H_231116B : 65		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 19:14 / dck		ICPMS205-H_231116B : 65		R190225
Potassium	ND	mg/L		1		E200.8	11/17/23 04:24 / dck		ICPMS205-H_231116C : 45		R190627
Selenium	ND	mg/L		0.001		E200.8	11/17/23 04:24 / dck		ICPMS205-H_231116C : 45		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 04:24 / dck		ICPMS205-H_231116C : 45		R190627
Sodium	ND	mg/L		1		E200.8	11/17/23 04:24 / dck		ICPMS205-H_231116C : 45		R190627
Strontium	ND	mg/L		0.01		E200.8	11/17/23 04:24 / dck		ICPMS205-H_231116C : 45		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 04:24 / dck		ICPMS205-H_231116C : 45		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 14:15 / dck		ICPMS206-H_231228A : 48		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 04:24 / dck		ICPMS205-H_231116C : 45		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 04:24 / dck		ICPMS205-H_231116C : 45		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 19:14 / dck		ICPMS205-H_231116B : 65		R190225
Uranium	ND	mg/L		0.0002		E200.8	11/17/23 04:24 / dck		ICPMS205-H_231116C : 45		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 04:24 / dck		ICPMS205-H_231116C : 45		R190627
Zinc	0.148	mg/L		0.008		E200.8	01/02/24 21:53 / dck		ICPMS205-H_240102A : 59		R191309
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 19:14 / dck		ICPMS205-H_231116B : 65		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-2  
**Lab ID:** H23110571-016  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/13/23 16:30    **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-15.5	%				A1030 E	11/28/23 08:10 / SR		CALC_231128A : 419		R190371
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-4  
**Lab ID:** H23110571-017  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 09:40 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.6	s.u.	H	0.1		A4500-H B	11/16/23 09:59 / eek		PHSC_101-H_231116A : 45		R190121
pH Measurement Temp	13.2	°C				A4500-H B	11/16/23 09:59 / eek		PHSC_101-H_231116A : 45		R190121
Conductivity @ 25 C	ND	umhos/cm		5		A2510 B	11/16/23 09:59 / eek		PHSC_101-H_231116A : 46		R190121
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	L	20		A2540 C	11/16/23 13:17 / dpw		124 (14410200)_231116B : 26		TDS231116A
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.											
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	11/20/23 10:50 / dpw		PHSC_101-H_231120A : 24		R190210
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	11/20/23 10:50 / dpw		PHSC_101-H_231120A : 24		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 10:50 / dpw		PHSC_101-H_231120A : 24		R190210
Chloride	ND	mg/L		1		E300.0	11/17/23 10:19 / SR		IC METROHM_231116A : 96		R190187
Sulfate	ND	mg/L		1		E300.0	11/17/23 10:19 / SR		IC METROHM_231116A : 96		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 10:19 / SR		IC METROHM_231116A : 96		R190187
Fluoride	ND	mg/L		0.1		E300.0	11/17/23 10:19 / SR		IC METROHM_231116A : 96		R190187
Hardness as CaCO3	ND	mg/L		1		A2340 B	11/26/23 22:07 / SR		CALC_231128A : 432		R190371
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	11/22/23 23:27 / eli-c		SUB-C301352 : 32		C_R301352
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	11/22/23 14:52 / eli-c		SUB-C301352 : 6		C_R301352
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	11/20/23 16:41 / JAR		SEAL AA500_231120A : 70		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 04:27 / dck		ICPMS205-H_231116C : 46		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 04:27 / dck		ICPMS205-H_231116C : 46		R190627
Arsenic	ND	mg/L		0.001		E200.8	11/17/23 04:27 / dck		ICPMS205-H_231116C : 46		R190627
Barium	ND	mg/L		0.003		E200.8	11/17/23 04:27 / dck		ICPMS205-H_231116C : 46		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 04:27 / dck		ICPMS205-H_231116C : 46		R190627
Boron	ND	mg/L		0.05		E200.7	12/08/23 15:08 / slj		ICP2-HE_231208B : 46		R190705
Cadmium	ND	mg/L		0.00003		E200.8	01/02/24 21:56 / dck		ICPMS205-H_240102A : 60		R191309
Cesium	ND	mg/L		0.01		E200.8	11/16/23 19:17 / dck		ICPMS205-H_231116B : 66		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time

L -Lowest available reporting limit for the analytical method used and/or volume submitted



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-4  
**Lab ID:** H23110571-017  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 09:40 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	ND	mg/L		1		E200.8	11/17/23 04:27 / dck		ICPMS205-H_231116C : 46		R190627
Chromium	ND	mg/L		0.005		E200.8	11/17/23 04:27 / dck		ICPMS205-H_231116C : 46		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 04:27 / dck		ICPMS205-H_231116C : 46		R190627
Copper	ND	mg/L		0.002		E200.8	01/02/24 21:56 / dck		ICPMS205-H_240102A : 60		R191309
Gallium	ND	mg/L		0.01		E200.8	11/16/23 19:17 / dck		ICPMS205-H_231116B : 66		R190225
Iron	ND	mg/L		0.02		E200.8	01/02/24 21:56 / dck		ICPMS205-H_240102A : 60		R191309
Lead	ND	mg/L		0.0003		E200.8	11/17/23 04:27 / dck		ICPMS205-H_231116C : 46		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 19:17 / dck		ICPMS205-H_231116B : 66		R190225
Lithium	ND	mg/L		0.1		E200.8	11/17/23 04:27 / dck		ICPMS205-H_231116C : 46		R190627
Magnesium	ND	mg/L		1		E200.8	11/17/23 04:27 / dck		ICPMS205-H_231116C : 46		R190627
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 19:17 / dck		ICPMS205-H_231116B : 66		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 19:17 / dck		ICPMS205-H_231116B : 66		R190225
Manganese	ND	mg/L		0.001		E200.8	12/28/23 13:57 / dck		ICPMS206-H_231228A : 40		R191217
Molybdenum	ND	mg/L		0.001		E200.8	11/17/23 04:27 / dck		ICPMS205-H_231116C : 46		R190627
Nickel	ND	mg/L		0.002		E200.8	11/17/23 04:27 / dck		ICPMS205-H_231116C : 46		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 19:17 / dck		ICPMS205-H_231116B : 66		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 19:17 / dck		ICPMS205-H_231116B : 66		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 19:17 / dck		ICPMS205-H_231116B : 66		R190225
Potassium	ND	mg/L		1		E200.8	11/17/23 04:27 / dck		ICPMS205-H_231116C : 46		R190627
Selenium	ND	mg/L		0.001		E200.8	11/17/23 04:27 / dck		ICPMS205-H_231116C : 46		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 04:27 / dck		ICPMS205-H_231116C : 46		R190627
Sodium	ND	mg/L		1		E200.8	11/17/23 04:27 / dck		ICPMS205-H_231116C : 46		R190627
Strontium	ND	mg/L		0.01		E200.8	11/17/23 04:27 / dck		ICPMS205-H_231116C : 46		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 04:27 / dck		ICPMS205-H_231116C : 46		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 13:57 / dck		ICPMS206-H_231228A : 40		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 04:27 / dck		ICPMS205-H_231116C : 46		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 04:27 / dck		ICPMS205-H_231116C : 46		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 19:17 / dck		ICPMS205-H_231116B : 66		R190225
Uranium	ND	mg/L		0.0002		E200.8	11/17/23 04:27 / dck		ICPMS205-H_231116C : 46		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 04:27 / dck		ICPMS205-H_231116C : 46		R190627
Zinc	ND	mg/L		0.008		E200.8	12/28/23 13:57 / dck		ICPMS206-H_231228A : 40		R191217
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 19:17 / dck		ICPMS205-H_231116B : 66		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-4  
**Lab ID:** H23110571-017  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 09:40      **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	100	%				A1030 E	11/28/23 08:10 / SR		CALC_231128A : 430		R190371
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-18B  
**Lab ID:** H23110571-018  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 09:41 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.4	s.u.	H	0.1		A4500-H B	11/16/23 10:20 / eek		PHSC_101-H_231116A : 58		R190121
pH Measurement Temp	13.7	°C				A4500-H B	11/16/23 10:20 / eek		PHSC_101-H_231116A : 58		R190121
Conductivity @ 25 C	3820	umhos/cm		5		A2510 B	11/16/23 10:20 / eek		PHSC_101-H_231116A : 59		R190121
Solids, Total Dissolved TDS @ 180 C	4200	mg/L		100		A2540 C	11/16/23 13:17 / dpw		124 (14410200)_231116B : 27		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	11/20/23 10:54 / dpw		PHSC_101-H_231120A : 26		R190210
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	11/20/23 10:54 / dpw		PHSC_101-H_231120A : 26		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 10:54 / dpw		PHSC_101-H_231120A : 26		R190210
Chloride	134	mg/L		1		E300.0	11/17/23 10:33 / SR		IC METROHM_231116A : 97		R190187
Sulfate	2620	mg/L		1		E300.0	11/17/23 10:33 / SR		IC METROHM_231116A : 97		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 10:33 / SR		IC METROHM_231116A : 97		R190187
Fluoride	1	mg/L		0.1		E300.0	11/17/23 10:33 / SR		IC METROHM_231116A : 97		R190187
Hardness as CaCO3	1630	mg/L		1		A2340 B	12/08/23 15:12 / abc		CALC_231211A : 168		R190718
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.3	mg/L		0.5		A5310 C	11/22/23 23:45 / eli-c		SUB-C301352 : 33		C_R301352
Organic Carbon, Total (TOC)	1.3	mg/L		0.5		A5310 C	11/22/23 15:09 / eli-c		SUB-C301352 : 7		C_R301352
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	11/20/23 16:42 / JAR		SEAL AA500_231120A : 71		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	2.29	mg/L		0.009		E200.8	11/17/23 04:30 / dck		ICPMS205-H_231116C : 47		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 04:30 / dck		ICPMS205-H_231116C : 47		R190627
Arsenic	0.001	mg/L		0.001		E200.8	11/17/23 04:30 / dck		ICPMS205-H_231116C : 47		R190627
Barium	0.012	mg/L		0.003		E200.8	11/17/23 04:30 / dck		ICPMS205-H_231116C : 47		R190627
Beryllium	0.0051	mg/L		0.0008		E200.8	11/17/23 04:30 / dck		ICPMS205-H_231116C : 47		R190627
Boron	0.12	mg/L		0.05		E200.7	12/08/23 15:12 / slj		ICP2-HE_231208B : 47		R190705
Cadmium	0.578	mg/L		0.00003		E200.8	11/17/23 04:30 / dck		ICPMS205-H_231116C : 47		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 19:20 / dck		ICPMS205-H_231116B : 67		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-18B  
**Lab ID:** H23110571-018  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 09:41 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	431	mg/L		1		E200.7	12/08/23 15:12 / slj		ICP2-HE_231208B : 47		R190705
Chromium	ND	mg/L		0.005		E200.8	11/17/23 04:30 / dck		ICPMS205-H_231116C : 47		R190627
Cobalt	1.21	mg/L		0.005		E200.8	11/17/23 04:30 / dck		ICPMS205-H_231116C : 47		R190627
Copper	14.6	mg/L		0.02		E200.7	12/08/23 15:12 / slj		ICP2-HE_231208B : 47		R190705
Gallium	ND	mg/L		0.01		E200.8	11/16/23 19:20 / dck		ICPMS205-H_231116B : 67		R190225
Iron	199	mg/L		0.02		E200.7	12/08/23 15:12 / slj		ICP2-HE_231208B : 47		R190705
Lead	0.0179	mg/L		0.0003		E200.8	11/17/23 04:30 / dck		ICPMS205-H_231116C : 47		R190627
Lanthanum	0.08	mg/L		0.01		E200.8	11/16/23 19:20 / dck		ICPMS205-H_231116B : 67		R190225
Lithium	0.5	mg/L		0.1		E200.8	11/17/23 04:30 / dck		ICPMS205-H_231116C : 47		R190627
Magnesium	136	mg/L		1		E200.8	11/17/23 04:30 / dck		ICPMS205-H_231116C : 47		R190627
Neodymium	0.043	mg/L		0.005		E200.8	11/16/23 19:20 / dck		ICPMS205-H_231116B : 67		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 19:20 / dck		ICPMS205-H_231116B : 67		R190225
Manganese	159	mg/L		0.02		E200.7	12/08/23 15:12 / slj		ICP2-HE_231208B : 47		R190705
Molybdenum	ND	mg/L		0.001		E200.8	11/17/23 04:30 / dck		ICPMS205-H_231116C : 47		R190627
Nickel	0.369	mg/L		0.002		E200.8	11/17/23 04:30 / dck		ICPMS205-H_231116C : 47		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 19:20 / dck		ICPMS205-H_231116B : 67		R190225
Praseodymium	0.01	mg/L		0.01		E200.8	11/16/23 19:20 / dck		ICPMS205-H_231116B : 67		R190225
Rubidium	0.01	mg/L		0.01		E200.8	11/16/23 19:20 / dck		ICPMS205-H_231116B : 67		R190225
Potassium	16	mg/L		1		E200.8	11/17/23 04:30 / dck		ICPMS205-H_231116C : 47		R190627
Selenium	ND	mg/L		0.001		E200.8	11/17/23 04:30 / dck		ICPMS205-H_231116C : 47		R190627
Silver	0.0041	mg/L		0.0002		E200.8	11/17/23 04:30 / dck		ICPMS205-H_231116C : 47		R190627
Sodium	92	mg/L		1		E200.8	11/17/23 04:30 / dck		ICPMS205-H_231116C : 47		R190627
Strontium	2.53	mg/L		0.01		E200.8	11/17/23 04:30 / dck		ICPMS205-H_231116C : 47		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 04:30 / dck		ICPMS205-H_231116C : 47		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 16:46 / dck		ICPMS206-H_231228A : 110		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 04:30 / dck		ICPMS205-H_231116C : 47		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 04:30 / dck		ICPMS205-H_231116C : 47		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 19:20 / dck		ICPMS205-H_231116B : 67		R190225
Uranium	0.0156	mg/L		0.0002		E200.8	11/17/23 04:30 / dck		ICPMS205-H_231116C : 47		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 04:30 / dck		ICPMS205-H_231116C : 47		R190627
Zinc	142	mg/L		0.03		E200.7	12/11/23 12:41 / slj		ICP2-HE_231211B : 54		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 19:20 / dck		ICPMS205-H_231116B : 67		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-18B  
**Lab ID:** H23110571-018  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 09:41    **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-5.81	%				A1030 E	12/11/23 09:23 / abc		CALC_231211A : 166		R190718

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08A2  
**Lab ID:** H23110571-019  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 09:42 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.5	s.u.	H	0.1		A4500-H B	11/16/23 10:22 / eek		PHSC_101-H_231116A : 60		R190121
pH Measurement Temp	13.5	°C				A4500-H B	11/16/23 10:22 / eek		PHSC_101-H_231116A : 60		R190121
Conductivity @ 25 C	644	umhos/cm		5		A2510 B	11/16/23 10:22 / eek		PHSC_101-H_231116A : 61		R190121
Solids, Total Dissolved TDS @ 180 C	441	mg/L		20		A2540 C	11/17/23 15:38 / dpw		124 (14410200)_231117B : 43		TDS231117A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	81	mg/L		4		A2320 B	11/20/23 10:58 / dpw		PHSC_101-H_231120A : 28		R190210
Bicarbonate as HCO3	99	mg/L		4		A2320 B	11/20/23 10:58 / dpw		PHSC_101-H_231120A : 28		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 10:58 / dpw		PHSC_101-H_231120A : 28		R190210
Chloride	23	mg/L		1		E300.0	11/17/23 10:48 / SR		IC METROHM_231116A : 98		R190187
Sulfate	198	mg/L		1		E300.0	11/17/23 10:48 / SR		IC METROHM_231116A : 98		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 10:48 / SR		IC METROHM_231116A : 98		R190187
Fluoride	0.3	mg/L		0.1		E300.0	11/17/23 10:48 / SR		IC METROHM_231116A : 98		R190187
Hardness as CaCO3	247	mg/L		1		A2340 B	11/17/23 04:34 / abc		CALC_231211A : 3		R190718
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.2	mg/L		0.5		A5310 C	11/23/23 00:07 / eli-c		SUB-C301352 : 34		C_R301352
Organic Carbon, Total (TOC)	1.2	mg/L		0.5		A5310 C	11/22/23 15:32 / eli-c		SUB-C301352 : 8		C_R301352
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	4.37	mg/L		0.05		E353.2	11/20/23 16:48 / JAR		SEAL AA500_231120A : 75		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 04:34 / dck		ICPMS205-H_231116C : 48		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 04:34 / dck		ICPMS205-H_231116C : 48		R190627
Arsenic	ND	mg/L		0.001		E200.8	11/17/23 04:34 / dck		ICPMS205-H_231116C : 48		R190627
Barium	0.023	mg/L		0.003		E200.8	11/17/23 04:34 / dck		ICPMS205-H_231116C : 48		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 04:34 / dck		ICPMS205-H_231116C : 48		R190627
Boron	0.09	mg/L		0.05		E200.7	12/08/23 15:16 / slj		ICP2-HE_231208B : 48		R190705
Cadmium	0.00111	mg/L		0.00003		E200.8	11/17/23 04:34 / dck		ICPMS205-H_231116C : 48		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 19:23 / dck		ICPMS205-H_231116B : 68		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08A2  
**Lab ID:** H23110571-019  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 09:42 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	65	mg/L		1		E200.8	11/17/23 04:34 / dck		ICPMS205-H_231116C : 48		R190627
Chromium	ND	mg/L		0.005		E200.8	11/17/23 04:34 / dck		ICPMS205-H_231116C : 48		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 04:34 / dck		ICPMS205-H_231116C : 48		R190627
Copper	0.009	mg/L		0.002		E200.8	12/28/23 13:59 / dck		ICPMS206-H_231228A : 41		R191217
Gallium	ND	mg/L		0.01		E200.8	11/16/23 19:23 / dck		ICPMS205-H_231116B : 68		R190225
Iron	ND	mg/L		0.02		E200.7	12/08/23 15:16 / slj		ICP2-HE_231208B : 48		R190705
Lead	ND	mg/L		0.0003		E200.8	11/17/23 04:34 / dck		ICPMS205-H_231116C : 48		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 19:23 / dck		ICPMS205-H_231116B : 68		R190225
Lithium	ND	mg/L		0.1		E200.8	11/17/23 04:34 / dck		ICPMS205-H_231116C : 48		R190627
Magnesium	21	mg/L		1		E200.8	11/17/23 04:34 / dck		ICPMS205-H_231116C : 48		R190627
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 19:23 / dck		ICPMS205-H_231116B : 68		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 19:23 / dck		ICPMS205-H_231116B : 68		R190225
Manganese	ND	mg/L		0.001		E200.8	12/28/23 13:59 / dck		ICPMS206-H_231228A : 41		R191217
Molybdenum	0.004	mg/L		0.001		E200.8	11/17/23 04:34 / dck		ICPMS205-H_231116C : 48		R190627
Nickel	ND	mg/L		0.002		E200.8	11/17/23 04:34 / dck		ICPMS205-H_231116C : 48		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 19:23 / dck		ICPMS205-H_231116B : 68		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 19:23 / dck		ICPMS205-H_231116B : 68		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 19:23 / dck		ICPMS205-H_231116B : 68		R190225
Potassium	6	mg/L		1		E200.8	11/17/23 04:34 / dck		ICPMS205-H_231116C : 48		R190627
Selenium	ND	mg/L		0.001		E200.8	11/17/23 04:34 / dck		ICPMS205-H_231116C : 48		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 04:34 / dck		ICPMS205-H_231116C : 48		R190627
Sodium	30	mg/L		1		E200.8	11/17/23 04:34 / dck		ICPMS205-H_231116C : 48		R190627
Strontium	0.50	mg/L		0.01		E200.8	11/17/23 04:34 / dck		ICPMS205-H_231116C : 48		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 04:34 / dck		ICPMS205-H_231116C : 48		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 13:59 / dck		ICPMS206-H_231228A : 41		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 04:34 / dck		ICPMS205-H_231116C : 48		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 04:34 / dck		ICPMS205-H_231116C : 48		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 19:23 / dck		ICPMS205-H_231116B : 68		R190225
Uranium	0.0013	mg/L		0.0002		E200.8	11/17/23 04:34 / dck		ICPMS205-H_231116C : 48		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 04:34 / dck		ICPMS205-H_231116C : 48		R190627
Zinc	0.249	mg/L		0.008		E200.8	11/17/23 04:34 / dck		ICPMS205-H_231116C : 48		R190627
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 19:23 / dck		ICPMS205-H_231116B : 68		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08A2  
**Lab ID:** H23110571-019  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 09:42      **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-2.56	%				A1030 E	12/11/23 09:00 / abc		CALC_231211A : 1		R190718

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08B  
**Lab ID:** H23110571-020  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 10:02 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.4	s.u.	H	0.1		A4500-H B	11/16/23 10:24 / eek		PHSC_101-H_231116A : 62		R190121
pH Measurement Temp	13.5	°C				A4500-H B	11/16/23 10:24 / eek		PHSC_101-H_231116A : 62		R190121
Conductivity @ 25 C	1470	umhos/cm		5		A2510 B	11/16/23 10:24 / eek		PHSC_101-H_231116A : 63		R190121
Solids, Total Dissolved TDS @ 180 C	1200	mg/L		20		A2540 C	11/16/23 13:19 / dpw		124 (14410200)_231116B : 30		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	60	mg/L		4		A2320 B	11/20/23 11:05 / dpw		PHSC_101-H_231120A : 30		R190210
Bicarbonate as HCO3	73	mg/L		4		A2320 B	11/20/23 11:05 / dpw		PHSC_101-H_231120A : 30		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 11:05 / dpw		PHSC_101-H_231120A : 30		R190210
Chloride	29	mg/L		1		E300.0	11/17/23 11:02 / SR		IC METROHM_231116A : 99		R190187
Sulfate	733	mg/L		1		E300.0	11/17/23 11:02 / SR		IC METROHM_231116A : 99		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 11:02 / SR		IC METROHM_231116A : 99		R190187
Fluoride	0.6	mg/L		0.1		E300.0	11/17/23 11:02 / SR		IC METROHM_231116A : 99		R190187
Hardness as CaCO3	630	mg/L		1		A2340 B	11/26/23 22:18 / SR		CALC_231128A : 443		R190371
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.5	mg/L		0.5		A5310 C	11/23/23 00:56 / eli-c		SUB-C301352 : 37		C_R301352
Organic Carbon, Total (TOC)	0.5	mg/L		0.5		A5310 C	11/22/23 16:20 / eli-c		SUB-C301352 : 11		C_R301352
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	3.45	mg/L		0.05		E353.2	11/20/23 16:49 / JAR		SEAL AA500_231120A : 76		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 04:37 / dck		ICPMS205-H_231116C : 49		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 04:37 / dck		ICPMS205-H_231116C : 49		R190627
Arsenic	0.005	mg/L		0.001		E200.8	11/17/23 04:37 / dck		ICPMS205-H_231116C : 49		R190627
Barium	0.014	mg/L		0.003		E200.8	11/17/23 04:37 / dck		ICPMS205-H_231116C : 49		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 04:37 / dck		ICPMS205-H_231116C : 49		R190627
Boron	0.09	mg/L		0.05		E200.7	12/08/23 15:28 / slj		ICP2-HE_231208B : 51		R190705
Cadmium	0.00915	mg/L		0.00003		E200.8	11/17/23 04:37 / dck		ICPMS205-H_231116C : 49		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 19:25 / dck		ICPMS205-H_231116B : 69		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08B  
**Lab ID:** H23110571-020  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 10:02 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	187	mg/L		1		E200.7	12/08/23 15:28 / slj		ICP2-HE_231208B : 51		R190705
Chromium	ND	mg/L		0.005		E200.8	11/17/23 04:37 / dck		ICPMS205-H_231116C : 49		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 04:37 / dck		ICPMS205-H_231116C : 49		R190627
Copper	0.173	mg/L		0.002		E200.8	11/17/23 04:37 / dck		ICPMS205-H_231116C : 49		R190627
Gallium	ND	mg/L		0.01		E200.8	11/16/23 19:25 / dck		ICPMS205-H_231116B : 69		R190225
Iron	ND	mg/L		0.02		E200.8	11/17/23 04:37 / dck		ICPMS205-H_231116C : 49		R190627
Lead	ND	mg/L		0.0003		E200.8	11/17/23 04:37 / dck		ICPMS205-H_231116C : 49		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 19:25 / dck		ICPMS205-H_231116B : 69		R190225
Lithium	0.2	mg/L		0.1		E200.8	11/17/23 04:37 / dck		ICPMS205-H_231116C : 49		R190627
Magnesium	45	mg/L		1		E200.8	11/17/23 04:37 / dck		ICPMS205-H_231116C : 49		R190627
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 19:25 / dck		ICPMS205-H_231116B : 69		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 19:25 / dck		ICPMS205-H_231116B : 69		R190225
Manganese	0.001	mg/L		0.001		E200.8	12/28/23 15:07 / dck		ICPMS206-H_231228A : 69		R191217
Molybdenum	0.002	mg/L		0.001		E200.8	11/17/23 04:37 / dck		ICPMS205-H_231116C : 49		R190627
Nickel	0.005	mg/L		0.002		E200.8	11/17/23 04:37 / dck		ICPMS205-H_231116C : 49		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 19:25 / dck		ICPMS205-H_231116B : 69		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 19:25 / dck		ICPMS205-H_231116B : 69		R190225
Rubidium	0.02	mg/L		0.01		E200.8	11/16/23 19:25 / dck		ICPMS205-H_231116B : 69		R190225
Potassium	13	mg/L		1		E200.8	11/17/23 04:37 / dck		ICPMS205-H_231116C : 49		R190627
Selenium	ND	mg/L		0.001		E200.8	11/17/23 04:37 / dck		ICPMS205-H_231116C : 49		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 04:37 / dck		ICPMS205-H_231116C : 49		R190627
Sodium	77	mg/L		1		E200.7	01/02/24 20:48 / slj		ICP2-HE_240102A : 186		R191281
Strontium	2.00	mg/L		0.01		E200.8	11/17/23 04:37 / dck		ICPMS205-H_231116C : 49		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 04:37 / dck		ICPMS205-H_231116C : 49		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 15:07 / dck		ICPMS206-H_231228A : 69		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 04:37 / dck		ICPMS205-H_231116C : 49		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 04:37 / dck		ICPMS205-H_231116C : 49		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 19:25 / dck		ICPMS205-H_231116B : 69		R190225
Uranium	0.0014	mg/L		0.0002		E200.8	11/17/23 04:37 / dck		ICPMS205-H_231116C : 49		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 04:37 / dck		ICPMS205-H_231116C : 49		R190627
Zinc	1.33	mg/L		0.008		E200.8	11/17/23 04:37 / dck		ICPMS205-H_231116C : 49		R190627
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 19:25 / dck		ICPMS205-H_231116B : 69		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08B  
**Lab ID:** H23110571-020  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 10:02      **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-4.24	%				A1030 E	11/28/23 08:10 / SR		CALC_231128A : 441		R190371

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-18C  
**Lab ID:** H23110571-021  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 10:22 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.8	s.u.	H	0.1		A4500-H B	11/16/23 10:26 / eek		PHSC_101-H_231116A : 64		R190121
pH Measurement Temp	13.3	°C				A4500-H B	11/16/23 10:26 / eek		PHSC_101-H_231116A : 64		R190121
Conductivity @ 25 C	1940	umhos/cm		5		A2510 B	11/16/23 10:26 / eek		PHSC_101-H_231116A : 65		R190121
Solids, Total Dissolved TDS @ 180 C	1680	mg/L		50		A2540 C	11/16/23 13:20 / dpw		124 (14410200)_231116B : 31		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	55	mg/L		4		A2320 B	11/20/23 11:12 / dpw		PHSC_101-H_231120A : 32		R190210
Bicarbonate as HCO3	67	mg/L		4		A2320 B	11/20/23 11:12 / dpw		PHSC_101-H_231120A : 32		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 11:12 / dpw		PHSC_101-H_231120A : 32		R190210
Chloride	97	mg/L		1		E300.0	11/17/23 11:16 / SR		C METROHM_231116A : 100		R190187
Sulfate	958	mg/L		1		E300.0	11/29/23 05:33 / SR		IC METROHM_231128A : 81		R190403
Bromide	ND	mg/L		0.5		E300.0	11/17/23 11:16 / SR		C METROHM_231116A : 100		R190187
Fluoride	0.4	mg/L		0.1		E300.0	11/17/23 11:16 / SR		C METROHM_231116A : 100		R190187
Hardness as CaCO3	899	mg/L		1		A2340 B	12/08/23 15:31 / abc		CALC_231211A : 179		R190718
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.3	mg/L		0.5		A5310 C	11/23/23 01:18 / eli-c		SUB-C301352 : 38		C_R301352
Organic Carbon, Total (TOC)	1.3	mg/L		0.5		A5310 C	11/22/23 16:36 / eli-c		SUB-C301352 : 12		C_R301352
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	8.30	mg/L		0.05		E353.2	11/20/23 16:50 / JAR		SEAL AA500_231120A : 77		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	0.028	mg/L		0.009		E200.8	11/17/23 04:53 / dck		ICPMS205-H_231116C : 54		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 04:53 / dck		ICPMS205-H_231116C : 54		R190627
Arsenic	0.004	mg/L		0.001		E200.8	11/17/23 04:53 / dck		ICPMS205-H_231116C : 54		R190627
Barium	0.015	mg/L		0.003		E200.8	11/17/23 04:53 / dck		ICPMS205-H_231116C : 54		R190627
Beryllium	0.0010	mg/L		0.0008		E200.8	11/17/23 04:53 / dck		ICPMS205-H_231116C : 54		R190627
Boron	0.26	mg/L		0.05		E200.7	12/08/23 15:31 / slj		ICP2-HE_231208B : 52		R190705
Cadmium	0.100	mg/L		0.00003		E200.8	11/17/23 04:53 / dck		ICPMS205-H_231116C : 54		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 19:47 / dck		ICPMS205-H_231116B : 75		R190225

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-18C  
**Lab ID:** H23110571-021  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 10:22 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	236	mg/L		1		E200.7	12/08/23 15:31 / slj		ICP2-HE_231208B : 52		R190705
Chromium	ND	mg/L		0.005		E200.8	11/17/23 04:53 / dck		ICPMS205-H_231116C : 54		R190627
Cobalt	0.015	mg/L		0.005		E200.8	11/17/23 04:53 / dck		ICPMS205-H_231116C : 54		R190627
Copper	4.70	mg/L		0.002		E200.8	11/17/23 04:53 / dck		ICPMS205-H_231116C : 54		R190627
Gallium	ND	mg/L		0.01		E200.8	11/16/23 19:47 / dck		ICPMS205-H_231116B : 75		R190225
Iron	0.06	mg/L		0.02		E200.8	11/17/23 04:53 / dck		ICPMS205-H_231116C : 54		R190627
Lead	0.0003	mg/L		0.0003		E200.8	11/17/23 04:53 / dck		ICPMS205-H_231116C : 54		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 19:47 / dck		ICPMS205-H_231116B : 75		R190225
Lithium	0.4	mg/L		0.1		E200.8	11/17/23 04:53 / dck		ICPMS205-H_231116C : 54		R190627
Magnesium	62	mg/L		1		E200.7	01/02/24 20:52 / slj		ICP2-HE_240102A : 187		R191281
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 19:47 / dck		ICPMS205-H_231116B : 75		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 19:47 / dck		ICPMS205-H_231116B : 75		R190225
Manganese	49.3	mg/L		0.007		E200.7	12/11/23 12:45 / slj		ICP2-HE_231211B : 55		R190737
Molybdenum	ND	mg/L		0.001		E200.8	11/17/23 04:53 / dck		ICPMS205-H_231116C : 54		R190627
Nickel	0.128	mg/L		0.002		E200.8	11/17/23 04:53 / dck		ICPMS205-H_231116C : 54		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 19:47 / dck		ICPMS205-H_231116B : 75		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 19:47 / dck		ICPMS205-H_231116B : 75		R190225
Rubidium	0.03	mg/L		0.01		E200.8	11/16/23 19:47 / dck		ICPMS205-H_231116B : 75		R190225
Potassium	16	mg/L		1		E200.8	11/17/23 04:53 / dck		ICPMS205-H_231116C : 54		R190627
Selenium	ND	mg/L		0.001		E200.8	11/17/23 04:53 / dck		ICPMS205-H_231116C : 54		R190627
Silver	0.0009	mg/L		0.0002		E200.8	11/17/23 04:53 / dck		ICPMS205-H_231116C : 54		R190627
Sodium	56	mg/L		1		E200.7	01/02/24 20:52 / slj		ICP2-HE_240102A : 187		R191281
Strontium	2.38	mg/L		0.01		E200.8	11/17/23 04:53 / dck		ICPMS205-H_231116C : 54		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 04:53 / dck		ICPMS205-H_231116C : 54		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 15:09 / dck		ICPMS206-H_231228A : 70		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 04:53 / dck		ICPMS205-H_231116C : 54		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 04:53 / dck		ICPMS205-H_231116C : 54		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 19:47 / dck		ICPMS205-H_231116B : 75		R190225
Uranium	0.0013	mg/L		0.0002		E200.8	11/17/23 04:53 / dck		ICPMS205-H_231116C : 54		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 04:53 / dck		ICPMS205-H_231116C : 54		R190627
Zinc	30.0	mg/L		0.01		E200.7	12/11/23 12:45 / slj		ICP2-HE_231211B : 55		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 19:47 / dck		ICPMS205-H_231116B : 75		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-18C  
**Lab ID:** H23110571-021  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 10:22      **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-3.02	%				A1030 E	12/11/23 09:26 / abc		CALC_231211A : 177		R190718

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-11B  
**Lab ID:** H23110571-022  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 10:45 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.3	s.u.	H	0.1		A4500-H B	11/16/23 10:28 / eek		PHSC_101-H_231116A : 66		R190121
pH Measurement Temp	13.4	°C				A4500-H B	11/16/23 10:28 / eek		PHSC_101-H_231116A : 66		R190121
Conductivity @ 25 C	305	umhos/cm		5		A2510 B	11/16/23 10:28 / eek		PHSC_101-H_231116A : 67		R190121
Solids, Total Dissolved TDS @ 180 C	207	mg/L		20		A2540 C	11/16/23 13:21 / dpw		124 (14410200)_231116B : 32		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	86	mg/L		4		A2320 B	11/20/23 11:18 / dpw		PHSC_101-H_231120A : 34		R190210
Bicarbonate as HCO3	100	mg/L		4		A2320 B	11/20/23 11:18 / dpw		PHSC_101-H_231120A : 34		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 11:18 / dpw		PHSC_101-H_231120A : 34		R190210
Chloride	10	mg/L		1		E300.0	11/17/23 11:31 / SR		C METROHM_231116A : 101		R190187
Sulfate	44	mg/L		1		E300.0	11/17/23 11:31 / SR		C METROHM_231116A : 101		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 11:31 / SR		C METROHM_231116A : 101		R190187
Fluoride	1	mg/L		0.1		E300.0	11/17/23 11:31 / SR		C METROHM_231116A : 101		R190187
Hardness as CaCO3	98	mg/L		1		A2340 B	11/26/23 22:25 / SR		CALC_231128A : 454		R190371
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.5	mg/L		0.5		A5310 C	11/23/23 01:38 / eli-c		SUB-C301352 : 39		C_R301352
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	11/22/23 16:52 / eli-c		SUB-C301352 : 13		C_R301352
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	1.24	mg/L		0.01		E353.2	11/20/23 16:51 / JAR		SEAL AA500_231120A : 78		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 04:56 / dck		ICPMS205-H_231116C : 55		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 04:56 / dck		ICPMS205-H_231116C : 55		R190627
Arsenic	0.004	mg/L		0.001		E200.8	11/17/23 04:56 / dck		ICPMS205-H_231116C : 55		R190627
Barium	0.031	mg/L		0.003		E200.8	11/17/23 04:56 / dck		ICPMS205-H_231116C : 55		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 04:56 / dck		ICPMS205-H_231116C : 55		R190627
Boron	ND	mg/L		0.05		E200.7	12/08/23 15:35 / slj		ICP2-HE_231208B : 53		R190705
Cadmium	0.00048	mg/L		0.00003		E200.8	11/17/23 04:56 / dck		ICPMS205-H_231116C : 55		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 19:50 / dck		ICPMS205-H_231116B : 76		R190225

**Report Definitions:** RL - Analyte Reporting Limit  
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-11B  
**Lab ID:** H23110571-022  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 10:45 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	27	mg/L		1		E200.8	11/17/23 04:56 / dck		ICPMS205-H_231116C : 55		R190627
Chromium	ND	mg/L		0.005		E200.8	11/17/23 04:56 / dck		ICPMS205-H_231116C : 55		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 04:56 / dck		ICPMS205-H_231116C : 55		R190627
Copper	0.003	mg/L		0.002		E200.8	11/17/23 04:56 / dck		ICPMS205-H_231116C : 55		R190627
Gallium	ND	mg/L		0.01		E200.8	11/16/23 19:50 / dck		ICPMS205-H_231116B : 76		R190225
Iron	ND	mg/L		0.02		E200.8	11/17/23 04:56 / dck		ICPMS205-H_231116C : 55		R190627
Lead	ND	mg/L		0.0003		E200.8	11/17/23 04:56 / dck		ICPMS205-H_231116C : 55		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 19:50 / dck		ICPMS205-H_231116B : 76		R190225
Lithium	ND	mg/L		0.1		E200.8	11/17/23 04:56 / dck		ICPMS205-H_231116C : 55		R190627
Magnesium	7	mg/L		1		E200.8	11/17/23 04:56 / dck		ICPMS205-H_231116C : 55		R190627
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 19:50 / dck		ICPMS205-H_231116B : 76		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 19:50 / dck		ICPMS205-H_231116B : 76		R190225
Manganese	ND	mg/L		0.001		E200.8	01/02/24 22:00 / dck		ICPMS205-H_240102A : 61		R191309
Molybdenum	0.016	mg/L		0.001		E200.8	11/17/23 04:56 / dck		ICPMS205-H_231116C : 55		R190627
Nickel	ND	mg/L		0.002		E200.8	11/17/23 04:56 / dck		ICPMS205-H_231116C : 55		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 19:50 / dck		ICPMS205-H_231116B : 76		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 19:50 / dck		ICPMS205-H_231116B : 76		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 19:50 / dck		ICPMS205-H_231116B : 76		R190225
Potassium	3	mg/L		1		E200.8	11/17/23 04:56 / dck		ICPMS205-H_231116C : 55		R190627
Selenium	ND	mg/L		0.001		E200.8	11/17/23 04:56 / dck		ICPMS205-H_231116C : 55		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 04:56 / dck		ICPMS205-H_231116C : 55		R190627
Sodium	20	mg/L		1		E200.7	01/02/24 21:14 / slj		ICP2-HE_240102A : 193		R191281
Strontium	0.19	mg/L		0.01		E200.8	11/17/23 04:56 / dck		ICPMS205-H_231116C : 55		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 04:56 / dck		ICPMS205-H_231116C : 55		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 14:01 / dck		ICPMS206-H_231228A : 42		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 04:56 / dck		ICPMS205-H_231116C : 55		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 04:56 / dck		ICPMS205-H_231116C : 55		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 19:50 / dck		ICPMS205-H_231116B : 76		R190225
Uranium	0.0036	mg/L		0.0002		E200.8	11/17/23 04:56 / dck		ICPMS205-H_231116C : 55		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 04:56 / dck		ICPMS205-H_231116C : 55		R190627
Zinc	0.052	mg/L		0.008		E200.8	12/28/23 14:01 / dck		ICPMS206-H_231228A : 42		R191217
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 19:50 / dck		ICPMS205-H_231116B : 76		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-11B  
**Lab ID:** H23110571-022  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 10:45      **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-3.25	%				A1030 E	11/28/23 08:11 / SR		CALC_231128A : 452		R190371

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-4  
**Lab ID:** H23110571-023  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 10:46 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.4	s.u.	H	0.1		A4500-H B	11/16/23 10:30 / eek		PHSC_101-H_231116A : 68		R190121
pH Measurement Temp	13.5	°C				A4500-H B	11/16/23 10:30 / eek		PHSC_101-H_231116A : 68		R190121
Conductivity @ 25 C	305	umhos/cm		5		A2510 B	11/16/23 10:30 / eek		PHSC_101-H_231116A : 69		R190121
Solids, Total Dissolved TDS @ 180 C	205	mg/L		20		A2540 C	11/16/23 13:21 / dpw		124 (14410200)_231116B : 33		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	86	mg/L		4		A2320 B	11/20/23 11:24 / dpw		PHSC_101-H_231120A : 36		R190210
Bicarbonate as HCO3	100	mg/L		4		A2320 B	11/20/23 11:24 / dpw		PHSC_101-H_231120A : 36		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 11:24 / dpw		PHSC_101-H_231120A : 36		R190210
Chloride	10	mg/L		1		E300.0	11/17/23 11:45 / SR		C METROHM_231116A : 102		R190187
Sulfate	43	mg/L		1		E300.0	11/17/23 11:45 / SR		C METROHM_231116A : 102		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 11:45 / SR		C METROHM_231116A : 102		R190187
Fluoride	1	mg/L		0.1		E300.0	11/17/23 11:45 / SR		C METROHM_231116A : 102		R190187
Hardness as CaCO3	93	mg/L		1		A2340 B	11/26/23 22:37 / SR		CALC_231208A : 157		R190695
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	11/23/23 01:58 / eli-c		SUB-C301352 : 40		C_R301352
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	11/22/23 17:48 / eli-c		SUB-C301352 : 15		C_R301352
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	1.33	mg/L		0.02		E353.2	11/20/23 16:52 / JAR		SEAL AA500_231120A : 79		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 05:00 / dck		ICPMS205-H_231116C : 56		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 05:00 / dck		ICPMS205-H_231116C : 56		R190627
Arsenic	0.004	mg/L		0.001		E200.8	11/17/23 05:00 / dck		ICPMS205-H_231116C : 56		R190627
Barium	0.030	mg/L		0.003		E200.8	11/17/23 05:00 / dck		ICPMS205-H_231116C : 56		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 05:00 / dck		ICPMS205-H_231116C : 56		R190627
Boron	ND	mg/L		0.05		E200.7	11/26/23 22:37 / slj		ICP2-HE_231126B : 153		R190339
Cadmium	0.00043	mg/L		0.00003		E200.8	11/17/23 05:00 / dck		ICPMS205-H_231116C : 56		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 19:53 / dck		ICPMS205-H_231116B : 77		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-4  
**Lab ID:** H23110571-023  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 10:46 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	27	mg/L		1		E200.7	11/26/23 22:37 / slj		ICP2-HE_231126B : 153		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 05:00 / dck		ICPMS205-H_231116C : 56		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 05:00 / dck		ICPMS205-H_231116C : 56		R190627
Copper	0.017	mg/L		0.002		E200.8	11/17/23 05:00 / dck		ICPMS205-H_231116C : 56		R190627
Gallium	ND	mg/L		0.01		E200.8	11/16/23 19:53 / dck		ICPMS205-H_231116B : 77		R190225
Iron	ND	mg/L		0.02		E200.8	11/17/23 05:00 / dck		ICPMS205-H_231116C : 56		R190627
Lead	ND	mg/L		0.0003		E200.8	11/17/23 05:00 / dck		ICPMS205-H_231116C : 56		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 19:53 / dck		ICPMS205-H_231116B : 77		R190225
Lithium	ND	mg/L		0.1		E200.7	11/26/23 22:37 / slj		ICP2-HE_231126B : 153		R190339
Magnesium	6	mg/L		1		E200.7	11/26/23 22:37 / slj		ICP2-HE_231126B : 153		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 19:53 / dck		ICPMS205-H_231116B : 77		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 19:53 / dck		ICPMS205-H_231116B : 77		R190225
Manganese	0.004	mg/L		0.001		E200.8	11/17/23 05:00 / dck		ICPMS205-H_231116C : 56		R190627
Molybdenum	0.016	mg/L		0.001		E200.8	11/17/23 05:00 / dck		ICPMS205-H_231116C : 56		R190627
Nickel	ND	mg/L		0.002		E200.8	11/17/23 05:00 / dck		ICPMS205-H_231116C : 56		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 19:53 / dck		ICPMS205-H_231116B : 77		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 19:53 / dck		ICPMS205-H_231116B : 77		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 19:53 / dck		ICPMS205-H_231116B : 77		R190225
Potassium	3	mg/L		1		E200.7	11/26/23 22:37 / slj		ICP2-HE_231126B : 153		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 05:00 / dck		ICPMS205-H_231116C : 56		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 05:00 / dck		ICPMS205-H_231116C : 56		R190627
Sodium	23	mg/L		1		E200.8	11/17/23 05:00 / dck		ICPMS205-H_231116C : 56		R190627
Strontium	0.19	mg/L		0.01		E200.8	11/17/23 05:00 / dck		ICPMS205-H_231116C : 56		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 05:00 / dck		ICPMS205-H_231116C : 56		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 14:03 / dck		ICPMS206-H_231228A : 43		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 05:00 / dck		ICPMS205-H_231116C : 56		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 05:00 / dck		ICPMS205-H_231116C : 56		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 19:53 / dck		ICPMS205-H_231116B : 77		R190225
Uranium	0.0036	mg/L		0.0002		E200.8	11/17/23 05:00 / dck		ICPMS205-H_231116C : 56		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 05:00 / dck		ICPMS205-H_231116C : 56		R190627
Zinc	0.056	mg/L		0.008		E200.8	11/17/23 05:00 / dck		ICPMS205-H_231116C : 56		R190627
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 19:53 / dck		ICPMS205-H_231116B : 77		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-4  
**Lab ID:** H23110571-023  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 10:46      **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-1.94	%				A1030 E	12/08/23 15:49 / SR		CALC_231208A : 155		R190695

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10A  
**Lab ID:** H23110571-024  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 11:03 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.6	s.u.	H	0.1		A4500-H B	11/16/23 10:16 / eek		PHSC_101-H_231116A : 54		R190121
pH Measurement Temp	14.7	°C				A4500-H B	11/16/23 10:16 / eek		PHSC_101-H_231116A : 54		R190121
Conductivity @ 25 C	1430	umhos/cm		5		A2510 B	11/16/23 10:16 / eek		PHSC_101-H_231116A : 55		R190121
Solids, Total Dissolved TDS @ 180 C	1000	mg/L		20		A2540 C	11/16/23 13:21 / dpw		124 (14410200)_231116B : 34		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	270	mg/L		4		A2320 B	11/20/23 11:31 / dpw		PHSC_101-H_231120A : 38		R190210
Bicarbonate as HCO3	330	mg/L		4		A2320 B	11/20/23 11:31 / dpw		PHSC_101-H_231120A : 38		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 11:31 / dpw		PHSC_101-H_231120A : 38		R190210
Chloride	53	mg/L		1		E300.0	11/17/23 12:57 / SR		C METROHM_231116A : 107		R190187
Sulfate	412	mg/L		1		E300.0	11/17/23 12:57 / SR		C METROHM_231116A : 107		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 12:57 / SR		C METROHM_231116A : 107		R190187
Fluoride	6.4	mg/L	*	0.1		E300.0	11/17/23 12:57 / SR		C METROHM_231116A : 107		R190187
Hardness as CaCO3	516	mg/L		1		A2340 B	11/26/23 22:41 / SR		CALC_231128A : 663		R190371
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	6.6	mg/L		0.5		A5310 C	11/23/23 02:14 / eli-c		SUB-C301352 : 41		C_R301352
Organic Carbon, Total (TOC)	6.6	mg/L		0.5		A5310 C	11/22/23 18:38 / eli-c		SUB-C301352 : 18		C_R301352
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	1.63	mg/L		0.02		E353.2	11/20/23 16:53 / JAR		SEAL AA500_231120A : 80		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	0.045	mg/L		0.009		E200.8	11/17/23 05:03 / dck		ICPMS205-H_231116C : 57		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 05:03 / dck		ICPMS205-H_231116C : 57		R190627
Arsenic	1.21	mg/L		0.02		E200.7	11/26/23 22:41 / slj		ICP2-HE_231126B : 154		R190339
Barium	0.024	mg/L		0.003		E200.8	11/17/23 05:03 / dck		ICPMS205-H_231116C : 57		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 05:03 / dck		ICPMS205-H_231116C : 57		R190627
Boron	0.31	mg/L		0.05		E200.7	11/26/23 22:41 / slj		ICP2-HE_231126B : 154		R190339
Cadmium	0.00015	mg/L		0.00003		E200.8	11/17/23 05:03 / dck		ICPMS205-H_231116C : 57		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 19:56 / dck		ICPMS205-H_231116B : 78		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** \* - The result exceeds the Maximum Contaminant Level (MCL)

H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10A  
**Lab ID:** H23110571-024  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 11:03 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	137	mg/L		1		E200.7	11/26/23 22:41 / slj		ICP2-HE_231126B : 154		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 05:03 / dck		ICPMS205-H_231116C : 57		R190627
Cobalt	0.011	mg/L		0.005		E200.8	11/17/23 05:03 / dck		ICPMS205-H_231116C : 57		R190627
Copper	ND	mg/L		0.002		E200.8	11/17/23 05:03 / dck		ICPMS205-H_231116C : 57		R190627
Gallium	ND	mg/L		0.01		E200.8	11/16/23 19:56 / dck		ICPMS205-H_231116B : 78		R190225
Iron	53.4	mg/L		0.02		E200.7	11/26/23 22:41 / slj		ICP2-HE_231126B : 154		R190339
Lead	0.0064	mg/L		0.0003		E200.8	11/17/23 05:03 / dck		ICPMS205-H_231116C : 57		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 19:56 / dck		ICPMS205-H_231116B : 78		R190225
Lithium	ND	mg/L		0.1		E200.7	11/26/23 22:41 / slj		ICP2-HE_231126B : 154		R190339
Magnesium	42	mg/L		1		E200.7	11/26/23 22:41 / slj		ICP2-HE_231126B : 154		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 19:56 / dck		ICPMS205-H_231116B : 78		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 19:56 / dck		ICPMS205-H_231116B : 78		R190225
Manganese	12.7	mg/L		0.001		E200.7	11/26/23 22:41 / slj		ICP2-HE_231126B : 154		R190339
Molybdenum	0.010	mg/L		0.001		E200.8	11/17/23 05:03 / dck		ICPMS205-H_231116C : 57		R190627
Nickel	0.004	mg/L		0.002		E200.8	11/17/23 05:03 / dck		ICPMS205-H_231116C : 57		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 19:56 / dck		ICPMS205-H_231116B : 78		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 19:56 / dck		ICPMS205-H_231116B : 78		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 19:56 / dck		ICPMS205-H_231116B : 78		R190225
Potassium	15	mg/L		1		E200.7	11/26/23 22:41 / slj		ICP2-HE_231126B : 154		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 05:03 / dck		ICPMS205-H_231116C : 57		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 05:03 / dck		ICPMS205-H_231116C : 57		R190627
Sodium	68	mg/L		1		E200.7	11/26/23 22:41 / slj		ICP2-HE_231126B : 154		R190339
Strontium	0.66	mg/L		0.01		E200.8	11/17/23 05:03 / dck		ICPMS205-H_231116C : 57		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 05:03 / dck		ICPMS205-H_231116C : 57		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 15:11 / dck		ICPMS206-H_231228A : 71		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 05:03 / dck		ICPMS205-H_231116C : 57		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 05:03 / dck		ICPMS205-H_231116C : 57		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 19:56 / dck		ICPMS205-H_231116B : 78		R190225
Uranium	0.0105	mg/L		0.0002		E200.8	11/17/23 05:03 / dck		ICPMS205-H_231116C : 57		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 05:03 / dck		ICPMS205-H_231116C : 57		R190627
Zinc	3.84	mg/L		0.008		E200.8	11/17/23 05:03 / dck		ICPMS205-H_231116C : 57		R190627
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 19:56 / dck		ICPMS205-H_231116B : 78		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10A  
**Lab ID:** H23110571-024  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 11:03    **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	1.75	%				A1030 E	11/28/23 09:12 / SR		CALC_231128A : 661		R190371

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-05A  
**Lab ID:** H23110571-025  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 11:07 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.0	s.u.	H	0.1		A4500-H B	11/16/23 10:31 / eek		PHSC_101-H_231116A : 70		R190121
pH Measurement Temp	14.1	°C				A4500-H B	11/16/23 10:31 / eek		PHSC_101-H_231116A : 70		R190121
Conductivity @ 25 C	2040	umhos/cm		5		A2510 B	11/16/23 10:31 / eek		PHSC_101-H_231116A : 71		R190121
Solids, Total Dissolved TDS @ 180 C	1870	mg/L		50		A2540 C	11/16/23 13:22 / dpw		124 (14410200)_231116B : 35		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	44	mg/L		4		A2320 B	11/20/23 11:39 / dpw		PHSC_101-H_231120A : 40		R190210
Bicarbonate as HCO3	53	mg/L		4		A2320 B	11/20/23 11:39 / dpw		PHSC_101-H_231120A : 40		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 11:39 / dpw		PHSC_101-H_231120A : 40		R190210
Chloride	71	mg/L		1		E300.0	11/17/23 13:11 / SR		C METROHM_231116A : 108		R190187
Sulfate	1180	mg/L		1		E300.0	11/17/23 13:11 / SR		C METROHM_231116A : 108		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 13:11 / SR		C METROHM_231116A : 108		R190187
Fluoride	0.3	mg/L		0.1		E300.0	11/17/23 13:11 / SR		C METROHM_231116A : 108		R190187
Hardness as CaCO3	960	mg/L		1		A2340 B	11/26/23 22:44 / SR		CALC_231208A : 168		R190695
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.1	mg/L		0.5		A5310 C	11/23/23 03:05 / eli-c		SUB-C301352 : 43		C_R301352
Organic Carbon, Total (TOC)	1.2	mg/L		0.5		A5310 C	11/22/23 18:55 / eli-c		SUB-C301352 : 19		C_R301352
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.33	mg/L		0.01		E353.2	11/20/23 16:54 / JAR		SEAL AA500_231120A : 81		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	0.124	mg/L		0.009		E200.8	11/17/23 05:06 / dck		ICPMS205-H_231116C : 58		R190627
Antimony	0.0050	mg/L		0.0005		E200.8	11/17/23 05:06 / dck		ICPMS205-H_231116C : 58		R190627
Arsenic	0.012	mg/L		0.001		E200.8	11/17/23 05:06 / dck		ICPMS205-H_231116C : 58		R190627
Barium	0.024	mg/L		0.003		E200.8	11/17/23 05:06 / dck		ICPMS205-H_231116C : 58		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 05:06 / dck		ICPMS205-H_231116C : 58		R190627
Boron	0.12	mg/L		0.05		E200.7	11/26/23 22:44 / slj		ICP2-HE_231126B : 155		R190339
Cadmium	0.210	mg/L		0.00003		E200.8	11/17/23 05:06 / dck		ICPMS205-H_231116C : 58		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 19:59 / dck		ICPMS205-H_231116B : 79		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-05A  
**Lab ID:** H23110571-025  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 11:07 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	264	mg/L		1		E200.7	11/26/23 22:44 / slj		ICP2-HE_231126B : 155		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 05:06 / dck		ICPMS205-H_231116C : 58		R190627
Cobalt	0.396	mg/L		0.005		E200.8	11/17/23 05:06 / dck		ICPMS205-H_231116C : 58		R190627
Copper	0.840	mg/L		0.002		E200.8	11/17/23 05:06 / dck		ICPMS205-H_231116C : 58		R190627
Gallium	ND	mg/L		0.01		E200.8	11/16/23 19:59 / dck		ICPMS205-H_231116B : 79		R190225
Iron	3.49	mg/L		0.02		E200.7	11/26/23 22:44 / slj		ICP2-HE_231126B : 155		R190339
Lead	0.131	mg/L		0.0003		E200.8	11/17/23 05:06 / dck		ICPMS205-H_231116C : 58		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 19:59 / dck		ICPMS205-H_231116B : 79		R190225
Lithium	0.3	mg/L		0.1		E200.7	11/26/23 22:44 / slj		ICP2-HE_231126B : 155		R190339
Magnesium	73	mg/L		1		E200.7	11/26/23 22:44 / slj		ICP2-HE_231126B : 155		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 19:59 / dck		ICPMS205-H_231116B : 79		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 19:59 / dck		ICPMS205-H_231116B : 79		R190225
Manganese	64.5	mg/L		0.001		E200.7	11/26/23 22:44 / slj		ICP2-HE_231126B : 155		R190339
Molybdenum	0.010	mg/L		0.001		E200.8	11/17/23 05:06 / dck		ICPMS205-H_231116C : 58		R190627
Nickel	0.130	mg/L		0.002		E200.8	11/17/23 05:06 / dck		ICPMS205-H_231116C : 58		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 19:59 / dck		ICPMS205-H_231116B : 79		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 19:59 / dck		ICPMS205-H_231116B : 79		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 19:59 / dck		ICPMS205-H_231116B : 79		R190225
Potassium	10	mg/L		1		E200.7	11/26/23 22:44 / slj		ICP2-HE_231126B : 155		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 05:06 / dck		ICPMS205-H_231116C : 58		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 05:06 / dck		ICPMS205-H_231116C : 58		R190627
Sodium	54	mg/L		1		E200.7	01/02/24 21:25 / slj		ICP2-HE_240102A : 196		R191281
Strontium	1.44	mg/L		0.01		E200.7	11/26/23 22:44 / slj		ICP2-HE_231126B : 155		R190339
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 05:06 / dck		ICPMS205-H_231116C : 58		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 15:26 / dck		ICPMS206-H_231228A : 77		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 05:06 / dck		ICPMS205-H_231116C : 58		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 05:06 / dck		ICPMS205-H_231116C : 58		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 19:59 / dck		ICPMS205-H_231116B : 79		R190225
Uranium	0.0075	mg/L		0.0002		E200.8	11/17/23 05:06 / dck		ICPMS205-H_231116C : 58		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 05:06 / dck		ICPMS205-H_231116C : 58		R190627
Zinc	28.7	mg/L		0.01		E200.7	12/11/23 13:07 / slj		ICP2-HE_231211B : 59		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 19:59 / dck		ICPMS205-H_231116B : 79		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-05A  
**Lab ID:** H23110571-025  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 11:07      **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.95	%				A1030 E	12/08/23 15:50 / SR		CALC_231208A : 166		R190695

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10B  
**Lab ID:** H23110571-026  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 11:30 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.5	s.u.	H	0.1		A4500-H B	11/16/23 10:33 / eek		PHSC_101-H_231116A : 72		R190121
pH Measurement Temp	14.4	°C				A4500-H B	11/16/23 10:33 / eek		PHSC_101-H_231116A : 72		R190121
Conductivity @ 25 C	1170	umhos/cm		5		A2510 B	11/16/23 10:33 / eek		PHSC_101-H_231116A : 73		R190121
Solids, Total Dissolved TDS @ 180 C	900	mg/L		20		A2540 C	11/16/23 13:23 / dpw		124 (14410200)_231116B : 36		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	58	mg/L		4		A2320 B	11/20/23 11:45 / dpw		PHSC_101-H_231120A : 42		R190210
Bicarbonate as HCO3	70	mg/L		4		A2320 B	11/20/23 11:45 / dpw		PHSC_101-H_231120A : 42		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 11:45 / dpw		PHSC_101-H_231120A : 42		R190210
Chloride	23	mg/L		1		E300.0	11/17/23 13:26 / SR		C METROHM_231116A : 109		R190187
Sulfate	558	mg/L		1		E300.0	11/17/23 13:26 / SR		C METROHM_231116A : 109		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 13:26 / SR		C METROHM_231116A : 109		R190187
Fluoride	0.6	mg/L		0.1		E300.0	11/17/23 13:26 / SR		C METROHM_231116A : 109		R190187
Hardness as CaCO3	435	mg/L		1		A2340 B	11/26/23 22:48 / SR		CALC_231208A : 179		R190695
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	11/23/23 03:54 / eli-c		SUB-C301352 : 46		C_R301352
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	11/22/23 19:10 / eli-c		SUB-C301352 : 20		C_R301352
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.77	mg/L		0.01		E353.2	11/20/23 16:55 / JAR		SEAL AA500_231120A : 82		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 05:09 / dck		ICPMS205-H_231116C : 59		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 05:09 / dck		ICPMS205-H_231116C : 59		R190627
Arsenic	0.006	mg/L		0.001		E200.8	11/17/23 05:09 / dck		ICPMS205-H_231116C : 59		R190627
Barium	0.011	mg/L		0.003		E200.8	11/17/23 05:09 / dck		ICPMS205-H_231116C : 59		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 05:09 / dck		ICPMS205-H_231116C : 59		R190627
Boron	0.09	mg/L		0.05		E200.7	11/26/23 22:48 / slj		ICP2-HE_231126B : 156		R190339
Cadmium	0.00664	mg/L		0.00003		E200.8	11/17/23 05:09 / dck		ICPMS205-H_231116C : 59		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 20:02 / dck		ICPMS205-H_231116B : 80		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



**LABORATORY ANALYTICAL REPORT**

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10B  
**Lab ID:** H23110571-026  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 11:30 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	129	mg/L		1		E200.7	11/26/23 22:48 / slj		ICP2-HE_231126B : 156		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 05:09 / dck		ICPMS205-H_231116C : 59		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 05:09 / dck		ICPMS205-H_231116C : 59		R190627
Copper	0.155	mg/L		0.002		E200.8	11/17/23 05:09 / dck		ICPMS205-H_231116C : 59		R190627
Gallium	ND	mg/L		0.01		E200.8	11/16/23 20:02 / dck		ICPMS205-H_231116B : 80		R190225
Iron	ND	mg/L		0.02		E200.8	11/17/23 05:09 / dck		ICPMS205-H_231116C : 59		R190627
Lead	ND	mg/L		0.0003		E200.8	11/17/23 05:09 / dck		ICPMS205-H_231116C : 59		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 20:02 / dck		ICPMS205-H_231116B : 80		R190225
Lithium	0.2	mg/L		0.1		E200.7	11/26/23 22:48 / slj		ICP2-HE_231126B : 156		R190339
Magnesium	28	mg/L		1		E200.7	11/26/23 22:48 / slj		ICP2-HE_231126B : 156		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 20:02 / dck		ICPMS205-H_231116B : 80		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 20:02 / dck		ICPMS205-H_231116B : 80		R190225
Manganese	ND	mg/L		0.001		E200.8	12/28/23 18:58 / dck		ICPMS206-H_231228A : 131		R191217
Molybdenum	0.002	mg/L		0.001		E200.8	11/17/23 05:09 / dck		ICPMS205-H_231116C : 59		R190627
Nickel	0.004	mg/L		0.002		E200.8	11/17/23 05:09 / dck		ICPMS205-H_231116C : 59		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 20:02 / dck		ICPMS205-H_231116B : 80		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 20:02 / dck		ICPMS205-H_231116B : 80		R190225
Rubidium	0.02	mg/L		0.01		E200.8	11/16/23 20:02 / dck		ICPMS205-H_231116B : 80		R190225
Potassium	11	mg/L		1		E200.7	11/26/23 22:48 / slj		ICP2-HE_231126B : 156		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 05:09 / dck		ICPMS205-H_231116C : 59		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 05:09 / dck		ICPMS205-H_231116C : 59		R190627
Sodium	75	mg/L		1		E200.7	01/02/24 21:29 / slj		ICP2-HE_240102A : 197		R191281
Strontium	1.50	mg/L		0.01		E200.7	11/26/23 22:48 / slj		ICP2-HE_231126B : 156		R190339
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 05:09 / dck		ICPMS205-H_231116C : 59		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 15:28 / dck		ICPMS206-H_231228A : 78		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 05:09 / dck		ICPMS205-H_231116C : 59		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 05:09 / dck		ICPMS205-H_231116C : 59		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 20:02 / dck		ICPMS205-H_231116B : 80		R190225
Uranium	0.0013	mg/L		0.0002		E200.8	11/17/23 05:09 / dck		ICPMS205-H_231116C : 59		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 05:09 / dck		ICPMS205-H_231116C : 59		R190627
Zinc	1.07	mg/L		0.008		E200.8	11/17/23 05:09 / dck		ICPMS205-H_231116C : 59		R190627
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 20:02 / dck		ICPMS205-H_231116B : 80		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10B  
**Lab ID:** H23110571-026  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 11:30    **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-3.48	%				A1030 E	12/08/23 15:50 / SR		CALC_231208A : 177		R190695

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-05BR  
**Lab ID:** H23110571-027  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 11:33 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.3	s.u.	H	0.1		A4500-H B	11/16/23 10:35 / eek		PHSC_101-H_231116A : 74		R190121
pH Measurement Temp	14.5	°C				A4500-H B	11/16/23 10:35 / eek		PHSC_101-H_231116A : 74		R190121
Conductivity @ 25 C	3710	umhos/cm		5		A2510 B	11/16/23 10:35 / eek		PHSC_101-H_231116A : 75		R190121
Solids, Total Dissolved TDS @ 180 C	3860	mg/L		100		A2540 C	11/16/23 13:24 / dpw		124 (14410200)_231116B : 37		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	11/20/23 11:52 / dpw		PHSC_101-H_231120A : 44		R190210
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	11/20/23 11:52 / dpw		PHSC_101-H_231120A : 44		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 11:52 / dpw		PHSC_101-H_231120A : 44		R190210
Chloride	122	mg/L		1		E300.0	11/17/23 13:40 / SR		C METROHM_231116A : 110		R190187
Sulfate	2610	mg/L		1		E300.0	11/17/23 13:40 / SR		C METROHM_231116A : 110		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 13:40 / SR		C METROHM_231116A : 110		R190187
Fluoride	2.2	mg/L		0.1		E300.0	11/17/23 13:40 / SR		C METROHM_231116A : 110		R190187
Hardness as CaCO3	1520	mg/L		1		A2340 B	11/26/23 23:03 / SR		CALC_231208A : 190		R190695
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.1	mg/L		0.5		A5310 C	11/23/23 04:16 / eli-c		SUB-C301352 : 47		C_R301352
Organic Carbon, Total (TOC)	1.1	mg/L		0.5		A5310 C	11/22/23 19:33 / eli-c		SUB-C301352 : 21		C_R301352
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.04	mg/L		0.01		E353.2	11/20/23 16:56 / JAR		SEAL AA500_231120A : 83		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	3.37	mg/L		0.06		E200.7	11/26/23 23:03 / slj		ICP2-HE_231126B : 160		R190339
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 05:13 / dck		ICPMS205-H_231116C : 60		R190627
Arsenic	0.001	mg/L		0.001		E200.8	11/17/23 05:13 / dck		ICPMS205-H_231116C : 60		R190627
Barium	0.018	mg/L		0.003		E200.8	11/17/23 05:13 / dck		ICPMS205-H_231116C : 60		R190627
Beryllium	0.0102	mg/L		0.0008		E200.8	11/17/23 05:13 / dck		ICPMS205-H_231116C : 60		R190627
Boron	0.14	mg/L		0.05		E200.7	11/26/23 23:03 / slj		ICP2-HE_231126B : 160		R190339
Cadmium	0.706	mg/L		0.00003		E200.8	11/17/23 05:13 / dck		ICPMS205-H_231116C : 60		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 20:05 / dck		ICPMS205-H_231116B : 81		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-05BR  
**Lab ID:** H23110571-027  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 11:33 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	389	mg/L		1		E200.7	11/26/23 23:03 / slj		ICP2-HE_231126B : 160		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 05:13 / dck		ICPMS205-H_231116C : 60		R190627
Cobalt	1.64	mg/L		0.005		E200.8	11/17/23 05:13 / dck		ICPMS205-H_231116C : 60		R190627
Copper	28.4	mg/L		0.02		E200.7	11/26/23 23:03 / slj		ICP2-HE_231126B : 160		R190339
Gallium	ND	mg/L		0.01		E200.8	11/16/23 20:05 / dck		ICPMS205-H_231116B : 81		R190225
Iron	55.8	mg/L		0.02		E200.7	11/26/23 23:03 / slj		ICP2-HE_231126B : 160		R190339
Lead	0.0100	mg/L		0.0003		E200.8	11/17/23 05:13 / dck		ICPMS205-H_231116C : 60		R190627
Lanthanum	0.03	mg/L		0.01		E200.8	11/16/23 20:05 / dck		ICPMS205-H_231116B : 81		R190225
Lithium	0.6	mg/L		0.1		E200.7	11/26/23 23:03 / slj		ICP2-HE_231126B : 160		R190339
Magnesium	133	mg/L		1		E200.7	11/26/23 23:03 / slj		ICP2-HE_231126B : 160		R190339
Neodymium	0.033	mg/L		0.005		E200.8	11/16/23 20:05 / dck		ICPMS205-H_231116B : 81		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 20:05 / dck		ICPMS205-H_231116B : 81		R190225
Manganese	193	mg/L		0.003		E200.7	11/26/23 23:03 / slj		ICP2-HE_231126B : 160		R190339
Molybdenum	ND	mg/L		0.001		E200.8	11/17/23 05:13 / dck		ICPMS205-H_231116C : 60		R190627
Nickel	0.434	mg/L		0.002		E200.8	11/17/23 05:13 / dck		ICPMS205-H_231116C : 60		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 20:05 / dck		ICPMS205-H_231116B : 81		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 20:05 / dck		ICPMS205-H_231116B : 81		R190225
Rubidium	0.01	mg/L		0.01		E200.8	11/16/23 20:05 / dck		ICPMS205-H_231116B : 81		R190225
Potassium	21	mg/L		1		E200.7	01/02/24 21:33 / slj		ICP2-HE_240102A : 198		R191281
Selenium	ND	mg/L		0.001		E200.8	11/17/23 05:13 / dck		ICPMS205-H_231116C : 60		R190627
Silver	0.0002	mg/L		0.0002		E200.8	11/17/23 05:13 / dck		ICPMS205-H_231116C : 60		R190627
Sodium	90	mg/L		1		E200.7	01/02/24 21:33 / slj		ICP2-HE_240102A : 198		R191281
Strontium	3.15	mg/L		0.01		E200.7	11/26/23 23:03 / slj		ICP2-HE_231126B : 160		R190339
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 05:13 / dck		ICPMS205-H_231116C : 60		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 17:02 / dck		ICPMS206-H_231228A : 116		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 05:13 / dck		ICPMS205-H_231116C : 60		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 05:13 / dck		ICPMS205-H_231116C : 60		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 20:05 / dck		ICPMS205-H_231116B : 81		R190225
Uranium	0.0093	mg/L		0.0002		E200.8	11/17/23 05:13 / dck		ICPMS205-H_231116C : 60		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 05:13 / dck		ICPMS205-H_231116C : 60		R190627
Zinc	155	mg/L		0.03		E200.7	12/11/23 13:11 / slj		ICP2-HE_231211B : 60		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 20:05 / dck		ICPMS205-H_231116B : 81		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-05BR  
**Lab ID:** H23110571-027  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 11:33      **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-13.6	%				A1030 E	12/08/23 15:51 / SR		CALC_231208A : 188		R190695

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10C  
**Lab ID:** H23110571-028  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 12:08 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.7	s.u.	H	0.1		A4500-H B	11/16/23 10:37 / eek		PHSC_101-H_231116A : 76		R190121
pH Measurement Temp	15.5	°C				A4500-H B	11/16/23 10:37 / eek		PHSC_101-H_231116A : 76		R190121
Conductivity @ 25 C	1040	umhos/cm		5		A2510 B	11/16/23 10:37 / eek		PHSC_101-H_231116A : 77		R190121
Solids, Total Dissolved TDS @ 180 C	801	mg/L		20		A2540 C	11/16/23 13:24 / dpw		124 (14410200)_231116B : 38		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	69	mg/L		4		A2320 B	11/20/23 11:56 / dpw		PHSC_101-H_231120A : 46		R190210
Bicarbonate as HCO3	84	mg/L		4		A2320 B	11/20/23 11:56 / dpw		PHSC_101-H_231120A : 46		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 11:56 / dpw		PHSC_101-H_231120A : 46		R190210
Chloride	12	mg/L		1		E300.0	11/17/23 13:54 / SR		C METROHM_231116A : 111		R190187
Sulfate	487	mg/L		1		E300.0	11/17/23 13:54 / SR		C METROHM_231116A : 111		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 13:54 / SR		C METROHM_231116A : 111		R190187
Fluoride	0.6	mg/L		0.1		E300.0	11/17/23 13:54 / SR		C METROHM_231116A : 111		R190187
Hardness as CaCO3	394	mg/L		1		A2340 B	11/26/23 23:07 / SR		CALC_231208A : 201		R190695
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	11/23/23 04:38 / eli-c		SUB-C301352 : 48		C_R301352
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	11/22/23 19:55 / eli-c		SUB-C301352 : 22		C_R301352
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.18	mg/L		0.01		E353.2	11/20/23 16:59 / JAR		SEAL AA500_231120A : 86		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 05:16 / dck		ICPMS205-H_231116C : 61		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 05:16 / dck		ICPMS205-H_231116C : 61		R190627
Arsenic	0.003	mg/L		0.001		E200.8	11/17/23 05:16 / dck		ICPMS205-H_231116C : 61		R190627
Barium	0.011	mg/L		0.003		E200.8	11/17/23 05:16 / dck		ICPMS205-H_231116C : 61		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 05:16 / dck		ICPMS205-H_231116C : 61		R190627
Boron	0.08	mg/L		0.05		E200.7	11/26/23 23:07 / slj		ICP2-HE_231126B : 161		R190339
Cadmium	0.00208	mg/L		0.00003		E200.8	11/17/23 05:16 / dck		ICPMS205-H_231116C : 61		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 20:08 / dck		ICPMS205-H_231116B : 82		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10C  
**Lab ID:** H23110571-028  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 12:08 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	117	mg/L		1		E200.7	11/26/23 23:07 / slj		ICP2-HE_231126B : 161		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 05:16 / dck		ICPMS205-H_231116C : 61		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 05:16 / dck		ICPMS205-H_231116C : 61		R190627
Copper	0.005	mg/L		0.002		E200.8	11/17/23 05:16 / dck		ICPMS205-H_231116C : 61		R190627
Gallium	ND	mg/L		0.01		E200.8	11/16/23 20:08 / dck		ICPMS205-H_231116B : 82		R190225
Iron	ND	mg/L		0.02		E200.8	11/17/23 05:16 / dck		ICPMS205-H_231116C : 61		R190627
Lead	ND	mg/L		0.0003		E200.8	11/17/23 05:16 / dck		ICPMS205-H_231116C : 61		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 20:08 / dck		ICPMS205-H_231116B : 82		R190225
Lithium	0.2	mg/L		0.1		E200.7	11/26/23 23:07 / slj		ICP2-HE_231126B : 161		R190339
Magnesium	25	mg/L		1		E200.7	11/26/23 23:07 / slj		ICP2-HE_231126B : 161		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 20:08 / dck		ICPMS205-H_231116B : 82		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 20:08 / dck		ICPMS205-H_231116B : 82		R190225
Manganese	ND	mg/L		0.001		E200.8	12/28/23 19:00 / dck		ICPMS206-H_231228A : 132		R191217
Molybdenum	0.010	mg/L		0.001		E200.8	11/17/23 05:16 / dck		ICPMS205-H_231116C : 61		R190627
Nickel	ND	mg/L		0.002		E200.8	11/17/23 05:16 / dck		ICPMS205-H_231116C : 61		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 20:08 / dck		ICPMS205-H_231116B : 82		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 20:08 / dck		ICPMS205-H_231116B : 82		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 20:08 / dck		ICPMS205-H_231116B : 82		R190225
Potassium	9	mg/L		1		E200.7	11/26/23 23:07 / slj		ICP2-HE_231126B : 161		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 05:16 / dck		ICPMS205-H_231116C : 61		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 05:16 / dck		ICPMS205-H_231116C : 61		R190627
Sodium	63	mg/L		1		E200.7	01/02/24 21:37 / slj		ICP2-HE_240102A : 199		R191281
Strontium	1.22	mg/L		0.01		E200.7	11/26/23 23:07 / slj		ICP2-HE_231126B : 161		R190339
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 05:16 / dck		ICPMS205-H_231116C : 61		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 15:30 / dck		ICPMS206-H_231228A : 79		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 05:16 / dck		ICPMS205-H_231116C : 61		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 05:16 / dck		ICPMS205-H_231116C : 61		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 20:08 / dck		ICPMS205-H_231116B : 82		R190225
Uranium	0.0024	mg/L		0.0002		E200.8	11/17/23 05:16 / dck		ICPMS205-H_231116C : 61		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 05:16 / dck		ICPMS205-H_231116C : 61		R190627
Zinc	0.175	mg/L		0.008		E200.8	11/17/23 05:16 / dck		ICPMS205-H_231116C : 61		R190627
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 20:08 / dck		ICPMS205-H_231116B : 82		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-10C  
**Lab ID:** H23110571-028  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 12:08    **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-2.57	%				A1030 E	12/08/23 15:52 / SR		CALC_231208A : 199		R190695

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13A  
**Lab ID:** H23110571-029  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 12:25 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.8	s.u.	H	0.1		A4500-H B	11/16/23 10:55 / eek		PHSC_101-H_231116A : 94		R190121
pH Measurement Temp	16.3	°C				A4500-H B	11/16/23 10:55 / eek		PHSC_101-H_231116A : 94		R190121
Conductivity @ 25 C	1240	umhos/cm		5		A2510 B	11/16/23 10:55 / eek		PHSC_101-H_231116A : 95		R190121
Solids, Total Dissolved TDS @ 180 C	933	mg/L		20		A2540 C	11/16/23 13:25 / dpw		124 (14410200)_231116B : 39		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	350	mg/L		4		A2320 B	11/20/23 12:02 / dpw		PHSC_101-H_231120A : 48		R190210
Bicarbonate as HCO3	420	mg/L		4		A2320 B	11/20/23 12:02 / dpw		PHSC_101-H_231120A : 48		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 12:02 / dpw		PHSC_101-H_231120A : 48		R190210
Chloride	10	mg/L		1		E300.0	11/17/23 14:09 / SR		C METROHM_231116A : 112		R190187
Sulfate	385	mg/L		1		E300.0	11/17/23 14:09 / SR		C METROHM_231116A : 112		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 14:09 / SR		C METROHM_231116A : 112		R190187
Fluoride	0.3	mg/L		0.1		E300.0	11/17/23 14:09 / SR		C METROHM_231116A : 112		R190187
Hardness as CaCO3	675	mg/L		1		A2340 B	11/26/23 23:10 / SR		CALC_231128A : 465		R190371
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	5.6	mg/L		0.5		A5310 C	11/23/23 04:59 / eli-c		SUB-C301352 : 49		C_R301352
Organic Carbon, Total (TOC)	5.0	mg/L		0.5		A5310 C	11/22/23 20:16 / eli-c		SUB-C301352 : 23		C_R301352
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.01	mg/L		0.01		E353.2	11/20/23 17:02 / JAR		SEAL AA500_231120A : 89		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 05:19 / dck		ICPMS205-H_231116C : 62		R190627
Antimony	0.0011	mg/L		0.0005		E200.8	11/17/23 05:19 / dck		ICPMS205-H_231116C : 62		R190627
Arsenic	0.003	mg/L		0.001		E200.8	11/17/23 05:19 / dck		ICPMS205-H_231116C : 62		R190627
Barium	0.102	mg/L		0.003		E200.8	11/17/23 05:19 / dck		ICPMS205-H_231116C : 62		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 05:19 / dck		ICPMS205-H_231116C : 62		R190627
Boron	0.51	mg/L		0.05		E200.7	11/26/23 23:10 / slj		ICP2-HE_231126B : 162		R190339
Cadmium	0.00399	mg/L		0.00003		E200.8	11/17/23 05:19 / dck		ICPMS205-H_231116C : 62		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 20:11 / dck		ICPMS205-H_231116B : 83		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13A  
**Lab ID:** H23110571-029  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 12:25 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	233	mg/L		1		E200.7	11/26/23 23:10 / slj		ICP2-HE_231126B : 162		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 05:19 / dck		ICPMS205-H_231116C : 62		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 05:19 / dck		ICPMS205-H_231116C : 62		R190627
Copper	0.021	mg/L		0.002		E200.8	11/17/23 05:19 / dck		ICPMS205-H_231116C : 62		R190627
Gallium	ND	mg/L		0.01		E200.8	11/16/23 20:11 / dck		ICPMS205-H_231116B : 83		R190225
Iron	2.13	mg/L		0.02		E200.7	11/26/23 23:10 / slj		ICP2-HE_231126B : 162		R190339
Lead	ND	mg/L		0.0003		E200.8	11/17/23 05:19 / dck		ICPMS205-H_231116C : 62		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 20:11 / dck		ICPMS205-H_231116B : 83		R190225
Lithium	ND	mg/L		0.1		E200.7	11/26/23 23:10 / slj		ICP2-HE_231126B : 162		R190339
Magnesium	23	mg/L		1		E200.7	11/26/23 23:10 / slj		ICP2-HE_231126B : 162		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 20:11 / dck		ICPMS205-H_231116B : 83		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 20:11 / dck		ICPMS205-H_231116B : 83		R190225
Manganese	0.667	mg/L		0.001		E200.8	11/17/23 05:19 / dck		ICPMS205-H_231116C : 62		R190627
Molybdenum	0.002	mg/L		0.001		E200.8	11/17/23 05:19 / dck		ICPMS205-H_231116C : 62		R190627
Nickel	0.005	mg/L		0.002		E200.8	11/17/23 05:19 / dck		ICPMS205-H_231116C : 62		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 20:11 / dck		ICPMS205-H_231116B : 83		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 20:11 / dck		ICPMS205-H_231116B : 83		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 20:11 / dck		ICPMS205-H_231116B : 83		R190225
Potassium	16	mg/L		1		E200.7	11/26/23 23:10 / slj		ICP2-HE_231126B : 162		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 05:19 / dck		ICPMS205-H_231116C : 62		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 05:19 / dck		ICPMS205-H_231116C : 62		R190627
Sodium	24	mg/L		1		E200.7	01/02/24 21:41 / slj		ICP2-HE_240102A : 200		R191281
Strontium	1.32	mg/L		0.01		E200.7	11/26/23 23:10 / slj		ICP2-HE_231126B : 162		R190339
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 05:19 / dck		ICPMS205-H_231116C : 62		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 15:32 / dck		ICPMS206-H_231228A : 80		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 05:19 / dck		ICPMS205-H_231116C : 62		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 05:19 / dck		ICPMS205-H_231116C : 62		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 20:11 / dck		ICPMS205-H_231116B : 83		R190225
Uranium	0.0027	mg/L		0.0002		E200.8	11/17/23 05:19 / dck		ICPMS205-H_231116C : 62		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 05:19 / dck		ICPMS205-H_231116C : 62		R190627
Zinc	0.907	mg/L		0.008		E200.8	11/17/23 05:19 / dck		ICPMS205-H_231116C : 62		R190627
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 20:11 / dck		ICPMS205-H_231116B : 83		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-13A  
**Lab ID:** H23110571-029  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 12:25      **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.09	%				A1030 E	11/28/23 08:11 / SR		CALC_231128A : 463		R190371

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-17C  
**Lab ID:** H23110571-030  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 13:39 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.4	s.u.	H	0.1		A4500-H B	11/16/23 10:39 / eek		PHSC_101-H_231116A : 78		R190121
pH Measurement Temp	15.1	°C				A4500-H B	11/16/23 10:39 / eek		PHSC_101-H_231116A : 78		R190121
Conductivity @ 25 C	2110	umhos/cm		5		A2510 B	11/16/23 10:39 / eek		PHSC_101-H_231116A : 79		R190121
Solids, Total Dissolved TDS @ 180 C	1850	mg/L		50		A2540 C	11/16/23 13:25 / dpw		124 (14410200)_231116B : 40		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	150	mg/L		4		A2320 B	11/20/23 13:53 / dpw		PHSC_101-H_231120A : 93		R190210
Bicarbonate as HCO3	190	mg/L		4		A2320 B	11/20/23 13:53 / dpw		PHSC_101-H_231120A : 93		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 13:53 / dpw		PHSC_101-H_231120A : 93		R190210
Chloride	48	mg/L		1		E300.0	11/17/23 14:23 / SR		C METROHM_231116A : 113		R190187
Sulfate	1120	mg/L		1		E300.0	11/17/23 14:23 / SR		C METROHM_231116A : 113		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 14:23 / SR		C METROHM_231116A : 113		R190187
Fluoride	0.5	mg/L		0.1		E300.0	11/17/23 14:23 / SR		C METROHM_231116A : 113		R190187
Hardness as CaCO3	1150	mg/L		1		A2340 B	11/26/23 23:22 / SR		CALC_231208A : 212		R190695
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.2	mg/L		0.5		A5310 C	11/23/23 05:15 / eli-c		SUB-C301352 : 50		C_R301352
Organic Carbon, Total (TOC)	1.2	mg/L		0.5		A5310 C	11/22/23 20:32 / eli-c		SUB-C301352 : 24		C_R301352
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	10.1	mg/L		0.1		E353.2	11/20/23 17:05 / JAR		SEAL AA500_231120A : 92		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 05:22 / dck		ICPMS205-H_231116C : 63		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 05:22 / dck		ICPMS205-H_231116C : 63		R190627
Arsenic	0.005	mg/L		0.001		E200.8	11/17/23 05:22 / dck		ICPMS205-H_231116C : 63		R190627
Barium	0.015	mg/L		0.003		E200.8	11/17/23 05:22 / dck		ICPMS205-H_231116C : 63		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 05:22 / dck		ICPMS205-H_231116C : 63		R190627
Boron	0.19	mg/L		0.05		E200.7	11/26/23 23:22 / slj		ICP2-HE_231126B : 165		R190339
Cadmium	0.00982	mg/L		0.00003		E200.8	11/17/23 05:22 / dck		ICPMS205-H_231116C : 63		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 20:14 / dck		ICPMS205-H_231116B : 84		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-17C  
**Lab ID:** H23110571-030  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 13:39 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	312	mg/L		1		E200.7	11/26/23 23:22 / slj		ICP2-HE_231126B : 165		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 05:22 / dck		ICPMS205-H_231116C : 63		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 05:22 / dck		ICPMS205-H_231116C : 63		R190627
Copper	0.562	mg/L		0.002		E200.8	11/17/23 05:22 / dck		ICPMS205-H_231116C : 63		R190627
Gallium	ND	mg/L		0.01		E200.8	11/16/23 20:14 / dck		ICPMS205-H_231116B : 84		R190225
Iron	ND	mg/L		0.02		E200.8	11/17/23 05:22 / dck		ICPMS205-H_231116C : 63		R190627
Lead	ND	mg/L		0.0003		E200.8	11/17/23 05:22 / dck		ICPMS205-H_231116C : 63		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 20:14 / dck		ICPMS205-H_231116B : 84		R190225
Lithium	0.3	mg/L		0.1		E200.7	11/26/23 23:22 / slj		ICP2-HE_231126B : 165		R190339
Magnesium	81	mg/L		1		E200.7	01/02/24 21:44 / slj		ICP2-HE_240102A : 201		R191281
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 20:14 / dck		ICPMS205-H_231116B : 84		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 20:14 / dck		ICPMS205-H_231116B : 84		R190225
Manganese	0.008	mg/L		0.001		E200.8	11/17/23 05:22 / dck		ICPMS205-H_231116C : 63		R190627
Molybdenum	0.001	mg/L		0.001		E200.8	11/17/23 05:22 / dck		ICPMS205-H_231116C : 63		R190627
Nickel	0.008	mg/L		0.002		E200.8	11/17/23 05:22 / dck		ICPMS205-H_231116C : 63		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 20:14 / dck		ICPMS205-H_231116B : 84		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 20:14 / dck		ICPMS205-H_231116B : 84		R190225
Rubidium	0.03	mg/L		0.01		E200.8	11/16/23 20:14 / dck		ICPMS205-H_231116B : 84		R190225
Potassium	13	mg/L		1		E200.7	11/26/23 23:22 / slj		ICP2-HE_231126B : 165		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 05:22 / dck		ICPMS205-H_231116C : 63		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 05:22 / dck		ICPMS205-H_231116C : 63		R190627
Sodium	61	mg/L		1		E200.7	01/02/24 21:44 / slj		ICP2-HE_240102A : 201		R191281
Strontium	3.25	mg/L		0.01		E200.7	11/26/23 23:22 / slj		ICP2-HE_231126B : 165		R190339
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 05:22 / dck		ICPMS205-H_231116C : 63		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 15:35 / dck		ICPMS206-H_231228A : 81		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 05:22 / dck		ICPMS205-H_231116C : 63		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 05:22 / dck		ICPMS205-H_231116C : 63		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 20:14 / dck		ICPMS205-H_231116B : 84		R190225
Uranium	0.0223	mg/L		0.0002		E200.8	11/17/23 05:22 / dck		ICPMS205-H_231116C : 63		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 05:22 / dck		ICPMS205-H_231116C : 63		R190627
Zinc	1.74	mg/L		0.008		E200.8	11/17/23 05:22 / dck		ICPMS205-H_231116C : 63		R190627
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 20:14 / dck		ICPMS205-H_231116B : 84		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-17C  
**Lab ID:** H23110571-030  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 13:39    **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.37	%				A1030 E	12/08/23 15:53 / SR		CALC_231208A : 210		R190695

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-28  
**Lab ID:** H23110571-031  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 14:00 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.9	s.u.	H	0.1		A4500-H B	11/16/23 11:10 / eek		PHSC_101-H_231116A : 101		R190121
pH Measurement Temp	16.0	°C				A4500-H B	11/16/23 11:10 / eek		PHSC_101-H_231116A : 101		R190121
Conductivity @ 25 C	487	umhos/cm		5		A2510 B	11/16/23 11:10 / eek		PHSC_101-H_231116A : 102		R190121
Solids, Total Dissolved TDS @ 180 C	304	mg/L		20		A2540 C	11/16/23 13:25 / dpw		I24 (14410200)_231116B : 41		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	240	mg/L		4		A2320 B	11/20/23 14:00 / dpw		PHSC_101-H_231120A : 95		R190210
Bicarbonate as HCO3	300	mg/L		4		A2320 B	11/20/23 14:00 / dpw		PHSC_101-H_231120A : 95		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 14:00 / dpw		PHSC_101-H_231120A : 95		R190210
Chloride	10	mg/L		1		E300.0	11/17/23 14:37 / SR		C METROHM_231116A : 114		R190187
Sulfate	3	mg/L		1		E300.0	11/17/23 14:37 / SR		C METROHM_231116A : 114		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 14:37 / SR		C METROHM_231116A : 114		R190187
Fluoride	0.5	mg/L		0.1		E300.0	11/17/23 14:37 / SR		C METROHM_231116A : 114		R190187
Hardness as CaCO3	205	mg/L		1		A2340 B	11/26/23 23:25 / SR		CALC_231128A : 476		R190371
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.5	mg/L		0.5		A5310 C	11/23/23 05:35 / eli-c		SUB-C301352 : 51		C_R301352
Organic Carbon, Total (TOC)	2.3	mg/L		0.5		A5310 C	11/22/23 20:53 / eli-c		SUB-C301352 : 25		C_R301352
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	11/20/23 17:06 / JAR		SEAL AA500_231120A : 93		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 05:42 / dck		ICPMS205-H_231116C : 69		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 05:42 / dck		ICPMS205-H_231116C : 69		R190627
Arsenic	0.006	mg/L		0.001		E200.8	11/17/23 05:42 / dck		ICPMS205-H_231116C : 69		R190627
Barium	0.087	mg/L		0.003		E200.8	11/17/23 05:42 / dck		ICPMS205-H_231116C : 69		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 05:42 / dck		ICPMS205-H_231116C : 69		R190627
Boron	0.05	mg/L		0.05		E200.7	11/26/23 23:25 / slj		ICP2-HE_231126B : 166		R190339
Cadmium	ND	mg/L		0.00003		E200.8	11/17/23 05:42 / dck		ICPMS205-H_231116C : 69		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 20:50 / dck		ICPMS205-H_231116B : 90		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-28  
**Lab ID:** H23110571-031  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 14:00 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	58	mg/L		1		E200.7	11/26/23 23:25 / slj		ICP2-HE_231126B : 166		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 05:42 / dck		ICPMS205-H_231116C : 69		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 05:42 / dck		ICPMS205-H_231116C : 69		R190627
Copper	ND	mg/L		0.002		E200.8	11/17/23 05:42 / dck		ICPMS205-H_231116C : 69		R190627
Gallium	ND	mg/L		0.01		E200.8	11/16/23 20:50 / dck		ICPMS205-H_231116B : 90		R190225
Iron	7.00	mg/L		0.02		E200.7	11/26/23 23:25 / slj		ICP2-HE_231126B : 166		R190339
Lead	ND	mg/L		0.0003		E200.8	11/17/23 05:42 / dck		ICPMS205-H_231116C : 69		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 20:50 / dck		ICPMS205-H_231116B : 90		R190225
Lithium	ND	mg/L		0.1		E200.7	11/26/23 23:25 / slj		ICP2-HE_231126B : 166		R190339
Magnesium	15	mg/L		1		E200.7	11/26/23 23:25 / slj		ICP2-HE_231126B : 166		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 20:50 / dck		ICPMS205-H_231116B : 90		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 20:50 / dck		ICPMS205-H_231116B : 90		R190225
Manganese	0.420	mg/L		0.001		E200.8	11/17/23 05:42 / dck		ICPMS205-H_231116C : 69		R190627
Molybdenum	0.006	mg/L		0.001		E200.8	11/17/23 05:42 / dck		ICPMS205-H_231116C : 69		R190627
Nickel	ND	mg/L		0.002		E200.8	11/17/23 05:42 / dck		ICPMS205-H_231116C : 69		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 20:50 / dck		ICPMS205-H_231116B : 90		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 20:50 / dck		ICPMS205-H_231116B : 90		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 20:50 / dck		ICPMS205-H_231116B : 90		R190225
Potassium	5	mg/L		1		E200.7	11/26/23 23:25 / slj		ICP2-HE_231126B : 166		R190339
Selenium	0.001	mg/L		0.001		E200.8	11/17/23 05:42 / dck		ICPMS205-H_231116C : 69		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 05:42 / dck		ICPMS205-H_231116C : 69		R190627
Sodium	25	mg/L		1		E200.7	11/26/23 23:25 / slj		ICP2-HE_231126B : 166		R190339
Strontium	0.40	mg/L		0.01		E200.8	11/17/23 05:42 / dck		ICPMS205-H_231116C : 69		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 05:42 / dck		ICPMS205-H_231116C : 69		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 14:17 / dck		ICPMS206-H_231228A : 49		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 05:42 / dck		ICPMS205-H_231116C : 69		R190627
Titanium	ND	mg/L		0.005		E200.8	12/28/23 14:17 / dck		ICPMS206-H_231228A : 49		R191217
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 20:50 / dck		ICPMS205-H_231116B : 90		R190225
Uranium	0.0034	mg/L		0.0002		E200.8	11/17/23 05:42 / dck		ICPMS205-H_231116C : 69		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 05:42 / dck		ICPMS205-H_231116C : 69		R190627
Zinc	0.009	mg/L		0.008		E200.8	11/17/23 05:42 / dck		ICPMS205-H_231116C : 69		R190627
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 20:50 / dck		ICPMS205-H_231116B : 90		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-28  
**Lab ID:** H23110571-031  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 14:00    **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	0.64	%				A1030 E	11/28/23 08:12 / SR		CALC_231128A : 474		R190371

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-07  
**Lab ID:** H23110571-032  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 14:25 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.4	s.u.	H	0.1		A4500-H B	11/16/23 10:41 / eek		PHSC_101-H_231116A : 80		R190121
pH Measurement Temp	15.2	°C				A4500-H B	11/16/23 10:41 / eek		PHSC_101-H_231116A : 80		R190121
Conductivity @ 25 C	1650	umhos/cm		5		A2510 B	11/16/23 10:41 / eek		PHSC_101-H_231116A : 81		R190121
Solids, Total Dissolved TDS @ 180 C	1180	mg/L		20		A2540 C	11/16/23 13:26 / dpw		124 (14410200)_231116B : 42		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	240	mg/L		4		A2320 B	11/20/23 14:08 / dpw		PHSC_101-H_231120A : 97		R190210
Bicarbonate as HCO3	290	mg/L		4		A2320 B	11/20/23 14:08 / dpw		PHSC_101-H_231120A : 97		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 14:08 / dpw		PHSC_101-H_231120A : 97		R190210
Chloride	191	mg/L		1		E300.0	11/17/23 14:52 / SR		C METROHM_231116A : 115		R190187
Sulfate	413	mg/L		1		E300.0	11/17/23 14:52 / SR		C METROHM_231116A : 115		R190187
Bromide	0.5	mg/L		0.5		E300.0	11/17/23 14:52 / SR		C METROHM_231116A : 115		R190187
Fluoride	0.8	mg/L		0.1		E300.0	11/17/23 14:52 / SR		C METROHM_231116A : 115		R190187
Hardness as CaCO3	636	mg/L		1		A2340 B	11/26/23 23:29 / SR		CALC_231128A : 674		R190371
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.9	mg/L		0.5		A5310 C	11/23/23 05:53 / eli-c		SUB-C301352 : 52		C_R301352
Organic Carbon, Total (TOC)	2.8	mg/L		0.5		A5310 C	11/22/23 21:11 / eli-c		SUB-C301352 : 26		C_R301352
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	4.10	mg/L		0.05		E353.2	11/20/23 17:07 / JAR		SEAL AA500_231120A : 94		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 05:45 / dck		ICPMS205-H_231116C : 70		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 05:45 / dck		ICPMS205-H_231116C : 70		R190627
Arsenic	0.004	mg/L		0.001		E200.8	11/17/23 05:45 / dck		ICPMS205-H_231116C : 70		R190627
Barium	0.032	mg/L		0.003		E200.8	11/17/23 05:45 / dck		ICPMS205-H_231116C : 70		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 05:45 / dck		ICPMS205-H_231116C : 70		R190627
Boron	0.65	mg/L		0.05		E200.7	11/26/23 23:29 / slj		ICP2-HE_231126B : 167		R190339
Cadmium	0.0243	mg/L		0.00003		E200.8	11/17/23 05:45 / dck		ICPMS205-H_231116C : 70		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 20:53 / dck		ICPMS205-H_231116B : 91		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-07  
**Lab ID:** H23110571-032  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 14:25 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	175	mg/L		1		E200.7	11/26/23 23:29 / slj		ICP2-HE_231126B : 167		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 05:45 / dck		ICPMS205-H_231116C : 70		R190627
Cobalt	0.009	mg/L		0.005		E200.8	11/17/23 05:45 / dck		ICPMS205-H_231116C : 70		R190627
Copper	0.087	mg/L		0.002		E200.8	11/17/23 05:45 / dck		ICPMS205-H_231116C : 70		R190627
Gallium	ND	mg/L		0.01		E200.8	11/16/23 20:53 / dck		ICPMS205-H_231116B : 91		R190225
Iron	0.03	mg/L		0.02		E200.8	11/17/23 05:45 / dck		ICPMS205-H_231116C : 70		R190627
Lead	ND	mg/L		0.0003		E200.8	11/17/23 05:45 / dck		ICPMS205-H_231116C : 70		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 20:53 / dck		ICPMS205-H_231116B : 91		R190225
Lithium	0.1	mg/L		0.1		E200.7	11/26/23 23:29 / slj		ICP2-HE_231126B : 167		R190339
Magnesium	48	mg/L		1		E200.7	11/26/23 23:29 / slj		ICP2-HE_231126B : 167		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 20:53 / dck		ICPMS205-H_231116B : 91		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 20:53 / dck		ICPMS205-H_231116B : 91		R190225
Manganese	33.8	mg/L		0.001		E200.7	11/26/23 23:29 / slj		ICP2-HE_231126B : 167		R190339
Molybdenum	0.020	mg/L		0.001		E200.8	11/17/23 05:45 / dck		ICPMS205-H_231116C : 70		R190627
Nickel	0.052	mg/L		0.002		E200.8	11/17/23 05:45 / dck		ICPMS205-H_231116C : 70		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 20:53 / dck		ICPMS205-H_231116B : 91		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 20:53 / dck		ICPMS205-H_231116B : 91		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 20:53 / dck		ICPMS205-H_231116B : 91		R190225
Potassium	11	mg/L		1		E200.7	11/26/23 23:29 / slj		ICP2-HE_231126B : 167		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 05:45 / dck		ICPMS205-H_231116C : 70		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 05:45 / dck		ICPMS205-H_231116C : 70		R190627
Sodium	82	mg/L		1		E200.7	11/26/23 23:29 / slj		ICP2-HE_231126B : 167		R190339
Strontium	1.34	mg/L		0.01		E200.7	11/26/23 23:29 / slj		ICP2-HE_231126B : 167		R190339
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 05:45 / dck		ICPMS205-H_231116C : 70		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 15:49 / dck		ICPMS206-H_231228A : 87		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 05:45 / dck		ICPMS205-H_231116C : 70		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 05:45 / dck		ICPMS205-H_231116C : 70		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 20:53 / dck		ICPMS205-H_231116B : 91		R190225
Uranium	0.0329	mg/L		0.0002		E200.8	11/17/23 05:45 / dck		ICPMS205-H_231116C : 70		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 05:45 / dck		ICPMS205-H_231116C : 70		R190627
Zinc	8.72	mg/L		0.008		E200.8	11/17/23 05:45 / dck		ICPMS205-H_231116C : 70		R190627
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 20:53 / dck		ICPMS205-H_231116B : 91		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-07  
**Lab ID:** H23110571-032  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 14:25    **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-3.41	%				A1030 E	11/28/23 09:14 / SR		CALC_231128A : 672		R190371

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11A1  
**Lab ID:** H23110571-033  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 14:32 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.0	s.u.	H	0.1		A4500-H B	11/16/23 10:43 / eek		PHSC_101-H_231116A : 82		R190121
pH Measurement Temp	15.2	°C				A4500-H B	11/16/23 10:43 / eek		PHSC_101-H_231116A : 82		R190121
Conductivity @ 25 C	347	umhos/cm		5		A2510 B	11/16/23 10:43 / eek		PHSC_101-H_231116A : 83		R190121
Solids, Total Dissolved TDS @ 180 C	237	mg/L		20		A2540 C	11/16/23 13:26 / dpw		124 (14410200)_231116B : 43		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	100	mg/L		4		A2320 B	11/20/23 14:16 / dpw		PHSC_101-H_231120A : 99		R190210
Bicarbonate as HCO3	130	mg/L		4		A2320 B	11/20/23 14:16 / dpw		PHSC_101-H_231120A : 99		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 14:16 / dpw		PHSC_101-H_231120A : 99		R190210
Chloride	14	mg/L		1		E300.0	11/17/23 15:06 / SR		C METROHM_231116A : 116		R190187
Sulfate	44	mg/L		1		E300.0	11/17/23 15:06 / SR		C METROHM_231116A : 116		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 15:06 / SR		C METROHM_231116A : 116		R190187
Fluoride	0.6	mg/L		0.1		E300.0	11/17/23 15:06 / SR		C METROHM_231116A : 116		R190187
Hardness as CaCO3	112	mg/L		1		A2340 B	11/26/23 23:33 / SR		CALC_231208A : 223		R190695
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.0	mg/L		0.5		A5310 C	11/23/23 02:48 / eli-c		SUB-C301345 : 32		C_R301345
Organic Carbon, Total (TOC)	1.9	mg/L		0.5		A5310 C	11/22/23 17:13 / eli-c		SUB-C301345 : 4		C_R301345
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	1.54	mg/L		0.02		E353.2	11/20/23 17:08 / JAR		SEAL AA500_231120A : 95		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 05:48 / dck		ICPMS205-H_231116C : 71		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 05:48 / dck		ICPMS205-H_231116C : 71		R190627
Arsenic	0.003	mg/L		0.001		E200.8	11/17/23 05:48 / dck		ICPMS205-H_231116C : 71		R190627
Barium	0.019	mg/L		0.003		E200.8	11/17/23 05:48 / dck		ICPMS205-H_231116C : 71		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 05:48 / dck		ICPMS205-H_231116C : 71		R190627
Boron	0.06	mg/L		0.05		E200.7	11/26/23 23:33 / slj		ICP2-HE_231126B : 168		R190339
Cadmium	0.00041	mg/L		0.00003		E200.8	11/17/23 05:48 / dck		ICPMS205-H_231116C : 71		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 20:56 / dck		ICPMS205-H_231116B : 92		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11A1  
**Lab ID:** H23110571-033  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 14:32 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	33	mg/L		1		E200.7	11/26/23 23:33 / slj		ICP2-HE_231126B : 168		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 05:48 / dck		ICPMS205-H_231116C : 71		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 05:48 / dck		ICPMS205-H_231116C : 71		R190627
Copper	0.005	mg/L		0.002		E200.8	11/17/23 05:48 / dck		ICPMS205-H_231116C : 71		R190627
Gallium	ND	mg/L		0.01		E200.8	11/16/23 20:56 / dck		ICPMS205-H_231116B : 92		R190225
Iron	ND	mg/L		0.02		E200.8	11/17/23 05:48 / dck		ICPMS205-H_231116C : 71		R190627
Lead	ND	mg/L		0.0003		E200.8	11/17/23 05:48 / dck		ICPMS205-H_231116C : 71		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 20:56 / dck		ICPMS205-H_231116B : 92		R190225
Lithium	ND	mg/L		0.1		E200.7	11/26/23 23:33 / slj		ICP2-HE_231126B : 168		R190339
Magnesium	7	mg/L		1		E200.7	11/26/23 23:33 / slj		ICP2-HE_231126B : 168		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 20:56 / dck		ICPMS205-H_231116B : 92		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 20:56 / dck		ICPMS205-H_231116B : 92		R190225
Manganese	0.029	mg/L		0.001		E200.8	12/28/23 14:06 / dck		ICPMS206-H_231228A : 44		R191217
Molybdenum	0.017	mg/L		0.001		E200.8	11/17/23 05:48 / dck		ICPMS205-H_231116C : 71		R190627
Nickel	ND	mg/L		0.002		E200.8	11/17/23 05:48 / dck		ICPMS205-H_231116C : 71		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 20:56 / dck		ICPMS205-H_231116B : 92		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 20:56 / dck		ICPMS205-H_231116B : 92		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 20:56 / dck		ICPMS205-H_231116B : 92		R190225
Potassium	4	mg/L		1		E200.7	11/26/23 23:33 / slj		ICP2-HE_231126B : 168		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 05:48 / dck		ICPMS205-H_231116C : 71		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 05:48 / dck		ICPMS205-H_231116C : 71		R190627
Sodium	22	mg/L		1		E200.8	11/17/23 05:48 / dck		ICPMS205-H_231116C : 71		R190627
Strontium	0.21	mg/L		0.01		E200.8	11/17/23 05:48 / dck		ICPMS205-H_231116C : 71		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 05:48 / dck		ICPMS205-H_231116C : 71		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 14:06 / dck		ICPMS206-H_231228A : 44		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 05:48 / dck		ICPMS205-H_231116C : 71		R190627
Titanium	ND	mg/L		0.005		E200.8	12/28/23 14:06 / dck		ICPMS206-H_231228A : 44		R191217
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 20:56 / dck		ICPMS205-H_231116B : 92		R190225
Uranium	0.0031	mg/L		0.0002		E200.8	11/17/23 05:48 / dck		ICPMS205-H_231116C : 71		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 05:48 / dck		ICPMS205-H_231116C : 71		R190627
Zinc	0.048	mg/L		0.008		E200.8	11/17/23 05:48 / dck		ICPMS205-H_231116C : 71		R190627
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 20:56 / dck		ICPMS205-H_231116B : 92		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11A1  
**Lab ID:** H23110571-033  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 14:32    **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-3.61	%				A1030 E	12/08/23 15:54 / SR		CALC_231208A : 221		R190695

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-07B  
**Lab ID:** H23110571-034  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 14:50 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.3	s.u.	H	0.1		A4500-H B	11/16/23 10:45 / eek		PHSC_101-H_231116A : 84		R190121
pH Measurement Temp	15.6	°C				A4500-H B	11/16/23 10:45 / eek		PHSC_101-H_231116A : 84		R190121
Conductivity @ 25 C	1200	umhos/cm		5		A2510 B	11/16/23 10:45 / eek		PHSC_101-H_231116A : 85		R190121
Solids, Total Dissolved TDS @ 180 C	854	mg/L		20		A2540 C	11/16/23 13:27 / dpw		124 (14410200)_231116B : 44		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	160	mg/L		4		A2320 B	11/20/23 14:23 / dpw		PHSC_101-H_231120A : 101		R190210
Bicarbonate as HCO3	190	mg/L		4		A2320 B	11/20/23 14:23 / dpw		PHSC_101-H_231120A : 101		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 14:23 / dpw		PHSC_101-H_231120A : 101		R190210
Chloride	82	mg/L		1		E300.0	11/17/23 16:18 / SR		C METROHM_231116A : 121		R190187
Sulfate	347	mg/L		1		E300.0	11/17/23 16:18 / SR		C METROHM_231116A : 121		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 16:18 / SR		C METROHM_231116A : 121		R190187
Fluoride	0.8	mg/L		0.1		E300.0	11/17/23 16:18 / SR		C METROHM_231116A : 121		R190187
Hardness as CaCO3	434	mg/L		1		A2340 B	11/26/23 23:37 / SR		CALC_231208A : 234		R190695
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.8	mg/L		0.5		A5310 C	11/23/23 03:37 / eli-c		SUB-C301345 : 35		C_R301345
Organic Carbon, Total (TOC)	1.8	mg/L		0.5		A5310 C	11/22/23 18:03 / eli-c		SUB-C301345 : 7		C_R301345
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	7.91	mg/L		0.05		E353.2	11/20/23 17:09 / JAR		SEAL AA500_231120A : 96		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 05:52 / dck		ICPMS205-H_231116C : 72		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 05:52 / dck		ICPMS205-H_231116C : 72		R190627
Arsenic	0.003	mg/L		0.001		E200.8	11/17/23 05:52 / dck		ICPMS205-H_231116C : 72		R190627
Barium	0.020	mg/L		0.003		E200.8	11/17/23 05:52 / dck		ICPMS205-H_231116C : 72		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 05:52 / dck		ICPMS205-H_231116C : 72		R190627
Boron	0.30	mg/L		0.05		E200.7	11/26/23 23:37 / slj		ICP2-HE_231126B : 169		R190339
Cadmium	0.0285	mg/L		0.00003		E200.8	11/17/23 05:52 / dck		ICPMS205-H_231116C : 72		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 20:59 / dck		ICPMS205-H_231116B : 93		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-07B  
**Lab ID:** H23110571-034  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 14:50 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	118	mg/L		1		E200.7	11/26/23 23:37 / slj		ICP2-HE_231126B : 169		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 05:52 / dck		ICPMS205-H_231116C : 72		R190627
Cobalt	0.006	mg/L		0.005		E200.8	11/17/23 05:52 / dck		ICPMS205-H_231116C : 72		R190627
Copper	0.338	mg/L		0.002		E200.8	11/17/23 05:52 / dck		ICPMS205-H_231116C : 72		R190627
Gallium	ND	mg/L		0.01		E200.8	11/16/23 20:59 / dck		ICPMS205-H_231116B : 93		R190225
Iron	ND	mg/L		0.02		E200.8	11/17/23 05:52 / dck		ICPMS205-H_231116C : 72		R190627
Lead	0.0005	mg/L		0.0003		E200.8	11/17/23 05:52 / dck		ICPMS205-H_231116C : 72		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 20:59 / dck		ICPMS205-H_231116B : 93		R190225
Lithium	0.2	mg/L		0.1		E200.7	11/26/23 23:37 / slj		ICP2-HE_231126B : 169		R190339
Magnesium	34	mg/L		1		E200.7	11/26/23 23:37 / slj		ICP2-HE_231126B : 169		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 20:59 / dck		ICPMS205-H_231116B : 93		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 20:59 / dck		ICPMS205-H_231116B : 93		R190225
Manganese	13.9	mg/L		0.001		E200.7	11/26/23 23:37 / slj		ICP2-HE_231126B : 169		R190339
Molybdenum	0.002	mg/L		0.001		E200.8	11/17/23 05:52 / dck		ICPMS205-H_231116C : 72		R190627
Nickel	0.030	mg/L		0.002		E200.8	11/17/23 05:52 / dck		ICPMS205-H_231116C : 72		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 20:59 / dck		ICPMS205-H_231116B : 93		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 20:59 / dck		ICPMS205-H_231116B : 93		R190225
Rubidium	0.01	mg/L		0.01		E200.8	11/16/23 20:59 / dck		ICPMS205-H_231116B : 93		R190225
Potassium	10	mg/L		1		E200.7	11/26/23 23:37 / slj		ICP2-HE_231126B : 169		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 05:52 / dck		ICPMS205-H_231116C : 72		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 05:52 / dck		ICPMS205-H_231116C : 72		R190627
Sodium	62	mg/L		1		E200.7	01/02/24 22:20 / slj		ICP2-HE_240102A : 210		R191281
Strontium	1.11	mg/L		0.01		E200.8	11/17/23 05:52 / dck		ICPMS205-H_231116C : 72		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 05:52 / dck		ICPMS205-H_231116C : 72		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 15:51 / dck		ICPMS206-H_231228A : 88		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 05:52 / dck		ICPMS205-H_231116C : 72		R190627
Titanium	ND	mg/L		0.005		E200.8	12/28/23 15:51 / dck		ICPMS206-H_231228A : 88		R191217
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 20:59 / dck		ICPMS205-H_231116B : 93		R190225
Uranium	0.0031	mg/L		0.0002		E200.8	11/17/23 05:52 / dck		ICPMS205-H_231116C : 72		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 05:52 / dck		ICPMS205-H_231116C : 72		R190627
Zinc	5.48	mg/L		0.008		E200.8	11/17/23 05:52 / dck		ICPMS205-H_231116C : 72		R190627
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 20:59 / dck		ICPMS205-H_231116B : 93		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MF-07B  
**Lab ID:** H23110571-034  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 14:50    **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-2.80	%				A1030 E	12/08/23 15:54 / SR		CALC_231208A : 232		R190695

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11A2  
**Lab ID:** H23110571-035  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 14:51 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.2	s.u.	H	0.1		A4500-H B	11/16/23 10:47 / eek		PHSC_101-H_231116A : 86		R190121
pH Measurement Temp	15.8	°C				A4500-H B	11/16/23 10:47 / eek		PHSC_101-H_231116A : 86		R190121
Conductivity @ 25 C	339	umhos/cm		5		A2510 B	11/16/23 10:47 / eek		PHSC_101-H_231116A : 87		R190121
Solids, Total Dissolved TDS @ 180 C	226	mg/L		20		A2540 C	11/16/23 13:27 / dpw		124 (14410200)_231116B : 45		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	89	mg/L		4		A2320 B	11/20/23 13:39 / dpw		PHSC_101-H_231120A : 89		R190210
Bicarbonate as HCO3	110	mg/L		4		A2320 B	11/20/23 13:39 / dpw		PHSC_101-H_231120A : 89		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 13:39 / dpw		PHSC_101-H_231120A : 89		R190210
Chloride	6	mg/L		1		E300.0	11/17/23 16:33 / SR		C METROHM_231116A : 122		R190187
Sulfate	73	mg/L		1		E300.0	11/17/23 16:33 / SR		C METROHM_231116A : 122		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 16:33 / SR		C METROHM_231116A : 122		R190187
Fluoride	0.4	mg/L		0.1		E300.0	11/17/23 16:33 / SR		C METROHM_231116A : 122		R190187
Hardness as CaCO3	116	mg/L		1		A2340 B	11/26/23 23:40 / SR		CALC_231208A : 245		R190695
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	11/23/23 03:57 / eli-c		SUB-C301345 : 36		C_R301345
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	11/22/23 18:22 / eli-c		SUB-C301345 : 8		C_R301345
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.34	mg/L		0.01		E353.2	11/20/23 17:10 / JAR		SEAL AA500_231120A : 97		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 05:55 / dck		ICPMS205-H_231116C : 73		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 05:55 / dck		ICPMS205-H_231116C : 73		R190627
Arsenic	0.002	mg/L		0.001		E200.8	11/17/23 05:55 / dck		ICPMS205-H_231116C : 73		R190627
Barium	0.014	mg/L		0.003		E200.8	11/17/23 05:55 / dck		ICPMS205-H_231116C : 73		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 05:55 / dck		ICPMS205-H_231116C : 73		R190627
Boron	ND	mg/L		0.05		E200.7	11/26/23 23:40 / slj		ICP2-HE_231126B : 170		R190339
Cadmium	0.00041	mg/L		0.00003		E200.8	11/17/23 05:55 / dck		ICPMS205-H_231116C : 73		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 21:02 / dck		ICPMS205-H_231116B : 94		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11A2  
**Lab ID:** H23110571-035  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 14:51 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	34	mg/L		1		E200.7	11/26/23 23:40 / slj		ICP2-HE_231126B : 170		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 05:55 / dck		ICPMS205-H_231116C : 73		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 05:55 / dck		ICPMS205-H_231116C : 73		R190627
Copper	ND	mg/L		0.002		E200.8	11/17/23 05:55 / dck		ICPMS205-H_231116C : 73		R190627
Gallium	ND	mg/L		0.01		E200.8	11/16/23 21:02 / dck		ICPMS205-H_231116B : 94		R190225
Iron	ND	mg/L		0.02		E200.8	11/17/23 05:55 / dck		ICPMS205-H_231116C : 73		R190627
Lead	ND	mg/L		0.0003		E200.8	11/17/23 05:55 / dck		ICPMS205-H_231116C : 73		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 21:02 / dck		ICPMS205-H_231116B : 94		R190225
Lithium	ND	mg/L		0.1		E200.7	11/26/23 23:40 / slj		ICP2-HE_231126B : 170		R190339
Magnesium	8	mg/L		1		E200.7	11/26/23 23:40 / slj		ICP2-HE_231126B : 170		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 21:02 / dck		ICPMS205-H_231116B : 94		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 21:02 / dck		ICPMS205-H_231116B : 94		R190225
Manganese	0.005	mg/L		0.001		E200.8	11/17/23 05:55 / dck		ICPMS205-H_231116C : 73		R190627
Molybdenum	0.021	mg/L		0.001		E200.8	11/17/23 05:55 / dck		ICPMS205-H_231116C : 73		R190627
Nickel	ND	mg/L		0.002		E200.8	11/17/23 05:55 / dck		ICPMS205-H_231116C : 73		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 21:02 / dck		ICPMS205-H_231116B : 94		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 21:02 / dck		ICPMS205-H_231116B : 94		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 21:02 / dck		ICPMS205-H_231116B : 94		R190225
Potassium	3	mg/L		1		E200.7	11/26/23 23:40 / slj		ICP2-HE_231126B : 170		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 05:55 / dck		ICPMS205-H_231116C : 73		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 05:55 / dck		ICPMS205-H_231116C : 73		R190627
Sodium	21	mg/L		1		E200.8	11/17/23 05:55 / dck		ICPMS205-H_231116C : 73		R190627
Strontium	0.23	mg/L		0.01		E200.8	11/17/23 05:55 / dck		ICPMS205-H_231116C : 73		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 05:55 / dck		ICPMS205-H_231116C : 73		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 14:08 / dck		ICPMS206-H_231228A : 45		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 05:55 / dck		ICPMS205-H_231116C : 73		R190627
Titanium	ND	mg/L		0.005		E200.8	12/28/23 14:08 / dck		ICPMS206-H_231228A : 45		R191217
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 21:02 / dck		ICPMS205-H_231116B : 94		R190225
Uranium	0.0055	mg/L		0.0002		E200.8	11/17/23 05:55 / dck		ICPMS205-H_231116C : 73		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 05:55 / dck		ICPMS205-H_231116C : 73		R190627
Zinc	0.019	mg/L		0.008		E200.8	11/17/23 05:55 / dck		ICPMS205-H_231116C : 73		R190627
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 21:02 / dck		ICPMS205-H_231116B : 94		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11A2  
**Lab ID:** H23110571-035  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 14:51    **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-3.25	%				A1030 E	12/08/23 15:56 / SR		CALC_231208A : 243		R190695

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-28B  
**Lab ID:** H23110571-036  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 15:13 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.3	s.u.	H	0.1		A4500-H B	11/16/23 10:49 / eek		PHSC_101-H_231116A : 88		R190121
pH Measurement Temp	15.5	°C				A4500-H B	11/16/23 10:49 / eek		PHSC_101-H_231116A : 88		R190121
Conductivity @ 25 C	326	umhos/cm		5		A2510 B	11/16/23 10:49 / eek		PHSC_101-H_231116A : 89		R190121
Solids, Total Dissolved TDS @ 180 C	211	mg/L		20		A2540 C	11/17/23 15:38 / dpw		124 (14410200)_231117B : 44		TDS231117A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	90	mg/L		4		A2320 B	11/20/23 14:30 / dpw		PHSC_101-H_231120A : 103		R190210
Bicarbonate as HCO3	110	mg/L		4		A2320 B	11/20/23 14:30 / dpw		PHSC_101-H_231120A : 103		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 14:30 / dpw		PHSC_101-H_231120A : 103		R190210
Chloride	7	mg/L		1		E300.0	11/17/23 16:47 / SR		C METROHM_231116A : 123		R190187
Sulfate	61	mg/L		1		E300.0	11/17/23 16:47 / SR		C METROHM_231116A : 123		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 16:47 / SR		C METROHM_231116A : 123		R190187
Fluoride	0.5	mg/L		0.1		E300.0	11/17/23 16:47 / SR		C METROHM_231116A : 123		R190187
Hardness as CaCO3	106	mg/L		1		A2340 B	11/26/23 23:44 / SR		CALC_231128A : 487		R190371
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.9	mg/L		0.5		A5310 C	11/23/23 04:18 / eli-c		SUB-C301345 : 37		C_R301345
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	11/22/23 18:43 / eli-c		SUB-C301345 : 9		C_R301345
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.45	mg/L		0.01		E353.2	11/20/23 17:11 / JAR		SEAL AA500_231120A : 98		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 05:58 / dck		ICPMS205-H_231116C : 74		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 05:58 / dck		ICPMS205-H_231116C : 74		R190627
Arsenic	0.002	mg/L		0.001		E200.8	11/17/23 05:58 / dck		ICPMS205-H_231116C : 74		R190627
Barium	0.029	mg/L		0.003		E200.8	11/17/23 05:58 / dck		ICPMS205-H_231116C : 74		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 05:58 / dck		ICPMS205-H_231116C : 74		R190627
Boron	ND	mg/L		0.05		E200.7	11/26/23 23:44 / slj		ICP2-HE_231126B : 171		R190339
Cadmium	0.00021	mg/L		0.00003		E200.8	11/17/23 05:58 / dck		ICPMS205-H_231116C : 74		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 21:05 / dck		ICPMS205-H_231116B : 95		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-28B  
**Lab ID:** H23110571-036  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 15:13 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	31	mg/L		1		E200.7	11/26/23 23:44 / slj		ICP2-HE_231126B : 171		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 05:58 / dck		ICPMS205-H_231116C : 74		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 05:58 / dck		ICPMS205-H_231116C : 74		R190627
Copper	ND	mg/L		0.002		E200.8	11/17/23 05:58 / dck		ICPMS205-H_231116C : 74		R190627
Gallium	ND	mg/L		0.01		E200.8	11/16/23 21:05 / dck		ICPMS205-H_231116B : 95		R190225
Iron	ND	mg/L		0.02		E200.8	11/17/23 05:58 / dck		ICPMS205-H_231116C : 74		R190627
Lead	ND	mg/L		0.0003		E200.8	11/17/23 05:58 / dck		ICPMS205-H_231116C : 74		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 21:05 / dck		ICPMS205-H_231116B : 95		R190225
Lithium	ND	mg/L		0.1		E200.7	11/26/23 23:44 / slj		ICP2-HE_231126B : 171		R190339
Magnesium	7	mg/L		1		E200.7	11/26/23 23:44 / slj		ICP2-HE_231126B : 171		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 21:05 / dck		ICPMS205-H_231116B : 95		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 21:05 / dck		ICPMS205-H_231116B : 95		R190225
Manganese	0.002	mg/L		0.001		E200.8	11/17/23 05:58 / dck		ICPMS205-H_231116C : 74		R190627
Molybdenum	0.012	mg/L		0.001		E200.8	11/17/23 05:58 / dck		ICPMS205-H_231116C : 74		R190627
Nickel	ND	mg/L		0.002		E200.8	11/17/23 05:58 / dck		ICPMS205-H_231116C : 74		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 21:05 / dck		ICPMS205-H_231116B : 95		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 21:05 / dck		ICPMS205-H_231116B : 95		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 21:05 / dck		ICPMS205-H_231116B : 95		R190225
Potassium	3	mg/L		1		E200.7	11/26/23 23:44 / slj		ICP2-HE_231126B : 171		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 05:58 / dck		ICPMS205-H_231116C : 74		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 05:58 / dck		ICPMS205-H_231116C : 74		R190627
Sodium	20	mg/L		1		E200.7	11/26/23 23:44 / slj		ICP2-HE_231126B : 171		R190339
Strontium	0.20	mg/L		0.01		E200.8	11/17/23 05:58 / dck		ICPMS205-H_231116C : 74		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 05:58 / dck		ICPMS205-H_231116C : 74		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 14:10 / dck		ICPMS206-H_231228A : 46		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 05:58 / dck		ICPMS205-H_231116C : 74		R190627
Titanium	ND	mg/L		0.005		E200.8	12/28/23 14:10 / dck		ICPMS206-H_231228A : 46		R191217
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 21:05 / dck		ICPMS205-H_231116B : 95		R190225
Uranium	0.0031	mg/L		0.0002		E200.8	11/17/23 05:58 / dck		ICPMS205-H_231116C : 74		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 05:58 / dck		ICPMS205-H_231116C : 74		R190627
Zinc	0.012	mg/L		0.008		E200.8	12/28/23 14:10 / dck		ICPMS206-H_231228A : 46		R191217
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 21:05 / dck		ICPMS205-H_231116B : 95		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-28B  
**Lab ID:** H23110571-036  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 15:13    **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-3.75	%				A1030 E	11/28/23 08:12 / SR		CALC_231128A : 485		R190371

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11B  
**Lab ID:** H23110571-037  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 15:18 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.7	s.u.	H	0.1		A4500-H B	11/16/23 10:51 / eek		PHSC_101-H_231116A : 90		R190121
pH Measurement Temp	15.7	°C				A4500-H B	11/16/23 10:51 / eek		PHSC_101-H_231116A : 90		R190121
Conductivity @ 25 C	931	umhos/cm		5		A2510 B	11/16/23 10:51 / eek		PHSC_101-H_231116A : 91		R190121
Solids, Total Dissolved TDS @ 180 C	719	mg/L		20		A2540 C	11/16/23 15:35 / dpw		124 (14410200)_231116B : 49		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	54	mg/L		4		A2320 B	11/20/23 14:37 / dpw		PHSC_101-H_231120A : 105		R190210
Bicarbonate as HCO3	65	mg/L		4		A2320 B	11/20/23 14:37 / dpw		PHSC_101-H_231120A : 105		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 14:37 / dpw		PHSC_101-H_231120A : 105		R190210
Chloride	12	mg/L		1		E300.0	11/17/23 17:02 / SR		C METROHM_231116A : 124		R190187
Sulfate	424	mg/L		1		E300.0	11/17/23 17:02 / SR		C METROHM_231116A : 124		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 17:02 / SR		C METROHM_231116A : 124		R190187
Fluoride	0.5	mg/L		0.1		E300.0	11/17/23 17:02 / SR		C METROHM_231116A : 124		R190187
Hardness as CaCO3	391	mg/L		1		A2340 B	11/27/23 00:07 / SR		CALC_231128A : 498		R190371
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	11/23/23 04:33 / eli-c		SUB-C301345 : 38		C_R301345
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	11/22/23 19:02 / eli-c		SUB-C301345 : 10		C_R301345
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.22	mg/L		0.01		E353.2	11/20/23 17:12 / JAR		SEAL AA500_231120A : 99		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 06:01 / dck		ICPMS205-H_231116C : 75		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 06:01 / dck		ICPMS205-H_231116C : 75		R190627
Arsenic	0.003	mg/L		0.001		E200.8	11/17/23 06:01 / dck		ICPMS205-H_231116C : 75		R190627
Barium	0.012	mg/L		0.003		E200.8	11/17/23 06:01 / dck		ICPMS205-H_231116C : 75		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 06:01 / dck		ICPMS205-H_231116C : 75		R190627
Boron	ND	mg/L		0.05		E200.7	11/27/23 00:07 / slj		ICP2-HE_231126B : 177		R190339
Cadmium	0.00248	mg/L		0.00003		E200.8	11/17/23 06:01 / dck		ICPMS205-H_231116C : 75		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 21:08 / dck		ICPMS205-H_231116B : 96		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11B  
**Lab ID:** H23110571-037  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 15:18 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	115	mg/L		1		E200.7	11/27/23 00:07 / slj		ICP2-HE_231126B : 177		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 06:01 / dck		ICPMS205-H_231116C : 75		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 06:01 / dck		ICPMS205-H_231116C : 75		R190627
Copper	0.010	mg/L		0.002		E200.8	11/17/23 06:01 / dck		ICPMS205-H_231116C : 75		R190627
Gallium	ND	mg/L		0.01		E200.8	11/16/23 21:08 / dck		ICPMS205-H_231116B : 96		R190225
Iron	ND	mg/L		0.02		E200.8	11/17/23 06:01 / dck		ICPMS205-H_231116C : 75		R190627
Lead	ND	mg/L		0.0003		E200.8	11/17/23 06:01 / dck		ICPMS205-H_231116C : 75		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 21:08 / dck		ICPMS205-H_231116B : 96		R190225
Lithium	ND	mg/L		0.1		E200.7	11/27/23 00:07 / slj		ICP2-HE_231126B : 177		R190339
Magnesium	25	mg/L		1		E200.7	11/27/23 00:07 / slj		ICP2-HE_231126B : 177		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 21:08 / dck		ICPMS205-H_231116B : 96		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 21:08 / dck		ICPMS205-H_231116B : 96		R190225
Manganese	ND	mg/L		0.001		E200.8	11/17/23 06:01 / dck		ICPMS205-H_231116C : 75		R190627
Molybdenum	0.053	mg/L		0.001		E200.8	11/17/23 06:01 / dck		ICPMS205-H_231116C : 75		R190627
Nickel	ND	mg/L		0.002		E200.8	11/17/23 06:01 / dck		ICPMS205-H_231116C : 75		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 21:08 / dck		ICPMS205-H_231116B : 96		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 21:08 / dck		ICPMS205-H_231116B : 96		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 21:08 / dck		ICPMS205-H_231116B : 96		R190225
Potassium	8	mg/L		1		E200.7	11/27/23 00:07 / slj		ICP2-HE_231126B : 177		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 06:01 / dck		ICPMS205-H_231116C : 75		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 06:01 / dck		ICPMS205-H_231116C : 75		R190627
Sodium	43	mg/L		1		E200.7	11/27/23 00:07 / slj		ICP2-HE_231126B : 177		R190339
Strontium	0.71	mg/L		0.01		E200.8	11/17/23 06:01 / dck		ICPMS205-H_231116C : 75		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 06:01 / dck		ICPMS205-H_231116C : 75		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 14:12 / dck		ICPMS206-H_231228A : 47		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 06:01 / dck		ICPMS205-H_231116C : 75		R190627
Titanium	ND	mg/L		0.005		E200.8	12/28/23 14:12 / dck		ICPMS206-H_231228A : 47		R191217
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 21:08 / dck		ICPMS205-H_231116B : 96		R190225
Uranium	0.0014	mg/L		0.0002		E200.8	11/17/23 06:01 / dck		ICPMS205-H_231116C : 75		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 06:01 / dck		ICPMS205-H_231116C : 75		R190627
Zinc	0.188	mg/L		0.008		E200.8	11/17/23 06:01 / dck		ICPMS205-H_231116C : 75		R190627
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 21:08 / dck		ICPMS205-H_231116B : 96		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11B  
**Lab ID:** H23110571-037  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 15:18    **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.91	%				A1030 E	11/28/23 08:12 / SR		CALC_231128A : 496		R190371

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-1  
**Lab ID:** H23110571-038  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 15:19 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.7	s.u.	H	0.1		A4500-H B	11/16/23 10:53 / eek		PHSC_101-H_231116A : 92		R190121
pH Measurement Temp	15.9	°C				A4500-H B	11/16/23 10:53 / eek		PHSC_101-H_231116A : 92		R190121
Conductivity @ 25 C	930	umhos/cm		5		A2510 B	11/16/23 10:53 / eek		PHSC_101-H_231116A : 93		R190121
Solids, Total Dissolved TDS @ 180 C	715	mg/L		20		A2540 C	11/16/23 15:36 / dpw		124 (14410200)_231116B : 51		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	54	mg/L		4		A2320 B	11/20/23 14:44 / dpw		PHSC_101-H_231120A : 107		R190210
Bicarbonate as HCO3	65	mg/L		4		A2320 B	11/20/23 14:44 / dpw		PHSC_101-H_231120A : 107		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 14:44 / dpw		PHSC_101-H_231120A : 107		R190210
Chloride	12	mg/L		1		E300.0	11/17/23 17:16 / SR		C METROHM_231116A : 125		R190187
Sulfate	430	mg/L		1		E300.0	11/17/23 17:16 / SR		C METROHM_231116A : 125		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 17:16 / SR		C METROHM_231116A : 125		R190187
Fluoride	0.5	mg/L		0.1		E300.0	11/17/23 17:16 / SR		C METROHM_231116A : 125		R190187
Hardness as CaCO3	385	mg/L		1		A2340 B	11/27/23 00:10 / SR		CALC_231128A : 509		R190371
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	11/23/23 04:53 / eli-c		SUB-C301345 : 39		C_R301345
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	11/22/23 19:22 / eli-c		SUB-C301345 : 11		C_R301345
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.23	mg/L		0.01		E353.2	11/20/23 17:13 / JAR		SEAL AA500_231120A : 100		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 06:04 / dck		ICPMS205-H_231116C : 76		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 06:04 / dck		ICPMS205-H_231116C : 76		R190627
Arsenic	0.003	mg/L		0.001		E200.8	11/17/23 06:04 / dck		ICPMS205-H_231116C : 76		R190627
Barium	0.012	mg/L		0.003		E200.8	11/17/23 06:04 / dck		ICPMS205-H_231116C : 76		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 06:04 / dck		ICPMS205-H_231116C : 76		R190627
Boron	ND	mg/L		0.05		E200.7	11/27/23 00:10 / slj		ICP2-HE_231126B : 178		R190339
Cadmium	0.00237	mg/L		0.00003		E200.8	11/17/23 06:04 / dck		ICPMS205-H_231116C : 76		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 21:11 / dck		ICPMS205-H_231116B : 97		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-1  
**Lab ID:** H23110571-038  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 15:19 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	113	mg/L		1		E200.7	11/27/23 00:10 / slj		ICP2-HE_231126B : 178		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 06:04 / dck		ICPMS205-H_231116C : 76		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 06:04 / dck		ICPMS205-H_231116C : 76		R190627
Copper	0.010	mg/L		0.002		E200.8	11/17/23 06:04 / dck		ICPMS205-H_231116C : 76		R190627
Gallium	ND	mg/L		0.01		E200.8	11/16/23 21:11 / dck		ICPMS205-H_231116B : 97		R190225
Iron	ND	mg/L		0.02		E200.8	11/17/23 06:04 / dck		ICPMS205-H_231116C : 76		R190627
Lead	ND	mg/L		0.0003		E200.8	11/17/23 06:04 / dck		ICPMS205-H_231116C : 76		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 21:11 / dck		ICPMS205-H_231116B : 97		R190225
Lithium	ND	mg/L		0.1		E200.7	11/27/23 00:10 / slj		ICP2-HE_231126B : 178		R190339
Magnesium	25	mg/L		1		E200.7	11/27/23 00:10 / slj		ICP2-HE_231126B : 178		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 21:11 / dck		ICPMS205-H_231116B : 97		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 21:11 / dck		ICPMS205-H_231116B : 97		R190225
Manganese	ND	mg/L		0.001		E200.8	11/17/23 06:04 / dck		ICPMS205-H_231116C : 76		R190627
Molybdenum	0.052	mg/L		0.001		E200.8	11/17/23 06:04 / dck		ICPMS205-H_231116C : 76		R190627
Nickel	ND	mg/L		0.002		E200.8	11/17/23 06:04 / dck		ICPMS205-H_231116C : 76		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 21:11 / dck		ICPMS205-H_231116B : 97		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 21:11 / dck		ICPMS205-H_231116B : 97		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 21:11 / dck		ICPMS205-H_231116B : 97		R190225
Potassium	9	mg/L		1		E200.7	11/27/23 00:10 / slj		ICP2-HE_231126B : 178		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 06:04 / dck		ICPMS205-H_231116C : 76		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 06:04 / dck		ICPMS205-H_231116C : 76		R190627
Sodium	44	mg/L		1		E200.7	11/27/23 00:10 / slj		ICP2-HE_231126B : 178		R190339
Strontium	0.71	mg/L		0.01		E200.8	11/17/23 06:04 / dck		ICPMS205-H_231116C : 76		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 06:04 / dck		ICPMS205-H_231116C : 76		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 14:34 / dck		ICPMS206-H_231228A : 55		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 06:04 / dck		ICPMS205-H_231116C : 76		R190627
Titanium	ND	mg/L		0.005		E200.8	12/28/23 14:34 / dck		ICPMS206-H_231228A : 55		R191217
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 21:11 / dck		ICPMS205-H_231116B : 97		R190225
Uranium	0.0014	mg/L		0.0002		E200.8	11/17/23 06:04 / dck		ICPMS205-H_231116C : 76		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 06:04 / dck		ICPMS205-H_231116C : 76		R190627
Zinc	0.187	mg/L		0.008		E200.8	11/17/23 06:04 / dck		ICPMS205-H_231116C : 76		R190627
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 21:11 / dck		ICPMS205-H_231116B : 97		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-1  
**Lab ID:** H23110571-038  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 15:19      **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-2.89	%				A1030 E	11/28/23 08:13 / SR		CALC_231128A : 507		R190371

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-06A  
**Lab ID:** H23110571-039  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 15:19 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.4	s.u.	H	0.1		A4500-H B	11/16/23 11:15 / eek		PHSC_101-H_231116A : 105		R190121
pH Measurement Temp	15.9	°C				A4500-H B	11/16/23 11:15 / eek		PHSC_101-H_231116A : 105		R190121
Conductivity @ 25 C	1560	umhos/cm		5		A2510 B	11/16/23 11:15 / eek		PHSC_101-H_231116A : 106		R190121
Solids, Total Dissolved TDS @ 180 C	1140	mg/L		20		A2540 C	11/16/23 15:36 / dpw		124 (14410200)_231116B : 52		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	210	mg/L		4		A2320 B	11/20/23 14:50 / dpw		PHSC_101-H_231120A : 109		R190210
Bicarbonate as HCO3	260	mg/L		4		A2320 B	11/20/23 14:50 / dpw		PHSC_101-H_231120A : 109		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 14:50 / dpw		PHSC_101-H_231120A : 109		R190210
Chloride	184	mg/L		1		E300.0	11/17/23 17:31 / SR		C METROHM_231116A : 126		R190187
Sulfate	403	mg/L		1		E300.0	11/17/23 17:31 / SR		C METROHM_231116A : 126		R190187
Bromide	0.6	mg/L		0.5		E300.0	11/17/23 17:31 / SR		C METROHM_231116A : 126		R190187
Fluoride	0.6	mg/L		0.1		E300.0	11/17/23 17:31 / SR		C METROHM_231116A : 126		R190187
Hardness as CaCO3	619	mg/L		1		A2340 B	11/27/23 00:14 / SR		CALC_231208A : 256		R190695
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.8	mg/L		0.5		A5310 C	11/23/23 05:15 / eli-c		SUB-C301345 : 40		C_R301345
Organic Carbon, Total (TOC)	2.9	mg/L		0.5		A5310 C	11/22/23 19:44 / eli-c		SUB-C301345 : 12		C_R301345
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.50	mg/L		0.01		E353.2	11/20/23 17:16 / JAR		SEAL AA500_231120A : 103		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 06:08 / dck		ICPMS205-H_231116C : 77		R190627
Antimony	0.0018	mg/L		0.0005		E200.8	11/17/23 06:08 / dck		ICPMS205-H_231116C : 77		R190627
Arsenic	0.007	mg/L		0.001		E200.8	11/17/23 06:08 / dck		ICPMS205-H_231116C : 77		R190627
Barium	0.028	mg/L		0.003		E200.8	11/17/23 06:08 / dck		ICPMS205-H_231116C : 77		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 06:08 / dck		ICPMS205-H_231116C : 77		R190627
Boron	0.46	mg/L		0.05		E200.7	11/27/23 00:14 / slj		ICP2-HE_231126B : 179		R190339
Cadmium	0.0386	mg/L		0.00003		E200.8	11/17/23 06:08 / dck		ICPMS205-H_231116C : 77		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 21:14 / dck		ICPMS205-H_231116B : 98		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-06A  
**Lab ID:** H23110571-039  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 15:19 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	166	mg/L		1		E200.7	11/27/23 00:14 / slj		ICP2-HE_231126B : 179		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 06:08 / dck		ICPMS205-H_231116C : 77		R190627
Cobalt	0.015	mg/L		0.005		E200.8	11/17/23 06:08 / dck		ICPMS205-H_231116C : 77		R190627
Copper	0.211	mg/L		0.002		E200.8	11/17/23 06:08 / dck		ICPMS205-H_231116C : 77		R190627
Gallium	ND	mg/L		0.01		E200.8	11/16/23 21:14 / dck		ICPMS205-H_231116B : 98		R190225
Iron	0.05	mg/L		0.02		E200.8	11/17/23 06:08 / dck		ICPMS205-H_231116C : 77		R190627
Lead	0.0659	mg/L		0.0003		E200.8	11/17/23 06:08 / dck		ICPMS205-H_231116C : 77		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 21:14 / dck		ICPMS205-H_231116B : 98		R190225
Lithium	0.2	mg/L		0.1		E200.7	11/27/23 00:14 / slj		ICP2-HE_231126B : 179		R190339
Magnesium	50	mg/L		1		E200.8	11/17/23 06:08 / dck		ICPMS205-H_231116C : 77		R190627
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 21:14 / dck		ICPMS205-H_231116B : 98		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 21:14 / dck		ICPMS205-H_231116B : 98		R190225
Manganese	22.0	mg/L		0.001		E200.7	11/27/23 00:14 / slj		ICP2-HE_231126B : 179		R190339
Molybdenum	0.016	mg/L		0.001		E200.8	11/17/23 06:08 / dck		ICPMS205-H_231116C : 77		R190627
Nickel	0.027	mg/L		0.002		E200.8	11/17/23 06:08 / dck		ICPMS205-H_231116C : 77		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 21:14 / dck		ICPMS205-H_231116B : 98		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 21:14 / dck		ICPMS205-H_231116B : 98		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 21:14 / dck		ICPMS205-H_231116B : 98		R190225
Potassium	10	mg/L		1		E200.7	11/27/23 00:14 / slj		ICP2-HE_231126B : 179		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 06:08 / dck		ICPMS205-H_231116C : 77		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 06:08 / dck		ICPMS205-H_231116C : 77		R190627
Sodium	82	mg/L		1		E200.7	01/02/24 22:39 / slj		ICP2-HE_240102A : 215		R191281
Strontium	1.27	mg/L		0.01		E200.7	11/27/23 00:14 / slj		ICP2-HE_231126B : 179		R190339
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 06:08 / dck		ICPMS205-H_231116C : 77		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 15:54 / dck		ICPMS206-H_231228A : 89		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 06:08 / dck		ICPMS205-H_231116C : 77		R190627
Titanium	ND	mg/L		0.005		E200.8	12/28/23 15:54 / dck		ICPMS206-H_231228A : 89		R191217
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 21:14 / dck		ICPMS205-H_231116B : 98		R190225
Uranium	0.0229	mg/L		0.0002		E200.8	11/17/23 06:08 / dck		ICPMS205-H_231116C : 77		R190627
Vanadium	0.02	mg/L		0.01		E200.8	11/17/23 06:08 / dck		ICPMS205-H_231116C : 77		R190627
Zinc	4.37	mg/L		0.008		E200.8	11/17/23 06:08 / dck		ICPMS205-H_231116C : 77		R190627
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 21:14 / dck		ICPMS205-H_231116B : 98		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-06A  
**Lab ID:** H23110571-039  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 15:19      **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-3.64	%				A1030 E	12/08/23 15:57 / SR		CALC_231208A : 254		R190695

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-1  
**Lab ID:** H23110571-040  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 15:30 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	3.8	s.u.	H	0.1		A4500-H B	11/16/23 11:17 / eek		PHSC_101-H_231116A : 107		R190121
pH Measurement Temp	15.9	°C				A4500-H B	11/16/23 11:17 / eek		PHSC_101-H_231116A : 107		R190121
Conductivity @ 25 C	77	umhos/cm		5		A2510 B	11/16/23 11:17 / eek		PHSC_101-H_231116A : 108		R190121
Solids, Total Dissolved TDS @ 180 C	40	mg/L		20		A2540 C	11/16/23 15:37 / dpw		124 (14410200)_231116B : 53		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	11/20/23 14:58 / dpw		PHSC_101-H_231120A : 111		R190210
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	11/20/23 14:58 / dpw		PHSC_101-H_231120A : 111		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 14:58 / dpw		PHSC_101-H_231120A : 111		R190210
Chloride	6	mg/L		1		E300.0	11/17/23 17:45 / SR		C METROHM_231116A : 127		R190187
Sulfate	ND	mg/L		1		E300.0	11/17/23 17:45 / SR		C METROHM_231116A : 127		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 17:45 / SR		C METROHM_231116A : 127		R190187
Fluoride	ND	mg/L		0.1		E300.0	11/17/23 17:45 / SR		C METROHM_231116A : 127		R190187
Hardness as CaCO3	ND	mg/L		1		A2340 B	11/27/23 00:18 / SR		CALC_231128A : 520		R190371
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.8	mg/L		0.5		A5310 C	11/23/23 05:37 / eli-c		SUB-C301345 : 41		C_R301345
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	11/22/23 20:06 / eli-c		SUB-C301345 : 13		C_R301345
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	11/20/23 17:17 / JAR		SEAL AA500_231120A : 104		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 06:11 / dck		ICPMS205-H_231116C : 78		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 06:11 / dck		ICPMS205-H_231116C : 78		R190627
Arsenic	ND	mg/L		0.001		E200.8	11/17/23 06:11 / dck		ICPMS205-H_231116C : 78		R190627
Barium	ND	mg/L		0.003		E200.8	11/17/23 06:11 / dck		ICPMS205-H_231116C : 78		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 06:11 / dck		ICPMS205-H_231116C : 78		R190627
Boron	ND	mg/L		0.05		E200.7	11/27/23 00:18 / slj		ICP2-HE_231126B : 180		R190339
Cadmium	0.00004	mg/L		0.00003		E200.8	11/17/23 06:11 / dck		ICPMS205-H_231116C : 78		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 21:17 / dck		ICPMS205-H_231116B : 99		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-1  
**Lab ID:** H23110571-040  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 15:30 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	ND	mg/L		1		E200.7	11/27/23 00:18 / slj		ICP2-HE_231126B : 180		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 06:11 / dck		ICPMS205-H_231116C : 78		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 06:11 / dck		ICPMS205-H_231116C : 78		R190627
Copper	ND	mg/L		0.002		E200.8	11/17/23 06:11 / dck		ICPMS205-H_231116C : 78		R190627
Gallium	ND	mg/L		0.01		E200.8	11/16/23 21:17 / dck		ICPMS205-H_231116B : 99		R190225
Iron	ND	mg/L		0.02		E200.8	11/17/23 06:11 / dck		ICPMS205-H_231116C : 78		R190627
Lead	ND	mg/L		0.0003		E200.8	11/17/23 06:11 / dck		ICPMS205-H_231116C : 78		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 21:17 / dck		ICPMS205-H_231116B : 99		R190225
Lithium	ND	mg/L		0.1		E200.7	11/27/23 00:18 / slj		ICP2-HE_231126B : 180		R190339
Magnesium	ND	mg/L		1		E200.7	11/27/23 00:18 / slj		ICP2-HE_231126B : 180		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 21:17 / dck		ICPMS205-H_231116B : 99		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 21:17 / dck		ICPMS205-H_231116B : 99		R190225
Manganese	0.006	mg/L		0.001		E200.8	11/17/23 06:11 / dck		ICPMS205-H_231116C : 78		R190627
Molybdenum	ND	mg/L		0.001		E200.8	11/17/23 06:11 / dck		ICPMS205-H_231116C : 78		R190627
Nickel	ND	mg/L		0.002		E200.8	11/17/23 06:11 / dck		ICPMS205-H_231116C : 78		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 21:17 / dck		ICPMS205-H_231116B : 99		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 21:17 / dck		ICPMS205-H_231116B : 99		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 21:17 / dck		ICPMS205-H_231116B : 99		R190225
Potassium	ND	mg/L		1		E200.7	11/27/23 00:18 / slj		ICP2-HE_231126B : 180		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 06:11 / dck		ICPMS205-H_231116C : 78		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 06:11 / dck		ICPMS205-H_231116C : 78		R190627
Sodium	ND	mg/L		1		E200.7	11/27/23 00:18 / slj		ICP2-HE_231126B : 180		R190339
Strontium	ND	mg/L		0.01		E200.8	11/17/23 06:11 / dck		ICPMS205-H_231116C : 78		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 06:11 / dck		ICPMS205-H_231116C : 78		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 14:36 / dck		ICPMS206-H_231228A : 56		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 06:11 / dck		ICPMS205-H_231116C : 78		R190627
Titanium	ND	mg/L		0.005		E200.8	12/28/23 14:36 / dck		ICPMS206-H_231228A : 56		R191217
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 21:17 / dck		ICPMS205-H_231116B : 99		R190225
Uranium	ND	mg/L		0.0002		E200.8	11/17/23 06:11 / dck		ICPMS205-H_231116C : 78		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 06:11 / dck		ICPMS205-H_231116C : 78		R190627
Zinc	ND	mg/L		0.008		E200.8	11/17/23 06:11 / dck		ICPMS205-H_231116C : 78		R190627
Zirconium	ND	mg/L		0.005		E200.8	11/16/23 21:17 / dck		ICPMS205-H_231116B : 99		R190225

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-1  
**Lab ID:** H23110571-040  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 15:30    **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-84.3	%				A1030 E	11/28/23 08:13 / SR		CALC_231128A : 518		R190371
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08A  
**Lab ID:** H23110571-041  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 15:43 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.3	s.u.	H	0.1		A4500-H B	11/16/23 11:46 / eek		PHSC_101-H_231116A : 137		R190121
pH Measurement Temp	16.9	°C				A4500-H B	11/16/23 11:46 / eek		PHSC_101-H_231116A : 137		R190121
Conductivity @ 25 C	1360	umhos/cm		5		A2510 B	11/16/23 11:46 / eek		PHSC_101-H_231116A : 138		R190121
Solids, Total Dissolved TDS @ 180 C	1050	mg/L		20		A2540 C	11/16/23 15:37 / dpw		124 (14410200)_231116B : 54		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	73	mg/L		4		A2320 B	11/20/23 15:02 / dpw		PHSC_101-H_231120A : 113		R190210
Bicarbonate as HCO3	89	mg/L		4		A2320 B	11/20/23 15:02 / dpw		PHSC_101-H_231120A : 113		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 15:02 / dpw		PHSC_101-H_231120A : 113		R190210
Chloride	74	mg/L		1		E300.0	11/17/23 17:59 / SR		C METROHM_231116A : 128		R190187
Sulfate	551	mg/L		1		E300.0	11/17/23 17:59 / SR		C METROHM_231116A : 128		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 17:59 / SR		C METROHM_231116A : 128		R190187
Fluoride	4.2	mg/L	*	0.1		E300.0	11/17/23 17:59 / SR		C METROHM_231116A : 128		R190187
Hardness as CaCO3	480	mg/L		1		A2340 B	11/27/23 00:22 / SR		CALC_231128A : 685		R190371
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	4.6	mg/L		0.5		A5310 C	11/23/23 05:54 / eli-c		SUB-C301345 : 42		C_R301345
Organic Carbon, Total (TOC)	4.7	mg/L		0.5		A5310 C	11/22/23 20:23 / eli-c		SUB-C301345 : 14		C_R301345
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	11/20/23 17:20 / JAR		SEAL AA500_231120A : 107		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	0.066	mg/L		0.009		E200.8	11/17/23 06:30 / dck		ICPMS205-H_231116C : 84		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 06:30 / dck		ICPMS205-H_231116C : 84		R190627
Arsenic	0.833	mg/L		0.001		E200.8	11/17/23 06:30 / dck		ICPMS205-H_231116C : 84		R190627
Barium	0.027	mg/L		0.003		E200.8	11/17/23 06:30 / dck		ICPMS205-H_231116C : 84		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 06:30 / dck		ICPMS205-H_231116C : 84		R190627
Boron	0.53	mg/L		0.05		E200.7	11/27/23 00:22 / slj		ICP2-HE_231126B : 181		R190339
Cadmium	0.00051	mg/L		0.00003		E200.8	11/17/23 06:30 / dck		ICPMS205-H_231116C : 84		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 21:34 / dck		ICPMS205-H_231116B : 105		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** \* - The result exceeds the Maximum Contaminant Level (MCL)

H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08A  
**Lab ID:** H23110571-041  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 15:43 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	143	mg/L		1		E200.7	11/27/23 00:22 / slj		ICP2-HE_231126B : 181		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 06:30 / dck		ICPMS205-H_231116C : 84		R190627
Cobalt	0.015	mg/L		0.005		E200.8	11/17/23 06:30 / dck		ICPMS205-H_231116C : 84		R190627
Copper	0.012	mg/L		0.002		E200.8	12/28/23 15:56 / dck		ICPMS206-H_231228A : 90		R191217
Gallium	ND	mg/L		0.01		E200.8	11/16/23 21:34 / dck		ICPMS205-H_231116B : 105		R190225
Iron	80.4	mg/L		0.02		E200.7	11/27/23 00:22 / slj		ICP2-HE_231126B : 181		R190339
Lead	0.0009	mg/L		0.0003		E200.8	11/17/23 06:30 / dck		ICPMS205-H_231116C : 84		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 21:34 / dck		ICPMS205-H_231116B : 105		R190225
Lithium	ND	mg/L		0.1		E200.7	11/27/23 00:22 / slj		ICP2-HE_231126B : 181		R190339
Magnesium	30	mg/L		1		E200.7	11/27/23 00:22 / slj		ICP2-HE_231126B : 181		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 21:34 / dck		ICPMS205-H_231116B : 105		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 21:34 / dck		ICPMS205-H_231116B : 105		R190225
Manganese	9.11	mg/L		0.001		E200.7	11/27/23 00:22 / slj		ICP2-HE_231126B : 181		R190339
Molybdenum	0.010	mg/L		0.001		E200.8	11/17/23 06:30 / dck		ICPMS205-H_231116C : 84		R190627
Nickel	0.009	mg/L		0.002		E200.8	11/17/23 06:30 / dck		ICPMS205-H_231116C : 84		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 21:34 / dck		ICPMS205-H_231116B : 105		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 21:34 / dck		ICPMS205-H_231116B : 105		R190225
Rubidium	0.01	mg/L		0.01		E200.8	11/16/23 21:34 / dck		ICPMS205-H_231116B : 105		R190225
Potassium	13	mg/L		1		E200.7	11/27/23 00:22 / slj		ICP2-HE_231126B : 181		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 06:30 / dck		ICPMS205-H_231116C : 84		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 06:30 / dck		ICPMS205-H_231116C : 84		R190627
Sodium	39	mg/L		1		E200.7	11/27/23 00:22 / slj		ICP2-HE_231126B : 181		R190339
Strontium	0.57	mg/L		0.01		E200.8	11/17/23 06:30 / dck		ICPMS205-H_231116C : 84		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 06:30 / dck		ICPMS205-H_231116C : 84		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 15:56 / dck		ICPMS206-H_231228A : 90		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 06:30 / dck		ICPMS205-H_231116C : 84		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 06:30 / dck		ICPMS205-H_231116C : 84		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 21:34 / dck		ICPMS205-H_231116B : 105		R190225
Uranium	0.0053	mg/L		0.0002		E200.8	11/17/23 06:30 / dck		ICPMS205-H_231116C : 84		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 06:30 / dck		ICPMS205-H_231116C : 84		R190627
Zinc	12.1	mg/L		0.01		E200.7	12/11/23 13:15 / slj		ICP2-HE_231211B : 61		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/17/23 16:56 / dck		ICPMS206-H_231117A : 118		R190228

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-08A  
**Lab ID:** H23110571-041  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 15:43    **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	1.04	%				A1030 E	11/28/23 09:16 / SR		CALC_231128A : 683		R190371

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-1  
**Lab ID:** H23110571-042  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 15:45 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.8	s.u.	H	0.1		A4500-H B	11/16/23 11:19 / eek		PHSC_101-H_231116A : 109		R190121
pH Measurement Temp	15.9	°C				A4500-H B	11/16/23 11:19 / eek		PHSC_101-H_231116A : 109		R190121
Conductivity @ 25 C	ND	umhos/cm		5		A2510 B	11/16/23 11:19 / eek		PHSC_101-H_231116A : 110		R190121
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	L	20		A2540 C	11/16/23 15:37 / dpw		124 (14410200)_231116B : 55		TDS231116A
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.											
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	11/20/23 15:09 / dpw		PHSC_101-H_231120A : 115		R190210
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	11/20/23 15:09 / dpw		PHSC_101-H_231120A : 115		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 15:09 / dpw		PHSC_101-H_231120A : 115		R190210
Chloride	ND	mg/L		1		E300.0	11/17/23 18:14 / SR		C METROHM_231116A : 129		R190187
Sulfate	ND	mg/L		1		E300.0	11/17/23 18:14 / SR		C METROHM_231116A : 129		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 18:14 / SR		C METROHM_231116A : 129		R190187
Fluoride	ND	mg/L		0.1		E300.0	11/17/23 18:14 / SR		C METROHM_231116A : 129		R190187
Hardness as CaCO3	ND	mg/L		1		A2340 B	11/27/23 00:25 / SR		CALC_231128A : 531		R190371
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	11/23/23 06:09 / eli-c		SUB-C301345 : 43		C_R301345
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	11/22/23 20:38 / eli-c		SUB-C301345 : 15		C_R301345
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	11/20/23 17:21 / JAR		SEAL AA500_231120A : 108		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 06:34 / dck		ICPMS205-H_231116C : 85		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 06:34 / dck		ICPMS205-H_231116C : 85		R190627
Arsenic	ND	mg/L		0.001		E200.8	11/17/23 06:34 / dck		ICPMS205-H_231116C : 85		R190627
Barium	ND	mg/L		0.003		E200.8	11/17/23 06:34 / dck		ICPMS205-H_231116C : 85		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 06:34 / dck		ICPMS205-H_231116C : 85		R190627
Boron	ND	mg/L		0.05		E200.7	11/27/23 00:25 / slj		ICP2-HE_231126B : 182		R190339
Cadmium	ND	mg/L		0.00003		E200.8	11/17/23 06:34 / dck		ICPMS205-H_231116C : 85		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 21:37 / dck		ICPMS205-H_231116B : 106		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time

L -Lowest available reporting limit for the analytical method used and/or volume submitted



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-1  
**Lab ID:** H23110571-042  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 15:45 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	ND	mg/L		1		E200.7	11/27/23 00:25 / slj		ICP2-HE_231126B : 182		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 06:34 / dck		ICPMS205-H_231116C : 85		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 06:34 / dck		ICPMS205-H_231116C : 85		R190627
Copper	ND	mg/L		0.002		E200.8	12/28/23 14:38 / dck		ICPMS206-H_231228A : 57		R191217
Gallium	ND	mg/L		0.01		E200.8	11/16/23 21:37 / dck		ICPMS205-H_231116B : 106		R190225
Iron	ND	mg/L		0.02		E200.8	12/28/23 14:38 / dck		ICPMS206-H_231228A : 57		R191217
Lead	ND	mg/L		0.0003		E200.8	11/17/23 06:34 / dck		ICPMS205-H_231116C : 85		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 21:37 / dck		ICPMS205-H_231116B : 106		R190225
Lithium	ND	mg/L		0.1		E200.7	11/27/23 00:25 / slj		ICP2-HE_231126B : 182		R190339
Magnesium	ND	mg/L		1		E200.7	11/27/23 00:25 / slj		ICP2-HE_231126B : 182		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 21:37 / dck		ICPMS205-H_231116B : 106		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 21:37 / dck		ICPMS205-H_231116B : 106		R190225
Manganese	ND	mg/L		0.001		E200.8	12/28/23 14:38 / dck		ICPMS206-H_231228A : 57		R191217
Molybdenum	ND	mg/L		0.001		E200.8	11/17/23 06:34 / dck		ICPMS205-H_231116C : 85		R190627
Nickel	ND	mg/L		0.002		E200.8	11/17/23 06:34 / dck		ICPMS205-H_231116C : 85		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 21:37 / dck		ICPMS205-H_231116B : 106		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 21:37 / dck		ICPMS205-H_231116B : 106		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 21:37 / dck		ICPMS205-H_231116B : 106		R190225
Potassium	ND	mg/L		1		E200.7	11/27/23 00:25 / slj		ICP2-HE_231126B : 182		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 06:34 / dck		ICPMS205-H_231116C : 85		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 06:34 / dck		ICPMS205-H_231116C : 85		R190627
Sodium	ND	mg/L		1		E200.7	11/27/23 00:25 / slj		ICP2-HE_231126B : 182		R190339
Strontium	ND	mg/L		0.01		E200.8	11/17/23 06:34 / dck		ICPMS205-H_231116C : 85		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 06:34 / dck		ICPMS205-H_231116C : 85		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 14:38 / dck		ICPMS206-H_231228A : 57		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 06:34 / dck		ICPMS205-H_231116C : 85		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 06:34 / dck		ICPMS205-H_231116C : 85		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 21:37 / dck		ICPMS205-H_231116B : 106		R190225
Uranium	ND	mg/L		0.0002		E200.8	11/17/23 06:34 / dck		ICPMS205-H_231116C : 85		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 06:34 / dck		ICPMS205-H_231116C : 85		R190627
Zinc	ND	mg/L		0.008		E200.8	12/28/23 14:38 / dck		ICPMS206-H_231228A : 57		R191217
Zirconium	ND	mg/L		0.005		E200.8	11/17/23 16:58 / dck		ICPMS206-H_231117A : 119		R190228

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-1  
**Lab ID:** H23110571-042  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 15:45    **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	61.1	%				A1030 E	11/28/23 08:13 / SR		CALC_231128A : 529		R190371
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-06B  
**Lab ID:** H23110571-043  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 15:50 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.0	s.u.	H	0.1		A4500-H B	11/16/23 11:21 / eek		PHSC_101-H_231116A : 111		R190121
pH Measurement Temp	16.0	°C				A4500-H B	11/16/23 11:21 / eek		PHSC_101-H_231116A : 111		R190121
Conductivity @ 25 C	1160	umhos/cm		5		A2510 B	11/16/23 11:21 / eek		PHSC_101-H_231116A : 112		R190121
Solids, Total Dissolved TDS @ 180 C	869	mg/L		20		A2540 C	11/16/23 15:37 / dpw		I24 (14410200)_231116B : 56		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	91	mg/L		4		A2320 B	11/20/23 15:13 / dpw		PHSC_101-H_231120A : 117		R190210
Bicarbonate as HCO3	110	mg/L		4		A2320 B	11/20/23 15:13 / dpw		PHSC_101-H_231120A : 117		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 15:13 / dpw		PHSC_101-H_231120A : 117		R190210
Chloride	61	mg/L		1		E300.0	11/29/23 14:10 / SR		C METROHM_231128A : 116		R190403
Sulfate	407	mg/L		1		E300.0	11/29/23 14:10 / SR		C METROHM_231128A : 116		R190403
Bromide	ND	mg/L		0.5		E300.0	11/29/23 09:23 / SR		IC METROHM_231128A : 97		R190403
Fluoride	0.4	mg/L		0.1		E300.0	11/29/23 14:10 / SR		C METROHM_231128A : 116		R190403
Hardness as CaCO3	465	mg/L		1		A2340 B	11/27/23 00:29 / SR		CALC_231208A : 267		R190695
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.5	mg/L		0.5		A5310 C	11/23/23 07:04 / eli-c		SUB-C301345 : 45		C_R301345
Organic Carbon, Total (TOC)	1.5	mg/L		0.5		A5310 C	11/22/23 21:33 / eli-c		SUB-C301345 : 17		C_R301345
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	11.0	mg/L		0.1		E353.2	11/20/23 17:22 / JAR		SEAL AA500_231120A : 109		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 06:37 / dck		ICPMS205-H_231116C : 86		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 06:37 / dck		ICPMS205-H_231116C : 86		R190627
Arsenic	0.003	mg/L		0.001		E200.8	11/17/23 06:37 / dck		ICPMS205-H_231116C : 86		R190627
Barium	0.023	mg/L		0.003		E200.8	11/17/23 06:37 / dck		ICPMS205-H_231116C : 86		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 06:37 / dck		ICPMS205-H_231116C : 86		R190627
Boron	0.24	mg/L		0.05		E200.7	11/27/23 00:29 / slj		ICP2-HE_231126B : 183		R190339
Cadmium	0.0196	mg/L		0.00003		E200.8	11/17/23 06:37 / dck		ICPMS205-H_231116C : 86		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 21:40 / dck		ICPMS205-H_231116B : 107		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-06B  
**Lab ID:** H23110571-043  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 15:50 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	115	mg/L		1		E200.7	11/27/23 00:29 / slj		ICP2-HE_231126B : 183		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 06:37 / dck		ICPMS205-H_231116C : 86		R190627
Cobalt	0.009	mg/L		0.005		E200.8	11/17/23 06:37 / dck		ICPMS205-H_231116C : 86		R190627
Copper	0.498	mg/L		0.002		E200.8	12/28/23 15:58 / dck		ICPMS206-H_231228A : 91		R191217
Gallium	ND	mg/L		0.01		E200.8	11/16/23 21:40 / dck		ICPMS205-H_231116B : 107		R190225
Iron	0.02	mg/L		0.02		E200.8	12/28/23 15:58 / dck		ICPMS206-H_231228A : 91		R191217
Lead	0.0006	mg/L		0.0003		E200.8	11/17/23 06:37 / dck		ICPMS205-H_231116C : 86		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 21:40 / dck		ICPMS205-H_231116B : 107		R190225
Lithium	0.2	mg/L		0.1		E200.7	11/27/23 00:29 / slj		ICP2-HE_231126B : 183		R190339
Magnesium	43	mg/L		1		E200.8	11/17/23 06:37 / dck		ICPMS205-H_231116C : 86		R190627
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 21:40 / dck		ICPMS205-H_231116B : 107		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 21:40 / dck		ICPMS205-H_231116B : 107		R190225
Manganese	7.23	mg/L		0.001		E200.7	11/27/23 00:29 / slj		ICP2-HE_231126B : 183		R190339
Molybdenum	ND	mg/L		0.001		E200.8	11/17/23 06:37 / dck		ICPMS205-H_231116C : 86		R190627
Nickel	0.030	mg/L		0.002		E200.8	11/17/23 06:37 / dck		ICPMS205-H_231116C : 86		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 21:40 / dck		ICPMS205-H_231116B : 107		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 21:40 / dck		ICPMS205-H_231116B : 107		R190225
Rubidium	0.01	mg/L		0.01		E200.8	11/16/23 21:40 / dck		ICPMS205-H_231116B : 107		R190225
Potassium	10	mg/L		1		E200.7	11/27/23 00:29 / slj		ICP2-HE_231126B : 183		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 06:37 / dck		ICPMS205-H_231116C : 86		R190627
Silver	0.0003	mg/L		0.0002		E200.8	11/17/23 06:37 / dck		ICPMS205-H_231116C : 86		R190627
Sodium	50	mg/L		1		E200.7	01/02/24 23:05 / slj		ICP2-HE_240102A : 222		R191281
Strontium	1.17	mg/L		0.01		E200.7	11/27/23 00:29 / slj		ICP2-HE_231126B : 183		R190339
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 06:37 / dck		ICPMS205-H_231116C : 86		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 15:58 / dck		ICPMS206-H_231228A : 91		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 06:37 / dck		ICPMS205-H_231116C : 86		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 06:37 / dck		ICPMS205-H_231116C : 86		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 21:40 / dck		ICPMS205-H_231116B : 107		R190225
Uranium	0.0008	mg/L		0.0002		E200.8	12/28/23 15:58 / dck		ICPMS206-H_231228A : 91		R191217
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 06:37 / dck		ICPMS205-H_231116C : 86		R190627
Zinc	5.85	mg/L		0.008		E200.8	12/28/23 19:03 / dck		ICPMS206-H_231228A : 133		R191217
Zirconium	ND	mg/L		0.005		E200.8	11/17/23 17:00 / dck		ICPMS206-H_231117A : 120		R190228

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-06B  
**Lab ID:** H23110571-043  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 15:50      **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-2.24	%				A1030 E	12/08/23 15:58 / SR		CALC_231208A : 265		R190695

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11C  
**Lab ID:** H23110571-044  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 16:13 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.9	s.u.	H	0.1		A4500-H B	11/16/23 11:23 / eek		PHSC_101-H_231116A : 113		R190121
pH Measurement Temp	16.3	°C				A4500-H B	11/16/23 11:23 / eek		PHSC_101-H_231116A : 113		R190121
Conductivity @ 25 C	890	umhos/cm		5		A2510 B	11/16/23 11:23 / eek		PHSC_101-H_231116A : 114		R190121
Solids, Total Dissolved TDS @ 180 C	658	mg/L		20		A2540 C	11/16/23 15:37 / dpw		I24 (14410200)_231116B : 57		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	72	mg/L		4		A2320 B	11/20/23 15:20 / dpw		PHSC_101-H_231120A : 119		R190210
Bicarbonate as HCO3	88	mg/L		4		A2320 B	11/20/23 15:20 / dpw		PHSC_101-H_231120A : 119		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 15:20 / dpw		PHSC_101-H_231120A : 119		R190210
Chloride	9	mg/L		1		E300.0	11/17/23 19:40 / SR		C METROHM_231116A : 135		R190187
Sulfate	367	mg/L		1		E300.0	11/17/23 19:40 / SR		C METROHM_231116A : 135		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 19:40 / SR		C METROHM_231116A : 135		R190187
Fluoride	2.1	mg/L		0.1		E300.0	11/17/23 19:40 / SR		C METROHM_231116A : 135		R190187
Hardness as CaCO3	233	mg/L		1		A2340 B	11/27/23 00:33 / SR		CALC_231208A : 278		R190695
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	11/23/23 07:53 / eli-c		SUB-C301345 : 48		C_R301345
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	11/22/23 22:27 / eli-c		SUB-C301345 : 20		C_R301345
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.04	mg/L		0.01		E353.2	11/20/23 17:23 / JAR		SEAL AA500_231120A : 110		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 06:40 / dck		ICPMS205-H_231116C : 87		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 06:40 / dck		ICPMS205-H_231116C : 87		R190627
Arsenic	0.003	mg/L		0.001		E200.8	11/17/23 06:40 / dck		ICPMS205-H_231116C : 87		R190627
Barium	0.011	mg/L		0.003		E200.8	11/17/23 06:40 / dck		ICPMS205-H_231116C : 87		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 06:40 / dck		ICPMS205-H_231116C : 87		R190627
Boron	0.08	mg/L		0.05		E200.7	11/27/23 00:33 / slj		ICP2-HE_231126B : 184		R190339
Cadmium	0.00041	mg/L		0.00003		E200.8	11/17/23 06:40 / dck		ICPMS205-H_231116C : 87		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 21:43 / dck		ICPMS205-H_231116B : 108		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11C  
**Lab ID:** H23110571-044  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 16:13 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	67	mg/L		1		E200.7	11/27/23 00:33 / slj		ICP2-HE_231126B : 184		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 06:40 / dck		ICPMS205-H_231116C : 87		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 06:40 / dck		ICPMS205-H_231116C : 87		R190627
Copper	ND	mg/L		0.002		E200.8	12/28/23 14:41 / dck		ICPMS206-H_231228A : 58		R191217
Gallium	ND	mg/L		0.01		E200.8	11/16/23 21:43 / dck		ICPMS205-H_231116B : 108		R190225
Iron	0.06	mg/L		0.02		E200.8	12/28/23 14:41 / dck		ICPMS206-H_231228A : 58		R191217
Lead	ND	mg/L		0.0003		E200.8	11/17/23 06:40 / dck		ICPMS205-H_231116C : 87		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 21:43 / dck		ICPMS205-H_231116B : 108		R190225
Lithium	0.1	mg/L		0.1		E200.7	11/27/23 00:33 / slj		ICP2-HE_231126B : 184		R190339
Magnesium	16	mg/L		1		E200.7	11/27/23 00:33 / slj		ICP2-HE_231126B : 184		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 21:43 / dck		ICPMS205-H_231116B : 108		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 21:43 / dck		ICPMS205-H_231116B : 108		R190225
Manganese	0.059	mg/L		0.001		E200.8	12/28/23 14:41 / dck		ICPMS206-H_231228A : 58		R191217
Molybdenum	0.152	mg/L		0.001		E200.8	11/17/23 06:40 / dck		ICPMS205-H_231116C : 87		R190627
Nickel	ND	mg/L		0.002		E200.8	11/17/23 06:40 / dck		ICPMS205-H_231116C : 87		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 21:43 / dck		ICPMS205-H_231116B : 108		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 21:43 / dck		ICPMS205-H_231116B : 108		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 21:43 / dck		ICPMS205-H_231116B : 108		R190225
Potassium	9	mg/L		1		E200.7	11/27/23 00:33 / slj		ICP2-HE_231126B : 184		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 06:40 / dck		ICPMS205-H_231116C : 87		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 06:40 / dck		ICPMS205-H_231116C : 87		R190627
Sodium	86	mg/L		1		E200.7	01/02/24 23:09 / slj		ICP2-HE_240102A : 223		R191281
Strontium	0.64	mg/L		0.01		E200.8	11/17/23 06:40 / dck		ICPMS205-H_231116C : 87		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 06:40 / dck		ICPMS205-H_231116C : 87		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 14:41 / dck		ICPMS206-H_231228A : 58		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 06:40 / dck		ICPMS205-H_231116C : 87		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 06:40 / dck		ICPMS205-H_231116C : 87		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 21:43 / dck		ICPMS205-H_231116B : 108		R190225
Uranium	0.0017	mg/L		0.0002		E200.8	11/17/23 06:40 / dck		ICPMS205-H_231116C : 87		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 06:40 / dck		ICPMS205-H_231116C : 87		R190627
Zinc	0.014	mg/L		0.008		E200.8	12/28/23 14:41 / dck		ICPMS206-H_231228A : 58		R191217
Zirconium	ND	mg/L		0.005		E200.8	11/17/23 17:02 / dck		ICPMS206-H_231117A : 121		R190228

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-11C  
**Lab ID:** H23110571-044  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/14/23 16:13    **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	0.04	%				A1030 E	12/08/23 15:59 / SR		CALC_231208A : 276		R190695

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-11A  
**Lab ID:** H23110571-045  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/15/23 09:28 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.6	s.u.	H	0.1		A4500-H B	11/16/23 11:25 / eek		PHSC_101-H_231116A : 115		R190121
pH Measurement Temp	16.6	°C				A4500-H B	11/16/23 11:25 / eek		PHSC_101-H_231116A : 115		R190121
Conductivity @ 25 C	522	umhos/cm		5		A2510 B	11/16/23 11:25 / eek		PHSC_101-H_231116A : 116		R190121
Solids, Total Dissolved TDS @ 180 C	385	mg/L		20		A2540 C	11/16/23 15:38 / dpw		I24 (14410200)_231116B : 58		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	33	mg/L		4		A2320 B	11/20/23 15:26 / dpw		PHSC_101-H_231120A : 121		R190210
Bicarbonate as HCO3	40	mg/L		4		A2320 B	11/20/23 15:26 / dpw		PHSC_101-H_231120A : 121		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 15:26 / dpw		PHSC_101-H_231120A : 121		R190210
Chloride	24	mg/L		1		E300.0	11/17/23 19:55 / SR		C METROHM_231116A : 136		R190187
Sulfate	185	mg/L		1		E300.0	11/17/23 19:55 / SR		C METROHM_231116A : 136		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 19:55 / SR		C METROHM_231116A : 136		R190187
Fluoride	0.6	mg/L		0.1		E300.0	11/17/23 19:55 / SR		C METROHM_231116A : 136		R190187
Hardness as CaCO3	193	mg/L		1		A2340 B	11/27/23 00:37 / SR		CALC_231128A : 542		R190371
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.4	mg/L		0.5		A5310 C	11/23/23 08:08 / eli-c		SUB-C301345 : 49		C_R301345
Organic Carbon, Total (TOC)	1.4	mg/L		0.5		A5310 C	11/22/23 22:47 / eli-c		SUB-C301345 : 21		C_R301345
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	1.79	mg/L		0.02		E353.2	11/20/23 17:24 / JAR		SEAL AA500_231120A : 111		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	0.278	mg/L		0.009		E200.8	11/17/23 06:43 / dck		ICPMS205-H_231116C : 88		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 06:43 / dck		ICPMS205-H_231116C : 88		R190627
Arsenic	ND	mg/L		0.001		E200.8	11/17/23 06:43 / dck		ICPMS205-H_231116C : 88		R190627
Barium	0.032	mg/L		0.003		E200.8	11/17/23 06:43 / dck		ICPMS205-H_231116C : 88		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 06:43 / dck		ICPMS205-H_231116C : 88		R190627
Boron	0.25	mg/L		0.05		E200.7	11/27/23 00:37 / slj		ICP2-HE_231126B : 185		R190339
Cadmium	0.0202	mg/L		0.00003		E200.8	11/17/23 06:43 / dck		ICPMS205-H_231116C : 88		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 21:46 / dck		ICPMS205-H_231116B : 109		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-11A  
**Lab ID:** H23110571-045  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/15/23 09:28 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	57	mg/L		1		E200.7	11/27/23 00:37 / slj		ICP2-HE_231126B : 185		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 06:43 / dck		ICPMS205-H_231116C : 88		R190627
Cobalt	0.012	mg/L		0.005		E200.8	11/17/23 06:43 / dck		ICPMS205-H_231116C : 88		R190627
Copper	0.169	mg/L		0.002		E200.8	12/28/23 14:52 / dck		ICPMS206-H_231228A : 63		R191217
Gallium	ND	mg/L		0.01		E200.8	11/16/23 21:46 / dck		ICPMS205-H_231116B : 109		R190225
Iron	ND	mg/L		0.02		E200.8	11/17/23 06:43 / dck		ICPMS205-H_231116C : 88		R190627
Lead	ND	mg/L		0.0003		E200.8	11/17/23 06:43 / dck		ICPMS205-H_231116C : 88		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 21:46 / dck		ICPMS205-H_231116B : 109		R190225
Lithium	ND	mg/L		0.1		E200.7	11/27/23 00:37 / slj		ICP2-HE_231126B : 185		R190339
Magnesium	12	mg/L		1		E200.7	11/27/23 00:37 / slj		ICP2-HE_231126B : 185		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 21:46 / dck		ICPMS205-H_231116B : 109		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 21:46 / dck		ICPMS205-H_231116B : 109		R190225
Manganese	4.81	mg/L		0.001		E200.7	11/27/23 00:37 / slj		ICP2-HE_231126B : 185		R190339
Molybdenum	0.001	mg/L		0.001		E200.8	11/17/23 06:43 / dck		ICPMS205-H_231116C : 88		R190627
Nickel	0.012	mg/L		0.002		E200.8	11/17/23 06:43 / dck		ICPMS205-H_231116C : 88		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 21:46 / dck		ICPMS205-H_231116B : 109		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 21:46 / dck		ICPMS205-H_231116B : 109		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 21:46 / dck		ICPMS205-H_231116B : 109		R190225
Potassium	5	mg/L		1		E200.7	11/27/23 00:37 / slj		ICP2-HE_231126B : 185		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 06:43 / dck		ICPMS205-H_231116C : 88		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 06:43 / dck		ICPMS205-H_231116C : 88		R190627
Sodium	21	mg/L		1		E200.7	11/27/23 00:37 / slj		ICP2-HE_231126B : 185		R190339
Strontium	0.36	mg/L		0.01		E200.8	11/17/23 06:43 / dck		ICPMS205-H_231116C : 88		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 06:43 / dck		ICPMS205-H_231116C : 88		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 14:52 / dck		ICPMS206-H_231228A : 63		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 06:43 / dck		ICPMS205-H_231116C : 88		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 06:43 / dck		ICPMS205-H_231116C : 88		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 21:46 / dck		ICPMS205-H_231116B : 109		R190225
Uranium	0.0022	mg/L		0.0002		E200.8	11/17/23 06:43 / dck		ICPMS205-H_231116C : 88		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 06:43 / dck		ICPMS205-H_231116C : 88		R190627
Zinc	3.02	mg/L		0.008		E200.7	12/11/23 13:19 / slj		ICP2-HE_231211B : 62		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/17/23 17:04 / dck		ICPMS206-H_231117A : 122		R190228

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-11A  
**Lab ID:** H23110571-045  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/15/23 09:28    **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-4.28	%				A1030 E	11/28/23 08:13 / SR		CALC_231128A : 540		R190371

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-29SR  
**Lab ID:** H23110571-046  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/15/23 09:29 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.1	s.u.	H	0.1		A4500-H B	11/16/23 11:27 / eek		PHSC_101-H_231116A : 117		R190121
pH Measurement Temp	17.0	°C				A4500-H B	11/16/23 11:27 / eek		PHSC_101-H_231116A : 117		R190121
Conductivity @ 25 C	423	umhos/cm		5		A2510 B	11/16/23 11:27 / eek		PHSC_101-H_231116A : 118		R190121
Solids, Total Dissolved TDS @ 180 C	283	mg/L		20		A2540 C	11/16/23 15:38 / dpw		I24 (14410200)_231116B : 59		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	110	mg/L		4		A2320 B	11/20/23 15:53 / dpw		PHSC_101-H_231120A : 129		R190210
Bicarbonate as HCO3	130	mg/L		4		A2320 B	11/20/23 15:53 / dpw		PHSC_101-H_231120A : 129		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 15:53 / dpw		PHSC_101-H_231120A : 129		R190210
Chloride	19	mg/L		1		E300.0	11/17/23 20:09 / SR		C METROHM_231116A : 137		R190187
Sulfate	70	mg/L		1		E300.0	11/17/23 20:09 / SR		C METROHM_231116A : 137		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 20:09 / SR		C METROHM_231116A : 137		R190187
Fluoride	1.3	mg/L		0.1		E300.0	11/17/23 20:09 / SR		C METROHM_231116A : 137		R190187
Hardness as CaCO3	136	mg/L		1		A2340 B	11/27/23 00:41 / SR		CALC_231128A : 553		R190371
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.6	mg/L		0.5		A5310 C	11/23/23 08:29 / eli-c		SUB-C301345 : 50		C_R301345
Organic Carbon, Total (TOC)	0.7	mg/L		0.5		A5310 C	11/22/23 23:08 / eli-c		SUB-C301345 : 22		C_R301345
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	2.30	mg/L		0.02		E353.2	11/20/23 17:25 / JAR		SEAL AA500_231120A : 112		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 06:47 / dck		ICPMS205-H_231116C : 89		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 06:47 / dck		ICPMS205-H_231116C : 89		R190627
Arsenic	0.004	mg/L		0.001		E200.8	11/17/23 06:47 / dck		ICPMS205-H_231116C : 89		R190627
Barium	0.050	mg/L		0.003		E200.8	11/17/23 06:47 / dck		ICPMS205-H_231116C : 89		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 06:47 / dck		ICPMS205-H_231116C : 89		R190627
Boron	0.05	mg/L		0.05		E200.7	11/27/23 00:41 / slj		ICP2-HE_231126B : 186		R190339
Cadmium	0.00197	mg/L		0.00003		E200.8	11/17/23 06:47 / dck		ICPMS205-H_231116C : 89		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 21:49 / dck		ICPMS205-H_231116B : 110		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-29SR  
**Lab ID:** H23110571-046  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/15/23 09:29 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	39	mg/L		1		E200.7	11/27/23 00:41 / slj		ICP2-HE_231126B : 186		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 06:47 / dck		ICPMS205-H_231116C : 89		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 06:47 / dck		ICPMS205-H_231116C : 89		R190627
Copper	0.086	mg/L		0.002		E200.8	12/28/23 14:43 / dck		ICPMS206-H_231228A : 59		R191217
Gallium	ND	mg/L		0.01		E200.8	11/16/23 21:49 / dck		ICPMS205-H_231116B : 110		R190225
Iron	ND	mg/L		0.02		E200.8	11/17/23 06:47 / dck		ICPMS205-H_231116C : 89		R190627
Lead	ND	mg/L		0.0003		E200.8	11/17/23 06:47 / dck		ICPMS205-H_231116C : 89		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 21:49 / dck		ICPMS205-H_231116B : 110		R190225
Lithium	ND	mg/L		0.1		E200.7	11/27/23 00:41 / slj		ICP2-HE_231126B : 186		R190339
Magnesium	9	mg/L		1		E200.7	11/27/23 00:41 / slj		ICP2-HE_231126B : 186		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 21:49 / dck		ICPMS205-H_231116B : 110		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 21:49 / dck		ICPMS205-H_231116B : 110		R190225
Manganese	0.002	mg/L		0.001		E200.8	12/28/23 14:43 / dck		ICPMS206-H_231228A : 59		R191217
Molybdenum	0.013	mg/L		0.001		E200.8	11/17/23 06:47 / dck		ICPMS205-H_231116C : 89		R190627
Nickel	ND	mg/L		0.002		E200.8	11/17/23 06:47 / dck		ICPMS205-H_231116C : 89		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 21:49 / dck		ICPMS205-H_231116B : 110		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 21:49 / dck		ICPMS205-H_231116B : 110		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 21:49 / dck		ICPMS205-H_231116B : 110		R190225
Potassium	4	mg/L		1		E200.7	11/27/23 00:41 / slj		ICP2-HE_231126B : 186		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 06:47 / dck		ICPMS205-H_231116C : 89		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 06:47 / dck		ICPMS205-H_231116C : 89		R190627
Sodium	30	mg/L		1		E200.7	11/27/23 00:41 / slj		ICP2-HE_231126B : 186		R190339
Strontium	0.30	mg/L		0.01		E200.8	11/17/23 06:47 / dck		ICPMS205-H_231116C : 89		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 06:47 / dck		ICPMS205-H_231116C : 89		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 14:43 / dck		ICPMS206-H_231228A : 59		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 06:47 / dck		ICPMS205-H_231116C : 89		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 06:47 / dck		ICPMS205-H_231116C : 89		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 21:49 / dck		ICPMS205-H_231116B : 110		R190225
Uranium	0.0071	mg/L		0.0002		E200.8	11/17/23 06:47 / dck		ICPMS205-H_231116C : 89		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 06:47 / dck		ICPMS205-H_231116C : 89		R190627
Zinc	0.221	mg/L		0.008		E200.8	12/28/23 14:43 / dck		ICPMS206-H_231228A : 59		R191217
Zirconium	ND	mg/L		0.005		E200.8	11/17/23 17:18 / dck		ICPMS206-H_231117A : 129		R190228

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-29SR  
**Lab ID:** H23110571-046  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/15/23 09:29      **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-3.03	%				A1030 E	11/28/23 08:14 / SR		CALC_231128A : 551		R190371

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-11B  
**Lab ID:** H23110571-047  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/15/23 09:49 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.1	s.u.	H	0.1		A4500-H B	11/16/23 11:29 / eek		PHSC_101-H_231116A : 119		R190121
pH Measurement Temp	16.9	°C				A4500-H B	11/16/23 11:29 / eek		PHSC_101-H_231116A : 119		R190121
Conductivity @ 25 C	1510	umhos/cm		5		A2510 B	11/16/23 11:29 / eek		PHSC_101-H_231116A : 120		R190121
Solids, Total Dissolved TDS @ 180 C	1290	mg/L		20		A2540 C	11/16/23 15:38 / dpw		124 (14410200)_231116B : 60		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	5	mg/L		4		A2320 B	11/20/23 15:33 / dpw		PHSC_101-H_231120A : 123		R190210
Bicarbonate as HCO3	6	mg/L		4		A2320 B	11/20/23 15:33 / dpw		PHSC_101-H_231120A : 123		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 15:33 / dpw		PHSC_101-H_231120A : 123		R190210
Chloride	77	mg/L		1		E300.0	11/17/23 20:24 / SR		C METROHM_231116A : 138		R190187
Sulfate	776	mg/L		1		E300.0	11/17/23 20:24 / SR		C METROHM_231116A : 138		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 20:24 / SR		C METROHM_231116A : 138		R190187
Fluoride	0.4	mg/L		0.1		E300.0	11/17/23 20:24 / SR		C METROHM_231116A : 138		R190187
Hardness as CaCO3	610	mg/L		1		A2340 B	11/27/23 01:03 / SR		CALC_231208A : 289		R190695
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.1	mg/L		0.5		A5310 C	11/23/23 08:50 / eli-c		SUB-C301345 : 51		C_R301345
Organic Carbon, Total (TOC)	1.2	mg/L		0.5		A5310 C	11/22/23 23:24 / eli-c		SUB-C301345 : 23		C_R301345
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	11/20/23 17:26 / JAR		SEAL AA500_231120A : 113		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	0.369	mg/L		0.009		E200.8	11/17/23 06:50 / dck		ICPMS205-H_231116C : 90		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 06:50 / dck		ICPMS205-H_231116C : 90		R190627
Arsenic	ND	mg/L		0.001		E200.8	11/17/23 06:50 / dck		ICPMS205-H_231116C : 90		R190627
Barium	0.012	mg/L		0.003		E200.8	11/17/23 06:50 / dck		ICPMS205-H_231116C : 90		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 06:50 / dck		ICPMS205-H_231116C : 90		R190627
Boron	0.13	mg/L		0.05		E200.7	11/27/23 01:03 / slj		ICP2-HE_231126B : 192		R190339
Cadmium	0.0939	mg/L		0.00003		E200.8	11/17/23 06:50 / dck		ICPMS205-H_231116C : 90		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 21:52 / dck		ICPMS205-H_231116B : 111		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-11B  
**Lab ID:** H23110571-047  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/15/23 09:49 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	168	mg/L		1		E200.7	11/27/23 01:03 / slj		ICP2-HE_231126B : 192		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 06:50 / dck		ICPMS205-H_231116C : 90		R190627
Cobalt	0.333	mg/L		0.005		E200.8	11/17/23 06:50 / dck		ICPMS205-H_231116C : 90		R190627
Copper	0.833	mg/L		0.002		E200.8	12/28/23 16:13 / dck		ICPMS206-H_231228A : 97		R191217
Gallium	ND	mg/L		0.01		E200.8	11/16/23 21:52 / dck		ICPMS205-H_231116B : 111		R190225
Iron	24.5	mg/L		0.02		E200.7	11/27/23 01:03 / slj		ICP2-HE_231126B : 192		R190339
Lead	0.0022	mg/L		0.0003		E200.8	11/17/23 06:50 / dck		ICPMS205-H_231116C : 90		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 21:52 / dck		ICPMS205-H_231116B : 111		R190225
Lithium	0.2	mg/L		0.1		E200.7	11/27/23 01:03 / slj		ICP2-HE_231126B : 192		R190339
Magnesium	46	mg/L		1		E200.7	11/27/23 01:03 / slj		ICP2-HE_231126B : 192		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 21:52 / dck		ICPMS205-H_231116B : 111		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 21:52 / dck		ICPMS205-H_231116B : 111		R190225
Manganese	32.9	mg/L		0.001		E200.7	11/27/23 01:03 / slj		ICP2-HE_231126B : 192		R190339
Molybdenum	0.002	mg/L		0.001		E200.8	11/17/23 06:50 / dck		ICPMS205-H_231116C : 90		R190627
Nickel	0.092	mg/L		0.002		E200.8	11/17/23 06:50 / dck		ICPMS205-H_231116C : 90		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 21:52 / dck		ICPMS205-H_231116B : 111		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 21:52 / dck		ICPMS205-H_231116B : 111		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 21:52 / dck		ICPMS205-H_231116B : 111		R190225
Potassium	11	mg/L		1		E200.7	11/27/23 01:03 / slj		ICP2-HE_231126B : 192		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 06:50 / dck		ICPMS205-H_231116C : 90		R190627
Silver	0.0002	mg/L		0.0002		E200.8	11/17/23 06:50 / dck		ICPMS205-H_231116C : 90		R190627
Sodium	41	mg/L		1		E200.7	01/02/24 23:20 / slj		ICP2-HE_240102A : 226		R191281
Strontium	0.94	mg/L		0.01		E200.8	11/17/23 06:50 / dck		ICPMS205-H_231116C : 90		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 06:50 / dck		ICPMS205-H_231116C : 90		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 16:13 / dck		ICPMS206-H_231228A : 97		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 06:50 / dck		ICPMS205-H_231116C : 90		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 06:50 / dck		ICPMS205-H_231116C : 90		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 21:52 / dck		ICPMS205-H_231116B : 111		R190225
Uranium	0.0009	mg/L		0.0002		E200.8	11/17/23 06:50 / dck		ICPMS205-H_231116C : 90		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 06:50 / dck		ICPMS205-H_231116C : 90		R190627
Zinc	21.8	mg/L		0.01		E200.7	12/11/23 13:23 / slj		ICP2-HE_231211B : 63		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/17/23 17:20 / dck		ICPMS206-H_231117A : 130		R190228

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS07-11B  
**Lab ID:** H23110571-047  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/15/23 09:49      **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.52	%				A1030 E	12/08/23 15:59 / SR		CALC_231208A : 287		R190695

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-10A  
**Lab ID:** H23110571-048  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/15/23 10:03 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.9	s.u.	H	0.1		A4500-H B	11/16/23 11:30 / eek		PHSC_101-H_231116A : 121		R190121
pH Measurement Temp	16.0	°C				A4500-H B	11/16/23 11:30 / eek		PHSC_101-H_231116A : 121		R190121
Conductivity @ 25 C	332	umhos/cm		5		A2510 B	11/16/23 11:30 / eek		PHSC_101-H_231116A : 122		R190121
Solids, Total Dissolved TDS @ 180 C	232	mg/L		20		A2540 C	11/16/23 15:43 / dpw		124 (14410200)_231116B : 61		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	94	mg/L		4		A2320 B	11/20/23 15:39 / dpw		PHSC_101-H_231120A : 125		R190210
Bicarbonate as HCO3	110	mg/L		4		A2320 B	11/20/23 15:39 / dpw		PHSC_101-H_231120A : 125		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 15:39 / dpw		PHSC_101-H_231120A : 125		R190210
Chloride	14	mg/L		1		E300.0	11/17/23 20:38 / SR		C METROHM_231116A : 139		R190187
Sulfate	48	mg/L		1		E300.0	11/17/23 20:38 / SR		C METROHM_231116A : 139		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 20:38 / SR		C METROHM_231116A : 139		R190187
Fluoride	0.5	mg/L		0.1		E300.0	11/17/23 20:38 / SR		C METROHM_231116A : 139		R190187
Hardness as CaCO3	117	mg/L		1		A2340 B	11/27/23 01:07 / SR		CALC_231128A : 564		R190371
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.8	mg/L		0.5		A5310 C	11/23/23 09:06 / eli-c		SUB-C301345 : 52		C_R301345
Organic Carbon, Total (TOC)	0.8	mg/L		0.5		A5310 C	11/22/23 23:40 / eli-c		SUB-C301345 : 24		C_R301345
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	1.45	mg/L		0.02		E353.2	11/20/23 17:27 / JAR		SEAL AA500_231120A : 114		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 06:53 / dck		ICPMS205-H_231116C : 91		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 06:53 / dck		ICPMS205-H_231116C : 91		R190627
Arsenic	0.002	mg/L		0.001		E200.8	11/17/23 06:53 / dck		ICPMS205-H_231116C : 91		R190627
Barium	0.031	mg/L		0.003		E200.8	11/17/23 06:53 / dck		ICPMS205-H_231116C : 91		R190627
Beryllium	ND	mg/L		0.0008		E200.8	12/28/23 14:45 / dck		ICPMS206-H_231228A : 60		R191217
Boron	ND	mg/L		0.05		E200.7	11/27/23 01:07 / slj		ICP2-HE_231126B : 193		R190339
Cadmium	0.00038	mg/L		0.00003		E200.8	11/17/23 06:53 / dck		ICPMS205-H_231116C : 91		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 21:55 / dck		ICPMS205-H_231116B : 112		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-10A  
**Lab ID:** H23110571-048  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/15/23 10:03 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	35	mg/L		1		E200.7	11/27/23 01:07 / slj		ICP2-HE_231126B : 193		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 06:53 / dck		ICPMS205-H_231116C : 91		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 06:53 / dck		ICPMS205-H_231116C : 91		R190627
Copper	ND	mg/L		0.002		E200.8	12/28/23 14:45 / dck		ICPMS206-H_231228A : 60		R191217
Gallium	ND	mg/L		0.01		E200.8	11/16/23 21:55 / dck		ICPMS205-H_231116B : 112		R190225
Iron	ND	mg/L		0.02		E200.8	11/17/23 06:53 / dck		ICPMS205-H_231116C : 91		R190627
Lead	ND	mg/L		0.0003		E200.8	11/17/23 06:53 / dck		ICPMS205-H_231116C : 91		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 21:55 / dck		ICPMS205-H_231116B : 112		R190225
Lithium	ND	mg/L		0.1		E200.7	11/27/23 01:07 / slj		ICP2-HE_231126B : 193		R190339
Magnesium	7	mg/L		1		E200.7	11/27/23 01:07 / slj		ICP2-HE_231126B : 193		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 21:55 / dck		ICPMS205-H_231116B : 112		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 21:55 / dck		ICPMS205-H_231116B : 112		R190225
Manganese	0.061	mg/L		0.001		E200.8	12/28/23 14:45 / dck		ICPMS206-H_231228A : 60		R191217
Molybdenum	0.011	mg/L		0.001		E200.8	11/17/23 06:53 / dck		ICPMS205-H_231116C : 91		R190627
Nickel	ND	mg/L		0.002		E200.8	11/17/23 06:53 / dck		ICPMS205-H_231116C : 91		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 21:55 / dck		ICPMS205-H_231116B : 112		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 21:55 / dck		ICPMS205-H_231116B : 112		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 21:55 / dck		ICPMS205-H_231116B : 112		R190225
Potassium	3	mg/L		1		E200.7	11/27/23 01:07 / slj		ICP2-HE_231126B : 193		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 06:53 / dck		ICPMS205-H_231116C : 91		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 06:53 / dck		ICPMS205-H_231116C : 91		R190627
Sodium	18	mg/L		1		E200.7	11/27/23 01:07 / slj		ICP2-HE_231126B : 193		R190339
Strontium	0.19	mg/L		0.01		E200.8	11/17/23 06:53 / dck		ICPMS205-H_231116C : 91		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 06:53 / dck		ICPMS205-H_231116C : 91		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 14:45 / dck		ICPMS206-H_231228A : 60		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 06:53 / dck		ICPMS205-H_231116C : 91		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 06:53 / dck		ICPMS205-H_231116C : 91		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 21:55 / dck		ICPMS205-H_231116B : 112		R190225
Uranium	0.0022	mg/L		0.0002		E200.8	11/17/23 06:53 / dck		ICPMS205-H_231116C : 91		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 06:53 / dck		ICPMS205-H_231116C : 91		R190627
Zinc	0.089	mg/L		0.008		E200.8	12/28/23 14:45 / dck		ICPMS206-H_231228A : 60		R191217
Zirconium	ND	mg/L		0.005		E200.8	11/17/23 17:22 / dck		ICPMS206-H_231117A : 131		R190228

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-10A  
**Lab ID:** H23110571-048  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/15/23 10:03      **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-3.22	%				A1030 E	11/28/23 08:14 / SR		CALC_231128A : 562		R190371

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-10B  
**Lab ID:** H23110571-049  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/15/23 10:26 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.9	s.u.	H	0.1		A4500-H B	11/16/23 11:32 / eek		PHSC_101-H_231116A : 123		R190121
pH Measurement Temp	15.9	°C				A4500-H B	11/16/23 11:32 / eek		PHSC_101-H_231116A : 123		R190121
Conductivity @ 25 C	568	umhos/cm		5		A2510 B	11/16/23 11:32 / eek		PHSC_101-H_231116A : 124		R190121
Solids, Total Dissolved TDS @ 180 C	406	mg/L		20		A2540 C	11/16/23 15:43 / dpw		124 (14410200)_231116B : 62		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	77	mg/L		4		A2320 B	11/20/23 15:46 / dpw		PHSC_101-H_231120A : 127		R190210
Bicarbonate as HCO3	93	mg/L		4		A2320 B	11/20/23 15:46 / dpw		PHSC_101-H_231120A : 127		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 15:46 / dpw		PHSC_101-H_231120A : 127		R190210
Chloride	13	mg/L		1		E300.0	11/17/23 20:52 / SR		C METROHM_231116A : 140		R190187
Sulfate	194	mg/L		1		E300.0	11/17/23 20:52 / SR		C METROHM_231116A : 140		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 20:52 / SR		C METROHM_231116A : 140		R190187
Fluoride	0.4	mg/L		0.1		E300.0	11/17/23 20:52 / SR		C METROHM_231116A : 140		R190187
Hardness as CaCO3	214	mg/L		1		A2340 B	11/27/23 01:10 / SR		CALC_231128A : 575		R190371
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	11/23/23 09:26 / eli-c		SUB-C301345 : 53		C_R301345
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	11/23/23 00:00 / eli-c		SUB-C301345 : 25		C_R301345
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.31	mg/L		0.01		E353.2	11/20/23 17:33 / JAR		SEAL AA500_231120A : 118		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 06:56 / dck		ICPMS205-H_231116C : 92		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 06:56 / dck		ICPMS205-H_231116C : 92		R190627
Arsenic	0.002	mg/L		0.001		E200.8	11/17/23 06:56 / dck		ICPMS205-H_231116C : 92		R190627
Barium	0.017	mg/L		0.003		E200.8	11/17/23 06:56 / dck		ICPMS205-H_231116C : 92		R190627
Beryllium	ND	mg/L		0.0008		E200.8	12/28/23 14:47 / dck		ICPMS206-H_231228A : 61		R191217
Boron	ND	mg/L		0.05		E200.7	11/27/23 01:10 / slj		ICP2-HE_231126B : 194		R190339
Cadmium	0.00143	mg/L		0.00003		E200.8	11/17/23 06:56 / dck		ICPMS205-H_231116C : 92		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 21:58 / dck		ICPMS205-H_231116B : 113		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



**LABORATORY ANALYTICAL REPORT**

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-10B  
**Lab ID:** H23110571-049  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/15/23 10:26 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	63	mg/L		1		E200.7	11/27/23 01:10 / slj		ICP2-HE_231126B : 194		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 06:56 / dck		ICPMS205-H_231116C : 92		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 06:56 / dck		ICPMS205-H_231116C : 92		R190627
Copper	ND	mg/L		0.002		E200.8	12/28/23 14:47 / dck		ICPMS206-H_231228A : 61		R191217
Gallium	ND	mg/L		0.01		E200.8	11/16/23 21:58 / dck		ICPMS205-H_231116B : 113		R190225
Iron	ND	mg/L		0.02		E200.8	11/17/23 06:56 / dck		ICPMS205-H_231116C : 92		R190627
Lead	ND	mg/L		0.0003		E200.8	11/17/23 06:56 / dck		ICPMS205-H_231116C : 92		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 21:58 / dck		ICPMS205-H_231116B : 113		R190225
Lithium	ND	mg/L		0.1		E200.7	11/27/23 01:10 / slj		ICP2-HE_231126B : 194		R190339
Magnesium	14	mg/L		1		E200.7	11/27/23 01:10 / slj		ICP2-HE_231126B : 194		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 21:58 / dck		ICPMS205-H_231116B : 113		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 21:58 / dck		ICPMS205-H_231116B : 113		R190225
Manganese	0.003	mg/L		0.001		E200.8	12/28/23 14:47 / dck		ICPMS206-H_231228A : 61		R191217
Molybdenum	0.033	mg/L		0.001		E200.8	11/17/23 06:56 / dck		ICPMS205-H_231116C : 92		R190627
Nickel	ND	mg/L		0.002		E200.8	11/17/23 06:56 / dck		ICPMS205-H_231116C : 92		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 21:58 / dck		ICPMS205-H_231116B : 113		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 21:58 / dck		ICPMS205-H_231116B : 113		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 21:58 / dck		ICPMS205-H_231116B : 113		R190225
Potassium	5	mg/L		1		E200.7	11/27/23 01:10 / slj		ICP2-HE_231126B : 194		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 06:56 / dck		ICPMS205-H_231116C : 92		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 06:56 / dck		ICPMS205-H_231116C : 92		R190627
Sodium	28	mg/L		1		E200.7	11/27/23 01:10 / slj		ICP2-HE_231126B : 194		R190339
Strontium	0.40	mg/L		0.01		E200.8	11/17/23 06:56 / dck		ICPMS205-H_231116C : 92		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 06:56 / dck		ICPMS205-H_231116C : 92		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 14:47 / dck		ICPMS206-H_231228A : 61		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 06:56 / dck		ICPMS205-H_231116C : 92		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 06:56 / dck		ICPMS205-H_231116C : 92		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 21:58 / dck		ICPMS205-H_231116B : 113		R190225
Uranium	0.0023	mg/L		0.0002		E200.8	11/17/23 06:56 / dck		ICPMS205-H_231116C : 92		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 06:56 / dck		ICPMS205-H_231116C : 92		R190627
Zinc	0.082	mg/L		0.008		E200.8	12/28/23 14:47 / dck		ICPMS206-H_231228A : 61		R191217
Zirconium	ND	mg/L		0.005		E200.8	11/17/23 17:24 / dck		ICPMS206-H_231117A : 132		R190228

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-10B  
**Lab ID:** H23110571-049  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/15/23 10:26      **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-3.21	%				A1030 E	11/28/23 08:14 / SR		CALC_231128A : 573		R190371

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01B  
**Lab ID:** H23110571-050  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/15/23 10:47 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.2	s.u.	H	0.1		A4500-H B	11/16/23 11:34 / eek		PHSC_101-H_231116A : 125		R190121
pH Measurement Temp	16.0	°C				A4500-H B	11/16/23 11:34 / eek		PHSC_101-H_231116A : 125		R190121
Conductivity @ 25 C	3930	umhos/cm		5		A2510 B	11/16/23 11:34 / eek		PHSC_101-H_231116A : 126		R190121
Solids, Total Dissolved TDS @ 180 C	4210	mg/L		100		A2540 C	11/16/23 15:44 / dpw		124 (14410200)_231116B : 63		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	11/20/23 16:33 / dpw		PHSC_101-H_231120A : 135		R190210
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	11/20/23 16:33 / dpw		PHSC_101-H_231120A : 135		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 16:33 / dpw		PHSC_101-H_231120A : 135		R190210
Chloride	190	mg/L		1		E300.0	11/17/23 21:07 / SR		C METROHM_231116A : 141		R190187
Sulfate	2630	mg/L		1		E300.0	11/17/23 21:07 / SR		C METROHM_231116A : 141		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 21:07 / SR		C METROHM_231116A : 141		R190187
Fluoride	5.6	mg/L	*	0.1		E300.0	11/17/23 21:07 / SR		C METROHM_231116A : 141		R190187
Hardness as CaCO3	1700	mg/L		1		A2340 B	11/27/23 01:14 / SR		CALC_231208A : 300		R190695
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.9	mg/L		0.5		A5310 C	11/23/23 09:48 / eli-c		SUB-C301345 : 54		C_R301345
Organic Carbon, Total (TOC)	0.9	mg/L		0.5		A5310 C	11/23/23 00:23 / eli-c		SUB-C301345 : 26		C_R301345
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	6.76	mg/L		0.05		E353.2	11/21/23 10:05 / JAR		SEAL AA500_231120A : 221		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	9.01	mg/L		0.06		E200.7	11/27/23 01:14 / slj		ICP2-HE_231126B : 195		R190339
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 07:00 / dck		ICPMS205-H_231116C : 93		R190627
Arsenic	0.002	mg/L		0.001		E200.8	11/17/23 07:00 / dck		ICPMS205-H_231116C : 93		R190627
Barium	0.011	mg/L		0.003		E200.8	11/17/23 07:00 / dck		ICPMS205-H_231116C : 93		R190627
Beryllium	0.0080	mg/L		0.0008		E200.8	11/17/23 07:00 / dck		ICPMS205-H_231116C : 93		R190627
Boron	0.20	mg/L		0.05		E200.7	11/27/23 01:14 / slj		ICP2-HE_231126B : 195		R190339
Cadmium	1.15	mg/L		0.00003		E200.8	11/17/23 07:00 / dck		ICPMS205-H_231116C : 93		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 22:00 / dck		ICPMS205-H_231116B : 114		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** \* - The result exceeds the Maximum Contaminant Level (MCL)

H - Analysis performed past the method holding time





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01B  
**Lab ID:** H23110571-050  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/15/23 10:47 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	461	mg/L		1		E200.7	11/27/23 01:14 / slj		ICP2-HE_231126B : 195		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 07:00 / dck		ICPMS205-H_231116C : 93		R190627
Cobalt	0.288	mg/L		0.005		E200.8	11/17/23 07:00 / dck		ICPMS205-H_231116C : 93		R190627
Copper	74.2	mg/L		0.02		E200.7	11/27/23 01:14 / slj		ICP2-HE_231126B : 195		R190339
Gallium	0.01	mg/L		0.01		E200.8	11/16/23 22:00 / dck		ICPMS205-H_231116B : 114		R190225
Iron	0.31	mg/L		0.02		E200.8	11/17/23 07:00 / dck		ICPMS205-H_231116C : 93		R190627
Lead	0.0043	mg/L		0.0003		E200.8	11/17/23 07:00 / dck		ICPMS205-H_231116C : 93		R190627
Lanthanum	0.10	mg/L		0.01		E200.8	11/16/23 22:00 / dck		ICPMS205-H_231116B : 114		R190225
Lithium	0.7	mg/L		0.1		E200.7	11/27/23 01:14 / slj		ICP2-HE_231126B : 195		R190339
Magnesium	133	mg/L		1		E200.7	11/27/23 01:14 / slj		ICP2-HE_231126B : 195		R190339
Neodymium	0.067	mg/L		0.005		E200.8	11/16/23 22:00 / dck		ICPMS205-H_231116B : 114		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 22:00 / dck		ICPMS205-H_231116B : 114		R190225
Manganese	236	mg/L		0.003		E200.7	11/27/23 01:14 / slj		ICP2-HE_231126B : 195		R190339
Molybdenum	0.001	mg/L		0.001		E200.8	11/17/23 07:00 / dck		ICPMS205-H_231116C : 93		R190627
Nickel	0.530	mg/L		0.002		E200.8	11/17/23 07:00 / dck		ICPMS205-H_231116C : 93		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 22:00 / dck		ICPMS205-H_231116B : 114		R190225
Praseodymium	0.02	mg/L		0.01		E200.8	11/16/23 22:00 / dck		ICPMS205-H_231116B : 114		R190225
Rubidium	0.04	mg/L		0.01		E200.8	11/16/23 22:00 / dck		ICPMS205-H_231116B : 114		R190225
Potassium	27	mg/L		1		E200.7	11/27/23 01:14 / slj		ICP2-HE_231126B : 195		R190339
Selenium	0.001	mg/L		0.001		E200.8	11/17/23 07:00 / dck		ICPMS205-H_231116C : 93		R190627
Silver	0.0099	mg/L		0.0002		E200.8	11/17/23 07:00 / dck		ICPMS205-H_231116C : 93		R190627
Sodium	68	mg/L		1		E200.7	01/02/24 23:39 / slj		ICP2-HE_240102A : 231		R191281
Strontium	4.06	mg/L		0.01		E200.7	11/27/23 01:14 / slj		ICP2-HE_231126B : 195		R190339
Thallium	0.0002	mg/L		0.0002		E200.8	11/17/23 07:00 / dck		ICPMS205-H_231116C : 93		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 17:08 / dck		ICPMS206-H_231228A : 118		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 07:00 / dck		ICPMS205-H_231116C : 93		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 07:00 / dck		ICPMS205-H_231116C : 93		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 22:00 / dck		ICPMS205-H_231116B : 114		R190225
Uranium	0.0314	mg/L		0.0002		E200.8	11/17/23 07:00 / dck		ICPMS205-H_231116C : 93		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 07:00 / dck		ICPMS205-H_231116C : 93		R190627
Zinc	186	mg/L		0.03		E200.7	12/11/23 13:26 / slj		ICP2-HE_231211B : 64		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/17/23 17:26 / dck		ICPMS206-H_231117A : 133		R190228

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01B  
**Lab ID:** H23110571-050  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/15/23 10:47      **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-13.0	%				A1030 E	12/08/23 16:00 / SR		CALC_231208A	: 298	R190695

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-24C  
**Lab ID:** H23110571-051  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/15/23 11:03 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.6	s.u.	H	0.1		A4500-H B	11/16/23 11:36 / eek		PHSC_101-H_231116A : 127		R190121
pH Measurement Temp	15.8	°C				A4500-H B	11/16/23 11:36 / eek		PHSC_101-H_231116A : 127		R190121
Conductivity @ 25 C	1130	umhos/cm		5		A2510 B	11/16/23 11:36 / eek		PHSC_101-H_231116A : 128		R190121
Solids, Total Dissolved TDS @ 180 C	857	mg/L		20		A2540 C	11/16/23 15:44 / dpw		124 (14410200)_231116B : 64		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	68	mg/L		4		A2320 B	11/20/23 16:37 / dpw		PHSC_101-H_231120A : 137		R190210
Bicarbonate as HCO3	83	mg/L		4		A2320 B	11/20/23 16:37 / dpw		PHSC_101-H_231120A : 137		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 16:37 / dpw		PHSC_101-H_231120A : 137		R190210
Chloride	28	mg/L		1		E300.0	11/17/23 21:21 / SR		C METROHM_231116A : 142		R190187
Sulfate	504	mg/L		1		E300.0	11/17/23 21:21 / SR		C METROHM_231116A : 142		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 21:21 / SR		C METROHM_231116A : 142		R190187
Fluoride	0.4	mg/L		0.1		E300.0	11/17/23 21:21 / SR		C METROHM_231116A : 142		R190187
Hardness as CaCO3	403	mg/L		1		A2340 B	11/27/23 01:18 / SR		CALC_231208A : 311		R190695
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	11/23/23 10:12 / eli-c		SUB-C301345 : 55		C_R301345
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	11/23/23 00:47 / eli-c		SUB-C301345 : 27		C_R301345
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.13	mg/L		0.01		E353.2	11/20/23 17:35 / JAR		SEAL AA500_231120A : 120		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 07:19 / dck		ICPMS205-H_231116C : 99		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 07:19 / dck		ICPMS205-H_231116C : 99		R190627
Arsenic	0.008	mg/L		0.001		E200.8	11/17/23 07:19 / dck		ICPMS205-H_231116C : 99		R190627
Barium	0.013	mg/L		0.003		E200.8	11/17/23 07:19 / dck		ICPMS205-H_231116C : 99		R190627
Beryllium	ND	mg/L		0.0008		E200.8	12/28/23 16:15 / dck		ICPMS206-H_231228A : 98		R191217
Boron	0.10	mg/L		0.05		E200.7	11/27/23 01:18 / slj		ICP2-HE_231126B : 196		R190339
Cadmium	0.00414	mg/L		0.00003		E200.8	11/17/23 07:19 / dck		ICPMS205-H_231116C : 99		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 22:18 / dck		ICPMS205-H_231116B : 120		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-24C  
**Lab ID:** H23110571-051  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/15/23 11:03 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	123	mg/L		1		E200.7	11/27/23 01:18 / slj		ICP2-HE_231126B : 196		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 07:19 / dck		ICPMS205-H_231116C : 99		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 07:19 / dck		ICPMS205-H_231116C : 99		R190627
Copper	0.056	mg/L		0.002		E200.8	12/28/23 16:15 / dck		ICPMS206-H_231228A : 98		R191217
Gallium	ND	mg/L		0.01		E200.8	11/16/23 22:18 / dck		ICPMS205-H_231116B : 120		R190225
Iron	ND	mg/L		0.02		E200.8	11/17/23 07:19 / dck		ICPMS205-H_231116C : 99		R190627
Lead	ND	mg/L		0.0003		E200.8	11/17/23 07:19 / dck		ICPMS205-H_231116C : 99		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 22:18 / dck		ICPMS205-H_231116B : 120		R190225
Lithium	0.2	mg/L		0.1		E200.7	11/27/23 01:18 / slj		ICP2-HE_231126B : 196		R190339
Magnesium	23	mg/L		1		E200.7	11/27/23 01:18 / slj		ICP2-HE_231126B : 196		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 22:18 / dck		ICPMS205-H_231116B : 120		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 22:18 / dck		ICPMS205-H_231116B : 120		R190225
Manganese	0.027	mg/L		0.001		E200.8	12/28/23 16:15 / dck		ICPMS206-H_231228A : 98		R191217
Molybdenum	0.003	mg/L		0.001		E200.8	11/17/23 07:19 / dck		ICPMS205-H_231116C : 99		R190627
Nickel	ND	mg/L		0.002		E200.8	11/17/23 07:19 / dck		ICPMS205-H_231116C : 99		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 22:18 / dck		ICPMS205-H_231116B : 120		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 22:18 / dck		ICPMS205-H_231116B : 120		R190225
Rubidium	0.01	mg/L		0.01		E200.8	11/16/23 22:18 / dck		ICPMS205-H_231116B : 120		R190225
Potassium	11	mg/L		1		E200.7	11/27/23 01:18 / slj		ICP2-HE_231126B : 196		R190339
Selenium	ND	mg/L		0.001		E200.8	12/28/23 16:15 / dck		ICPMS206-H_231228A : 98		R191217
Silver	ND	mg/L		0.0002		E200.8	11/17/23 07:19 / dck		ICPMS205-H_231116C : 99		R190627
Sodium	77	mg/L		1		E200.7	01/02/24 23:43 / slj		ICP2-HE_240102A : 232		R191281
Strontium	1.44	mg/L		0.01		E200.7	11/27/23 01:18 / slj		ICP2-HE_231126B : 196		R190339
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 07:19 / dck		ICPMS205-H_231116C : 99		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 16:15 / dck		ICPMS206-H_231228A : 98		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 07:19 / dck		ICPMS205-H_231116C : 99		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 07:19 / dck		ICPMS205-H_231116C : 99		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 22:18 / dck		ICPMS205-H_231116B : 120		R190225
Uranium	0.0024	mg/L		0.0002		E200.8	11/17/23 07:19 / dck		ICPMS205-H_231116C : 99		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 07:19 / dck		ICPMS205-H_231116C : 99		R190627
Zinc	0.464	mg/L		0.008		E200.8	12/28/23 16:15 / dck		ICPMS206-H_231228A : 98		R191217
Zirconium	ND	mg/L		0.005		E200.8	11/17/23 17:28 / dck		ICPMS206-H_231117A : 134		R190228

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-24C  
**Lab ID:** H23110571-051  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/15/23 11:03    **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-2.87	%				A1030 E	12/08/23 16:01 / SR		CALC_231208A : 309		R190695

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-14A  
**Lab ID:** H23110571-052  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/15/23 11:52 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.7	s.u.	H	0.1		A4500-H B	11/16/23 11:38 / eek		PHSC_101-H_231116A : 129		R190121
pH Measurement Temp	16.0	°C				A4500-H B	11/16/23 11:38 / eek		PHSC_101-H_231116A : 129		R190121
Conductivity @ 25 C	576	umhos/cm		5		A2510 B	11/16/23 11:38 / eek		PHSC_101-H_231116A : 130		R190121
Solids, Total Dissolved TDS @ 180 C	393	mg/L		20		A2540 C	11/16/23 15:44 / dpw		I24 (14410200)_231116B : 65		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	130	mg/L		4		A2320 B	11/20/23 16:44 / dpw		PHSC_101-H_231120A : 139		R190210
Bicarbonate as HCO3	160	mg/L		4		A2320 B	11/20/23 16:44 / dpw		PHSC_101-H_231120A : 139		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 16:44 / dpw		PHSC_101-H_231120A : 139		R190210
Chloride	31	mg/L		1		E300.0	11/17/23 21:35 / SR		C METROHM_231116A : 143		R190187
Sulfate	111	mg/L		1		E300.0	11/17/23 21:35 / SR		C METROHM_231116A : 143		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 21:35 / SR		C METROHM_231116A : 143		R190187
Fluoride	0.3	mg/L		0.1		E300.0	11/17/23 21:35 / SR		C METROHM_231116A : 143		R190187
Hardness as CaCO3	223	mg/L		1		A2340 B	11/27/23 01:22 / SR		CALC_231128A : 586		R190371
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.3	mg/L		0.5		A5310 C	11/23/23 10:32 / eli-c		SUB-C301345 : 56		C_R301345
Organic Carbon, Total (TOC)	1.4	mg/L		0.5		A5310 C	11/23/23 01:08 / eli-c		SUB-C301345 : 28		C_R301345
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	3.19	mg/L		0.05		E353.2	11/20/23 17:38 / JAR		SEAL AA500_231120A : 123		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 07:22 / dck		ICPMS205-H_231116C : 100		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 07:22 / dck		ICPMS205-H_231116C : 100		R190627
Arsenic	0.001	mg/L		0.001		E200.8	11/17/23 07:22 / dck		ICPMS205-H_231116C : 100		R190627
Barium	0.029	mg/L		0.003		E200.8	11/17/23 07:22 / dck		ICPMS205-H_231116C : 100		R190627
Beryllium	ND	mg/L		0.0008		E200.8	12/28/23 14:50 / dck		ICPMS206-H_231228A : 62		R191217
Boron	0.13	mg/L		0.05		E200.7	11/27/23 01:22 / slj		ICP2-HE_231126B : 197		R190339
Cadmium	0.00027	mg/L		0.00003		E200.8	11/17/23 07:22 / dck		ICPMS205-H_231116C : 100		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 22:21 / dck		ICPMS205-H_231116B : 121		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-14A  
**Lab ID:** H23110571-052  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/15/23 11:52 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	62	mg/L		1		E200.7	11/27/23 01:22 / slj		ICP2-HE_231126B : 197		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 07:22 / dck		ICPMS205-H_231116C : 100		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 07:22 / dck		ICPMS205-H_231116C : 100		R190627
Copper	0.003	mg/L		0.002		E200.8	12/28/23 14:50 / dck		ICPMS206-H_231228A : 62		R191217
Gallium	ND	mg/L		0.01		E200.8	11/16/23 22:21 / dck		ICPMS205-H_231116B : 121		R190225
Iron	ND	mg/L		0.02		E200.8	11/17/23 07:22 / dck		ICPMS205-H_231116C : 100		R190627
Lead	ND	mg/L		0.0003		E200.8	11/17/23 07:22 / dck		ICPMS205-H_231116C : 100		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 22:21 / dck		ICPMS205-H_231116B : 121		R190225
Lithium	ND	mg/L		0.1		E200.7	11/27/23 01:22 / slj		ICP2-HE_231126B : 197		R190339
Magnesium	17	mg/L		1		E200.7	11/27/23 01:22 / slj		ICP2-HE_231126B : 197		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 22:21 / dck		ICPMS205-H_231116B : 121		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 22:21 / dck		ICPMS205-H_231116B : 121		R190225
Manganese	0.010	mg/L		0.001		E200.8	12/28/23 14:50 / dck		ICPMS206-H_231228A : 62		R191217
Molybdenum	0.005	mg/L		0.001		E200.8	12/28/23 14:50 / dck		ICPMS206-H_231228A : 62		R191217
Nickel	ND	mg/L		0.002		E200.8	11/17/23 07:22 / dck		ICPMS205-H_231116C : 100		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 22:21 / dck		ICPMS205-H_231116B : 121		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 22:21 / dck		ICPMS205-H_231116B : 121		R190225
Rubidium	ND	mg/L		0.01		E200.8	11/16/23 22:21 / dck		ICPMS205-H_231116B : 121		R190225
Potassium	5	mg/L		1		E200.7	11/27/23 01:22 / slj		ICP2-HE_231126B : 197		R190339
Selenium	ND	mg/L		0.001		E200.8	12/28/23 14:50 / dck		ICPMS206-H_231228A : 62		R191217
Silver	ND	mg/L		0.0002		E200.8	11/17/23 07:22 / dck		ICPMS205-H_231116C : 100		R190627
Sodium	23	mg/L		1		E200.7	11/27/23 01:22 / slj		ICP2-HE_231126B : 197		R190339
Strontium	0.36	mg/L		0.01		E200.8	11/17/23 07:22 / dck		ICPMS205-H_231116C : 100		R190627
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 07:22 / dck		ICPMS205-H_231116C : 100		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 14:50 / dck		ICPMS206-H_231228A : 62		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 07:22 / dck		ICPMS205-H_231116C : 100		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 07:22 / dck		ICPMS205-H_231116C : 100		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 22:21 / dck		ICPMS205-H_231116B : 121		R190225
Uranium	0.0104	mg/L		0.0002		E200.8	11/17/23 07:22 / dck		ICPMS205-H_231116C : 100		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 07:22 / dck		ICPMS205-H_231116C : 100		R190627
Zinc	0.017	mg/L		0.008		E200.8	12/28/23 14:50 / dck		ICPMS206-H_231228A : 62		R191217
Zirconium	ND	mg/L		0.005		E200.8	11/17/23 17:30 / dck		ICPMS206-H_231117A : 135		R190228

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-14A  
**Lab ID:** H23110571-052  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/15/23 11:52    **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-3.92	%				A1030 E	11/28/23 08:15 / SR		CALC_231128A : 584		R190371

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: MT Dept of Justice
Client Sample ID: BPS11-14B
Lab ID: H23110571-053
Matrix: Groundwater

Project: NRDPM16 TO2-Task 001
Collection Date: 11/15/23 12:16 DateReceived: 11/15/23
Report Date: 01/04/24

Table with columns: Analyses, Result, Units, Qualifiers, RL, MDL, Method, Analysis Date / By, Prep Date, RunID, Run Order, BatchID. Rows include Physical Properties (pH, Temp, Conductivity, TDS), Inorganics (Alkalinity, Bicarbonate, Carbonate, Chloride, Sulfate, Bromide, Fluoride, Hardness), Aggregate Organics (DOC, TOC), Nutrients (Nitrogen), and Metals, Dissolved (Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Cesium).

Report Definitions: RL - Analyte Reporting Limit
H - Analysis performed past the method holding time

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-14B  
**Lab ID:** H23110571-053  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/15/23 12:16 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	294	mg/L		1		E200.7	11/27/23 01:26 / slj		ICP2-HE_231126B : 198		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 07:26 / dck		ICPMS205-H_231116C : 101		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 07:26 / dck		ICPMS205-H_231116C : 101		R190627
Copper	0.231	mg/L		0.002		E200.8	12/28/23 16:17 / dck		ICPMS206-H_231228A : 99		R191217
Gallium	ND	mg/L		0.01		E200.8	11/16/23 22:24 / dck		ICPMS205-H_231116B : 122		R190225
Iron	ND	mg/L		0.02		E200.8	11/17/23 07:26 / dck		ICPMS205-H_231116C : 101		R190627
Lead	ND	mg/L		0.0003		E200.8	11/17/23 07:26 / dck		ICPMS205-H_231116C : 101		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 22:24 / dck		ICPMS205-H_231116B : 122		R190225
Lithium	0.3	mg/L		0.1		E200.7	11/27/23 01:26 / slj		ICP2-HE_231126B : 198		R190339
Magnesium	62	mg/L		1		E200.7	11/27/23 01:26 / slj		ICP2-HE_231126B : 198		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 22:24 / dck		ICPMS205-H_231116B : 122		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 22:24 / dck		ICPMS205-H_231116B : 122		R190225
Manganese	0.050	mg/L		0.001		E200.8	12/28/23 16:17 / dck		ICPMS206-H_231228A : 99		R191217
Molybdenum	0.002	mg/L		0.001		E200.8	11/17/23 07:26 / dck		ICPMS205-H_231116C : 101		R190627
Nickel	0.012	mg/L		0.002		E200.8	11/17/23 07:26 / dck		ICPMS205-H_231116C : 101		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 22:24 / dck		ICPMS205-H_231116B : 122		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 22:24 / dck		ICPMS205-H_231116B : 122		R190225
Rubidium	0.02	mg/L		0.01		E200.8	11/16/23 22:24 / dck		ICPMS205-H_231116B : 122		R190225
Potassium	15	mg/L		1		E200.7	11/27/23 01:26 / slj		ICP2-HE_231126B : 198		R190339
Selenium	ND	mg/L		0.001		E200.8	11/17/23 07:26 / dck		ICPMS205-H_231116C : 101		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 07:26 / dck		ICPMS205-H_231116C : 101		R190627
Sodium	106	mg/L		1		E200.7	11/27/23 01:26 / slj		ICP2-HE_231126B : 198		R190339
Strontium	3.46	mg/L		0.01		E200.7	11/27/23 01:26 / slj		ICP2-HE_231126B : 198		R190339
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 07:26 / dck		ICPMS205-H_231116C : 101		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 16:17 / dck		ICPMS206-H_231228A : 99		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 07:26 / dck		ICPMS205-H_231116C : 101		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 07:26 / dck		ICPMS205-H_231116C : 101		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 22:24 / dck		ICPMS205-H_231116B : 122		R190225
Uranium	0.0017	mg/L		0.0002		E200.8	11/17/23 07:26 / dck		ICPMS205-H_231116C : 101		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 07:26 / dck		ICPMS205-H_231116C : 101		R190627
Zinc	2.85	mg/L		0.008		E200.7	12/11/23 13:49 / slj		ICP2-HE_231211B : 70		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/17/23 17:32 / dck		ICPMS206-H_231117A : 136		R190228

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** BPS11-14B  
**Lab ID:** H23110571-053  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/15/23 12:16    **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-2.66	%				A1030 E	11/28/23 08:15 / SR		CALC_231128A : 595		R190371

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-23B  
**Lab ID:** H23110571-054  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/15/23 12:27 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.8	s.u.	H	0.1		A4500-H B	11/16/23 11:42 / eek		PHSC_101-H_231116A : 133		R190121
pH Measurement Temp	16.7	°C				A4500-H B	11/16/23 11:42 / eek		PHSC_101-H_231116A : 133		R190121
Conductivity @ 25 C	1240	umhos/cm		5		A2510 B	11/16/23 11:42 / eek		PHSC_101-H_231116A : 134		R190121
Solids, Total Dissolved TDS @ 180 C	935	mg/L		20		A2540 C	11/16/23 15:45 / dpw		I24 (14410200)_231116B : 67		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	91	mg/L		4		A2320 B	11/20/23 16:57 / dpw		PHSC_101-H_231120A : 143		R190210
Bicarbonate as HCO3	110	mg/L		4		A2320 B	11/20/23 16:57 / dpw		PHSC_101-H_231120A : 143		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 16:57 / dpw		PHSC_101-H_231120A : 143		R190210
Chloride	40	mg/L		1		E300.0	11/17/23 23:02 / SR		C METROHM_231116A : 149		R190187
Sulfate	525	mg/L		1		E300.0	11/17/23 23:02 / SR		C METROHM_231116A : 149		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 23:02 / SR		C METROHM_231116A : 149		R190187
Fluoride	1.1	mg/L		0.1		E300.0	11/17/23 23:02 / SR		C METROHM_231116A : 149		R190187
Hardness as CaCO3	469	mg/L		1		A2340 B	11/27/23 02:08 / abc		CALC_231211A : 14		R190718
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	11/28/23 06:26 / eli-c		SUB-C301403 : 19		C_R301403
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	11/27/23 19:36 / eli-c		SUB-C301403 : 9		C_R301403
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	3.14	mg/L		0.05		E353.2	11/20/23 17:40 / JAR		SEAL AA500_231120A : 125		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	11/17/23 07:29 / dck		ICPMS205-H_231116C : 102		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 07:29 / dck		ICPMS205-H_231116C : 102		R190627
Arsenic	0.009	mg/L		0.001		E200.8	11/17/23 07:29 / dck		ICPMS205-H_231116C : 102		R190627
Barium	0.020	mg/L		0.003		E200.8	11/17/23 07:29 / dck		ICPMS205-H_231116C : 102		R190627
Beryllium	ND	mg/L		0.0008		E200.8	12/28/23 16:19 / dck		ICPMS206-H_231228A : 100		R191217
Boron	0.14	mg/L		0.05		E200.7	12/08/23 15:39 / slj		ICP2-HE_231208B : 54		R190705
Cadmium	0.0102	mg/L		0.00003		E200.8	11/17/23 07:29 / dck		ICPMS205-H_231116C : 102		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 22:27 / dck		ICPMS205-H_231116B : 123		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-23B  
**Lab ID:** H23110571-054  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/15/23 12:27 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	141	mg/L		1		E200.7	11/27/23 02:08 / slj		ICP2-HE_231126B : 209		R190339
Chromium	ND	mg/L		0.005		E200.8	11/17/23 07:29 / dck		ICPMS205-H_231116C : 102		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 07:29 / dck		ICPMS205-H_231116C : 102		R190627
Copper	0.004	mg/L		0.002		E200.8	12/28/23 16:19 / dck		ICPMS206-H_231228A : 100		R191217
Gallium	ND	mg/L		0.01		E200.8	11/16/23 22:27 / dck		ICPMS205-H_231116B : 123		R190225
Iron	ND	mg/L		0.02		E200.8	11/17/23 07:29 / dck		ICPMS205-H_231116C : 102		R190627
Lead	ND	mg/L		0.0003		E200.8	11/17/23 07:29 / dck		ICPMS205-H_231116C : 102		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 22:27 / dck		ICPMS205-H_231116B : 123		R190225
Lithium	0.4	mg/L		0.1		E200.7	12/11/23 13:53 / slj		ICP2-HE_231211B : 71		R190737
Magnesium	28	mg/L		1		E200.7	11/27/23 02:08 / slj		ICP2-HE_231126B : 209		R190339
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 22:27 / dck		ICPMS205-H_231116B : 123		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 22:27 / dck		ICPMS205-H_231116B : 123		R190225
Manganese	0.086	mg/L		0.001		E200.8	12/28/23 16:19 / dck		ICPMS206-H_231228A : 100		R191217
Molybdenum	0.003	mg/L		0.001		E200.8	11/17/23 07:29 / dck		ICPMS205-H_231116C : 102		R190627
Nickel	0.003	mg/L		0.002		E200.8	11/17/23 07:29 / dck		ICPMS205-H_231116C : 102		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 22:27 / dck		ICPMS205-H_231116B : 123		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 22:27 / dck		ICPMS205-H_231116B : 123		R190225
Rubidium	0.01	mg/L		0.01		E200.8	11/16/23 22:27 / dck		ICPMS205-H_231116B : 123		R190225
Potassium	12	mg/L		1		E200.8	11/17/23 07:29 / dck		ICPMS205-H_231116C : 102		R190627
Selenium	ND	mg/L		0.001		E200.8	12/28/23 16:19 / dck		ICPMS206-H_231228A : 100		R191217
Silver	ND	mg/L		0.0002		E200.8	11/17/23 07:29 / dck		ICPMS205-H_231116C : 102		R190627
Sodium	87	mg/L		1		E200.7	01/03/24 00:06 / slj		ICP2-HE_240102A : 238		R191281
Strontium	2.01	mg/L		0.01		E200.7	11/27/23 02:08 / slj		ICP2-HE_231126B : 209		R190339
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 07:29 / dck		ICPMS205-H_231116C : 102		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 16:19 / dck		ICPMS206-H_231228A : 100		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 07:29 / dck		ICPMS205-H_231116C : 102		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 07:29 / dck		ICPMS205-H_231116C : 102		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 22:27 / dck		ICPMS205-H_231116B : 123		R190225
Uranium	0.0043	mg/L		0.0002		E200.8	11/17/23 07:29 / dck		ICPMS205-H_231116C : 102		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 07:29 / dck		ICPMS205-H_231116C : 102		R190627
Zinc	0.913	mg/L		0.008		E200.7	12/11/23 13:53 / slj		ICP2-HE_231211B : 71		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/17/23 17:34 / dck		ICPMS206-H_231117A : 137		R190228

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-23B  
**Lab ID:** H23110571-054  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/15/23 12:27      **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.55	%				A1030 E	12/11/23 09:00 / abc		CALC_231211A : 12		R190718

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01C  
**Lab ID:** H23110571-055  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/15/23 12:56 **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.5	s.u.	H	0.1		A4500-H B	11/16/23 11:44 / eek		PHSC_101-H_231116A : 135		R190121
pH Measurement Temp	17.5	°C				A4500-H B	11/16/23 11:44 / eek		PHSC_101-H_231116A : 135		R190121
Conductivity @ 25 C	2870	umhos/cm		5		A2510 B	11/16/23 11:44 / eek		PHSC_101-H_231116A : 136		R190121
Solids, Total Dissolved TDS @ 180 C	2760	mg/L		50		A2540 C	11/16/23 15:45 / dpw		I24 (14410200)_231116B : 68		TDS231116A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	19	mg/L		4		A2320 B	11/20/23 17:04 / dpw		PHSC_101-H_231120A : 145		R190210
Bicarbonate as HCO3	23	mg/L		4		A2320 B	11/20/23 17:04 / dpw		PHSC_101-H_231120A : 145		R190210
Carbonate as CO3	ND	mg/L		4		A2320 B	11/20/23 17:04 / dpw		PHSC_101-H_231120A : 145		R190210
Chloride	13	mg/L		1		E300.0	11/17/23 23:16 / SR		C METROHM_231116A : 150		R190187
Sulfate	1920	mg/L		1		E300.0	11/17/23 23:16 / SR		C METROHM_231116A : 150		R190187
Bromide	ND	mg/L		0.5		E300.0	11/17/23 23:16 / SR		C METROHM_231116A : 150		R190187
Fluoride	1.1	mg/L		0.1		E300.0	11/17/23 23:16 / SR		C METROHM_231116A : 150		R190187
Hardness as CaCO3	1450	mg/L		1		A2340 B	11/27/23 02:11 / abc		CALC_231211A : 25		R190718
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.6	mg/L		0.5		A5310 C	11/28/23 06:47 / eli-c		SUB-C301403 : 20		C_R301403
Organic Carbon, Total (TOC)	0.6	mg/L		0.5		A5310 C	11/27/23 19:56 / eli-c		SUB-C301403 : 10		C_R301403
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.31	mg/L		0.01		E353.2	11/20/23 17:41 / JAR		SEAL AA500_231120A : 126		R190261
<b>METALS, DISSOLVED</b>											
Aluminum	0.244	mg/L		0.009		E200.8	11/17/23 07:32 / dck		ICPMS205-H_231116C : 103		R190627
Antimony	ND	mg/L		0.0005		E200.8	11/17/23 07:32 / dck		ICPMS205-H_231116C : 103		R190627
Arsenic	0.006	mg/L		0.001		E200.8	11/17/23 07:32 / dck		ICPMS205-H_231116C : 103		R190627
Barium	ND	mg/L		0.003		E200.8	11/17/23 07:32 / dck		ICPMS205-H_231116C : 103		R190627
Beryllium	ND	mg/L		0.0008		E200.8	11/17/23 07:32 / dck		ICPMS205-H_231116C : 103		R190627
Boron	0.25	mg/L		0.05		E200.7	12/08/23 15:43 / slj		ICP2-HE_231208B : 55		R190705
Cadmium	0.128	mg/L		0.00003		E200.8	11/17/23 07:32 / dck		ICPMS205-H_231116C : 103		R190627
Cesium	ND	mg/L		0.01		E200.8	11/16/23 22:30 / dck		ICPMS205-H_231116B : 124		R190225

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01C  
**Lab ID:** H23110571-055  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/15/23 12:56 **DateReceived:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	375	mg/L		1		E200.7	01/03/24 00:10 / slj		ICP2-HE_240102A : 239		R191281
Chromium	ND	mg/L		0.005		E200.8	11/17/23 07:32 / dck		ICPMS205-H_231116C : 103		R190627
Cobalt	ND	mg/L		0.005		E200.8	11/17/23 07:32 / dck		ICPMS205-H_231116C : 103		R190627
Copper	5.34	mg/L		0.02		E200.7	11/27/23 02:11 / slj		ICP2-HE_231126B : 210		R190339
Gallium	ND	mg/L		0.01		E200.8	11/16/23 22:30 / dck		ICPMS205-H_231116B : 124		R190225
Iron	0.05	mg/L		0.02		E200.8	12/28/23 17:13 / dck		ICPMS206-H_231228A : 120		R191217
Lead	ND	mg/L		0.0003		E200.8	11/17/23 07:32 / dck		ICPMS205-H_231116C : 103		R190627
Lanthanum	ND	mg/L		0.01		E200.8	11/16/23 22:30 / dck		ICPMS205-H_231116B : 124		R190225
Lithium	0.8	mg/L		0.1		E200.8	11/17/23 07:32 / dck		ICPMS205-H_231116C : 103		R190627
Magnesium	91	mg/L		1		E200.7	01/03/24 00:10 / slj		ICP2-HE_240102A : 239		R191281
Neodymium	ND	mg/L		0.005		E200.8	11/16/23 22:30 / dck		ICPMS205-H_231116B : 124		R190225
Niobium	ND	mg/L		0.01		E200.8	11/16/23 22:30 / dck		ICPMS205-H_231116B : 124		R190225
Manganese	19.8	mg/L		0.007		E200.7	12/11/23 13:56 / slj		ICP2-HE_231211B : 72		R190737
Molybdenum	ND	mg/L		0.001		E200.8	11/17/23 07:32 / dck		ICPMS205-H_231116C : 103		R190627
Nickel	0.142	mg/L		0.002		E200.8	11/17/23 07:32 / dck		ICPMS205-H_231116C : 103		R190627
Palladium	ND	mg/L		0.01		E200.8	11/16/23 22:30 / dck		ICPMS205-H_231116B : 124		R190225
Praseodymium	ND	mg/L		0.01		E200.8	11/16/23 22:30 / dck		ICPMS205-H_231116B : 124		R190225
Rubidium	0.07	mg/L		0.01		E200.8	11/16/23 22:30 / dck		ICPMS205-H_231116B : 124		R190225
Potassium	32	mg/L		1		E200.8	11/17/23 07:32 / dck		ICPMS205-H_231116C : 103		R190627
Selenium	ND	mg/L		0.001		E200.8	11/17/23 07:32 / dck		ICPMS205-H_231116C : 103		R190627
Silver	ND	mg/L		0.0002		E200.8	11/17/23 07:32 / dck		ICPMS205-H_231116C : 103		R190627
Sodium	172	mg/L		1		E200.7	01/03/24 00:10 / slj		ICP2-HE_240102A : 239		R191281
Strontium	9.31	mg/L		0.01		E200.7	11/27/23 02:11 / slj		ICP2-HE_231126B : 210		R190339
Thallium	ND	mg/L		0.0002		E200.8	11/17/23 07:32 / dck		ICPMS205-H_231116C : 103		R190627
Thorium	ND	mg/L		0.005		E200.8	12/28/23 17:13 / dck		ICPMS206-H_231228A : 120		R191217
Tin	ND	mg/L		0.05		E200.8	11/17/23 07:32 / dck		ICPMS205-H_231116C : 103		R190627
Titanium	ND	mg/L		0.005		E200.8	11/17/23 07:32 / dck		ICPMS205-H_231116C : 103		R190627
Tungsten	ND	mg/L		0.1		E200.8	11/16/23 22:30 / dck		ICPMS205-H_231116B : 124		R190225
Uranium	0.0016	mg/L		0.0002		E200.8	11/17/23 07:32 / dck		ICPMS205-H_231116C : 103		R190627
Vanadium	ND	mg/L		0.01		E200.8	11/17/23 07:32 / dck		ICPMS205-H_231116C : 103		R190627
Zinc	29.2	mg/L		0.01		E200.7	12/11/23 13:56 / slj		ICP2-HE_231211B : 72		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/17/23 17:37 / dck		ICPMS206-H_231117A : 138		R190228

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01C  
**Lab ID:** H23110571-055  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2-Task 001  
**Collection Date:** 11/15/23 12:56    **Date Received:** 11/15/23  
**Report Date:** 01/04/24

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-3.24	%				A1030 E	12/11/23 09:00 / abc		CALC_231211A : 23		R190718

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: C\_R301289

Date: 04-Jan-24

Run ID :Run Order: SUB-C301289: 1	SampType: Method Blank				Lab ID: MBLK				Method: A5310 C		
Analysis Date: 11/21/23 13:07	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	ND	0.1									
Associated samples: H23110571-001D, H23110571-001E, H23110571-002D, H23110571-002E, H23110571-003D, H23110571-003E, H23110571-004D, H23110571-004E, H23110571-005D, H23110571-005E, H23110571-006D, H23110571-006E, H23110571-007D, H23110571-007E, H23110571-008D, H23110571-008E, H23110571-009D, H23110571-009E, H23110571-010D, H23110571-010E, H23110571-011D, H23110571-011E, H23110571-012D, H23110571-012E, H23110571-013D, H23110571-013E, H23110571-014D, H23110571-014E, H23110571-015D, H23110571-015E											

Run ID :Run Order: SUB-C301289: 2	SampType: Laboratory Control Sample				Lab ID: LCS				Method: A5310 C		
Analysis Date: 11/21/23 13:26	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.09	0.50	5	0	102	90	111	0			
Associated samples: H23110571-001D, H23110571-001E, H23110571-002D, H23110571-002E, H23110571-003D, H23110571-003E, H23110571-004D, H23110571-004E, H23110571-005D, H23110571-005E, H23110571-006D, H23110571-006E, H23110571-007D, H23110571-007E, H23110571-008D, H23110571-008E, H23110571-009D, H23110571-009E, H23110571-010D, H23110571-010E, H23110571-011D, H23110571-011E, H23110571-012D, H23110571-012E, H23110571-013D, H23110571-013E, H23110571-014D, H23110571-014E, H23110571-015D, H23110571-015E											

Run ID :Run Order: SUB-C301289: 3	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: A5310 C		
Analysis Date: 11/21/23 13:42	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.17	0.50	5	0	103	90	110	0			
Associated samples: H23110571-001D, H23110571-001E, H23110571-002D, H23110571-002E, H23110571-003D, H23110571-003E, H23110571-004D, H23110571-004E, H23110571-005D, H23110571-005E, H23110571-006D, H23110571-006E, H23110571-007D, H23110571-007E, H23110571-008D, H23110571-008E, H23110571-009D, H23110571-009E, H23110571-010D, H23110571-010E, H23110571-011D, H23110571-011E, H23110571-012D, H23110571-012E, H23110571-013D, H23110571-013E, H23110571-014D, H23110571-014E, H23110571-015D, H23110571-015E											

Run ID :Run Order: SUB-C301289: 5	SampType: Sample Matrix Spike				Lab ID: C23110688-001EMS				Method: A5310 C		
Analysis Date: 11/21/23 14:19	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	6.85	0.50	5	1.709	103	90	111	0			
Associated samples: H23110571-001D, H23110571-001E, H23110571-002D, H23110571-002E, H23110571-003D, H23110571-003E, H23110571-004D, H23110571-004E, H23110571-005D, H23110571-005E, H23110571-006D, H23110571-006E, H23110571-007D, H23110571-007E, H23110571-008D, H23110571-008E, H23110571-009D, H23110571-009E, H23110571-010D, H23110571-010E, H23110571-011D, H23110571-011E, H23110571-012D, H23110571-012E, H23110571-013D, H23110571-013E, H23110571-014D, H23110571-014E, H23110571-015D, H23110571-015E											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110571

**BatchID:** C\_R301289

**Date:** 04-Jan-24

Run ID :Run Order: <b>SUB-C301289: 6</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>C23110688-001EMSD</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/21/23 14:36</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	6.81	0.50	5	1.709	<b>102</b>	90	111	6.846	<b>0.5</b>	20	

Associated samples: H23110571-001D, H23110571-001E, H23110571-002D, H23110571-002E, H23110571-003D, H23110571-003E, H23110571-004D, H23110571-004E, H23110571-005D, H23110571-005E, H23110571-006D, H23110571-006E, H23110571-007D, H23110571-007E, H23110571-008D, H23110571-008E, H23110571-009D, H23110571-009E, H23110571-010D, H23110571-010E, H23110571-011D, H23110571-011E, H23110571-012D, H23110571-012E, H23110571-013D, H23110571-013E, H23110571-014D, H23110571-014E, H23110571-015D, H23110571-015E

Run ID :Run Order: <b>SUB-C301289: 9</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS-11923</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/21/23 22:30</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.02	0.50	5	0	<b>100</b>	88	112	0			

Associated samples: H23110571-001D, H23110571-001E, H23110571-002D, H23110571-002E, H23110571-003D, H23110571-003E, H23110571-004D, H23110571-004E, H23110571-005D, H23110571-005E, H23110571-006D, H23110571-006E, H23110571-007D, H23110571-007E, H23110571-008D, H23110571-008E, H23110571-009D, H23110571-009E, H23110571-010D, H23110571-010E, H23110571-011D, H23110571-011E, H23110571-012D, H23110571-012E, H23110571-013D, H23110571-013E, H23110571-014D, H23110571-014E, H23110571-015D, H23110571-015E

Run ID :Run Order: <b>SUB-C301289: 10</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/21/23 22:45</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	ND	0.1									

Associated samples: H23110571-001D, H23110571-001E, H23110571-002D, H23110571-002E, H23110571-003D, H23110571-003E, H23110571-004D, H23110571-004E, H23110571-005D, H23110571-005E, H23110571-006D, H23110571-006E, H23110571-007D, H23110571-007E, H23110571-008D, H23110571-008E, H23110571-009D, H23110571-009E, H23110571-010D, H23110571-010E, H23110571-011D, H23110571-011E, H23110571-012D, H23110571-012E, H23110571-013D, H23110571-013E, H23110571-014D, H23110571-014E, H23110571-015D, H23110571-015E

Run ID :Run Order: <b>SUB-C301289: 11</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV-11940</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/21/23 23:05</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.01	0.50	5	0	<b>100</b>	90	110	0			

Associated samples: H23110571-001D, H23110571-001E, H23110571-002D, H23110571-002E, H23110571-003D, H23110571-003E, H23110571-004D, H23110571-004E, H23110571-005D, H23110571-005E, H23110571-006D, H23110571-006E, H23110571-007D, H23110571-007E, H23110571-008D, H23110571-008E, H23110571-009D, H23110571-009E, H23110571-010D, H23110571-010E, H23110571-011D, H23110571-011E, H23110571-012D, H23110571-012E, H23110571-013D, H23110571-013E, H23110571-014D, H23110571-014E, H23110571-015D, H23110571-015E

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: C\_R301289

Date: 04-Jan-24

Run ID :Run Order: SUB-C301289: 12	SampType: Sample Matrix Spike				Lab ID: C23110665-001FMS				Method: A5310 C		
Analysis Date: 11/21/23 23:37	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	8.69	0.50	5	3.853	97	88	112	0			
Associated samples: H23110571-001D, H23110571-001E, H23110571-002D, H23110571-002E, H23110571-003D, H23110571-003E, H23110571-004D, H23110571-004E, H23110571-005D, H23110571-005E, H23110571-006D, H23110571-006E, H23110571-007D, H23110571-007E, H23110571-008D, H23110571-008E, H23110571-009D, H23110571-009E, H23110571-010D, H23110571-010E, H23110571-011D, H23110571-011E, H23110571-012D, H23110571-012E, H23110571-013D, H23110571-013E, H23110571-014D, H23110571-014E, H23110571-015D, H23110571-015E											

Run ID :Run Order: SUB-C301289: 13	SampType: Sample Matrix Spike Duplicate				Lab ID: C23110665-001FMSD				Method: A5310 C		
Analysis Date: 11/21/23 23:53	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	8.78	0.50	5	3.853	99	88	112	8.688	1.1	20	
Associated samples: H23110571-001D, H23110571-001E, H23110571-002D, H23110571-002E, H23110571-003D, H23110571-003E, H23110571-004D, H23110571-004E, H23110571-005D, H23110571-005E, H23110571-006D, H23110571-006E, H23110571-007D, H23110571-007E, H23110571-008D, H23110571-008E, H23110571-009D, H23110571-009E, H23110571-010D, H23110571-010E, H23110571-011D, H23110571-011E, H23110571-012D, H23110571-012E, H23110571-013D, H23110571-013E, H23110571-014D, H23110571-014E, H23110571-015D, H23110571-015E											

Run ID :Run Order: SUB-C301289: 24	SampType: Continuing Calibration Verification Standar				Lab ID: CCV-11940				Method: A5310 C		
Analysis Date: 11/21/23 17:55	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.13	0.50	5	0	103	90	110	0			
Associated samples: H23110571-001D, H23110571-001E, H23110571-002D, H23110571-002E, H23110571-003D, H23110571-003E, H23110571-004D, H23110571-004E, H23110571-005D, H23110571-005E, H23110571-006D, H23110571-006E, H23110571-007D, H23110571-007E, H23110571-008D, H23110571-008E, H23110571-009D, H23110571-009E, H23110571-010D, H23110571-010E, H23110571-011D, H23110571-011E, H23110571-012D, H23110571-012E, H23110571-013D, H23110571-013E, H23110571-014D, H23110571-014E, H23110571-015D, H23110571-015E											

Run ID :Run Order: SUB-C301289: 26	SampType: Sample Matrix Spike				Lab ID: H23110571-008E				Method: A5310 C		
Analysis Date: 11/21/23 18:50	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.27	0.50	5	0.3475	98	90	111	0			
Associated samples: H23110571-001D, H23110571-001E, H23110571-002D, H23110571-002E, H23110571-003D, H23110571-003E, H23110571-004D, H23110571-004E, H23110571-005D, H23110571-005E, H23110571-006D, H23110571-006E, H23110571-007D, H23110571-007E, H23110571-008D, H23110571-008E, H23110571-009D, H23110571-009E, H23110571-010D, H23110571-010E, H23110571-011D, H23110571-011E, H23110571-012D, H23110571-012E, H23110571-013D, H23110571-013E, H23110571-014D, H23110571-014E, H23110571-015D, H23110571-015E											

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: C\_R301289

Date: 04-Jan-24

Run ID :Run Order: SUB-C301289: 27	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110571-008E				Method: A5310 C		
Analysis Date: 11/21/23 19:06	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.35	0.50	5	0.3475	100	90	111	5.272	1.5	20	
Associated samples: H23110571-001D, H23110571-001E, H23110571-002D, H23110571-002E, H23110571-003D, H23110571-003E, H23110571-004D, H23110571-004E, H23110571-005D, H23110571-005E, H23110571-006D, H23110571-006E, H23110571-007D, H23110571-007E, H23110571-008D, H23110571-008E, H23110571-009D, H23110571-009E, H23110571-010D, H23110571-010E, H23110571-011D, H23110571-011E, H23110571-012D, H23110571-012E, H23110571-013D, H23110571-013E, H23110571-014D, H23110571-014E, H23110571-015D, H23110571-015E											

Run ID :Run Order: SUB-C301289: 40	SampType: Continuing Calibration Verification Standar				Lab ID: CCV-11940				Method: A5310 C		
Analysis Date: 11/22/23 03:14	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.08	0.50	5	0	102	90	110	0			
Associated samples: H23110571-001D, H23110571-001E, H23110571-002D, H23110571-002E, H23110571-003D, H23110571-003E, H23110571-004D, H23110571-004E, H23110571-005D, H23110571-005E, H23110571-006D, H23110571-006E, H23110571-007D, H23110571-007E, H23110571-008D, H23110571-008E, H23110571-009D, H23110571-009E, H23110571-010D, H23110571-010E, H23110571-011D, H23110571-011E, H23110571-012D, H23110571-012E, H23110571-013D, H23110571-013E, H23110571-014D, H23110571-014E, H23110571-015D, H23110571-015E											

Run ID :Run Order: SUB-C301289: 42	SampType: Sample Matrix Spike				Lab ID: H23110571-006D				Method: A5310 C		
Analysis Date: 11/22/23 04:09	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.30	0.50	5	0.2883	100	88	112	0			
Associated samples: H23110571-001D, H23110571-001E, H23110571-002D, H23110571-002E, H23110571-003D, H23110571-003E, H23110571-004D, H23110571-004E, H23110571-005D, H23110571-005E, H23110571-006D, H23110571-006E, H23110571-007D, H23110571-007E, H23110571-008D, H23110571-008E, H23110571-009D, H23110571-009E, H23110571-010D, H23110571-010E, H23110571-011D, H23110571-011E, H23110571-012D, H23110571-012E, H23110571-013D, H23110571-013E, H23110571-014D, H23110571-014E, H23110571-015D, H23110571-015E											

Run ID :Run Order: SUB-C301289: 43	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110571-006D				Method: A5310 C		
Analysis Date: 11/22/23 04:25	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.27	0.50	5	0.2883	100	88	112	5.295	0.4	20	
Associated samples: H23110571-001D, H23110571-001E, H23110571-002D, H23110571-002E, H23110571-003D, H23110571-003E, H23110571-004D, H23110571-004E, H23110571-005D, H23110571-005E, H23110571-006D, H23110571-006E, H23110571-007D, H23110571-007E, H23110571-008D, H23110571-008E, H23110571-009D, H23110571-009E, H23110571-010D, H23110571-010E, H23110571-011D, H23110571-011E, H23110571-012D, H23110571-012E, H23110571-013D, H23110571-013E, H23110571-014D, H23110571-014E, H23110571-015D, H23110571-015E											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: C\_R301345

Date: 04-Jan-24

Run ID :Run Order: <b>SUB-C301345: 1</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MBLK</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>11/22/23 16:22</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	ND	0.1									
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Associated samples: H23110571-033D, H23110571-033E, H23110571-034D, H23110571-034E, H23110571-035D, H23110571-035E, H23110571-036D, H23110571-036E, H23110571-037D, H23110571-037E, H23110571-038D, H23110571-038E, H23110571-039D, H23110571-039E, H23110571-040D, H23110571-040E, H23110571-041D, H23110571-041E, H23110571-042D, H23110571-042E, H23110571-043D, H23110571-043E, H23110571-044D, H23110571-044E, H23110571-045D, H23110571-045E, H23110571-046D, H23110571-046E, H23110571-047D, H23110571-047E, H23110571-048D, H23110571-048E, H23110571-049D, H23110571-049E, H23110571-050D, H23110571-050E, H23110571-051D, H23110571-051E, H23110571-052D, H23110571-052E

Run ID :Run Order: <b>SUB-C301345: 2</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>11/22/23 16:42</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	5.00	0.50	5	0	<b>100</b>	90	111	0			
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Associated samples: H23110571-033D, H23110571-033E, H23110571-034D, H23110571-034E, H23110571-035D, H23110571-035E, H23110571-036D, H23110571-036E, H23110571-037D, H23110571-037E, H23110571-038D, H23110571-038E, H23110571-039D, H23110571-039E, H23110571-040D, H23110571-040E, H23110571-041D, H23110571-041E, H23110571-042D, H23110571-042E, H23110571-043D, H23110571-043E, H23110571-044D, H23110571-044E, H23110571-045D, H23110571-045E, H23110571-046D, H23110571-046E, H23110571-047D, H23110571-047E, H23110571-048D, H23110571-048E, H23110571-049D, H23110571-049E, H23110571-050D, H23110571-050E, H23110571-051D, H23110571-051E, H23110571-052D, H23110571-052E

Run ID :Run Order: <b>SUB-C301345: 3</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>11/22/23 16:58</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	5.02	0.50	5	0	<b>101</b>	90	110	0			
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Associated samples: H23110571-033D, H23110571-033E, H23110571-034D, H23110571-034E, H23110571-035D, H23110571-035E, H23110571-036D, H23110571-036E, H23110571-037D, H23110571-037E, H23110571-038D, H23110571-038E, H23110571-039D, H23110571-039E, H23110571-040D, H23110571-040E, H23110571-041D, H23110571-041E, H23110571-042D, H23110571-042E, H23110571-043D, H23110571-043E, H23110571-044D, H23110571-044E, H23110571-045D, H23110571-045E, H23110571-046D, H23110571-046E, H23110571-047D, H23110571-047E, H23110571-048D, H23110571-048E, H23110571-049D, H23110571-049E, H23110571-050D, H23110571-050E, H23110571-051D, H23110571-051E, H23110571-052D, H23110571-052E

Run ID :Run Order: <b>SUB-C301345: 5</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23110571-033E</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>11/22/23 17:30</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	6.86	0.50	5	1.895	<b>99</b>	90	111	0			
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**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: C\_R301345

Date: 04-Jan-24

Run ID :Run Order: <b>SUB-C301345: 5</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23110571-033E</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>11/22/23 17:30</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Associated samples: <b>H23110571-033D, H23110571-033E, H23110571-034D, H23110571-034E, H23110571-035D, H23110571-035E, H23110571-036D, H23110571-036E, H23110571-037D, H23110571-037E, H23110571-038D, H23110571-038E, H23110571-039D, H23110571-039E, H23110571-040D, H23110571-040E, H23110571-041D, H23110571-041E, H23110571-042D, H23110571-042E, H23110571-043D, H23110571-043E, H23110571-044D, H23110571-044E, H23110571-045D, H23110571-045E, H23110571-046D, H23110571-046E, H23110571-047D, H23110571-047E, H23110571-048D, H23110571-048E, H23110571-049D, H23110571-049E, H23110571-050D, H23110571-050E, H23110571-051D, H23110571-051E, H23110571-052D, H23110571-052E</b>											

Run ID :Run Order: <b>SUB-C301345: 6</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23110571-033E</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>11/22/23 17:45</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	6.85	0.50	5	1.895	<b>99</b>	90	111	6.861	<b>0.1</b>	20	
Associated samples: <b>H23110571-033D, H23110571-033E, H23110571-034D, H23110571-034E, H23110571-035D, H23110571-035E, H23110571-036D, H23110571-036E, H23110571-037D, H23110571-037E, H23110571-038D, H23110571-038E, H23110571-039D, H23110571-039E, H23110571-040D, H23110571-040E, H23110571-041D, H23110571-041E, H23110571-042D, H23110571-042E, H23110571-043D, H23110571-043E, H23110571-044D, H23110571-044E, H23110571-045D, H23110571-045E, H23110571-046D, H23110571-046E, H23110571-047D, H23110571-047E, H23110571-048D, H23110571-048E, H23110571-049D, H23110571-049E, H23110571-050D, H23110571-050E, H23110571-051D, H23110571-051E, H23110571-052D, H23110571-052E</b>											

Run ID :Run Order: <b>SUB-C301345: 16</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV-11940</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>11/22/23 20:58</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.00	0.50	5	0	<b>100</b>	90	110	0			
Associated samples: <b>H23110571-033D, H23110571-033E, H23110571-034D, H23110571-034E, H23110571-035D, H23110571-035E, H23110571-036D, H23110571-036E, H23110571-037D, H23110571-037E, H23110571-038D, H23110571-038E, H23110571-039D, H23110571-039E, H23110571-040D, H23110571-040E, H23110571-041D, H23110571-041E, H23110571-042D, H23110571-042E, H23110571-043D, H23110571-043E, H23110571-044D, H23110571-044E, H23110571-045D, H23110571-045E, H23110571-046D, H23110571-046E, H23110571-047D, H23110571-047E, H23110571-048D, H23110571-048E, H23110571-049D, H23110571-049E, H23110571-050D, H23110571-050E, H23110571-051D, H23110571-051E, H23110571-052D, H23110571-052E</b>											

Run ID :Run Order: <b>SUB-C301345: 18</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23110571-043E</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>11/22/23 21:54</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	6.57	0.50	5	1.547	<b>101</b>	90	111	0			

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount

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## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110571

**BatchID:** C\_R301345

**Date:** 04-Jan-24

Run ID :Run Order: <b>SUB-C301345: 18</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23110571-043E</b>	Method: <b>A5310 C</b>
Analysis Date: <b>11/22/23 21:54</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Associated samples: H23110571-033D, H23110571-033E, H23110571-034D, H23110571-034E, H23110571-035D, H23110571-035E, H23110571-036D, H23110571-036E, H23110571-037D, H23110571-037E, H23110571-038D, H23110571-038E, H23110571-039D, H23110571-039E, H23110571-040D, H23110571-040E, H23110571-041D, H23110571-041E, H23110571-042D, H23110571-042E, H23110571-043D, H23110571-043E, H23110571-044D, H23110571-044E, H23110571-045D, H23110571-045E, H23110571-046D, H23110571-046E, H23110571-047D, H23110571-047E, H23110571-048D, H23110571-048E, H23110571-049D, H23110571-049E, H23110571-050D, H23110571-050E, H23110571-051D, H23110571-051E, H23110571-052D, H23110571-052E

Run ID :Run Order: <b>SUB-C301345: 19</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23110571-043E</b>	Method: <b>A5310 C</b>
Analysis Date: <b>11/22/23 22:11</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Associated samples: H23110571-033D, H23110571-033E, H23110571-034D, H23110571-034E, H23110571-035D, H23110571-035E, H23110571-036D, H23110571-036E, H23110571-037D, H23110571-037E, H23110571-038D, H23110571-038E, H23110571-039D, H23110571-039E, H23110571-040D, H23110571-040E, H23110571-041D, H23110571-041E, H23110571-042D, H23110571-042E, H23110571-043D, H23110571-043E, H23110571-044D, H23110571-044E, H23110571-045D, H23110571-045E, H23110571-046D, H23110571-046E, H23110571-047D, H23110571-047E, H23110571-048D, H23110571-048E, H23110571-049D, H23110571-049E, H23110571-050D, H23110571-050E, H23110571-051D, H23110571-051E, H23110571-052D, H23110571-052E

Run ID :Run Order: <b>SUB-C301345: 29</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS-11923</b>	Method: <b>A5310 C</b>
Analysis Date: <b>11/23/23 01:58</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Associated samples: H23110571-033D, H23110571-033E, H23110571-034D, H23110571-034E, H23110571-035D, H23110571-035E, H23110571-036D, H23110571-036E, H23110571-037D, H23110571-037E, H23110571-038D, H23110571-038E, H23110571-039D, H23110571-039E, H23110571-040D, H23110571-040E, H23110571-041D, H23110571-041E, H23110571-042D, H23110571-042E, H23110571-043D, H23110571-043E, H23110571-044D, H23110571-044E, H23110571-045D, H23110571-045E, H23110571-046D, H23110571-046E, H23110571-047D, H23110571-047E, H23110571-048D, H23110571-048E, H23110571-049D, H23110571-049E, H23110571-050D, H23110571-050E, H23110571-051D, H23110571-051E, H23110571-052D, H23110571-052E

Run ID :Run Order: <b>SUB-C301345: 30</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MBLK</b>	Method: <b>A5310 C</b>
Analysis Date: <b>11/23/23 02:13</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:
Analytes <b>1</b>	Result	PQL	SPK value
	SPK Ref Val	%REC	LowLimit
		HighLimit	RPD Ref Val
		%RPD	RPDLimit
			Qual

Organic Carbon, Dissolved (DOC)      ND      0.1

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: C\_R301345

Date: 04-Jan-24

Run ID :Run Order: <b>SUB-C301345: 30</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MBLK</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>11/23/23 02:13</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Associated samples: <b>H23110571-033D, H23110571-033E, H23110571-034D, H23110571-034E, H23110571-035D, H23110571-035E, H23110571-036D, H23110571-036E, H23110571-037D, H23110571-037E, H23110571-038D, H23110571-038E, H23110571-039D, H23110571-039E, H23110571-040D, H23110571-040E, H23110571-041D, H23110571-041E, H23110571-042D, H23110571-042E, H23110571-043D, H23110571-043E, H23110571-044D, H23110571-044E, H23110571-045D, H23110571-045E, H23110571-046D, H23110571-046E, H23110571-047D, H23110571-047E, H23110571-048D, H23110571-048E, H23110571-049D, H23110571-049E, H23110571-050D, H23110571-050E, H23110571-051D, H23110571-051E, H23110571-052D, H23110571-052E</b>											

Run ID :Run Order: <b>SUB-C301345: 31</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV-11940</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>11/23/23 02:33</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.02	0.50	5	0	<b>100</b>	90	110	0			
Associated samples: <b>H23110571-033D, H23110571-033E, H23110571-034D, H23110571-034E, H23110571-035D, H23110571-035E, H23110571-036D, H23110571-036E, H23110571-037D, H23110571-037E, H23110571-038D, H23110571-038E, H23110571-039D, H23110571-039E, H23110571-040D, H23110571-040E, H23110571-041D, H23110571-041E, H23110571-042D, H23110571-042E, H23110571-043D, H23110571-043E, H23110571-044D, H23110571-044E, H23110571-045D, H23110571-045E, H23110571-046D, H23110571-046E, H23110571-047D, H23110571-047E, H23110571-048D, H23110571-048E, H23110571-049D, H23110571-049E, H23110571-050D, H23110571-050E, H23110571-051D, H23110571-051E, H23110571-052D, H23110571-052E</b>											

Run ID :Run Order: <b>SUB-C301345: 33</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23110571-033D</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>11/23/23 03:05</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	6.90	0.50	5	2.003	<b>98</b>	88	112	0			
Associated samples: <b>H23110571-033D, H23110571-033E, H23110571-034D, H23110571-034E, H23110571-035D, H23110571-035E, H23110571-036D, H23110571-036E, H23110571-037D, H23110571-037E, H23110571-038D, H23110571-038E, H23110571-039D, H23110571-039E, H23110571-040D, H23110571-040E, H23110571-041D, H23110571-041E, H23110571-042D, H23110571-042E, H23110571-043D, H23110571-043E, H23110571-044D, H23110571-044E, H23110571-045D, H23110571-045E, H23110571-046D, H23110571-046E, H23110571-047D, H23110571-047E, H23110571-048D, H23110571-048E, H23110571-049D, H23110571-049E, H23110571-050D, H23110571-050E, H23110571-051D, H23110571-051E, H23110571-052D, H23110571-052E</b>											

Run ID :Run Order: <b>SUB-C301345: 34</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23110571-033D</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>11/23/23 03:21</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	6.97	0.50	5	2.003	<b>99</b>	88	112	6.903	<b>0.9</b>	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount

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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: C\_R301345

Date: 04-Jan-24

Run ID :Run Order: SUB-C301345: 34	SampType: Sample Matrix Spike Duplicate	Lab ID: H23110571-033D	Method: A5310 C								
Analysis Date: 11/23/23 03:21	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Associated samples: H23110571-033D, H23110571-033E, H23110571-034D, H23110571-034E, H23110571-035D, H23110571-035E, H23110571-036D, H23110571-036E, H23110571-037D, H23110571-037E, H23110571-038D, H23110571-038E, H23110571-039D, H23110571-039E, H23110571-040D, H23110571-040E, H23110571-041D, H23110571-041E, H23110571-042D, H23110571-042E, H23110571-043D, H23110571-043E, H23110571-044D, H23110571-044E, H23110571-045D, H23110571-045E, H23110571-046D, H23110571-046E, H23110571-047D, H23110571-047E, H23110571-048D, H23110571-048E, H23110571-049D, H23110571-049E, H23110571-050D, H23110571-050E, H23110571-051D, H23110571-051E, H23110571-052D, H23110571-052E											

Run ID :Run Order: SUB-C301345: 44	SampType: Continuing Calibration Verification Standar	Lab ID: CCV-11940	Method: A5310 C								
Analysis Date: 11/23/23 06:29	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.03	0.50	5	0	101	90	110	0			
Associated samples: H23110571-033D, H23110571-033E, H23110571-034D, H23110571-034E, H23110571-035D, H23110571-035E, H23110571-036D, H23110571-036E, H23110571-037D, H23110571-037E, H23110571-038D, H23110571-038E, H23110571-039D, H23110571-039E, H23110571-040D, H23110571-040E, H23110571-041D, H23110571-041E, H23110571-042D, H23110571-042E, H23110571-043D, H23110571-043E, H23110571-044D, H23110571-044E, H23110571-045D, H23110571-045E, H23110571-046D, H23110571-046E, H23110571-047D, H23110571-047E, H23110571-048D, H23110571-048E, H23110571-049D, H23110571-049E, H23110571-050D, H23110571-050E, H23110571-051D, H23110571-051E, H23110571-052D, H23110571-052E											

Run ID :Run Order: SUB-C301345: 46	SampType: Sample Matrix Spike	Lab ID: H23110571-043D	Method: A5310 C								
Analysis Date: 11/23/23 07:20	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	6.48	0.50	5	1.512	99	88	112	0			
Associated samples: H23110571-033D, H23110571-033E, H23110571-034D, H23110571-034E, H23110571-035D, H23110571-035E, H23110571-036D, H23110571-036E, H23110571-037D, H23110571-037E, H23110571-038D, H23110571-038E, H23110571-039D, H23110571-039E, H23110571-040D, H23110571-040E, H23110571-041D, H23110571-041E, H23110571-042D, H23110571-042E, H23110571-043D, H23110571-043E, H23110571-044D, H23110571-044E, H23110571-045D, H23110571-045E, H23110571-046D, H23110571-046E, H23110571-047D, H23110571-047E, H23110571-048D, H23110571-048E, H23110571-049D, H23110571-049E, H23110571-050D, H23110571-050E, H23110571-051D, H23110571-051E, H23110571-052D, H23110571-052E											

Run ID :Run Order: SUB-C301345: 47	SampType: Sample Matrix Spike Duplicate	Lab ID: H23110571-043D	Method: A5310 C								
Analysis Date: 11/23/23 07:36	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	6.58	0.50	5	1.512	101	88	112	6.477	1.6	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110571

**BatchID:** C\_R301345

**Date:** 04-Jan-24

Run ID :Run Order: <b>SUB-C301345: 47</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23110571-043D</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>11/23/23 07:36</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110571-033D, H23110571-033E, H23110571-034D, H23110571-034E, H23110571-035D, H23110571-035E, H23110571-036D, H23110571-036E, H23110571-037D, H23110571-037E, H23110571-038D, H23110571-038E, H23110571-039D, H23110571-039E, H23110571-040D, H23110571-040E, H23110571-041D, H23110571-041E, H23110571-042D, H23110571-042E, H23110571-043D, H23110571-043E, H23110571-044D, H23110571-044E, H23110571-045D, H23110571-045E, H23110571-046D, H23110571-046E, H23110571-047D, H23110571-047E, H23110571-048D, H23110571-048E, H23110571-049D, H23110571-049E, H23110571-050D, H23110571-050E, H23110571-051D, H23110571-051E, H23110571-052D, H23110571-052E





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: C\_R301352

Date: 04-Jan-24

Run ID :Run Order: SUB-C301352: 1	SampType: Method Blank	Lab ID: MBLK	Method: A5310 C								
Analysis Date: 11/22/23 12:58	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	ND	0.1									
Associated samples: H23110571-016D, H23110571-016E, H23110571-017D, H23110571-017E, H23110571-018D, H23110571-018E, H23110571-019D, H23110571-019E, H23110571-020D, H23110571-020E, H23110571-021D, H23110571-021E, H23110571-022D, H23110571-022E, H23110571-023D, H23110571-023E, H23110571-024D, H23110571-024E, H23110571-025D, H23110571-025E, H23110571-026D, H23110571-026E, H23110571-027D, H23110571-027E, H23110571-028D, H23110571-028E, H23110571-029D, H23110571-029E, H23110571-030D, H23110571-030E, H23110571-031D, H23110571-031E, H23110571-032D, H23110571-032E											

Run ID :Run Order: SUB-C301352: 2	SampType: Laboratory Control Sample	Lab ID: LCS	Method: A5310 C								
Analysis Date: 11/22/23 13:19	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	4.79	0.50	5	0	96	90	111	0			
Associated samples: H23110571-016D, H23110571-016E, H23110571-017D, H23110571-017E, H23110571-018D, H23110571-018E, H23110571-019D, H23110571-019E, H23110571-020D, H23110571-020E, H23110571-021D, H23110571-021E, H23110571-022D, H23110571-022E, H23110571-023D, H23110571-023E, H23110571-024D, H23110571-024E, H23110571-025D, H23110571-025E, H23110571-026D, H23110571-026E, H23110571-027D, H23110571-027E, H23110571-028D, H23110571-028E, H23110571-029D, H23110571-029E, H23110571-030D, H23110571-030E, H23110571-031D, H23110571-031E, H23110571-032D, H23110571-032E											

Run ID :Run Order: SUB-C301352: 3	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: A5310 C								
Analysis Date: 11/22/23 13:34	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	4.85	0.50	5	0	97	90	110	0			
Associated samples: H23110571-016D, H23110571-016E, H23110571-017D, H23110571-017E, H23110571-018D, H23110571-018E, H23110571-019D, H23110571-019E, H23110571-020D, H23110571-020E, H23110571-021D, H23110571-021E, H23110571-022D, H23110571-022E, H23110571-023D, H23110571-023E, H23110571-024D, H23110571-024E, H23110571-025D, H23110571-025E, H23110571-026D, H23110571-026E, H23110571-027D, H23110571-027E, H23110571-028D, H23110571-028E, H23110571-029D, H23110571-029E, H23110571-030D, H23110571-030E, H23110571-031D, H23110571-031E, H23110571-032D, H23110571-032E											

Run ID :Run Order: SUB-C301352: 9	SampType: Sample Matrix Spike	Lab ID: H23110571-019E	Method: A5310 C								
Analysis Date: 11/22/23 15:48	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	6.12	0.50	5	1.198	98	90	111	0			
Associated samples: H23110571-016D, H23110571-016E, H23110571-017D, H23110571-017E, H23110571-018D, H23110571-018E, H23110571-019D, H23110571-019E, H23110571-020D, H23110571-020E, H23110571-021D, H23110571-021E, H23110571-022D, H23110571-022E, H23110571-023D, H23110571-023E, H23110571-024D, H23110571-024E, H23110571-025D, H23110571-025E, H23110571-026D, H23110571-026E, H23110571-027D, H23110571-027E, H23110571-028D, H23110571-028E, H23110571-029D, H23110571-029E, H23110571-030D, H23110571-030E, H23110571-031D, H23110571-031E, H23110571-032D, H23110571-032E											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: C\_R301352

Date: 04-Jan-24

Run ID :Run Order: SUB-C301352: 10	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110571-019E				Method: A5310 C		
Analysis Date: 11/22/23 16:04	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	6.10	0.50	5	1.198	98	90	111	6.119	0.3	20	
Associated samples: H23110571-016D, H23110571-016E, H23110571-017D, H23110571-017E, H23110571-018D, H23110571-018E, H23110571-019D, H23110571-019E, H23110571-020D, H23110571-020E, H23110571-021D, H23110571-021E, H23110571-022D, H23110571-022E, H23110571-023D, H23110571-023E, H23110571-024D, H23110571-024E, H23110571-025D, H23110571-025E, H23110571-026D, H23110571-026E, H23110571-027D, H23110571-027E, H23110571-028D, H23110571-028E, H23110571-029D, H23110571-029E, H23110571-030D, H23110571-030E, H23110571-031D, H23110571-031E, H23110571-032D, H23110571-032E											

Run ID :Run Order: SUB-C301352: 14	SampType: Continuing Calibration Verification Standar				Lab ID: CCV-11940				Method: A5310 C		
Analysis Date: 11/22/23 17:13	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	4.78	0.50	5	0	96	90	110	0			
Associated samples: H23110571-016D, H23110571-016E, H23110571-017D, H23110571-017E, H23110571-018D, H23110571-018E, H23110571-019D, H23110571-019E, H23110571-020D, H23110571-020E, H23110571-021D, H23110571-021E, H23110571-022D, H23110571-022E, H23110571-023D, H23110571-023E, H23110571-024D, H23110571-024E, H23110571-025D, H23110571-025E, H23110571-026D, H23110571-026E, H23110571-027D, H23110571-027E, H23110571-028D, H23110571-028E, H23110571-029D, H23110571-029E, H23110571-030D, H23110571-030E, H23110571-031D, H23110571-031E, H23110571-032D, H23110571-032E											

Run ID :Run Order: SUB-C301352: 16	SampType: Sample Matrix Spike				Lab ID: H23110571-023E				Method: A5310 C		
Analysis Date: 11/22/23 18:04	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.16	0.50	5	0.3479	96	90	111	0			
Associated samples: H23110571-016D, H23110571-016E, H23110571-017D, H23110571-017E, H23110571-018D, H23110571-018E, H23110571-019D, H23110571-019E, H23110571-020D, H23110571-020E, H23110571-021D, H23110571-021E, H23110571-022D, H23110571-022E, H23110571-023D, H23110571-023E, H23110571-024D, H23110571-024E, H23110571-025D, H23110571-025E, H23110571-026D, H23110571-026E, H23110571-027D, H23110571-027E, H23110571-028D, H23110571-028E, H23110571-029D, H23110571-029E, H23110571-030D, H23110571-030E, H23110571-031D, H23110571-031E, H23110571-032D, H23110571-032E											

Run ID :Run Order: SUB-C301352: 17	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110571-023E				Method: A5310 C		
Analysis Date: 11/22/23 18:20	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.16	0.50	5	0.3479	96	90	111	5.159	0	20	
Associated samples: H23110571-016D, H23110571-016E, H23110571-017D, H23110571-017E, H23110571-018D, H23110571-018E, H23110571-019D, H23110571-019E, H23110571-020D, H23110571-020E, H23110571-021D, H23110571-021E, H23110571-022D, H23110571-022E, H23110571-023D, H23110571-023E, H23110571-024D, H23110571-024E, H23110571-025D, H23110571-025E, H23110571-026D, H23110571-026E, H23110571-027D, H23110571-027E, H23110571-028D, H23110571-028E, H23110571-029D, H23110571-029E, H23110571-030D, H23110571-030E, H23110571-031D, H23110571-031E, H23110571-032D, H23110571-032E											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: C\_R301352

Date: 04-Jan-24

Run ID :Run Order: SUB-C301352: 27	SampType: Laboratory Control Sample				Lab ID: LCS-11923				Method: A5310 C		
Analysis Date: 11/22/23 22:04	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.77	0.50	5	0	95	88	112	0			
Associated samples: H23110571-016D, H23110571-016E, H23110571-017D, H23110571-017E, H23110571-018D, H23110571-018E, H23110571-019D, H23110571-019E, H23110571-020D, H23110571-020E, H23110571-021D, H23110571-021E, H23110571-022D, H23110571-022E, H23110571-023D, H23110571-023E, H23110571-024D, H23110571-024E, H23110571-025D, H23110571-025E, H23110571-026D, H23110571-026E, H23110571-027D, H23110571-027E, H23110571-028D, H23110571-028E, H23110571-029D, H23110571-029E, H23110571-030D, H23110571-030E, H23110571-031D, H23110571-031E, H23110571-032D, H23110571-032E											

Run ID :Run Order: SUB-C301352: 28	SampType: Method Blank				Lab ID: MBLK				Method: A5310 C		
Analysis Date: 11/22/23 22:18	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	ND	0.1									
Associated samples: H23110571-016D, H23110571-016E, H23110571-017D, H23110571-017E, H23110571-018D, H23110571-018E, H23110571-019D, H23110571-019E, H23110571-020D, H23110571-020E, H23110571-021D, H23110571-021E, H23110571-022D, H23110571-022E, H23110571-023D, H23110571-023E, H23110571-024D, H23110571-024E, H23110571-025D, H23110571-025E, H23110571-026D, H23110571-026E, H23110571-027D, H23110571-027E, H23110571-028D, H23110571-028E, H23110571-029D, H23110571-029E, H23110571-030D, H23110571-030E, H23110571-031D, H23110571-031E, H23110571-032D, H23110571-032E											

Run ID :Run Order: SUB-C301352: 29	SampType: Continuing Calibration Verification Standar				Lab ID: CCV-11940				Method: A5310 C		
Analysis Date: 11/22/23 22:38	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.81	0.50	5	0	96	90	110	0			
Associated samples: H23110571-016D, H23110571-016E, H23110571-017D, H23110571-017E, H23110571-018D, H23110571-018E, H23110571-019D, H23110571-019E, H23110571-020D, H23110571-020E, H23110571-021D, H23110571-021E, H23110571-022D, H23110571-022E, H23110571-023D, H23110571-023E, H23110571-024D, H23110571-024E, H23110571-025D, H23110571-025E, H23110571-026D, H23110571-026E, H23110571-027D, H23110571-027E, H23110571-028D, H23110571-028E, H23110571-029D, H23110571-029E, H23110571-030D, H23110571-030E, H23110571-031D, H23110571-031E, H23110571-032D, H23110571-032E											

Run ID :Run Order: SUB-C301352: 35	SampType: Sample Matrix Spike				Lab ID: H23110571-019D				Method: A5310 C		
Analysis Date: 11/23/23 00:24	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	6.03	0.50	5	1.154	98	88	112	0			
Associated samples: H23110571-016D, H23110571-016E, H23110571-017D, H23110571-017E, H23110571-018D, H23110571-018E, H23110571-019D, H23110571-019E, H23110571-020D, H23110571-020E, H23110571-021D, H23110571-021E, H23110571-022D, H23110571-022E, H23110571-023D, H23110571-023E, H23110571-024D, H23110571-024E, H23110571-025D, H23110571-025E, H23110571-026D, H23110571-026E, H23110571-027D, H23110571-027E, H23110571-028D, H23110571-028E, H23110571-029D, H23110571-029E, H23110571-030D, H23110571-030E, H23110571-031D, H23110571-031E, H23110571-032D, H23110571-032E											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount

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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: C\_R301352

Date: 04-Jan-24

Run ID :Run Order: <b>SUB-C301352: 36</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23110571-019D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/23/23 00:41</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	6.01	0.50	5	1.154	<b>97</b>	88	112	6.034	<b>0.4</b>	20	
Associated samples: <b>H23110571-016D, H23110571-016E, H23110571-017D, H23110571-017E, H23110571-018D, H23110571-018E, H23110571-019D, H23110571-019E, H23110571-020D, H23110571-020E, H23110571-021D, H23110571-021E, H23110571-022D, H23110571-022E, H23110571-023D, H23110571-023E, H23110571-024D, H23110571-024E, H23110571-025D, H23110571-025E, H23110571-026D, H23110571-026E, H23110571-027D, H23110571-027E, H23110571-028D, H23110571-028E, H23110571-029D, H23110571-029E, H23110571-030D, H23110571-030E, H23110571-031D, H23110571-031E, H23110571-032D, H23110571-032E</b>											

Run ID :Run Order: <b>SUB-C301352: 42</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV-11940</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/23/23 02:30</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.85	0.50	5	0	<b>97</b>	90	110	0			
Associated samples: <b>H23110571-016D, H23110571-016E, H23110571-017D, H23110571-017E, H23110571-018D, H23110571-018E, H23110571-019D, H23110571-019E, H23110571-020D, H23110571-020E, H23110571-021D, H23110571-021E, H23110571-022D, H23110571-022E, H23110571-023D, H23110571-023E, H23110571-024D, H23110571-024E, H23110571-025D, H23110571-025E, H23110571-026D, H23110571-026E, H23110571-027D, H23110571-027E, H23110571-028D, H23110571-028E, H23110571-029D, H23110571-029E, H23110571-030D, H23110571-030E, H23110571-031D, H23110571-031E, H23110571-032D, H23110571-032E</b>											

Run ID :Run Order: <b>SUB-C301352: 44</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23110571-025D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/23/23 03:21</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	6.08	0.50	5	1.086	<b>100</b>	88	112	0			
Associated samples: <b>H23110571-016D, H23110571-016E, H23110571-017D, H23110571-017E, H23110571-018D, H23110571-018E, H23110571-019D, H23110571-019E, H23110571-020D, H23110571-020E, H23110571-021D, H23110571-021E, H23110571-022D, H23110571-022E, H23110571-023D, H23110571-023E, H23110571-024D, H23110571-024E, H23110571-025D, H23110571-025E, H23110571-026D, H23110571-026E, H23110571-027D, H23110571-027E, H23110571-028D, H23110571-028E, H23110571-029D, H23110571-029E, H23110571-030D, H23110571-030E, H23110571-031D, H23110571-031E, H23110571-032D, H23110571-032E</b>											

Run ID :Run Order: <b>SUB-C301352: 45</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23110571-025D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/23/23 03:38</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	6.04	0.50	5	1.086	<b>99</b>	88	112	6.077	<b>0.7</b>	20	
Associated samples: <b>H23110571-016D, H23110571-016E, H23110571-017D, H23110571-017E, H23110571-018D, H23110571-018E, H23110571-019D, H23110571-019E, H23110571-020D, H23110571-020E, H23110571-021D, H23110571-021E, H23110571-022D, H23110571-022E, H23110571-023D, H23110571-023E, H23110571-024D, H23110571-024E, H23110571-025D, H23110571-025E, H23110571-026D, H23110571-026E, H23110571-027D, H23110571-027E, H23110571-028D, H23110571-028E, H23110571-029D, H23110571-029E, H23110571-030D, H23110571-030E, H23110571-031D, H23110571-031E, H23110571-032D, H23110571-032E</b>											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: C\_R301403

Date: 04-Jan-24

Run ID :Run Order: <b>SUB-C301403: 1</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/27/23 16:36</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	ND	0.1									

Associated samples: H23110571-053D, H23110571-053E, H23110571-054D, H23110571-054E, H23110571-055D, H23110571-055E

Run ID :Run Order: <b>SUB-C301403: 2</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/27/23 16:56</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.02	0.50	5	0	<b>100</b>	90	111	0			

Associated samples: H23110571-053D, H23110571-053E, H23110571-054D, H23110571-054E, H23110571-055D, H23110571-055E

Run ID :Run Order: <b>SUB-C301403: 3</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/27/23 17:12</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.03	0.50	5	0	<b>101</b>	90	110	0			

Associated samples: H23110571-053D, H23110571-053E, H23110571-054D, H23110571-054E, H23110571-055D, H23110571-055E

Run ID :Run Order: <b>SUB-C301403: 5</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23110571-029E</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/27/23 18:22</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	10.2	0.50	5	5.277	<b>98</b>	90	111	0			

Associated samples: H23110571-053D, H23110571-053E, H23110571-054D, H23110571-054E, H23110571-055D, H23110571-055E

Run ID :Run Order: <b>SUB-C301403: 6</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23110571-029E</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/27/23 18:39</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	10.2	0.50	5	5.277	<b>99</b>	90	111	10.19	<b>0.4</b>	20	

Associated samples: H23110571-053D, H23110571-053E, H23110571-054D, H23110571-054E, H23110571-055D, H23110571-055E

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: C\_R301403

Date: 04-Jan-24

Run ID :Run Order: <b>SUB-C301403: 11</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS-11923</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/28/23 04:05</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.04	0.50	5	0	<b>101</b>	88	112	0			

Associated samples: H23110571-053D, H23110571-053E, H23110571-054D, H23110571-054E, H23110571-055D, H23110571-055E

Run ID :Run Order: <b>SUB-C301403: 12</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/28/23 04:20</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	ND	0.1									

Associated samples: H23110571-053D, H23110571-053E, H23110571-054D, H23110571-054E, H23110571-055D, H23110571-055E

Run ID :Run Order: <b>SUB-C301403: 13</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV-11940</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/28/23 04:40</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.01	0.50	5	0	<b>100</b>	90	110	0			

Associated samples: H23110571-053D, H23110571-053E, H23110571-054D, H23110571-054E, H23110571-055D, H23110571-055E

Run ID :Run Order: <b>SUB-C301403: 15</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23110571-029D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/28/23 05:13</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	10.6	0.50	5	5.843	<b>95</b>	88	112	0			

Associated samples: H23110571-053D, H23110571-053E, H23110571-054D, H23110571-054E, H23110571-055D, H23110571-055E

Run ID :Run Order: <b>SUB-C301403: 16</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23110571-029D</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/28/23 05:30</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	10.8	0.50	5	5.843	<b>99</b>	88	112	10.6	<b>1.8</b>	20	

Associated samples: H23110571-053D, H23110571-053E, H23110571-054D, H23110571-054E, H23110571-055D, H23110571-055E

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: C\_R301403

Date: 04-Jan-24

Run ID :Run Order: <b>SUB-C301403: 22</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>C23110735-001AMS</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/27/23 22:10</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	8.42	0.50	5	3.256	<b>103</b>	90	111	0			
Associated samples: <b>H23110571-053D, H23110571-053E, H23110571-054D, H23110571-054E, H23110571-055D, H23110571-055E</b>											

Run ID :Run Order: <b>SUB-C301403: 23</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>C23110735-001AMSD</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/27/23 22:26</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	8.42	0.50	5	3.256	<b>103</b>	90	111	8.425	<b>0</b>	20	
Associated samples: <b>H23110571-053D, H23110571-053E, H23110571-054D, H23110571-054E, H23110571-055D, H23110571-055E</b>											





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190121

Date: 04-Jan-24

Run ID :Run Order: PHSC_101-H_231116A: 2	SampType: Initial Calibration Verification Standard				Lab ID: SC 150			Method: A2510 B			
Analysis Date: 11/16/23 08:35	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	152	5.0	150	0	101	90	110				

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-043A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: PHSC_101-H_231116A: 3	SampType: Initial Calibration Verification Standard				Lab ID: SC 20000			Method: A2510 B			
Analysis Date: 11/16/23 08:37	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	19800	5.0	20000	0	99	90	110				

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-043A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: PHSC_101-H_231116A: 4	SampType: Initial Calibration Verification Standard				Lab ID: SC 5000			Method: A2510 B			
Analysis Date: 11/16/23 08:39	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	4920	5.0	5000	0	98	90	110				

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-043A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190121

Date: 04-Jan-24

Run ID :Run Order: PHSC_101-H_231116A: 5	SampType: Laboratory Control Sample	Lab ID: SC 1000	Method: A2510 B								
Analysis Date: 11/16/23 08:41	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	992	5.0	1000	0	99	90	110				

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-043A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: PHSC_101-H_231116A: 6	SampType: Method Blank	Lab ID: MBLK	Method: A2510 B								
Analysis Date: 11/16/23 09:19	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	ND	5									

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-043A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: PHSC_101-H_231116A: 50	SampType: Sample Duplicate	Lab ID: H23110571-004ADUP	Method: A2510 B								
Analysis Date: 11/16/23 10:03	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1460	5.0		0				1466	0.2	10	

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-043A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190121

Date: 04-Jan-24

Run ID :Run Order: PHSC_101-H_231116A: 52	SampType: Continuing Calibration Verification Standar	Lab ID: CCV - SC 1413	Method: A2510 B								
Analysis Date: 11/16/23 10:08	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1410	5.0	1413	0	100	90	110				

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-043A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: PHSC_101-H_231116A: 57	SampType: Sample Duplicate	Lab ID: H23110571-024ADUP	Method: A2510 B								
Analysis Date: 11/16/23 10:18	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1420	5.0		0				1427	0.4	10	

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-043A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: PHSC_101-H_231116A: 97	SampType: Sample Duplicate	Lab ID: H23110571-029ADUP	Method: A2510 B								
Analysis Date: 11/16/23 10:57	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1230	5.0		0				1236	0.2	10	

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-043A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190121

Date: 04-Jan-24

Run ID :Run Order: PHSC_101-H_231116A: 99	SampType: Continuing Calibration Verification Standar	Lab ID: CCV - SC 1413	Method: A2510 B								
Analysis Date: 11/16/23 11:01	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1400	5.0	1413	0	99	90	110				

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-043A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: PHSC_101-H_231116A: 104	SampType: Sample Duplicate	Lab ID: H23110571-031ADUP	Method: A2510 B								
Analysis Date: 11/16/23 11:13	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	483	5.0		0				486.9	0.9	10	

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-043A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: PHSC_101-H_231116A: 140	SampType: Sample Duplicate	Lab ID: H23110571-041ADUP	Method: A2510 B								
Analysis Date: 11/16/23 11:48	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1350	5.0		0				1355	0.1	10	

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-043A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190121

Date: 04-Jan-24

Run ID :Run Order: PHSC_101-H_231116A: 1	SampType: Initial Calibration Verification Standard				Lab ID: pH 7			Method: A4500-H B			
Analysis Date: 11/16/23 08:30	Units: s.u.				Prep Info: Prep Date:			Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	99	98	102				
pH Measurement Temp	20.5			0		0	0				

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-043A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: PHSC_101-H_231116A: 49	SampType: Sample Duplicate				Lab ID: H23110571-004ADUP			Method: A4500-H B			
Analysis Date: 11/16/23 10:03	Units: s.u.				Prep Info: Prep Date:			Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1		0				7	0.1	3	H
pH Measurement Temp	14.0			0				13.7			

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-043A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: PHSC_101-H_231116A: 51	SampType: Continuing Calibration Verification Standar				Lab ID: CCV - pH 7			Method: A4500-H B			
Analysis Date: 11/16/23 10:05	Units: s.u.				Prep Info: Prep Date:			Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	19.0			0		0	0				

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-043A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190121

Date: 04-Jan-24

Run ID :Run Order: PHSC_101-H_231116A: 56	SampType: Sample Duplicate				Lab ID: H23110571-024ADUP				Method: A4500-H B		
Analysis Date: 11/16/23 10:18	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	6.6	0.1		0				6.58	0.3	3	H
pH Measurement Temp	14.2			0				14.7			

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-043A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: PHSC_101-H_231116A: 96	SampType: Sample Duplicate				Lab ID: H23110571-029ADUP				Method: A4500-H B		
Analysis Date: 11/16/23 10:57	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	6.8	0.1		0				6.78	0.1	3	H
pH Measurement Temp	16.1			0				16.3			

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-043A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: PHSC_101-H_231116A: 98	SampType: Continuing Calibration Verification Standar				Lab ID: CCV - pH 7				Method: A4500-H B		
Analysis Date: 11/16/23 10:59	Units: s.u.				Prep Info: Prep Date:				Prep Method:		
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	18.6			0		0	0				

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-043A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190121

Date: 04-Jan-24

Run ID :Run Order: PHSC_101-H_231116A: 103	SampType: Sample Duplicate	Lab ID: H23110571-031ADUP	Method: A4500-H B								
Analysis Date: 11/16/23 11:13	Units: s.u.	Prep Info: Prep Date:	Prep Method:								
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	6.9	0.1		0				6.87	0.7	3	H
pH Measurement Temp	15.8			0				16			

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-043A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: PHSC_101-H_231116A: 139	SampType: Sample Duplicate	Lab ID: H23110571-041ADUP	Method: A4500-H B								
Analysis Date: 11/16/23 11:48	Units: s.u.	Prep Info: Prep Date:	Prep Method:								
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	6.3	0.1		0				6.26	0.2	3	H
pH Measurement Temp	16.8			0				16.9			

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-043A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: PHSC_101-H_231116A: 188	SampType: Continuing Calibration Verification Standar	Lab ID: CCV - pH 7	Method: A4500-H B								
Analysis Date: 11/16/23 13:40	Units: s.u.	Prep Info: Prep Date:	Prep Method:								
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	100	98	102				
pH Measurement Temp	19.9			0		0	0				

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-043A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190164

Date: 04-Jan-24

Run ID :Run Order: PHSC_101-H_231117A: 47	SampType: Method Blank	Lab ID: MBLK	Method: A2320 B								
Analysis Date: 11/17/23 10:56	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-007A, H23110571-008A, H23110571-009A

Run ID :Run Order: PHSC_101-H_231117A: 48	SampType: Laboratory Control Sample	Lab ID: LCS	Method: A2320 B								
Analysis Date: 11/17/23 11:02	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	580	4.0	600	0	97	90	110				

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-007A, H23110571-008A, H23110571-009A

Run ID :Run Order: PHSC_101-H_231117A: 81	SampType: Sample Duplicate	Lab ID: H23110571-004ADUP	Method: A2320 B								
Analysis Date: 11/17/23 13:38	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	440	4.0		0				433.2	1.3	10	
Bicarbonate as HCO3	540	4.0		0				528	1.3	10	
Carbonate as CO3	ND	4.0		0				0		10	

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-007A, H23110571-008A, H23110571-009A





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190187

Date: 04-Jan-24

Run ID :Run Order: <b>IC METROHM_231116A: 2</b>	SampType: <b>Method Blank</b>	Lab ID: <b>ICB</b>	Method: <b>E300.0</b>								
Analysis Date: <b>11/16/23 11:45</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.02									
Sulfate	ND	0.03									
Bromide	ND	0.001									
Fluoride	ND	0.01									

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: <b>IC METROHM_231116A: 3</b>	SampType: <b>Initial Calibration Verification Standard</b>	Lab ID: <b>ICV</b>	Method: <b>E300.0</b>								
Analysis Date: <b>11/16/23 12:00</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	102	1.0	100	0	102	90	110				
Sulfate	399	1.0	400	0	100	90	110				
Bromide	4.99	0.50	5	0	100	90	110				
Fluoride	5.41	0.10	5	0	108	90	110				

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: <b>IC METROHM_231116A: 4</b>	SampType: <b>Laboratory Fortified Blank</b>	Lab ID: <b>LFB</b>	Method: <b>E300.0</b>								
Analysis Date: <b>11/16/23 12:14</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	24.5	1.0	25	0	98	90	110				
Sulfate	101	1.0	100	0	101	90	110				
Bromide	1.19	0.50	1.25	0	95	90	110				
Fluoride	1.15	0.10	1.25	0	92	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190187

Date: 04-Jan-24

Run ID :Run Order: **IC METROHM\_231116A: 4**      SampType: **Laboratory Fortified Blank**      Lab ID: **LFB**      Method: **E300.0**  
 Analysis Date: **11/16/23 12:14**      Units: **mg/L**      Prep Info:      Prep Date:      Prep Method:  
 Analytes **4**      Result      PQL      SPK value      SPK Ref Val      %REC      LowLimit      HighLimit      RPD Ref Val      %RPD      RPDLimit      Qual

Associated samples: **H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A**

Run ID :Run Order: **IC METROHM\_231116A: 62**      SampType: **Continuing Calibration Verification Standar**      Lab ID: **CCV**      Method: **E300.0**  
 Analysis Date: **11/17/23 02:09**      Units: **mg/L**      Prep Info:      Prep Date:      Prep Method:  
 Analytes **4**      Result      PQL      SPK value      SPK Ref Val      %REC      LowLimit      HighLimit      RPD Ref Val      %RPD      RPDLimit      Qual

Chloride	50.2	1.0	50	0	100	90	110				
Sulfate	202	1.0	200	0	101	90	110				
Bromide	2.36	0.50	2.5	0	95	90	110				
Fluoride	2.45	0.10	2.5	0	98	90	110				

Associated samples: **H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A**

Run ID :Run Order: **IC METROHM\_231116A: 74**      SampType: **Sample Matrix Spike**      Lab ID: **H23110571-003AMS**      Method: **E300.0**  
 Analysis Date: **11/17/23 05:02**      Units: **mg/L**      Prep Info:      Prep Date:      Prep Method:  
 Analytes **4**      Result      PQL      SPK value      SPK Ref Val      %REC      LowLimit      HighLimit      RPD Ref Val      %RPD      RPDLimit      Qual

Chloride	38.1	1.0	25	12.64	102	90	110				
Sulfate	138	1.0	100	37.36	100	90	110				
Bromide	1.17	0.50	1.25	0.054	90	90	110				
Fluoride	3.12	0.10	1.25	1.791	106	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190187

Date: 04-Jan-24

Run ID :Run Order: <b>IC METROHM_231116A: 74</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23110571-003AMS</b>	Method: <b>E300.0</b>								
Analysis Date: <b>11/17/23 05:02</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: <b>IC METROHM_231116A: 75</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23110571-003AMSD</b>	Method: <b>E300.0</b>								
Analysis Date: <b>11/17/23 05:16</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	38.1	1.0	25	12.64	<b>102</b>	90	110	38.08	<b>0.2</b>	20	
Sulfate	139	1.0	100	37.36	<b>101</b>	90	110	137.8	<b>0.6</b>	20	
Bromide	1.18	0.50	1.25	0.054	<b>90</b>	90	110	1.175	<b>0.2</b>	20	
Fluoride	3.11	0.10	1.25	1.791	<b>106</b>	90	110	3.117	<b>0.2</b>	20	

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: <b>IC METROHM_231116A: 76</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E300.0</b>								
Analysis Date: <b>11/17/23 05:30</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	50.6	1.0	50	0	<b>101</b>	90	110				
Sulfate	205	1.0	200	0	<b>103</b>	90	110				
Bromide	2.38	0.50	2.5	0	<b>95</b>	90	110				
Fluoride	2.52	0.10	2.5	0	<b>101</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190187

Date: 04-Jan-24

Run ID :Run Order: <b>IC METROHM_231116A: 76</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E300.0</b>								
Analysis Date: <b>11/17/23 05:30</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: <b>IC METROHM_231116A: 87</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23110571-012AMS</b>	Method: <b>E300.0</b>								
Analysis Date: <b>11/17/23 08:09</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	63.2	1.0	25	37.49	<b>103</b>	90	110				
Sulfate	242	1.0	100	141	<b>101</b>	90	110				
Bromide	1.29	0.50	1.25	0.145	<b>92</b>	90	110				
Fluoride	1.72	0.10	1.25	0.442	<b>102</b>	90	110				

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: <b>IC METROHM_231116A: 88</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23110571-012AMSD</b>	Method: <b>E300.0</b>								
Analysis Date: <b>11/17/23 08:24</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	63.3	1.0	25	37.49	<b>103</b>	90	110	63.21	<b>0.1</b>	20	
Sulfate	243	1.0	100	141	<b>102</b>	90	110	241.9	<b>0.3</b>	20	
Bromide	1.30	0.50	1.25	0.145	<b>92</b>	90	110	1.293	<b>0.3</b>	20	
Fluoride	1.72	0.10	1.25	0.442	<b>102</b>	90	110	1.719	<b>0.1</b>	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190187

Date: 04-Jan-24

Run ID :Run Order: <b>IC METROHM_231116A: 88</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23110571-012AMSD</b>	Method: <b>E300.0</b>								
Analysis Date: <b>11/17/23 08:24</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: <b>IC METROHM_231116A: 90</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E300.0</b>								
Analysis Date: <b>11/17/23 08:52</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	50.7	1.0	50	0	<b>101</b>	90	110				
Sulfate	205	1.0	200	0	<b>102</b>	90	110				
Bromide	2.40	0.50	2.5	0	<b>96</b>	90	110				
Fluoride	2.53	0.10	2.5	0	<b>101</b>	90	110				

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: <b>IC METROHM_231116A: 95</b>	SampType: <b>Sample Duplicate</b>	Lab ID: <b>H23110571-016ADUP</b>	Method: <b>E300.0</b>								
Analysis Date: <b>11/17/23 10:04</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	1.62	1.0		0				1.546	<b>4.4</b>	20	
Sulfate	0.757	1.0		0				0.784		20	
Bromide	ND	0.50		0				0		20	
Fluoride	0.0190	0.10		0				0.017		20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190187

Date: 04-Jan-24

Run ID :Run Order: <b>IC METROHM_231116A: 95</b>	SampType: <b>Sample Duplicate</b>	Lab ID: <b>H23110571-016ADUP</b>	Method: <b>E300.0</b>								
Analysis Date: <b>11/17/23 10:04</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: <b>IC METROHM_231116A: 103</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23110571-023AMS</b>	Method: <b>E300.0</b>								
Analysis Date: <b>11/17/23 11:59</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	35.5	1.0	25	9.785	<b>103</b>	90	110				
Sulfate	145	1.0	100	43.17	<b>102</b>	90	110				
Bromide	1.18	0.50	1.25	0.043	<b>91</b>	90	110				
Fluoride	2.32	0.10	1.25	1.005	<b>105</b>	90	110				

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: <b>IC METROHM_231116A: 104</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23110571-023AMSD</b>	Method: <b>E300.0</b>								
Analysis Date: <b>11/17/23 12:14</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	35.5	1.0	25	9.785	<b>103</b>	90	110	35.49	<b>0</b>	20	
Sulfate	145	1.0	100	43.17	<b>102</b>	90	110	144.7	<b>0.5</b>	20	
Bromide	1.18	0.50	1.25	0.043	<b>91</b>	90	110	1.179	<b>0.1</b>	20	
Fluoride	2.31	0.10	1.25	1.005	<b>105</b>	90	110	2.32	<b>0.3</b>	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190187

Date: 04-Jan-24

Run ID :Run Order: **IC METROHM\_231116A: 104**      SampType: **Sample Matrix Spike Duplicate**      Lab ID: **H23110571-023AMSD**      Method: **E300.0**  
 Analysis Date: **11/17/23 12:14**      Units: **mg/L**      Prep Info:      Prep Date:      Prep Method:  
 Analytes **4**      Result      PQL      SPK value      SPK Ref Val      %REC      LowLimit      HighLimit      RPD Ref Val      %RPD      RPDLimit      Qual

Associated samples: **H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A**

Run ID :Run Order: **IC METROHM\_231116A: 105**      SampType: **Continuing Calibration Verification Standar**      Lab ID: **CCV**      Method: **E300.0**  
 Analysis Date: **11/17/23 12:28**      Units: **mg/L**      Prep Info:      Prep Date:      Prep Method:  
 Analytes **4**      Result      PQL      SPK value      SPK Ref Val      %REC      LowLimit      HighLimit      RPD Ref Val      %RPD      RPDLimit      Qual

Chloride	51.2	1.0	50	0	102	90	110				
Sulfate	205	1.0	200	0	103	90	110				
Bromide	2.43	0.50	2.5	0	97	90	110				
Fluoride	2.49	0.10	2.5	0	100	90	110				

Associated samples: **H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A**

Run ID :Run Order: **IC METROHM\_231116A: 117**      SampType: **Sample Matrix Spike**      Lab ID: **H23110571-033AMS**      Method: **E300.0**  
 Analysis Date: **11/17/23 15:21**      Units: **mg/L**      Prep Info:      Prep Date:      Prep Method:  
 Analytes **4**      Result      PQL      SPK value      SPK Ref Val      %REC      LowLimit      HighLimit      RPD Ref Val      %RPD      RPDLimit      Qual

Chloride	40.1	1.0	25	14.27	103	90	110				
Sulfate	146	1.0	100	44.46	102	90	110				
Bromide	1.20	0.50	1.25	0.057	92	90	110				
Fluoride	1.88	0.10	1.25	0.576	104	90	110				

**Qualifiers:**    ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
                       J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190187

Date: 04-Jan-24

Run ID :Run Order: <b>IC METROHM_231116A: 117</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23110571-033AMS</b>	Method: <b>E300.0</b>								
Analysis Date: <b>11/17/23 15:21</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: <b>IC METROHM_231116A: 118</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23110571-033AMSD</b>	Method: <b>E300.0</b>								
Analysis Date: <b>11/17/23 15:35</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	40.1	1.0	25	14.27	<b>103</b>	90	110	40.08	<b>0.1</b>	20	
Sulfate	147	1.0	100	44.46	<b>103</b>	90	110	146.3	<b>0.5</b>	20	
Bromide	1.20	0.50	1.25	0.057	<b>92</b>	90	110	1.203	<b>0.1</b>	20	
Fluoride	1.88	0.10	1.25	0.576	<b>104</b>	90	110	1.88	<b>0.1</b>	20	

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: <b>IC METROHM_231116A: 119</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E300.0</b>								
Analysis Date: <b>11/17/23 15:50</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	50.9	1.0	50	0	<b>102</b>	90	110				
Sulfate	205	1.0	200	0	<b>102</b>	90	110				
Bromide	2.41	0.50	2.5	0	<b>96</b>	90	110				
Fluoride	2.41	0.10	2.5	0	<b>97</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190187

Date: 04-Jan-24

Run ID :Run Order: <b>IC METROHM_231116A: 119</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E300.0</b>								
Analysis Date: <b>11/17/23 15:50</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: <b>IC METROHM_231116A: 131</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23110571-043AMS</b>	Method: <b>E300.0</b>								
Analysis Date: <b>11/17/23 18:43</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	178	1.0	50	127.1	<b>102</b>	90	110				
Sulfate	1050	1.0	200	836.2		90	110				A
Bromide	2.64	0.50	2.5	0.346	<b>92</b>	90	110				
Fluoride	3.25	0.10	2.5	0.784	<b>99</b>	90	110				

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: <b>IC METROHM_231116A: 132</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23110571-043AMSD</b>	Method: <b>E300.0</b>								
Analysis Date: <b>11/17/23 18:57</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	178	1.0	50	127.1	<b>101</b>	90	110	177.9	<b>0.1</b>	20	
Sulfate	1050	1.0	200	836.2		90	110	1048	<b>0.1</b>	20	A
Bromide	2.63	0.50	2.5	0.346	<b>91</b>	90	110	2.643	<b>0.4</b>	20	
Fluoride	3.23	0.10	2.5	0.784	<b>98</b>	90	110	3.255	<b>0.8</b>	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190187

Date: 04-Jan-24

Run ID :Run Order: <b>IC METROHM_231116A: 132</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23110571-043AMSD</b>	Method: <b>E300.0</b>								
Analysis Date: <b>11/17/23 18:57</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: <b>IC METROHM_231116A: 133</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E300.0</b>								
Analysis Date: <b>11/17/23 19:12</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	50.2	1.0	50	0	100	90	110				
Sulfate	204	1.0	200	0	102	90	110				
Bromide	2.38	0.50	2.5	0	95	90	110				
Fluoride	2.50	0.10	2.5	0	100	90	110				

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: <b>IC METROHM_231116A: 145</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23110571-053AMS</b>	Method: <b>E300.0</b>								
Analysis Date: <b>11/17/23 22:04</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	154	1.0	125	29.62	100	90	110				
Sulfate	1660	1.0	500	1160	100	90	110				
Bromide	5.49	0.50	6.25	0	88	90	110				S
Fluoride	6.15	0.10	6.25	0.385	92	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190187

Date: 04-Jan-24

Run ID :Run Order: IC METROHM_231116A: 145	SampType: Sample Matrix Spike	Lab ID: H23110571-053AMS	Method: E300.0								
Analysis Date: 11/17/23 22:04	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: IC METROHM_231116A: 146	SampType: Sample Matrix Spike Duplicate	Lab ID: H23110571-053AMSD	Method: E300.0								
Analysis Date: 11/17/23 22:18	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	154	1.0	125	29.62	99	90	110	154	0.1	20	
Sulfate	1660	1.0	500	1160	100	90	110	1662	0.1	20	
Bromide	5.51	0.50	6.25	0	88	90	110	5.494	0.3	20	S
Fluoride	6.15	0.10	6.25	0.385	92	90	110	6.147	0.0	20	

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: IC METROHM_231116A: 147	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E300.0								
Analysis Date: 11/17/23 22:33	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	50.1	1.0	50	0	100	90	110				
Sulfate	202	1.0	200	0	101	90	110				
Bromide	2.37	0.50	2.5	0	95	90	110				
Fluoride	2.44	0.10	2.5	0	97	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110571

**BatchID:** R190187

**Date:** 04-Jan-24

Run ID :Run Order: <b>IC METROHM_231116A: 147</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E300.0</b>								
Analysis Date: <b>11/17/23 22:33</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190210

Date: 04-Jan-24

Run ID :Run Order: PHSC_101-H_231120A: 6	SampType: Method Blank	Lab ID: MBLK	Method: A2320 B								
Analysis Date: 11/20/23 09:51	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									

Associated samples: H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-043A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: PHSC_101-H_231120A: 7	SampType: Laboratory Control Sample	Lab ID: LCS	Method: A2320 B								
Analysis Date: 11/20/23 09:57	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	590	4.0	600	0	98	90	110				

Associated samples: H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-043A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: PHSC_101-H_231120A: 10	SampType: Sample Duplicate	Lab ID: H23110571-010ADUP	Method: A2320 B								
Analysis Date: 11/20/23 10:13	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	58	4.0		0				58.65	0.3	10	
Bicarbonate as HCO3	71	4.0		0				70.94	0.3	10	
Carbonate as CO3	ND	4.0		0				0		10	

Associated samples: H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-043A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190210

Date: 04-Jan-24

Run ID :Run Order: PHSC_101-H_231120A: 50	SampType: Sample Duplicate				Lab ID: H23110571-029ADUP				Method: A2320 B		
Analysis Date: 11/20/23 12:11	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	350	4.0		0				345.4	1.1	10	
Bicarbonate as HCO3	430	4.0		0				420.7	1.1	10	
Carbonate as CO3	ND	4.0		0				0		10	

Associated samples: H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-043A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: PHSC_101-H_231120A: 91	SampType: Sample Duplicate				Lab ID: H23110571-035ADUP				Method: A2320 B		
Analysis Date: 11/20/23 13:46	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	88	4.0		0				88.85	1.5	10	
Bicarbonate as HCO3	110	4.0		0				107.8	1.5	10	
Carbonate as CO3	ND	4.0		0				0		10	

Associated samples: H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-043A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: PHSC_101-H_231120A: 131	SampType: Sample Duplicate				Lab ID: H23110571-046ADUP				Method: A2320 B		
Analysis Date: 11/20/23 15:59	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	110	4.0		0				106.6	0.8	10	
Bicarbonate as HCO3	130	4.0		0				129.5	0.8	10	
Carbonate as CO3	ND	4.0		0				0		10	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110571

**BatchID:** R190210

**Date:** 04-Jan-24

Run ID :Run Order: PHSC_101-H_231120A: 131	SampType: Sample Duplicate	Lab ID: H23110571-046ADUP	Method: A2320 B								
Analysis Date: 11/20/23 15:59	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-019A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-036A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-043A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190225

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116B: 15	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.8		
Analysis Date: 11/16/23 15:48	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0616	0.010	0.06	0	103	90	110				
Gallium	0.0635	0.010	0.06	0	106	90	110				
Lanthanum	0.0614	0.010	0.06	0	102	90	110				
Neodymium	0.0621	0.0050	0.06	0	104	90	110				
Niobium	0.0598	0.0010	0.06	0	100	90	110				
Palladium	0.0618	0.010	0.06	0	103	90	110				
Praseodymium	0.0623	0.0010	0.06	0	104	90	110				
Rubidium	0.0626	0.010	0.06	0	104	90	110				
Tungsten	0.0547	0.10	0.06	0	91	90	110				
Zirconium	0.0551	0.0050	0.06	0	92	90	110				

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116B: 23	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 11/16/23 17:11	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	ND	0.0002									
Gallium	ND	0.0002									
Lanthanum	ND	0.0001									
Neodymium	ND	0.00009									
Niobium	ND	0.0003									
Palladium	ND	0.0002									
Praseodymium	ND	0.0001									
Rubidium	ND	0.00007									
Tungsten	ND	0.0001									
Zirconium	ND	0.0003									

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190225

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116B: 23	SampType: Method Blank	Lab ID: LRB	Method: E200.8								
Analysis Date: 11/16/23 17:11	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116B: 24	SampType: Laboratory Fortified Blank	Lab ID: LFB	Method: E200.8								
Analysis Date: 11/16/23 17:14	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0506	0.010	0.05	0	101	85	115				
Gallium	0.0531	0.010	0.05	0	106	85	115				
Lanthanum	0.0500	0.010	0.05	0	100	85	115				
Neodymium	0.0500	0.0050	0.05	0	100	85	115				
Niobium	0.0559	0.0010	0.05	0	112	85	115				
Palladium	0.0502	0.010	0.05	0	100	85	115				
Praseodymium	0.0498	0.0010	0.05	0	100	85	115				
Rubidium	0.0524	0.010	0.05	0	105	85	115				
Tungsten	0.0493	0.10	0.05	0	99	85	115				
Zirconium	0.0550	0.0050	0.05	0	110	85	115				

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116B: 44	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.8								
Analysis Date: 11/16/23 18:12	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0505	0.010	0.05	0	101	90	110				
Gallium	0.0509	0.010	0.05	0	102	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190225

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116B: 44	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 11/16/23 18:12	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lanthanum	0.0504	0.010	0.05	0	101	90	110				
Neodymium	0.0504	0.0050	0.05	0	101	90	110				
Niobium	0.0528	0.0010	0.05	0	106	90	110				
Palladium	0.0501	0.010	0.05	0	100	90	110				
Praseodymium	0.0505	0.0010	0.05	0	101	90	110				
Rubidium	0.0514	0.010	0.05	0	103	90	110				
Tungsten	0.0488	0.10	0.05	0	98	90	110				
Zirconium	0.0485	0.0050	0.05	0	97	90	110				

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116B: 56	SampType: Sample Matrix Spike				Lab ID: H23110571-001BMS				Method: E200.8		
Analysis Date: 11/16/23 18:47	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0504	0.010	0.05	0	101	70	130				
Gallium	0.0518	0.010	0.05	0	104	70	130				
Lanthanum	0.0510	0.010	0.05	0	102	70	130				
Neodymium	0.0518	0.0050	0.05	0	103	70	130				
Niobium	0.0491	0.0010	0.05	0.0003753	97	70	130				
Palladium	0.0502	0.010	0.05	0	100	70	130				
Praseodymium	0.0515	0.0010	0.05	0	103	70	130				
Rubidium	0.0530	0.010	0.05	0.001283	103	70	130				
Tungsten	0.0530	0.10	0.05	0.003275	99	70	130				
Zirconium	0.0528	0.0050	0.05	0.0003676	105	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190225

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116B: 56	SampType: Sample Matrix Spike	Lab ID: H23110571-001BMS	Method: E200.8								
Analysis Date: 11/16/23 18:47	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116B: 57	SampType: Sample Matrix Spike Duplicate	Lab ID: H23110571-001BMSD	Method: E200.8								
Analysis Date: 11/16/23 18:50	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0500	0.010	0.05	0	100	70	130	0.05035	0.7	20	
Gallium	0.0512	0.010	0.05	0	102	70	130	0.05176	1.0	20	
Lanthanum	0.0502	0.010	0.05	0	100	70	130	0.05097	1.5	20	
Neodymium	0.0503	0.0050	0.05	0	101	70	130	0.05175	2.9	20	
Niobium	0.0493	0.0010	0.05	0.0003753	98	70	130	0.04909			
Palladium	0.0496	0.010	0.05	0	99	70	130	0.05025	1.4	20	
Praseodymium	0.0508	0.0010	0.05	0	101	70	130	0.05147			
Rubidium	0.0526	0.010	0.05	0.001283	103	70	130	0.05298	0.6	20	
Tungsten	0.0532	0.10	0.05	0.003275	100	70	130	0.05301		20	
Zirconium	0.0535	0.0050	0.05	0.0003676	106	70	130	0.05278	1.4	20	

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116B: 58	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.8								
Analysis Date: 11/16/23 18:53	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0504	0.010	0.05	0	101	90	110				
Gallium	0.0506	0.010	0.05	0	101	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190225

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116B: 58	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.8								
Analysis Date: 11/16/23 18:53	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lanthanum	0.0498	0.010	0.05	0	100	90	110				
Neodymium	0.0502	0.0050	0.05	0	100	90	110				
Niobium	0.0537	0.0010	0.05	0	107	90	110				
Palladium	0.0502	0.010	0.05	0	100	90	110				
Praseodymium	0.0504	0.0010	0.05	0	101	90	110				
Rubidium	0.0510	0.010	0.05	0	102	90	110				
Tungsten	0.0501	0.10	0.05	0	100	90	110				
Zirconium	0.0475	0.0050	0.05	0	95	90	110				

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116B: 70	SampType: Sample Matrix Spike	Lab ID: H23110571-011BMS	Method: E200.8								
Analysis Date: 11/16/23 19:28	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0500	0.010	0.05	0	100	70	130				
Gallium	0.0504	0.010	0.05	0	101	70	130				
Lanthanum	0.0510	0.010	0.05	0	102	70	130				
Neodymium	0.0519	0.0050	0.05	0	104	70	130				
Niobium	0.0490	0.0010	0.05	0.0005261	97	70	130				
Palladium	0.0488	0.010	0.05	0	98	70	130				
Praseodymium	0.0511	0.0010	0.05	0	102	70	130				
Rubidium	0.0642	0.010	0.05	0.01388	101	70	130				
Tungsten	0.0500	0.10	0.05	0.0002361	100	70	130				
Zirconium	0.0524	0.0050	0.05	0.000364	104	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190225

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116B: 70	SampType: Sample Matrix Spike	Lab ID: H23110571-011BMS	Method: E200.8								
Analysis Date: 11/16/23 19:28	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116B: 71	SampType: Sample Matrix Spike Duplicate	Lab ID: H23110571-011BMSD	Method: E200.8								
Analysis Date: 11/16/23 19:31	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0500	0.010	0.05	0	100	70	130	0.05003	0	20	
Gallium	0.0512	0.010	0.05	0	102	70	130	0.05041	1.5	20	
Lanthanum	0.0517	0.010	0.05	0	103	70	130	0.05103	1.3	20	
Neodymium	0.0526	0.0050	0.05	0	105	70	130	0.05188	1.5	20	
Niobium	0.0516	0.0010	0.05	0.0005261	102	70	130	0.04898			
Palladium	0.0495	0.010	0.05	0	99	70	130	0.04878	1.4	20	
Praseodymium	0.0523	0.0010	0.05	0	105	70	130	0.05112			
Rubidium	0.0652	0.010	0.05	0.01388	103	70	130	0.06425	1.5	20	
Tungsten	0.0517	0.10	0.05	0.0002361	103	70	130	0.04999		20	
Zirconium	0.0553	0.0050	0.05	0.000364	110	70	130	0.05238	5.5	20	

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116B: 73	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.8								
Analysis Date: 11/16/23 19:41	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0501	0.010	0.05	0	100	90	110				
Gallium	0.0521	0.010	0.05	0	104	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190225

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116B: 73		SampType: Continuing Calibration Verification Standar			Lab ID: CCV			Method: E200.8			
Analysis Date: 11/16/23 19:41		Units: mg/L		Prep Info: Prep Date:			Prep Method:				
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lanthanum	0.0511	0.010	0.05	0	102	90	110				
Neodymium	0.0506	0.0050	0.05	0	101	90	110				
Niobium	0.0530	0.0010	0.05	0	106	90	110				
Palladium	0.0519	0.010	0.05	0	104	90	110				
Praseodymium	0.0511	0.0010	0.05	0	102	90	110				
Rubidium	0.0510	0.010	0.05	0	102	90	110				
Tungsten	0.0510	0.10	0.05	0	102	90	110				
Zirconium	0.0457	0.0050	0.05	0	91	90	110				

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116B: 85		SampType: Sample Matrix Spike			Lab ID: H23110571-021BMS			Method: E200.8			
Analysis Date: 11/16/23 20:16		Units: mg/L		Prep Info: Prep Date:			Prep Method:				
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0495	0.010	0.05	0	99	70	130				
Gallium	0.0507	0.010	0.05	0	101	70	130				
Lanthanum	0.0515	0.010	0.05	0.0001385	103	70	130				
Neodymium	0.0529	0.0050	0.05	0.00009147	106	70	130				
Niobium	0.0496	0.0010	0.05	0.0004779	98	70	130				
Palladium	0.0492	0.010	0.05	0	98	70	130				
Praseodymium	0.0522	0.0010	0.05	0	104	70	130				
Rubidium	0.0770	0.010	0.05	0.02693	100	70	130				
Tungsten	0.0518	0.10	0.05	0.0001948	103	70	130				
Zirconium	0.0522	0.0050	0.05	0	104	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190225

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116B: 85	SampType: Sample Matrix Spike	Lab ID: H23110571-021BMS	Method: E200.8								
Analysis Date: 11/16/23 20:16	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116B: 86	SampType: Sample Matrix Spike Duplicate	Lab ID: H23110571-021BMSD	Method: E200.8								
Analysis Date: 11/16/23 20:19	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0506	0.010	0.05	0	<b>101</b>	70	130	0.04951	<b>2.2</b>	20	
Gallium	0.0526	0.010	0.05	0	<b>105</b>	70	130	0.0507	<b>3.7</b>	20	
Lanthanum	0.0527	0.010	0.05	0.0001385	<b>105</b>	70	130	0.05151	<b>2.3</b>	20	
Neodymium	0.0539	0.0050	0.05	0.00009147	<b>108</b>	70	130	0.05288	<b>2.0</b>	20	
Niobium	0.0522	0.0010	0.05	0.0004779	<b>103</b>	70	130	0.04956			
Palladium	0.0502	0.010	0.05	0	<b>100</b>	70	130	0.04917	<b>2.0</b>	20	
Praseodymium	0.0532	0.0010	0.05	0	<b>106</b>	70	130	0.0522			
Rubidium	0.0779	0.010	0.05	0.02693	<b>102</b>	70	130	0.07705	<b>1.0</b>	20	
Tungsten	0.0529	0.10	0.05	0.0001948	<b>105</b>	70	130	0.05177		20	
Zirconium	0.0558	0.0050	0.05	0	<b>112</b>	70	130	0.05215	<b>6.8</b>	20	

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116B: 88	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.8								
Analysis Date: 11/16/23 20:44	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0492	0.010	0.05	0	<b>98</b>	90	110				
Gallium	0.0519	0.010	0.05	0	<b>104</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190225

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116B: 88		SampType: Continuing Calibration Verification Standar			Lab ID: CCV			Method: E200.8			
Analysis Date: 11/16/23 20:44		Units: mg/L		Prep Info: Prep Date:			Prep Method:				
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lanthanum	0.0507	0.010	0.05	0	101	90	110				
Neodymium	0.0513	0.0050	0.05	0	103	90	110				
Niobium	0.0532	0.0010	0.05	0	106	90	110				
Palladium	0.0516	0.010	0.05	0	103	90	110				
Praseodymium	0.0508	0.0010	0.05	0	102	90	110				
Rubidium	0.0511	0.010	0.05	0	102	90	110				
Tungsten	0.0510	0.10	0.05	0	102	90	110				
Zirconium	0.0460	0.0050	0.05	0	92	90	110				

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116B: 100		SampType: Sample Matrix Spike			Lab ID: H23110571-031BMS			Method: E200.8			
Analysis Date: 11/16/23 21:19		Units: mg/L		Prep Info: Prep Date:			Prep Method:				
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0486	0.010	0.05	0	97	70	130				
Gallium	0.0499	0.010	0.05	0	100	70	130				
Lanthanum	0.0498	0.010	0.05	0	100	70	130				
Neodymium	0.0506	0.0050	0.05	0	101	70	130				
Niobium	0.0478	0.0010	0.05	0.0003398	95	70	130				
Palladium	0.0466	0.010	0.05	0	93	70	130				
Praseodymium	0.0502	0.0010	0.05	0	100	70	130				
Rubidium	0.0513	0.010	0.05	0.000977	101	70	130				
Tungsten	0.0499	0.10	0.05	0.001016	98	70	130				
Zirconium	0.0525	0.0050	0.05	0.000343	104	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190225

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116B: 100	SampType: Sample Matrix Spike	Lab ID: H23110571-031BMS	Method: E200.8								
Analysis Date: 11/16/23 21:19	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116B: 101	SampType: Sample Matrix Spike Duplicate	Lab ID: H23110571-031BMSD	Method: E200.8								
Analysis Date: 11/16/23 21:22	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0496	0.010	0.05	0	99	70	130	0.04861	2.1	20	
Gallium	0.0517	0.010	0.05	0	103	70	130	0.04994	3.5	20	
Lanthanum	0.0516	0.010	0.05	0	103	70	130	0.04978	3.5	20	
Neodymium	0.0525	0.0050	0.05	0	105	70	130	0.05055	3.8	20	
Niobium	0.0510	0.0010	0.05	0.0003398	101	70	130	0.04785			
Palladium	0.0456	0.010	0.05	0	91	70	130	0.04662	2.3	20	
Praseodymium	0.0517	0.0010	0.05	0	103	70	130	0.05018			
Rubidium	0.0528	0.010	0.05	0.000977	104	70	130	0.05134	2.9	20	
Tungsten	0.0524	0.10	0.05	0.001016	103	70	130	0.04994		20	
Zirconium	0.0567	0.0050	0.05	0.000343	113	70	130	0.05254	7.6	20	

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116B: 103	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.8								
Analysis Date: 11/16/23 21:28	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0500	0.010	0.05	0	100	90	110				
Gallium	0.0508	0.010	0.05	0	102	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190225

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116B: 103	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 11/16/23 21:28	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lanthanum	0.0510	0.010	0.05	0	102	90	110				
Neodymium	0.0519	0.0050	0.05	0	104	90	110				
Niobium	0.0544	0.0010	0.05	0	109	90	110				
Palladium	0.0518	0.010	0.05	0	104	90	110				
Praseodymium	0.0512	0.0010	0.05	0	102	90	110				
Rubidium	0.0510	0.010	0.05	0	102	90	110				
Tungsten	0.0520	0.10	0.05	0	104	90	110				
Zirconium	0.0474	0.0050	0.05	0	95	90	110				

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116B: 115	SampType: Sample Matrix Spike				Lab ID: H23110571-041BMS			Method: E200.8			
Analysis Date: 11/16/23 22:03	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0518	0.010	0.05	0.0002807	103	70	130				
Gallium	0.0522	0.010	0.05	0	104	70	130				
Lanthanum	0.0540	0.010	0.05	0.0001718	108	70	130				
Neodymium	0.0552	0.0050	0.05	0.00009295	110	70	130				
Niobium	0.0516	0.0010	0.05	0.0008399	102	70	130				
Palladium	0.0427	0.010	0.05	0	85	70	130				
Praseodymium	0.0540	0.0010	0.05	0	108	70	130				
Rubidium	0.0622	0.010	0.05	0.01116	102	70	130				
Tungsten	0.0537	0.10	0.05	0.0006636	106	70	130				
Zirconium	0.0536	0.0050	0.05	0.002166	103	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190225

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116B: 115	SampType: Sample Matrix Spike	Lab ID: H23110571-041BMS	Method: E200.8								
Analysis Date: 11/16/23 22:03	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116B: 116	SampType: Sample Matrix Spike Duplicate	Lab ID: H23110571-041BMSD	Method: E200.8								
Analysis Date: 11/16/23 22:06	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0509	0.010	0.05	0.0002807	<b>101</b>	70	130	0.0518	<b>1.8</b>	20	
Gallium	0.0491	0.010	0.05	0	<b>98</b>	70	130	0.05215	<b>6.0</b>	20	
Lanthanum	0.0528	0.010	0.05	0.0001718	<b>105</b>	70	130	0.05401	<b>2.2</b>	20	
Neodymium	0.0540	0.0050	0.05	0.00009295	<b>108</b>	70	130	0.05522	<b>2.1</b>	20	
Niobium	0.0528	0.0010	0.05	0.0008399	<b>104</b>	70	130	0.05163			
Palladium	0.0421	0.010	0.05	0	<b>84</b>	70	130	0.04266	<b>1.3</b>	20	
Praseodymium	0.0532	0.0010	0.05	0	<b>106</b>	70	130	0.05399			
Rubidium	0.0613	0.010	0.05	0.01116	<b>100</b>	70	130	0.06219	<b>1.5</b>	20	
Tungsten	0.0548	0.10	0.05	0.0006636	<b>108</b>	70	130	0.05372		20	
Zirconium	0.0546	0.0050	0.05	0.002166	<b>105</b>	70	130	0.05365	<b>1.7</b>	20	

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116B: 118	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.8								
Analysis Date: 11/16/23 22:12	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>9</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0500	0.010	0.05	0	<b>100</b>	90	110				
Gallium	0.0510	0.010	0.05	0	<b>102</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190225

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116B: 118	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 11/16/23 22:12	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 9	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lanthanum	0.0512	0.010	0.05	0	102	90	110				
Neodymium	0.0518	0.0050	0.05	0	104	90	110				
Niobium	0.0532	0.0010	0.05	0	106	90	110				
Palladium	0.0523	0.010	0.05	0	105	90	110				
Praseodymium	0.0516	0.0010	0.05	0	103	90	110				
Rubidium	0.0500	0.010	0.05	0	100	90	110				
Tungsten	0.0522	0.10	0.05	0	104	90	110				

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116B: 125	SampType: Sample Matrix Spike				Lab ID: H23110571-051BMS				Method: E200.8		
Analysis Date: 11/16/23 22:33	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0500	0.010	0.05	0	100	70	130				
Gallium	0.0518	0.010	0.05	0	104	70	130				
Lanthanum	0.0523	0.010	0.05	0	105	70	130				
Neodymium	0.0534	0.0050	0.05	0	107	70	130				
Niobium	0.0510	0.0010	0.05	0.0003996	101	70	130				
Palladium	0.0506	0.010	0.05	0	101	70	130				
Praseodymium	0.0527	0.0010	0.05	0	105	70	130				
Rubidium	0.0642	0.010	0.05	0.01229	104	70	130				
Tungsten	0.0521	0.10	0.05	0.0002058	104	70	130				
Zirconium	0.0536	0.0050	0.05	0	107	70	130				

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190225

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116B: 126	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110571-051BMSD				Method: E200.8		
Analysis Date: 11/16/23 22:36	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0497	0.010	0.05	0	99	70	130	0.04996	0.5	20	
Gallium	0.0518	0.010	0.05	0	103	70	130	0.05181	0.1	20	
Lanthanum	0.0519	0.010	0.05	0	104	70	130	0.05227	0.7	20	
Neodymium	0.0527	0.0050	0.05	0	105	70	130	0.05339	1.2	20	
Niobium	0.0518	0.0010	0.05	0.0003996	103	70	130	0.05095			
Palladium	0.0511	0.010	0.05	0	102	70	130	0.05065	0.9	20	
Praseodymium	0.0521	0.0010	0.05	0	104	70	130	0.05273			
Rubidium	0.0638	0.010	0.05	0.01229	103	70	130	0.06417	0.6	20	
Tungsten	0.0521	0.10	0.05	0.0002058	104	70	130	0.05207		20	
Zirconium	0.0549	0.0050	0.05	0	110	70	130	0.05355	2.5	20	

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190228

Date: 04-Jan-24

Run ID :Run Order: ICPMS206-H_231117A: 22	SampType: Method Blank	Lab ID: LRB	Method: E200.8								
Analysis Date: 11/17/23 13:02	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zirconium	ND	0.00006									

Associated samples: H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS206-H_231117A: 23	SampType: Laboratory Fortified Blank	Lab ID: LFB	Method: E200.8								
Analysis Date: 11/17/23 13:04	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zirconium	0.0562	0.0050	0.05	0	112	85	115				

Associated samples: H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS206-H_231117A: 80	SampType: Initial Calibration Verification Standard	Lab ID: ICV	Method: E200.8								
Analysis Date: 11/17/23 15:00	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zirconium	0.0631	0.0050	0.06	0	105	90	110				

Associated samples: H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS206-H_231117A: 91	SampType: Laboratory Fortified Blank	Lab ID: LFB	Method: E200.8								
Analysis Date: 11/17/23 15:23	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zirconium	0.0466	0.0050	0.05	0	93	85	115				

Associated samples: H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS206-H_231117A: 116	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.8								
Analysis Date: 11/17/23 16:25	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zirconium	0.0504	0.0050	0.05	0	101	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190228

Date: 04-Jan-24

Run ID :Run Order: ICPMS206-H_231117A: 116	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.8								
Analysis Date: 11/17/23 16:25	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS206-H_231117A: 124	SampType: Sample Matrix Spike	Lab ID: H23110571-045BMS	Method: E200.8								
Analysis Date: 11/17/23 17:08	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Zirconium	0.223	0.0050	0.25	0	89	70	130				
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Associated samples: H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS206-H_231117A: 125	SampType: Sample Matrix Spike Duplicate	Lab ID: H23110571-045BMSD	Method: E200.8								
Analysis Date: 11/17/23 17:10	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Zirconium	0.229	0.0050	0.25	0	92	70	130	0.2228	2.9	20	
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Associated samples: H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS206-H_231117A: 127	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.8								
Analysis Date: 11/17/23 17:14	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Zirconium	0.0489	0.0050	0.05	0	98	90	110				
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Associated samples: H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS206-H_231117A: 139	SampType: Sample Matrix Spike	Lab ID: H23110571-055BMS	Method: E200.8								
Analysis Date: 11/17/23 17:39	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Zirconium	0.231	0.0050	0.25	0	92	70	130				
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Associated samples: H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110571

**BatchID:** R190228

**Date:** 04-Jan-24

Run ID :Run Order: <b>ICPMS206-H_231117A: 140</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23110571-055BMSD</b>				Method: <b>E200.8</b>		
Analysis Date: <b>11/17/23 17:41</b>	Units: <b>mg/L</b>			Prep Info: Prep Date:				Prep Method:			
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zirconium	0.229	0.0050	0.25	0	<b>92</b>	70	130	0.2306	<b>0.6</b>	20	

Associated samples: **H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B**

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190261

Date: 04-Jan-24

Run ID :Run Order: SEAL AA500_231120A: 12	SampType: Method Blank	Lab ID: ICB	Method: E353.2								
Analysis Date: 11/20/23 15:41	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.01									

Associated samples: H23110571-001C, H23110571-002C, H23110571-003C, H23110571-004C, H23110571-005C, H23110571-006C, H23110571-007C, H23110571-008C, H23110571-009C, H23110571-010C, H23110571-011C, H23110571-012C, H23110571-013C, H23110571-014C, H23110571-015C, H23110571-016C, H23110571-017C, H23110571-018C, H23110571-019C, H23110571-020C, H23110571-021C, H23110571-022C, H23110571-023C, H23110571-024C, H23110571-025C, H23110571-026C, H23110571-027C, H23110571-028C, H23110571-029C, H23110571-030C, H23110571-031C, H23110571-032C, H23110571-033C, H23110571-034C, H23110571-035C, H23110571-036C, H23110571-037C, H23110571-038C, H23110571-039C, H23110571-040C, H23110571-041C, H23110571-042C, H23110571-043C, H23110571-044C, H23110571-045C, H23110571-046C, H23110571-047C, H23110571-048C, H23110571-049C, H23110571-050C, H23110571-051C, H23110571-052C, H23110571-053C, H23110571-054C, H23110571-055C

Run ID :Run Order: SEAL AA500_231120A: 14	SampType: Initial Calibration Verification Standard	Lab ID: ICV	Method: E353.2								
Analysis Date: 11/20/23 15:43	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.01	0.010	1	0	101	90	110				

Associated samples: H23110571-001C, H23110571-002C, H23110571-003C, H23110571-004C, H23110571-005C, H23110571-006C, H23110571-007C, H23110571-008C, H23110571-009C, H23110571-010C, H23110571-011C, H23110571-012C, H23110571-013C, H23110571-014C, H23110571-015C, H23110571-016C, H23110571-017C, H23110571-018C, H23110571-019C, H23110571-020C, H23110571-021C, H23110571-022C, H23110571-023C, H23110571-024C, H23110571-025C, H23110571-026C, H23110571-027C, H23110571-028C, H23110571-029C, H23110571-030C, H23110571-031C, H23110571-032C, H23110571-033C, H23110571-034C, H23110571-035C, H23110571-036C, H23110571-037C, H23110571-038C, H23110571-039C, H23110571-040C, H23110571-041C, H23110571-042C, H23110571-043C, H23110571-044C, H23110571-045C, H23110571-046C, H23110571-047C, H23110571-048C, H23110571-049C, H23110571-050C, H23110571-051C, H23110571-052C, H23110571-053C, H23110571-054C, H23110571-055C

Run ID :Run Order: SEAL AA500_231120A: 15	SampType: Laboratory Fortified Blank	Lab ID: LFB	Method: E353.2								
Analysis Date: 11/20/23 15:44	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.02	0.011	1	0	102	90	110				

Associated samples: H23110571-001C, H23110571-002C, H23110571-003C, H23110571-004C, H23110571-005C, H23110571-006C, H23110571-007C, H23110571-008C, H23110571-009C, H23110571-010C, H23110571-011C, H23110571-012C, H23110571-013C, H23110571-014C, H23110571-015C, H23110571-016C, H23110571-017C, H23110571-018C, H23110571-019C, H23110571-020C, H23110571-021C, H23110571-022C, H23110571-023C, H23110571-024C, H23110571-025C, H23110571-026C, H23110571-027C, H23110571-028C, H23110571-029C, H23110571-030C, H23110571-031C, H23110571-032C, H23110571-033C, H23110571-034C, H23110571-035C, H23110571-036C, H23110571-037C, H23110571-038C, H23110571-039C, H23110571-040C, H23110571-041C, H23110571-042C, H23110571-043C, H23110571-044C, H23110571-045C, H23110571-046C, H23110571-047C, H23110571-048C, H23110571-049C, H23110571-050C, H23110571-051C, H23110571-052C, H23110571-053C, H23110571-054C, H23110571-055C

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190261

Date: 04-Jan-24

Run ID :Run Order: SEAL AA500_231120A: 44	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E353.2								
Analysis Date: 11/20/23 16:15	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.02	0.010	1	0	101	90	110				

Associated samples: H23110571-001C, H23110571-002C, H23110571-003C, H23110571-004C, H23110571-005C, H23110571-006C, H23110571-007C, H23110571-008C, H23110571-009C, H23110571-010C, H23110571-011C, H23110571-012C, H23110571-013C, H23110571-014C, H23110571-015C, H23110571-016C, H23110571-017C, H23110571-018C, H23110571-019C, H23110571-020C, H23110571-021C, H23110571-022C, H23110571-023C, H23110571-024C, H23110571-025C, H23110571-026C, H23110571-027C, H23110571-028C, H23110571-029C, H23110571-030C, H23110571-031C, H23110571-032C, H23110571-033C, H23110571-034C, H23110571-035C, H23110571-036C, H23110571-037C, H23110571-038C, H23110571-039C, H23110571-040C, H23110571-041C, H23110571-042C, H23110571-043C, H23110571-044C, H23110571-045C, H23110571-046C, H23110571-047C, H23110571-048C, H23110571-049C, H23110571-050C, H23110571-051C, H23110571-052C, H23110571-053C, H23110571-054C, H23110571-055C

Run ID :Run Order: SEAL AA500_231120A: 58	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E353.2								
Analysis Date: 11/20/23 16:29	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.988	0.010	1	0	99	90	110				

Associated samples: H23110571-001C, H23110571-002C, H23110571-003C, H23110571-004C, H23110571-005C, H23110571-006C, H23110571-007C, H23110571-008C, H23110571-009C, H23110571-010C, H23110571-011C, H23110571-012C, H23110571-013C, H23110571-014C, H23110571-015C, H23110571-016C, H23110571-017C, H23110571-018C, H23110571-019C, H23110571-020C, H23110571-021C, H23110571-022C, H23110571-023C, H23110571-024C, H23110571-025C, H23110571-026C, H23110571-027C, H23110571-028C, H23110571-029C, H23110571-030C, H23110571-031C, H23110571-032C, H23110571-033C, H23110571-034C, H23110571-035C, H23110571-036C, H23110571-037C, H23110571-038C, H23110571-039C, H23110571-040C, H23110571-041C, H23110571-042C, H23110571-043C, H23110571-044C, H23110571-045C, H23110571-046C, H23110571-047C, H23110571-048C, H23110571-049C, H23110571-050C, H23110571-051C, H23110571-052C, H23110571-053C, H23110571-054C, H23110571-055C

Run ID :Run Order: SEAL AA500_231120A: 66	SampType: Sample Matrix Spike	Lab ID: H23110571-014CMS	Method: E353.2								
Analysis Date: 11/20/23 16:37	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.677	0.011	1	0	68	90	110				S

Associated samples: H23110571-001C, H23110571-002C, H23110571-003C, H23110571-004C, H23110571-005C, H23110571-006C, H23110571-007C, H23110571-008C, H23110571-009C, H23110571-010C, H23110571-011C, H23110571-012C, H23110571-013C, H23110571-014C, H23110571-015C, H23110571-016C, H23110571-017C, H23110571-018C, H23110571-019C, H23110571-020C, H23110571-021C, H23110571-022C, H23110571-023C, H23110571-024C, H23110571-025C, H23110571-026C, H23110571-027C, H23110571-028C, H23110571-029C, H23110571-030C, H23110571-031C, H23110571-032C, H23110571-033C, H23110571-034C, H23110571-035C, H23110571-036C, H23110571-037C, H23110571-038C, H23110571-039C, H23110571-040C, H23110571-041C, H23110571-042C, H23110571-043C, H23110571-044C, H23110571-045C, H23110571-046C, H23110571-047C, H23110571-048C, H23110571-049C, H23110571-050C, H23110571-051C, H23110571-052C, H23110571-053C, H23110571-054C, H23110571-055C

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190261

Date: 04-Jan-24

Run ID :Run Order: SEAL AA500_231120A: 67	SampType: Sample Matrix Spike Duplicate	Lab ID: H23110571-014CMSD	Method: E353.2								
Analysis Date: 11/20/23 16:38	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.678	0.011	1	0	68	90	110	0.6767	0.2	10	S

Associated samples: H23110571-001C, H23110571-002C, H23110571-003C, H23110571-004C, H23110571-005C, H23110571-006C, H23110571-007C, H23110571-008C, H23110571-009C, H23110571-010C, H23110571-011C, H23110571-012C, H23110571-013C, H23110571-014C, H23110571-015C, H23110571-016C, H23110571-017C, H23110571-018C, H23110571-019C, H23110571-020C, H23110571-021C, H23110571-022C, H23110571-023C, H23110571-024C, H23110571-025C, H23110571-026C, H23110571-027C, H23110571-028C, H23110571-029C, H23110571-030C, H23110571-031C, H23110571-032C, H23110571-033C, H23110571-034C, H23110571-035C, H23110571-036C, H23110571-037C, H23110571-038C, H23110571-039C, H23110571-040C, H23110571-041C, H23110571-042C, H23110571-043C, H23110571-044C, H23110571-045C, H23110571-046C, H23110571-047C, H23110571-048C, H23110571-049C, H23110571-050C, H23110571-051C, H23110571-052C, H23110571-053C, H23110571-054C, H23110571-055C

Run ID :Run Order: SEAL AA500_231120A: 72	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E353.2								
Analysis Date: 11/20/23 16:43	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.975	0.010	1	0	97	90	110				

Associated samples: H23110571-001C, H23110571-002C, H23110571-003C, H23110571-004C, H23110571-005C, H23110571-006C, H23110571-007C, H23110571-008C, H23110571-009C, H23110571-010C, H23110571-011C, H23110571-012C, H23110571-013C, H23110571-014C, H23110571-015C, H23110571-016C, H23110571-017C, H23110571-018C, H23110571-019C, H23110571-020C, H23110571-021C, H23110571-022C, H23110571-023C, H23110571-024C, H23110571-025C, H23110571-026C, H23110571-027C, H23110571-028C, H23110571-029C, H23110571-030C, H23110571-031C, H23110571-032C, H23110571-033C, H23110571-034C, H23110571-035C, H23110571-036C, H23110571-037C, H23110571-038C, H23110571-039C, H23110571-040C, H23110571-041C, H23110571-042C, H23110571-043C, H23110571-044C, H23110571-045C, H23110571-046C, H23110571-047C, H23110571-048C, H23110571-049C, H23110571-050C, H23110571-051C, H23110571-052C, H23110571-053C, H23110571-054C, H23110571-055C

Run ID :Run Order: SEAL AA500_231120A: 84	SampType: Sample Matrix Spike	Lab ID: H23110571-027CMS	Method: E353.2								
Analysis Date: 11/20/23 16:57	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.823	0.011	1	0.0396	78	90	110				S

Associated samples: H23110571-001C, H23110571-002C, H23110571-003C, H23110571-004C, H23110571-005C, H23110571-006C, H23110571-007C, H23110571-008C, H23110571-009C, H23110571-010C, H23110571-011C, H23110571-012C, H23110571-013C, H23110571-014C, H23110571-015C, H23110571-016C, H23110571-017C, H23110571-018C, H23110571-019C, H23110571-020C, H23110571-021C, H23110571-022C, H23110571-023C, H23110571-024C, H23110571-025C, H23110571-026C, H23110571-027C, H23110571-028C, H23110571-029C, H23110571-030C, H23110571-031C, H23110571-032C, H23110571-033C, H23110571-034C, H23110571-035C, H23110571-036C, H23110571-037C, H23110571-038C, H23110571-039C, H23110571-040C, H23110571-041C, H23110571-042C, H23110571-043C, H23110571-044C, H23110571-045C, H23110571-046C, H23110571-047C, H23110571-048C, H23110571-049C, H23110571-050C, H23110571-051C, H23110571-052C, H23110571-053C, H23110571-054C, H23110571-055C

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190261

Date: 04-Jan-24

Run ID :Run Order: SEAL AA500_231120A: 85	SampType: Sample Matrix Spike Duplicate	Lab ID: H23110571-027CMSD	Method: E353.2								
Analysis Date: 11/20/23 16:58	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.874	0.011	1	0.0396	83	90	110	0.8234	6.0	10	S

Associated samples: H23110571-001C, H23110571-002C, H23110571-003C, H23110571-004C, H23110571-005C, H23110571-006C, H23110571-007C, H23110571-008C, H23110571-009C, H23110571-010C, H23110571-011C, H23110571-012C, H23110571-013C, H23110571-014C, H23110571-015C, H23110571-016C, H23110571-017C, H23110571-018C, H23110571-019C, H23110571-020C, H23110571-021C, H23110571-022C, H23110571-023C, H23110571-024C, H23110571-025C, H23110571-026C, H23110571-027C, H23110571-028C, H23110571-029C, H23110571-030C, H23110571-031C, H23110571-032C, H23110571-033C, H23110571-034C, H23110571-035C, H23110571-036C, H23110571-037C, H23110571-038C, H23110571-039C, H23110571-040C, H23110571-041C, H23110571-042C, H23110571-043C, H23110571-044C, H23110571-045C, H23110571-046C, H23110571-047C, H23110571-048C, H23110571-049C, H23110571-050C, H23110571-051C, H23110571-052C, H23110571-053C, H23110571-054C, H23110571-055C

Run ID :Run Order: SEAL AA500_231120A: 87	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E353.2								
Analysis Date: 11/20/23 17:00	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.976	0.010	1	0	98	90	110				

Associated samples: H23110571-001C, H23110571-002C, H23110571-003C, H23110571-004C, H23110571-005C, H23110571-006C, H23110571-007C, H23110571-008C, H23110571-009C, H23110571-010C, H23110571-011C, H23110571-012C, H23110571-013C, H23110571-014C, H23110571-015C, H23110571-016C, H23110571-017C, H23110571-018C, H23110571-019C, H23110571-020C, H23110571-021C, H23110571-022C, H23110571-023C, H23110571-024C, H23110571-025C, H23110571-026C, H23110571-027C, H23110571-028C, H23110571-029C, H23110571-030C, H23110571-031C, H23110571-032C, H23110571-033C, H23110571-034C, H23110571-035C, H23110571-036C, H23110571-037C, H23110571-038C, H23110571-039C, H23110571-040C, H23110571-041C, H23110571-042C, H23110571-043C, H23110571-044C, H23110571-045C, H23110571-046C, H23110571-047C, H23110571-048C, H23110571-049C, H23110571-050C, H23110571-051C, H23110571-052C, H23110571-053C, H23110571-054C, H23110571-055C

Run ID :Run Order: SEAL AA500_231120A: 90	SampType: Sample Matrix Spike	Lab ID: H23110571-029CMS	Method: E353.2								
Analysis Date: 11/20/23 17:03	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.992	0.011	1	0.0128	98	90	110				

Associated samples: H23110571-001C, H23110571-002C, H23110571-003C, H23110571-004C, H23110571-005C, H23110571-006C, H23110571-007C, H23110571-008C, H23110571-009C, H23110571-010C, H23110571-011C, H23110571-012C, H23110571-013C, H23110571-014C, H23110571-015C, H23110571-016C, H23110571-017C, H23110571-018C, H23110571-019C, H23110571-020C, H23110571-021C, H23110571-022C, H23110571-023C, H23110571-024C, H23110571-025C, H23110571-026C, H23110571-027C, H23110571-028C, H23110571-029C, H23110571-030C, H23110571-031C, H23110571-032C, H23110571-033C, H23110571-034C, H23110571-035C, H23110571-036C, H23110571-037C, H23110571-038C, H23110571-039C, H23110571-040C, H23110571-041C, H23110571-042C, H23110571-043C, H23110571-044C, H23110571-045C, H23110571-046C, H23110571-047C, H23110571-048C, H23110571-049C, H23110571-050C, H23110571-051C, H23110571-052C, H23110571-053C, H23110571-054C, H23110571-055C

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190261

Date: 04-Jan-24

Run ID :Run Order: SEAL AA500_231120A: 91	SampType: Sample Matrix Spike Duplicate	Lab ID: H23110571-029CMSD	Method: E353.2								
Analysis Date: 11/20/23 17:04	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.01	0.011	1	0.0128	100	90	110	0.992	1.7	10	

Associated samples: H23110571-001C, H23110571-002C, H23110571-003C, H23110571-004C, H23110571-005C, H23110571-006C, H23110571-007C, H23110571-008C, H23110571-009C, H23110571-010C, H23110571-011C, H23110571-012C, H23110571-013C, H23110571-014C, H23110571-015C, H23110571-016C, H23110571-017C, H23110571-018C, H23110571-019C, H23110571-020C, H23110571-021C, H23110571-022C, H23110571-023C, H23110571-024C, H23110571-025C, H23110571-026C, H23110571-027C, H23110571-028C, H23110571-029C, H23110571-030C, H23110571-031C, H23110571-032C, H23110571-033C, H23110571-034C, H23110571-035C, H23110571-036C, H23110571-037C, H23110571-038C, H23110571-039C, H23110571-040C, H23110571-041C, H23110571-042C, H23110571-043C, H23110571-044C, H23110571-045C, H23110571-046C, H23110571-047C, H23110571-048C, H23110571-049C, H23110571-050C, H23110571-051C, H23110571-052C, H23110571-053C, H23110571-054C, H23110571-055C

Run ID :Run Order: SEAL AA500_231120A: 101	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E353.2								
Analysis Date: 11/20/23 17:14	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.992	0.010	1	0	99	90	110				

Associated samples: H23110571-001C, H23110571-002C, H23110571-003C, H23110571-004C, H23110571-005C, H23110571-006C, H23110571-007C, H23110571-008C, H23110571-009C, H23110571-010C, H23110571-011C, H23110571-012C, H23110571-013C, H23110571-014C, H23110571-015C, H23110571-016C, H23110571-017C, H23110571-018C, H23110571-019C, H23110571-020C, H23110571-021C, H23110571-022C, H23110571-023C, H23110571-024C, H23110571-025C, H23110571-026C, H23110571-027C, H23110571-028C, H23110571-029C, H23110571-030C, H23110571-031C, H23110571-032C, H23110571-033C, H23110571-034C, H23110571-035C, H23110571-036C, H23110571-037C, H23110571-038C, H23110571-039C, H23110571-040C, H23110571-041C, H23110571-042C, H23110571-043C, H23110571-044C, H23110571-045C, H23110571-046C, H23110571-047C, H23110571-048C, H23110571-049C, H23110571-050C, H23110571-051C, H23110571-052C, H23110571-053C, H23110571-054C, H23110571-055C

Run ID :Run Order: SEAL AA500_231120A: 105	SampType: Sample Matrix Spike	Lab ID: H23110571-040CMS	Method: E353.2								
Analysis Date: 11/20/23 17:18	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.00	0.011	1	0	100	90	110				

Associated samples: H23110571-001C, H23110571-002C, H23110571-003C, H23110571-004C, H23110571-005C, H23110571-006C, H23110571-007C, H23110571-008C, H23110571-009C, H23110571-010C, H23110571-011C, H23110571-012C, H23110571-013C, H23110571-014C, H23110571-015C, H23110571-016C, H23110571-017C, H23110571-018C, H23110571-019C, H23110571-020C, H23110571-021C, H23110571-022C, H23110571-023C, H23110571-024C, H23110571-025C, H23110571-026C, H23110571-027C, H23110571-028C, H23110571-029C, H23110571-030C, H23110571-031C, H23110571-032C, H23110571-033C, H23110571-034C, H23110571-035C, H23110571-036C, H23110571-037C, H23110571-038C, H23110571-039C, H23110571-040C, H23110571-041C, H23110571-042C, H23110571-043C, H23110571-044C, H23110571-045C, H23110571-046C, H23110571-047C, H23110571-048C, H23110571-049C, H23110571-050C, H23110571-051C, H23110571-052C, H23110571-053C, H23110571-054C, H23110571-055C

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190261

Date: 04-Jan-24

Run ID :Run Order: SEAL AA500_231120A: 106	SampType: Sample Matrix Spike Duplicate	Lab ID: H23110571-040CMSD	Method: E353.2								
Analysis Date: 11/20/23 17:19	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.975	0.011	1	0	98	90	110	1.002	2.7	10	

Associated samples: H23110571-001C, H23110571-002C, H23110571-003C, H23110571-004C, H23110571-005C, H23110571-006C, H23110571-007C, H23110571-008C, H23110571-009C, H23110571-010C, H23110571-011C, H23110571-012C, H23110571-013C, H23110571-014C, H23110571-015C, H23110571-016C, H23110571-017C, H23110571-018C, H23110571-019C, H23110571-020C, H23110571-021C, H23110571-022C, H23110571-023C, H23110571-024C, H23110571-025C, H23110571-026C, H23110571-027C, H23110571-028C, H23110571-029C, H23110571-030C, H23110571-031C, H23110571-032C, H23110571-033C, H23110571-034C, H23110571-035C, H23110571-036C, H23110571-037C, H23110571-038C, H23110571-039C, H23110571-040C, H23110571-041C, H23110571-042C, H23110571-043C, H23110571-044C, H23110571-045C, H23110571-046C, H23110571-047C, H23110571-048C, H23110571-049C, H23110571-050C, H23110571-051C, H23110571-052C, H23110571-053C, H23110571-054C, H23110571-055C

Run ID :Run Order: SEAL AA500_231120A: 115	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E353.2								
Analysis Date: 11/20/23 17:28	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.983	0.010	1	0	98	90	110				

Associated samples: H23110571-001C, H23110571-002C, H23110571-003C, H23110571-004C, H23110571-005C, H23110571-006C, H23110571-007C, H23110571-008C, H23110571-009C, H23110571-010C, H23110571-011C, H23110571-012C, H23110571-013C, H23110571-014C, H23110571-015C, H23110571-016C, H23110571-017C, H23110571-018C, H23110571-019C, H23110571-020C, H23110571-021C, H23110571-022C, H23110571-023C, H23110571-024C, H23110571-025C, H23110571-026C, H23110571-027C, H23110571-028C, H23110571-029C, H23110571-030C, H23110571-031C, H23110571-032C, H23110571-033C, H23110571-034C, H23110571-035C, H23110571-036C, H23110571-037C, H23110571-038C, H23110571-039C, H23110571-040C, H23110571-041C, H23110571-042C, H23110571-043C, H23110571-044C, H23110571-045C, H23110571-046C, H23110571-047C, H23110571-048C, H23110571-049C, H23110571-050C, H23110571-051C, H23110571-052C, H23110571-053C, H23110571-054C, H23110571-055C

Run ID :Run Order: SEAL AA500_231120A: 121	SampType: Sample Matrix Spike	Lab ID: H23110571-051CMS	Method: E353.2								
Analysis Date: 11/20/23 17:36	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.10	0.011	1	0.1293	97	90	110				

Associated samples: H23110571-001C, H23110571-002C, H23110571-003C, H23110571-004C, H23110571-005C, H23110571-006C, H23110571-007C, H23110571-008C, H23110571-009C, H23110571-010C, H23110571-011C, H23110571-012C, H23110571-013C, H23110571-014C, H23110571-015C, H23110571-016C, H23110571-017C, H23110571-018C, H23110571-019C, H23110571-020C, H23110571-021C, H23110571-022C, H23110571-023C, H23110571-024C, H23110571-025C, H23110571-026C, H23110571-027C, H23110571-028C, H23110571-029C, H23110571-030C, H23110571-031C, H23110571-032C, H23110571-033C, H23110571-034C, H23110571-035C, H23110571-036C, H23110571-037C, H23110571-038C, H23110571-039C, H23110571-040C, H23110571-041C, H23110571-042C, H23110571-043C, H23110571-044C, H23110571-045C, H23110571-046C, H23110571-047C, H23110571-048C, H23110571-049C, H23110571-050C, H23110571-051C, H23110571-052C, H23110571-053C, H23110571-054C, H23110571-055C

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190261

Date: 04-Jan-24

Run ID :Run Order: SEAL AA500_231120A: 122	SampType: Sample Matrix Spike Duplicate	Lab ID: H23110571-051CMSD	Method: E353.2								
Analysis Date: 11/20/23 17:37	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.11	0.011	1	0.1293	98	90	110	1.098	0.8	10	

Associated samples: H23110571-001C, H23110571-002C, H23110571-003C, H23110571-004C, H23110571-005C, H23110571-006C, H23110571-007C, H23110571-008C, H23110571-009C, H23110571-010C, H23110571-011C, H23110571-012C, H23110571-013C, H23110571-014C, H23110571-015C, H23110571-016C, H23110571-017C, H23110571-018C, H23110571-019C, H23110571-020C, H23110571-021C, H23110571-022C, H23110571-023C, H23110571-024C, H23110571-025C, H23110571-026C, H23110571-027C, H23110571-028C, H23110571-029C, H23110571-030C, H23110571-031C, H23110571-032C, H23110571-033C, H23110571-034C, H23110571-035C, H23110571-036C, H23110571-037C, H23110571-038C, H23110571-039C, H23110571-040C, H23110571-041C, H23110571-042C, H23110571-043C, H23110571-044C, H23110571-045C, H23110571-046C, H23110571-047C, H23110571-048C, H23110571-049C, H23110571-050C, H23110571-051C, H23110571-052C, H23110571-053C, H23110571-054C, H23110571-055C

Run ID :Run Order: SEAL AA500_231120A: 127	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E353.2								
Analysis Date: 11/20/23 17:42	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.997	0.010	1	0	100	90	110				

Associated samples: H23110571-001C, H23110571-002C, H23110571-003C, H23110571-004C, H23110571-005C, H23110571-006C, H23110571-007C, H23110571-008C, H23110571-009C, H23110571-010C, H23110571-011C, H23110571-012C, H23110571-013C, H23110571-014C, H23110571-015C, H23110571-016C, H23110571-017C, H23110571-018C, H23110571-019C, H23110571-020C, H23110571-021C, H23110571-022C, H23110571-023C, H23110571-024C, H23110571-025C, H23110571-026C, H23110571-027C, H23110571-028C, H23110571-029C, H23110571-030C, H23110571-031C, H23110571-032C, H23110571-033C, H23110571-034C, H23110571-035C, H23110571-036C, H23110571-037C, H23110571-038C, H23110571-039C, H23110571-040C, H23110571-041C, H23110571-042C, H23110571-043C, H23110571-044C, H23110571-045C, H23110571-046C, H23110571-047C, H23110571-048C, H23110571-049C, H23110571-050C, H23110571-051C, H23110571-052C, H23110571-053C, H23110571-054C, H23110571-055C

Run ID :Run Order: SEAL AA500_231120A: 214	SampType: Initial Calibration Verification Standard	Lab ID: ICV	Method: E353.2								
Analysis Date: 11/21/23 09:58	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.984	0.010	1	0	98	90	110				

Associated samples: H23110571-001C, H23110571-002C, H23110571-003C, H23110571-004C, H23110571-005C, H23110571-006C, H23110571-007C, H23110571-008C, H23110571-009C, H23110571-010C, H23110571-011C, H23110571-012C, H23110571-013C, H23110571-014C, H23110571-015C, H23110571-016C, H23110571-017C, H23110571-018C, H23110571-019C, H23110571-020C, H23110571-021C, H23110571-022C, H23110571-023C, H23110571-024C, H23110571-025C, H23110571-026C, H23110571-027C, H23110571-028C, H23110571-029C, H23110571-030C, H23110571-031C, H23110571-032C, H23110571-033C, H23110571-034C, H23110571-035C, H23110571-036C, H23110571-037C, H23110571-038C, H23110571-039C, H23110571-040C, H23110571-041C, H23110571-042C, H23110571-043C, H23110571-044C, H23110571-045C, H23110571-046C, H23110571-047C, H23110571-048C, H23110571-049C, H23110571-050C, H23110571-051C, H23110571-052C, H23110571-053C, H23110571-054C, H23110571-055C

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190339

Date: 04-Jan-24

Run ID :Run Order: ICP2-HE_231126B: 6	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.7			
Analysis Date: 11/26/23 12:12	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	3.97	0.10	4	0	99	95	105				
Arsenic	0.807	0.018	0.8	0	101	95	105				
Boron	0.815	0.10	0.8	0	102	95	105				
Calcium	38.6	1.0	40	0	96	95	105				
Copper	0.792	0.012	0.8	0	99	95	105				
Iron	3.92	0.020	4	0	98	95	105				
Lithium	0.829	0.10	0.8	0	104	95	105				
Magnesium	37.8	1.0	40	0	95	95	105				
Manganese	3.93	0.010	4	0	98	95	105				
Potassium	39.9	1.0	40	0	100	95	105				
Sodium	39.8	1.0	40	0	100	95	105				
Strontium	0.796	0.10	0.8	0	99	95	105				

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_231126B: 7	SampType: Continuing Calibration Verification Standar				Lab ID: CCV-1			Method: E200.7			
Analysis Date: 11/26/23 12:16	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.50	0.10	2.5	0	100	95	105				
Arsenic	2.52	0.018	2.5	0	101	95	105				
Boron	2.54	0.10	2.5	0	101	95	105				
Calcium	24.5	1.0	25	0	98	95	105				
Copper	2.56	0.012	2.5	0	102	95	105				
Iron	2.49	0.020	2.5	0	100	95	105				
Lithium	1.27	0.10	1.25	0	102	95	105				
Magnesium	24.2	1.0	25	0	97	95	105				
Manganese	2.60	0.010	2.5	0	104	95	105				
Potassium	25.8	1.0	25	0	103	95	105				
Sodium	25.7	1.0	25	0	103	95	105				
Strontium	2.54	0.10	2.5	0	101	95	105				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190339

Date: 04-Jan-24

Run ID :Run Order: ICP2-HE_231126B: 7	SampType: Continuing Calibration Verification Standar	Lab ID: CCV-1	Method: E200.7								
Analysis Date: 11/26/23 12:16	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_231126B: 13	SampType: Method Blank	Lab ID: MB	Method: E200.7								
Analysis Date: 11/26/23 12:42	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.03									
Arsenic	ND	0.02									
Boron	ND	0.004									
Calcium	ND	0.2									
Copper	ND	0.01									
Iron	ND	0.008									
Lithium	ND	0.002									
Magnesium	ND	0.05									
Manganese	ND	0.001									
Potassium	ND	0.06									
Sodium	0.08	0.03									
Strontium	ND	0.0003									

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_231126B: 14	SampType: Laboratory Fortified Blank	Lab ID: LFB	Method: E200.7								
Analysis Date: 11/26/23 12:46	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.45	0.10	5	0	109	85	115				
Arsenic	0.956	0.018	1	0	96	85	115				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice  
Work Order: H23110571

Prepared by Helena, MT Branch  
BatchID: R190339

Date: 04-Jan-24

Run ID :Run Order: ICP2-HE_231126B: 14	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.7		
Analysis Date: 11/26/23 12:46	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.987	0.10	1	0	99	85	115				
Calcium	50.2	1.0	50	0	100	85	115				
Copper	1.10	0.012	1	0	110	85	115				
Iron	5.26	0.020	5	0	105	85	115				
Lithium	1.15	0.10	1	0	115	85	115				
Magnesium	50.8	1.0	50	0	102	85	115				
Manganese	5.15	0.010	5	0	103	85	115				
Potassium	54.7	1.0	50	0	109	85	115				
Sodium	54.9	1.0	50	0	110	85	115				
Strontium	1.07	0.10	1	0	107	85	115				

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_231126B: 114	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 11/26/23 20:08	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.46	0.10	2.5	0	98	90	110				
Arsenic	2.58	0.018	2.5	0	103	90	110				
Boron	2.50	0.10	2.5	0	100	90	110				
Calcium	25.3	1.0	25	0	101	90	110				
Copper	2.55	0.012	2.5	0	102	90	110				
Iron	2.58	0.020	2.5	0	103	90	110				
Lithium	1.27	0.10	1.25	0	101	90	110				
Magnesium	24.1	1.0	25	0	96	90	110				
Manganese	2.73	0.010	2.5	0	109	90	110				
Potassium	25.9	1.0	25	0	104	90	110				
Sodium	25.5	1.0	25	0	102	90	110				
Strontium	2.51	0.10	2.5	0	101	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190339

Date: 04-Jan-24

Run ID :Run Order: ICP2-HE_231126B: 114	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.7								
Analysis Date: 11/26/23 20:08	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_231126B: 126	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.7								
Analysis Date: 11/26/23 20:54	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.47	0.10	2.5	0	99	90	110				
Arsenic	2.60	0.018	2.5	0	104	90	110				
Boron	2.54	0.10	2.5	0	101	90	110				
Calcium	25.7	1.0	25	0	103	90	110				
Copper	2.54	0.012	2.5	0	102	90	110				
Iron	2.61	0.020	2.5	0	104	90	110				
Lithium	1.16	0.10	1.25	0	93	90	110				
Magnesium	24.0	1.0	25	0	96	90	110				
Manganese	2.76	0.010	2.5	0	110	90	110				
Potassium	23.8	1.0	25	0	95	90	110				
Sodium	23.3	1.0	25	0	93	90	110				
Strontium	2.51	0.10	2.5	0	100	90	110				

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_231126B: 128	SampType: Sample Matrix Spike	Lab ID: H23110571-006BMS2	Method: E200.7								
Analysis Date: 11/26/23 21:01	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.17	0.030	5	0	103	70	130				
Arsenic	1.00	0.018	1	0	100	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190339

Date: 04-Jan-24

Run ID :Run Order: ICP2-HE_231126B: 128	SampType: Sample Matrix Spike				Lab ID: H23110571-006BMS2				Method: E200.7		
Analysis Date: 11/26/23 21:01	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	1.00	0.050	1	0.04084	96	70	130				
Calcium	78.3	1.0	50	23.89	109	70	130				
Copper	1.07	0.012	1	0	107	70	130				
Iron	5.49	0.020	5	0	110	70	130				
Lithium	1.04	0.10	1	0.0128	103	70	130				
Magnesium	55.7	1.0	50	5.437	101	70	130				
Manganese	5.42	0.0014	5	0.00164	108	70	130				
Potassium	55.6	1.0	50	2.939	105	70	130				
Sodium	76.7	1.0	50	24.1	105	70	130				
Strontium	1.21	0.010	1	0.1625	105	70	130				

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_231126B: 129	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110571-006BMSD2				Method: E200.7		
Analysis Date: 11/26/23 21:05	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.68	0.030	5	0	94	70	130	5.175	10	20	
Arsenic	0.931	0.018	1	0	93	70	130	1.003	7.4	20	
Boron	0.934	0.050	1	0.04084	89	70	130	1.003	7.2	20	
Calcium	73.6	1.0	50	23.89	99	70	130	78.33	6.2	20	
Copper	0.964	0.012	1	0	96	70	130	1.073	11	20	
Iron	4.94	0.020	5	0	99	70	130	5.491	10	20	
Lithium	1.02	0.10	1	0.0128	101	70	130	1.043	2.2	20	
Magnesium	51.2	1.0	50	5.437	91	70	130	55.73	8.6	20	
Manganese	4.91	0.0014	5	0.00164	98	70	130	5.419	9.9	20	
Potassium	51.9	1.0	50	2.939	98	70	130	55.64	7.0	20	
Sodium	73.6	1.0	50	24.1	99	70	130	76.71	4.1	20	
Strontium	1.12	0.010	1	0.1625	96	70	130	1.212	7.7	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190339

Date: 04-Jan-24

Run ID :Run Order: ICP2-HE\_231126B: 129      SampType: Sample Matrix Spike Duplicate      Lab ID: H23110571-006BMSD2      Method: E200.7  
 Analysis Date: 11/26/23 21:05      Units: mg/L      Prep Info: Prep Date:      Prep Method:  
 Analytes **12**      Result      PQL      SPK value      SPK Ref Val      %REC      LowLimit      HighLimit      RPD Ref Val      %RPD      RPDLimit      Qual

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE\_231126B: 138      SampType: Continuing Calibration Verification Standar      Lab ID: CCV      Method: E200.7  
 Analysis Date: 11/26/23 21:39      Units: mg/L      Prep Info: Prep Date:      Prep Method:  
 Analytes **12**      Result      PQL      SPK value      SPK Ref Val      %REC      LowLimit      HighLimit      RPD Ref Val      %RPD      RPDLimit      Qual

Analytes	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.51	0.10	2.5	0	100	90	110				
Arsenic	2.65	0.018	2.5	0	106	90	110				
Boron	2.65	0.10	2.5	0	106	90	110				
Calcium	26.1	1.0	25	0	105	90	110				
Copper	2.56	0.012	2.5	0	102	90	110				
Iron	2.57	0.020	2.5	0	103	90	110				
Lithium	1.26	0.10	1.25	0	101	90	110				
Magnesium	25.3	1.0	25	0	101	90	110				
Manganese	2.70	0.010	2.5	0	108	90	110				
Potassium	25.2	1.0	25	0	101	90	110				
Sodium	24.9	1.0	25	0	100	90	110				
Strontium	2.65	0.10	2.5	0	106	90	110				

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE\_231126B: 151      SampType: Continuing Calibration Verification Standar      Lab ID: CCV      Method: E200.7  
 Analysis Date: 11/26/23 22:29      Units: mg/L      Prep Info: Prep Date:      Prep Method:  
 Analytes **12**      Result      PQL      SPK value      SPK Ref Val      %REC      LowLimit      HighLimit      RPD Ref Val      %RPD      RPDLimit      Qual

Analytes	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.44	0.10	2.5	0	98	90	110				
Arsenic	2.51	0.018	2.5	0	101	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190339

Date: 04-Jan-24

Run ID :Run Order: ICP2-HE_231126B: 151	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 11/26/23 22:29	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.49	0.10	2.5	0	99	90	110				
Calcium	24.8	1.0	25	0	99	90	110				
Copper	2.55	0.012	2.5	0	102	90	110				
Iron	2.59	0.020	2.5	0	103	90	110				
Lithium	1.22	0.10	1.25	0	97	90	110				
Magnesium	23.7	1.0	25	0	95	90	110				
Manganese	2.71	0.010	2.5	0	108	90	110				
Potassium	24.7	1.0	25	0	99	90	110				
Sodium	24.3	1.0	25	0	97	90	110				
Strontium	2.48	0.10	2.5	0	99	90	110				

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_231126B: 158	SampType: Sample Matrix Spike				Lab ID: H23110571-026BMS2				Method: E200.7		
Analysis Date: 11/26/23 22:56	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 12	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.75	0.030	5	0	95	70	130				
Arsenic	0.929	0.018	1	0	93	70	130				
Boron	0.993	0.050	1	0.09161	90	70	130				
Calcium	177	1.0	50	128.8	96	70	130				
Copper	1.15	0.012	1	0.1558	100	70	130				
Iron	4.94	0.020	5	0	99	70	130				
Lithium	1.22	0.10	1	0.2171	101	70	130				
Magnesium	76.2	1.0	50	27.51	97	70	130				
Manganese	4.77	0.0014	5	0.00401	95	70	130				
Potassium	60.6	1.0	50	10.75	100	70	130				
Sodium	121	1.0	50	66.56	109	70	130				
Strontium	2.46	0.010	1	1.495	96	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190339

Date: 04-Jan-24

Run ID :Run Order: ICP2-HE_231126B: 158	SampType: Sample Matrix Spike	Lab ID: H23110571-026BMS2	Method: E200.7								
Analysis Date: 11/26/23 22:56	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_231126B: 159	SampType: Sample Matrix Spike Duplicate	Lab ID: H23110571-026BMSD2	Method: E200.7								
Analysis Date: 11/26/23 22:59	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.16	0.030	5	0	<b>103</b>	70	130	4.751	<b>8.2</b>	20	
Arsenic	0.991	0.018	1	0	<b>99</b>	70	130	0.9288	<b>6.4</b>	20	
Boron	1.06	0.050	1	0.09161	<b>96</b>	70	130	0.9931	<b>6.1</b>	20	
Calcium	179	1.0	50	128.8	<b>100</b>	70	130	176.7	<b>1.3</b>	20	
Copper	1.23	0.012	1	0.1558	<b>107</b>	70	130	1.154	<b>6.5</b>	20	
Iron	5.32	0.020	5	0	<b>106</b>	70	130	4.939	<b>7.5</b>	20	
Lithium	1.27	0.10	1	0.2171	<b>106</b>	70	130	1.224	<b>4.1</b>	20	
Magnesium	79.7	1.0	50	27.51	<b>104</b>	70	130	76.16	<b>4.5</b>	20	
Manganese	5.14	0.0014	5	0.00401	<b>103</b>	70	130	4.766	<b>7.5</b>	20	
Potassium	65.6	1.0	50	10.75	<b>110</b>	70	130	60.64	<b>7.9</b>	20	
Sodium	127	1.0	50	66.56	<b>121</b>	70	130	121.1	<b>4.7</b>	20	
Strontium	2.51	0.010	1	1.495	<b>102</b>	70	130	2.456	<b>2.4</b>	20	

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_231126B: 163	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.7								
Analysis Date: 11/26/23 23:14	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.32	0.10	2.5	0	<b>93</b>	90	110				
Arsenic	2.37	0.018	2.5	0	<b>95</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190339

Date: 04-Jan-24

Run ID :Run Order: ICP2-HE_231126B: 163	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 11/26/23 23:14	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.30	0.10	2.5	0	92	90	110				
Calcium	23.3	1.0	25	0	93	90	110				
Copper	2.55	0.012	2.5	0	102	90	110				
Iron	2.59	0.020	2.5	0	104	90	110				
Lithium	1.24	0.10	1.25	0	99	90	110				
Magnesium	23.1	1.0	25	0	92	90	110				
Manganese	2.72	0.010	2.5	0	109	90	110				
Potassium	25.1	1.0	25	0	100	90	110				
Sodium	24.7	1.0	25	0	99	90	110				
Strontium	2.32	0.10	2.5	0	93	90	110				

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_231126B: 173	SampType: Sample Matrix Spike				Lab ID: H23110571-036BMS2				Method: E200.7		
Analysis Date: 11/26/23 23:52	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.49	0.030	5	0	90	70	130				
Arsenic	0.885	0.018	1	0	88	70	130				
Boron	0.878	0.050	1	0.0273	85	70	130				
Calcium	75.7	1.0	50	30.78	90	70	130				
Copper	0.958	0.012	1	0	96	70	130				
Iron	4.91	0.020	5	0	98	70	130				
Lithium	1.04	0.10	1	0.00828	103	70	130				
Magnesium	52.4	1.0	50	7.09	91	70	130				
Manganese	4.55	0.0014	5	0.00146	91	70	130				
Potassium	50.8	1.0	50	3.223	95	70	130				
Sodium	67.6	1.0	50	20.04	95	70	130				
Strontium	1.10	0.010	1	0.1999	90	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190339

Date: 04-Jan-24

Run ID :Run Order: ICP2-HE\_231126B: 173      SampType: Sample Matrix Spike      Lab ID: H23110571-036BMS2      Method: E200.7  
 Analysis Date: 11/26/23 23:52      Units: mg/L      Prep Info: Prep Date:      Prep Method:  
 Analytes **12**      Result      PQL      SPK value      SPK Ref Val      %REC      LowLimit      HighLimit      RPD Ref Val      %RPD      RPDLimit      Qual

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE\_231126B: 174      SampType: Sample Matrix Spike Duplicate      Lab ID: H23110571-036BMSD2      Method: E200.7  
 Analysis Date: 11/26/23 23:55      Units: mg/L      Prep Info: Prep Date:      Prep Method:  
 Analytes **12**      Result      PQL      SPK value      SPK Ref Val      %REC      LowLimit      HighLimit      RPD Ref Val      %RPD      RPDLimit      Qual

Analytes	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.83	0.030	5	0	97	70	130	4.487	7.3	20	
Arsenic	0.930	0.018	1	0	93	70	130	0.885	5.0	20	
Boron	0.911	0.050	1	0.0273	88	70	130	0.8775	3.8	20	
Calcium	79.5	1.0	50	30.78	97	70	130	75.66	5.0	20	
Copper	0.997	0.012	1	0	100	70	130	0.9576	4.1	20	
Iron	5.08	0.020	5	0	102	70	130	4.906	3.5	20	
Lithium	1.08	0.10	1	0.00828	107	70	130	1.041	3.3	20	
Magnesium	55.7	1.0	50	7.09	97	70	130	52.36	6.2	20	
Manganese	4.88	0.0014	5	0.00146	98	70	130	4.554	6.8	20	
Potassium	53.9	1.0	50	3.223	101	70	130	50.78	6.0	20	
Sodium	71.4	1.0	50	20.04	103	70	130	67.55	5.5	20	
Strontium	1.16	0.010	1	0.1999	96	70	130	1.096	5.7	20	

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE\_231126B: 175      SampType: Continuing Calibration Verification Standar      Lab ID: CCV      Method: E200.7  
 Analysis Date: 11/26/23 23:59      Units: mg/L      Prep Info: Prep Date:      Prep Method:  
 Analytes **12**      Result      PQL      SPK value      SPK Ref Val      %REC      LowLimit      HighLimit      RPD Ref Val      %RPD      RPDLimit      Qual

Analytes	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.50	0.10	2.5	0	100	90	110				
Arsenic	2.60	0.018	2.5	0	104	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190339

Date: 04-Jan-24

Run ID :Run Order: ICP2-HE_231126B: 175	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.7			
Analysis Date: 11/26/23 23:59	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.54	0.10	2.5	0	102	90	110				
Calcium	25.4	1.0	25	0	102	90	110				
Copper	2.54	0.012	2.5	0	102	90	110				
Iron	2.59	0.020	2.5	0	103	90	110				
Lithium	1.25	0.10	1.25	0	100	90	110				
Magnesium	25.2	1.0	25	0	101	90	110				
Manganese	2.71	0.010	2.5	0	108	90	110				
Potassium	25.6	1.0	25	0	103	90	110				
Sodium	25.3	1.0	25	0	101	90	110				
Strontium	2.52	0.10	2.5	0	101	90	110				

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_231126B: 187	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.7			
Analysis Date: 11/27/23 00:44	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.43	0.10	2.5	0	97	90	110				
Arsenic	2.52	0.018	2.5	0	101	90	110				
Boron	2.49	0.10	2.5	0	99	90	110				
Calcium	24.7	1.0	25	0	99	90	110				
Copper	2.54	0.012	2.5	0	101	90	110				
Iron	2.57	0.020	2.5	0	103	90	110				
Lithium	1.20	0.10	1.25	0	96	90	110				
Magnesium	23.6	1.0	25	0	94	90	110				
Manganese	2.70	0.010	2.5	0	108	90	110				
Potassium	24.6	1.0	25	0	98	90	110				
Sodium	24.1	1.0	25	0	96	90	110				
Strontium	2.48	0.10	2.5	0	99	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190339

Date: 04-Jan-24

Run ID :Run Order: ICP2-HE_231126B: 187	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.7								
Analysis Date: 11/27/23 00:44	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_231126B: 190	SampType: Sample Matrix Spike	Lab ID: H23110571-046BMS2	Method: E200.7								
Analysis Date: 11/27/23 00:56	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.08	0.030	5	0	<b>102</b>	70	130				
Arsenic	0.997	0.018	1	0	<b>100</b>	70	130				
Boron	1.01	0.050	1	0.05415	<b>95</b>	70	130				
Calcium	88.5	1.0	50	39.34	<b>98</b>	70	130				
Copper	1.14	0.012	1	0.08863	<b>105</b>	70	130				
Iron	5.29	0.020	5	0	<b>106</b>	70	130				
Lithium	1.07	0.10	1	0.03426	<b>104</b>	70	130				
Magnesium	57.0	1.0	50	9.205	<b>96</b>	70	130				
Manganese	5.12	0.0014	5	0.00235	<b>102</b>	70	130				
Potassium	55.1	1.0	50	3.999	<b>102</b>	70	130				
Sodium	80.6	1.0	50	29.78	<b>102</b>	70	130				
Strontium	1.33	0.010	1	0.3268	<b>100</b>	70	130				

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_231126B: 191	SampType: Sample Matrix Spike Duplicate	Lab ID: H23110571-046BMSD2	Method: E200.7								
Analysis Date: 11/27/23 00:59	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.95	0.030	5	0	<b>99</b>	70	130	5.077	<b>2.6</b>	20	
Arsenic	0.967	0.018	1	0	<b>97</b>	70	130	0.9966	<b>3.0</b>	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190339

Date: 04-Jan-24

Run ID :Run Order: ICP2-HE_231126B: 191		SampType: Sample Matrix Spike Duplicate			Lab ID: H23110571-046BMSD2				Method: E200.7		
Analysis Date: 11/27/23 00:59		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes <b>12</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.976	0.050	1	0.05415	92	70	130	1.008	3.2	20	
Calcium	85.6	1.0	50	39.34	93	70	130	88.46	3.3	20	
Copper	1.15	0.012	1	0.08863	106	70	130	1.139	1.1	20	
Iron	5.35	0.020	5	0	107	70	130	5.29	1.2	20	
Lithium	1.05	0.10	1	0.03426	102	70	130	1.07	1.5	20	
Magnesium	55.4	1.0	50	9.205	92	70	130	57.04	3.0	20	
Manganese	4.98	0.0014	5	0.00235	100	70	130	5.119	2.8	20	
Potassium	56.0	1.0	50	3.999	104	70	130	55.1	1.5	20	
Sodium	82.0	1.0	50	29.78	104	70	130	80.63	1.7	20	
Strontium	1.28	0.010	1	0.3268	95	70	130	1.328	3.5	20	

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_231126B: 206		SampType: Continuing Calibration Verification Standar			Lab ID: CCV				Method: E200.7		
Analysis Date: 11/27/23 01:56		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	27.0	1.0	25	0	108	90	110				
Copper	2.52	0.012	2.5	0	101	90	110				
Magnesium	26.6	1.0	25	0	106	90	110				
Strontium	2.74	0.10	2.5	0	110	90	110				

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110571

**BatchID:** R190372

**Date:** 04-Jan-24

Run ID :Run Order: <b>PHSC_101-H_231128A: 6</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A2320 B</b>		
Analysis Date: <b>11/28/23 09:36</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									
Associated samples: <b>H23110571-006A</b>											

Run ID :Run Order: <b>PHSC_101-H_231128A: 7</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS</b>				Method: <b>A2320 B</b>		
Analysis Date: <b>11/28/23 09:42</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	560	4.0	600	0	<b>93</b>	90	110				
Associated samples: <b>H23110571-006A</b>											

Run ID :Run Order: <b>PHSC_101-H_231128A: 36</b>	SampType: <b>Sample Duplicate</b>				Lab ID: <b>H23110571-006ADUP</b>				Method: <b>A2320 B</b>		
Analysis Date: <b>11/28/23 12:24</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	86	4.0		0				88.1	<b>2.6</b>	10	H
Bicarbonate as HCO3	100	4.0		0				106.9	<b>2.7</b>	10	H
Carbonate as CO3	ND	4.0		0				0		10	H
Associated samples: <b>H23110571-006A</b>											

Run ID :Run Order: <b>PHSC_101-H_231128A: 73</b>	SampType: <b>Sample Duplicate</b>				Lab ID: <b>H23110571-030ADUP</b>				Method: <b>A2320 B</b>		
Analysis Date: <b>11/28/23 17:04</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	150	4.0		0				146.8	<b>3.1</b>	10	H
Bicarbonate as HCO3	180	4.0		0				178.5	<b>3.1</b>	10	H
Carbonate as CO3	ND	4.0		0				0		10	H
Associated samples: <b>H23110571-006A</b>											



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110571

**BatchID:** R190403

**Date:** 04-Jan-24

Run ID :Run Order: <b>IC METROHM_231128A: 2</b>		SampType: <b>Method Blank</b>			Lab ID: <b>ICB</b>			Method: <b>E300.0</b>			
Analysis Date: <b>11/28/23 10:37</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.02									
Sulfate	ND	0.03									
Bromide	ND	0.001									
Fluoride	ND	0.01									

Associated samples: **H23110571-021A, H23110571-043A**

Run ID :Run Order: <b>IC METROHM_231128A: 3</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>11/28/23 10:51</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	103	1.0	100	0	<b>103</b>	90	110				
Sulfate	408	1.0	400	0	<b>102</b>	90	110				
Bromide	5.00	0.50	5	0	<b>100</b>	90	110				
Fluoride	5.43	0.10	5	0	<b>109</b>	90	110				

Associated samples: **H23110571-021A, H23110571-043A**

Run ID :Run Order: <b>IC METROHM_231128A: 4</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E300.0</b>			
Analysis Date: <b>11/28/23 11:05</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	24.8	1.0	25	0	<b>99</b>	90	110				
Sulfate	103	1.0	100	0	<b>103</b>	90	110				
Bromide	1.18	0.50	1.25	0	<b>95</b>	90	110				
Fluoride	1.22	0.10	1.25	0	<b>97</b>	90	110				

Associated samples: **H23110571-021A, H23110571-043A**

Run ID :Run Order: <b>IC METROHM_231128A: 65</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>11/29/23 01:43</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	50.4	1.0	50	0	<b>101</b>	90	110				
Sulfate	202	1.0	200	0	<b>101</b>	90	110				
Bromide	2.36	0.50	2.5	0	<b>94</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110571

**BatchID:** R190403

**Date:** 04-Jan-24

Run ID :Run Order: <b>IC METROHM_231128A: 65</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>11/29/23 01:43</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.59	0.10	2.5	0	<b>104</b>	90	110				

Associated samples: **H23110571-021A, H23110571-043A**

Run ID :Run Order: <b>IC METROHM_231128A: 77</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23110571-019AMS</b>			Method: <b>E300.0</b>			
Analysis Date: <b>11/29/23 04:35</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	48.3	1.0	25	22.63	<b>103</b>	90	110				
Sulfate	298	1.0	100	195.2	<b>103</b>	90	110				
Bromide	1.21	0.50	1.25	0.079	<b>90</b>	90	110				
Fluoride	1.61	0.10	1.25	0.339	<b>102</b>	90	110				

Associated samples: **H23110571-021A, H23110571-043A**

Run ID :Run Order: <b>IC METROHM_231128A: 78</b>		SampType: <b>Sample Matrix Spike Duplicate</b>			Lab ID: <b>H23110571-019AMSD</b>			Method: <b>E300.0</b>			
Analysis Date: <b>11/29/23 04:50</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	48.5	1.0	25	22.63	<b>104</b>	90	110	48.35	<b>0.3</b>	20	
Sulfate	299	1.0	100	195.2	<b>104</b>	90	110	297.8	<b>0.5</b>	20	
Bromide	1.22	0.50	1.25	0.079	<b>91</b>	90	110	1.209	<b>0.6</b>	20	
Fluoride	1.62	0.10	1.25	0.339	<b>102</b>	90	110	1.609	<b>0.7</b>	20	

Associated samples: **H23110571-021A, H23110571-043A**

Run ID :Run Order: <b>IC METROHM_231128A: 79</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>11/29/23 05:04</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	50.6	1.0	50	0	<b>101</b>	90	110				
Sulfate	205	1.0	200	0	<b>103</b>	90	110				
Bromide	2.36	0.50	2.5	0	<b>94</b>	90	110				
Fluoride	2.50	0.10	2.5	0	<b>100</b>	90	110				

Associated samples: **H23110571-021A, H23110571-043A**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110571

**BatchID:** R190403

**Date:** 04-Jan-24

Run ID :Run Order: <b>IC METROHM_231128A: 85</b>	SampType: <b>Sample Duplicate</b>				Lab ID: <b>H23110571-026ADUP</b>				Method: <b>E300.0</b>		
Analysis Date: <b>11/29/23 06:30</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
<b>Analytes 4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	22.2	1.0		0				23.06	<b>3.8</b>	20	
Sulfate	536	1.0		0				562.2	<b>4.9</b>	20	
Bromide	0.0420	0.50		0				0.044		20	
Fluoride	0.550	0.10		0				0.582	<b>5.7</b>	20	

Associated samples: **H23110571-021A, H23110571-043A**

Run ID :Run Order: <b>IC METROHM_231128A: 92</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23110571-035AMS</b>				Method: <b>E300.0</b>		
Analysis Date: <b>11/29/23 08:11</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
<b>Analytes 4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	31.7	1.0	25	5.839	<b>103</b>	90	110				
Sulfate	174	1.0	100	73.58	<b>101</b>	90	110				
Bromide	1.15	0.50	1.25	0.028	<b>90</b>	90	110				
Fluoride	1.63	0.10	1.25	0.353	<b>102</b>	90	110				

Associated samples: **H23110571-021A, H23110571-043A**

Run ID :Run Order: <b>IC METROHM_231128A: 93</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23110571-035AMSD</b>				Method: <b>E300.0</b>		
Analysis Date: <b>11/29/23 08:26</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
<b>Analytes 4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	31.7	1.0	25	5.839	<b>104</b>	90	110	31.65	<b>0.2</b>	20	
Sulfate	175	1.0	100	73.58	<b>102</b>	90	110	174.3	<b>0.5</b>	20	
Bromide	1.15	0.50	1.25	0.028	<b>90</b>	90	110	1.148	<b>0.6</b>	20	
Fluoride	1.63	0.10	1.25	0.353	<b>102</b>	90	110	1.631	<b>0.1</b>	20	

Associated samples: **H23110571-021A, H23110571-043A**

Run ID :Run Order: <b>IC METROHM_231128A: 94</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>				Method: <b>E300.0</b>		
Analysis Date: <b>11/29/23 08:40</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
<b>Analytes 4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	50.9	1.0	50	0	<b>102</b>	90	110				
Sulfate	204	1.0	200	0	<b>102</b>	90	110				
Bromide	2.38	0.50	2.5	0	<b>95</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110571

**BatchID:** R190403

**Date:** 04-Jan-24

Run ID :Run Order: <b>IC METROHM_231128A: 94</b>	SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>	Method: <b>E300.0</b>						
Analysis Date: <b>11/29/23 08:40</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:			Prep Method:						
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.40	0.10	2.5	0	<b>96</b>	90	110				

Associated samples: **H23110571-021A, H23110571-043A**

Run ID :Run Order: <b>IC METROHM_231128A: 114</b>	SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>	Method: <b>E300.0</b>						
Analysis Date: <b>11/29/23 13:28</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:			Prep Method:						
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	51.0	1.0	50	0	<b>102</b>	90	110				
Sulfate	206	1.0	200	0	<b>103</b>	90	110				
Bromide	2.39	0.50	2.5	0	<b>95</b>	90	110				
Fluoride	2.51	0.10	2.5	0	<b>101</b>	90	110				

Associated samples: **H23110571-021A, H23110571-043A**



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190627

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116C: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.8			
Analysis Date: 11/17/23 02:37	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>28</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.283	0.10	0.3	0	94	90	110				
Antimony	0.0617	0.050	0.06	0	103	90	110				
Arsenic	0.0602	0.0050	0.06	0	100	90	110				
Barium	0.0613	0.10	0.06	0	102	90	110				
Beryllium	0.0308	0.0010	0.03	0	103	90	110				
Cadmium	0.0311	0.0010	0.03	0	104	90	110				
Calcium	3.05	0.50	3	0	102	90	110				
Chromium	0.0608	0.010	0.06	0	101	90	110				
Cobalt	0.0613	0.010	0.06	0	102	90	110				
Copper	0.0616	0.010	0.06	0	103	90	110				
Iron	0.303	0.020	0.3	0	101	90	110				
Lead	0.0612	0.010	0.06	0	102	90	110				
Lithium	0.0625	0.10	0.06	0	104	90	110				
Magnesium	3.20	0.50	3	0	107	90	110				
Manganese	0.307	0.010	0.3	0	102	90	110				
Molybdenum	0.0589	0.0050	0.06	0	98	90	110				
Nickel	0.0608	0.010	0.06	0	101	90	110				
Potassium	3.04	0.50	3	0	101	90	110				
Selenium	0.0619	0.0050	0.06	0	103	90	110				
Silver	0.0310	0.0050	0.03	0	103	90	110				
Sodium	3.17	0.50	3	0	106	90	110				
Strontium	0.0605	0.10	0.06	0	101	90	110				
Thallium	0.0608	0.10	0.06	0	101	90	110				
Tin	0.0602	0.10	0.06	0	100	90	110				
Titanium	0.0570	0.010	0.06	0	95	90	110				
Uranium	0.0618	0.00030	0.06	0	103	90	110				
Vanadium	0.0605	0.10	0.06	0	101	90	110				
Zinc	0.0623	0.010	0.06	0	104	90	110				



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190627

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116C: 12	SampType: Initial Calibration Verification Standard	Lab ID: ICV	Method: E200.8								
Analysis Date: 11/17/23 02:37	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 28	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116C: 20	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.8								
Analysis Date: 11/17/23 03:03	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 28	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aluminum	0.0498	0.10	0.05	0	99	90	110				
Antimony	0.0511	0.050	0.05	0	102	90	110				
Arsenic	0.0516	0.0050	0.05	0	103	90	110				
Barium	0.0513	0.10	0.05	0	103	90	110				
Beryllium	0.0511	0.0010	0.05	0	102	90	110				
Cadmium	0.0516	0.0010	0.05	0	103	90	110				
Calcium	12.6	0.50	12.5	0	101	90	110				
Chromium	0.0516	0.010	0.05	0	103	90	110				
Cobalt	0.0514	0.010	0.05	0	103	90	110				
Copper	0.0526	0.010	0.05	0	105	90	110				
Iron	1.34	0.020	1.3	0	103	90	110				
Lead	0.0515	0.010	0.05	0	103	90	110				
Lithium	0.638	0.10	0.625	0	102	90	110				
Magnesium	13.1	0.50	12.5	0	105	90	110				
Manganese	0.0520	0.010	0.05	0	104	90	110				
Molybdenum	0.0518	0.0050	0.05	0	104	90	110				
Nickel	0.0522	0.010	0.05	0	104	90	110				
Potassium	12.8	0.50	12.5	0	102	90	110				
Selenium	0.0514	0.0050	0.05	0	103	90	110				
Silver	0.0211	0.0050	0.02	0	106	90	110				
Sodium	13.1	0.50	12.5	0	105	90	110				
Strontium	0.0519	0.10	0.05	0	104	90	110				
Thallium	0.0513	0.10	0.05	0	103	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190627

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116C: 20	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 11/17/23 03:03	Units: mg/L		Prep Info: Prep Date:				Prep Method:				
Analytes 28	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tin	0.0512	0.10	0.05	0	102	90	110				
Titanium	0.0485	0.010	0.05	0	97	90	110				
Uranium	0.0517	0.00030	0.05	0	103	90	110				
Vanadium	0.0516	0.10	0.05	0	103	90	110				
Zinc	0.0513	0.010	0.05	0	103	90	110				

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116C: 22	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 11/17/23 03:09	Units: mg/L		Prep Info: Prep Date:				Prep Method:				
Analytes 28	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.003									
Antimony	ND	0.0002									
Arsenic	ND	0.0002									
Barium	0.0005	0.0002									
Beryllium	ND	0.0002									
Cadmium	ND	0.00002									
Calcium	ND	0.2									
Chromium	ND	0.0001									
Cobalt	ND	0.001									
Copper	ND	0.0001									
Iron	ND	0.004									
Lead	ND	0.0001									
Lithium	ND	0.001									
Magnesium	ND	0.01									
Manganese	ND	0.0003									
Molybdenum	ND	0.0003									
Nickel	ND	0.0002									
Potassium	ND	0.04									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110571

**BatchID:** R190627

**Date:** 04-Jan-24

Run ID :Run Order: <b>ICPMS205-H_231116C: 22</b>		SampType: <b>Method Blank</b>			Lab ID: <b>LRB</b>				Method: <b>E200.8</b>		
Analysis Date: <b>11/17/23 03:09</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:				Prep Method:		
Analytes <b>28</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	ND	0.00007									
Silver	ND	0.00008									
Sodium	ND	0.04									
Strontium	ND	0.0001									
Thallium	ND	0.00008									
Tin	ND	0.0002									
Titanium	ND	0.0005									
Uranium	ND	0.00002									
Vanadium	ND	0.0001									
Zinc	ND	0.001									

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: <b>ICPMS205-H_231116C: 23</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>				Method: <b>E200.8</b>		
Analysis Date: <b>11/17/23 03:13</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:				Prep Method:		
Analytes <b>28</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0487	0.10	0.05	0	97	85	115				
Antimony	0.0471	0.050	0.05	0	94	85	115				
Arsenic	0.0480	0.0050	0.05	0	96	85	115				
Barium	0.0486	0.10	0.05	0	97	85	115				
Beryllium	0.0512	0.0010	0.05	0	102	85	115				
Cadmium	0.0492	0.0010	0.05	0	98	85	115				
Calcium	1.06	0.50	1	0	106	85	115				
Chromium	0.0493	0.010	0.05	0	99	85	115				
Cobalt	0.0487	0.010	0.05	0	97	85	115				
Copper	0.0489	0.010	0.05	0	98	85	115				
Iron	0.150	0.020	0.15	0	100	85	115				
Lead	0.0487	0.010	0.05	0	97	85	115				
Lithium	0.0540	0.10	0.05	0	108	85	115				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190627

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116C: 23	SampType: Laboratory Fortified Blank				Lab ID: LFB			Method: E200.8			
Analysis Date: 11/17/23 03:13	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 28	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	1.07	0.50	1	0	107	85	115				
Manganese	0.0487	0.010	0.05	0	97	85	115				
Molybdenum	0.0478	0.0050	0.05	0	95	85	115				
Nickel	0.0491	0.010	0.05	0	98	85	115				
Potassium	0.998	0.50	1	0	100	85	115				
Selenium	0.0492	0.0050	0.05	0	98	85	115				
Silver	0.0198	0.0050	0.02	0	99	85	115				
Sodium	1.06	0.50	1	0	106	85	115				
Strontium	0.0483	0.10	0.05	0	97	85	115				
Thallium	0.0498	0.10	0.05	0	100	85	115				
Tin	0.0447	0.10	0.05	0	89	85	115				
Titanium	0.0456	0.010	0.05	0	91	85	115				
Uranium	0.0476	0.00030	0.05	0	95	85	115				
Vanadium	0.0487	0.10	0.05	0	97	85	115				
Zinc	0.0512	0.010	0.05	0	102	85	115				

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116C: 36	SampType: Sample Matrix Spike				Lab ID: H23110571-001BMS			Method: E200.8			
Analysis Date: 11/17/23 03:55	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 28	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0515	0.030	0.05	0	103	70	130				
Antimony	0.0469	0.0010	0.05	0	94	70	130				
Arsenic	0.0511	0.0010	0.05	0.001523	99	70	130				
Barium	0.0928	0.050	0.05	0.04346	99	70	130				
Beryllium	0.0529	0.0010	0.05	0	106	70	130				
Cadmium	0.0496	0.0010	0.05	0.0002239	99	70	130				
Calcium	27.2	1.0	1	26.69		70	130				A
Chromium	0.0504	0.0050	0.05	0.0001798	100	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount

### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110571

**BatchID:** R190627

**Date:** 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116C: 36	SampType: Sample Matrix Spike				Lab ID: H23110571-001BMS				Method: E200.8		
Analysis Date: 11/17/23 03:55	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 28	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	0.0498	0.0050	0.05	0	100	70	130				
Copper	0.0527	0.0050	0.05	0.001675	102	70	130				
Iron	0.152	0.020	0.15	0	102	70	130				
Lead	0.0504	0.0010	0.05	0	101	70	130				
Lithium	0.0758	0.10	0.05	0.02216	107	70	130				
Magnesium	8.21	1.0	1	7.355		70	130				A
Manganese	0.0519	0.0010	0.05	0.001994	100	70	130				
Molybdenum	0.0688	0.0010	0.05	0.02034	97	70	130				
Nickel	0.0499	0.0050	0.05	0	100	70	130				
Potassium	4.26	1.0	1	3.206	106	70	130				
Selenium	0.0498	0.0010	0.05	0.0002799	99	70	130				
Silver	0.0198	0.0010	0.02	0	99	70	130				
Sodium	23.9	1.0	1	23.36		70	130				A
Strontium	0.272	0.010	0.05	0.2281		70	130				A
Thallium	0.0513	0.00050	0.05	0	103	70	130				
Tin	0.0416	0.050	0.05	0	83	70	130				
Titanium	0.0462	0.0050	0.05	0	92	70	130				
Uranium	0.0525	0.00030	0.05	0.004056	97	70	130				
Vanadium	0.0504	0.010	0.05	0.001063	99	70	130				
Zinc	0.0997	0.010	0.05	0.04762	104	70	130				

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116C: 37	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110571-001BMSD				Method: E200.8		
Analysis Date: 11/17/23 03:58	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 28	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0465	0.030	0.05	0	93	70	130	0.0515	10	20	
Antimony	0.0480	0.0010	0.05	0	96	70	130	0.04692	2.3	20	
Arsenic	0.0508	0.0010	0.05	0.001523	99	70	130	0.05109	0.6	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190627

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116C: 37	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110571-001BMSD				Method: E200.8		
Analysis Date: 11/17/23 03:58	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 28	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.0916	0.050	0.05	0.04346	96	70	130	0.09281	1.3	20	
Beryllium	0.0516	0.0010	0.05	0	103	70	130	0.05286	2.5	20	
Cadmium	0.0494	0.0010	0.05	0.0002239	98	70	130	0.04965	0.5	20	
Calcium	27.1	1.0	1	26.69		70	130	27.16	0.2	20	A
Chromium	0.0484	0.0050	0.05	0.0001798	96	70	130	0.05037	3.9	20	
Cobalt	0.0484	0.0050	0.05	0	97	70	130	0.04981	2.9	20	
Copper	0.0509	0.0050	0.05	0.001675	98	70	130	0.05269	3.4	20	
Iron	0.146	0.020	0.15	0	98	70	130	0.1525	4.0	20	
Lead	0.0499	0.0010	0.05	0	100	70	130	0.05036	0.9	20	
Lithium	0.0750	0.10	0.05	0.02216	106	70	130	0.07579		20	
Magnesium	8.07	1.0	1	7.355		70	130	8.212	1.7	20	A
Manganese	0.0499	0.0010	0.05	0.001994	96	70	130	0.05188	3.9	20	
Molybdenum	0.0684	0.0010	0.05	0.02034	96	70	130	0.06882	0.6	20	
Nickel	0.0485	0.0050	0.05	0	97	70	130	0.04993	2.9	20	
Potassium	4.13	1.0	1	3.206	93	70	130	4.263	3.1	20	
Selenium	0.0494	0.0010	0.05	0.0002799	98	70	130	0.04975	0.7	20	
Silver	0.0201	0.0010	0.02	0	100	70	130	0.01983	1.3	20	
Sodium	23.6	1.0	1	23.36		70	130	23.89	1.3	20	A
Strontium	0.264	0.010	0.05	0.2281		70	130	0.2717	3.0	20	A
Thallium	0.0511	0.00050	0.05	0	102	70	130	0.05134	0.5	20	
Tin	0.0425	0.050	0.05	0	85	70	130	0.04158		20	
Titanium	0.0447	0.0050	0.05	0	89	70	130	0.04623	3.3	20	
Uranium	0.0524	0.00030	0.05	0.004056	97	70	130	0.05252	0.3	20	
Vanadium	0.0493	0.010	0.05	0.001063	97	70	130	0.05036	2.0	20	
Zinc	0.0965	0.010	0.05	0.04762	98	70	130	0.0997	3.3	20	

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190627

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116C: 38	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 11/17/23 04:01	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>28</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0457	0.10	0.05	0	91	90	110				
Antimony	0.0516	0.050	0.05	0	103	90	110				
Arsenic	0.0524	0.0050	0.05	0	105	90	110				
Barium	0.0519	0.10	0.05	0	104	90	110				
Beryllium	0.0518	0.0010	0.05	0	104	90	110				
Cadmium	0.0516	0.0010	0.05	0	103	90	110				
Calcium	12.8	0.50	12.5	0	102	90	110				
Chromium	0.0521	0.010	0.05	0	104	90	110				
Cobalt	0.0519	0.010	0.05	0	104	90	110				
Copper	0.0528	0.010	0.05	0	106	90	110				
Iron	1.34	0.020	1.3	0	103	90	110				
Lead	0.0518	0.010	0.05	0	104	90	110				
Lithium	0.639	0.10	0.625	0	102	90	110				
Magnesium	13.2	0.50	12.5	0	106	90	110				
Manganese	0.0522	0.010	0.05	0	104	90	110				
Molybdenum	0.0523	0.0050	0.05	0	105	90	110				
Nickel	0.0525	0.010	0.05	0	105	90	110				
Potassium	12.8	0.50	12.5	0	103	90	110				
Selenium	0.0519	0.0050	0.05	0	104	90	110				
Silver	0.0213	0.0050	0.02	0	107	90	110				
Sodium	13.3	0.50	12.5	0	107	90	110				
Strontium	0.0504	0.10	0.05	0	101	90	110				
Thallium	0.0513	0.10	0.05	0	103	90	110				
Tin	0.0512	0.10	0.05	0	102	90	110				
Titanium	0.0474	0.010	0.05	0	95	90	110				
Uranium	0.0515	0.00030	0.05	0	103	90	110				
Vanadium	0.0521	0.10	0.05	0	104	90	110				
Zinc	0.0509	0.010	0.05	0	102	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190627

Date: 04-Jan-24

Run ID :Run Order: <b>ICPMS205-H_231116C: 38</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E200.8</b>								
Analysis Date: <b>11/17/23 04:01</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>28</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: <b>ICPMS205-H_231116C: 50</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23110571-011BMS</b>	Method: <b>E200.8</b>								
Analysis Date: <b>11/17/23 04:40</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>28</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aluminum	0.0587	0.030	0.05	0	117	70	130				
Antimony	0.0487	0.0010	0.05	0	97	70	130				
Arsenic	0.0546	0.0010	0.05	0.003053	103	70	130				
Barium	0.0669	0.050	0.05	0.01626	101	70	130				
Beryllium	0.0512	0.0010	0.05	0	102	70	130				
Cadmium	0.0552	0.0010	0.05	0.004869	101	70	130				
Calcium	155	1.0	1	154.9		70	130				AE
Chromium	0.0505	0.0050	0.05	0.0002594	101	70	130				
Cobalt	0.0501	0.0050	0.05	0	100	70	130				
Copper	0.0996	0.0050	0.05	0.04707	105	70	130				
Iron	0.154	0.020	0.15	0	103	70	130				
Lead	0.0548	0.0010	0.05	0	110	70	130				
Lithium	0.218	0.10	0.05	0.1798	76	70	130				
Magnesium	44.2	1.0	1	40.9		70	130				A
Manganese	0.0538	0.0010	0.05	0.0003623	107	70	130				
Molybdenum	0.0553	0.0010	0.05	0.006568	97	70	130				
Nickel	0.0519	0.0050	0.05	0.002284	99	70	130				
Potassium	12.3	1.0	1	10.97		70	130				A
Selenium	0.0529	0.0010	0.05	0.0007537	104	70	130				
Silver	0.0205	0.0010	0.02	0.0002494	101	70	130				
Sodium	89.4	1.0	1	83.44		70	130				A
Strontium	1.76	0.010	0.05	1.707		70	130				A
Thallium	0.0564	0.00050	0.05	0	113	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount

### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190627

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116C: 50		SampType: Sample Matrix Spike			Lab ID: H23110571-011BMS				Method: E200.8		
Analysis Date: 11/17/23 04:40		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 28	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tin	0.0424	0.050	0.05	0	85	70	130				
Titanium	0.0486	0.0050	0.05	0	97	70	130				
Uranium	0.113	0.00030	0.05	0.05521	116	70	130				
Vanadium	0.0517	0.010	0.05	0.001319	101	70	130				
Zinc	0.699	0.010	0.05	0.6323		70	130				A

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116C: 51		SampType: Sample Matrix Spike Duplicate			Lab ID: H23110571-011BMSD				Method: E200.8		
Analysis Date: 11/17/23 04:43		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 28	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0480	0.030	0.05	0	96	70	130	0.05869	20	20	
Antimony	0.0486	0.0010	0.05	0	97	70	130	0.0487	0.1	20	
Arsenic	0.0541	0.0010	0.05	0.003053	102	70	130	0.05455	0.8	20	
Barium	0.0651	0.050	0.05	0.01626	98	70	130	0.06686	2.7	20	
Beryllium	0.0533	0.0010	0.05	0	107	70	130	0.05125	4.0	20	
Cadmium	0.0544	0.0010	0.05	0.004869	99	70	130	0.05525	1.5	20	
Calcium	152	1.0	1	154.9		70	130	154.6	2.0	20	AE
Chromium	0.0504	0.0050	0.05	0.0002594	100	70	130	0.05053	0.2	20	
Cobalt	0.0502	0.0050	0.05	0	100	70	130	0.05008	0.2	20	
Copper	0.0981	0.0050	0.05	0.04707	102	70	130	0.09959	1.5	20	
Iron	0.152	0.020	0.15	0	101	70	130	0.1544	1.7	20	
Lead	0.0514	0.0010	0.05	0	103	70	130	0.05477	6.4	20	
Lithium	0.222	0.10	0.05	0.1798	84	70	130	0.218	1.8	20	
Magnesium	41.2	1.0	1	40.9		70	130	44.24	7.2	20	A
Manganese	0.0514	0.0010	0.05	0.0003623	102	70	130	0.05378	4.5	20	
Molybdenum	0.0549	0.0010	0.05	0.006568	97	70	130	0.05528	0.7	20	
Nickel	0.0510	0.0050	0.05	0.002284	98	70	130	0.05193	1.7	20	
Potassium	12.1	1.0	1	10.97		70	130	12.29	1.9	20	A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount

### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190627

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116C: 51	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110571-011BMSD				Method: E200.8		
Analysis Date: 11/17/23 04:43	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 28	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.0525	0.0010	0.05	0.0007537	104	70	130	0.05288	0.6	20	
Silver	0.0204	0.0010	0.02	0.0002494	101	70	130	0.02049	0.4	20	
Sodium	82.7	1.0	1	83.44		70	130	89.38	7.7	20	A
Strontium	1.74	0.010	0.05	1.707		70	130	1.764	1.5	20	A
Thallium	0.0528	0.00050	0.05	0	106	70	130	0.05642	6.6	20	
Tin	0.0430	0.050	0.05	0	86	70	130	0.04243		20	
Titanium	0.0446	0.0050	0.05	0	89	70	130	0.04861	8.6	20	
Uranium	0.106	0.00030	0.05	0.05521	101	70	130	0.1134	7.1	20	
Vanadium	0.0516	0.010	0.05	0.001319	101	70	130	0.05167	0.2	20	
Zinc	0.693	0.010	0.05	0.6323		70	130	0.6991	0.8	20	A

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116C: 52	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 11/17/23 04:47	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 28	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0537	0.10	0.05	0	107	90	110				
Antimony	0.0504	0.050	0.05	0	101	90	110				
Arsenic	0.0530	0.0050	0.05	0	106	90	110				
Barium	0.0505	0.10	0.05	0	101	90	110				
Beryllium	0.0509	0.0010	0.05	0	102	90	110				
Cadmium	0.0527	0.0010	0.05	0	105	90	110				
Calcium	12.6	0.50	12.5	0	101	90	110				
Chromium	0.0531	0.010	0.05	0	106	90	110				
Cobalt	0.0534	0.010	0.05	0	107	90	110				
Copper	0.0542	0.010	0.05	0	108	90	110				
Iron	1.37	0.020	1.3	0	106	90	110				
Lead	0.0521	0.010	0.05	0	104	90	110				
Lithium	0.642	0.10	0.625	0	103	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110571

**BatchID:** R190627

**Date:** 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116C: 52	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 11/17/23 04:47	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 28	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	13.1	0.50	12.5	0	105	90	110				
Manganese	0.0531	0.010	0.05	0	106	90	110				
Molybdenum	0.0530	0.0050	0.05	0	106	90	110				
Nickel	0.0538	0.010	0.05	0	108	90	110				
Potassium	13.2	0.50	12.5	0	105	90	110				
Selenium	0.0528	0.0050	0.05	0	106	90	110				
Silver	0.0217	0.0050	0.02	0	108	90	110				
Sodium	13.3	0.50	12.5	0	106	90	110				
Strontium	0.0501	0.10	0.05	0	100	90	110				
Thallium	0.0513	0.10	0.05	0	103	90	110				
Tin	0.0520	0.10	0.05	0	104	90	110				
Titanium	0.0503	0.010	0.05	0	101	90	110				
Uranium	0.0519	0.00030	0.05	0	104	90	110				
Vanadium	0.0528	0.10	0.05	0	105	90	110				
Zinc	0.0534	0.010	0.05	0	107	90	110				

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116C: 64	SampType: Sample Matrix Spike				Lab ID: H23110571-021BMS				Method: E200.8		
Analysis Date: 11/17/23 05:26	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 28	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0715	0.030	0.05	0.02788	87	70	130				
Antimony	0.0482	0.0010	0.05	0	96	70	130				
Arsenic	0.0530	0.0010	0.05	0.003657	99	70	130				
Barium	0.0633	0.050	0.05	0.01511	96	70	130				
Beryllium	0.0514	0.0010	0.05	0.0009685	101	70	130				
Cadmium	0.149	0.0010	0.05	0.1004	98	70	130				
Calcium	208	1.0	1	210.6		70	130				AE
Chromium	0.0491	0.0050	0.05	0	98	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
 Page 263 of 322



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190627

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116C: 64	SampType: Sample Matrix Spike				Lab ID: H23110571-021BMS				Method: E200.8		
Analysis Date: 11/17/23 05:26	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 28	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cobalt	0.0634	0.0050	0.05	0.01458	98	70	130				
Copper	4.69	0.0050	0.05	4.695		70	130				A
Iron	0.202	0.020	0.15	0.05638	97	70	130				
Lead	0.0508	0.0010	0.05	0.0003395	101	70	130				
Lithium	0.402	0.10	0.05	0.3601		70	130				A
Magnesium	73.6	1.0	1	75.14		70	130				A
Manganese	50.6	0.0010	0.05	51.98		70	130				AE
Molybdenum	0.0481	0.0010	0.05	0.0007911	95	70	130				
Nickel	0.174	0.0050	0.05	0.1285	92	70	130				
Potassium	16.4	1.0	1	15.93		70	130				A
Selenium	0.0519	0.0010	0.05	0.0006118	103	70	130				
Silver	0.0208	0.0010	0.02	0.0009192	100	70	130				
Sodium	64.6	1.0	1	65.68		70	130				A
Strontium	2.33	0.010	0.05	2.381		70	130				A
Thallium	0.0525	0.00050	0.05	0	105	70	130				
Tin	0.0423	0.050	0.05	0.0002459	84	70	130				
Titanium	0.0447	0.0050	0.05	0	89	70	130				
Uranium	0.0514	0.00030	0.05	0.001337	100	70	130				
Vanadium	0.0501	0.010	0.05	0.0007894	99	70	130				
Zinc	29.7	0.010	0.05	30.18		70	130				AE

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116C: 65	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110571-021BMSD				Method: E200.8		
Analysis Date: 11/17/23 05:29	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 28	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0674	0.030	0.05	0.02788	79	70	130	0.07154	5.9	20	
Antimony	0.0487	0.0010	0.05	0	97	70	130	0.04819	1.0	20	
Arsenic	0.0534	0.0010	0.05	0.003657	100	70	130	0.05305	0.7	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190627

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116C: 65	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110571-021BMSD				Method: E200.8		
Analysis Date: 11/17/23 05:29	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>28</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	0.0614	0.050	0.05	0.01511	92	70	130	0.06333	3.2	20	
Beryllium	0.0538	0.0010	0.05	0.0009685	106	70	130	0.05145	4.5	20	
Cadmium	0.149	0.0010	0.05	0.1004	97	70	130	0.1493	0.3	20	
Calcium	205	1.0	1	210.6		70	130	208.2	1.4	20	AE
Chromium	0.0486	0.0050	0.05	0	97	70	130	0.0491	1.1	20	
Cobalt	0.0630	0.0050	0.05	0.01458	97	70	130	0.06343	0.6	20	
Copper	4.62	0.0050	0.05	4.695		70	130	4.689	1.4	20	A
Iron	0.201	0.020	0.15	0.05638	97	70	130	0.2016	0.2	20	
Lead	0.0512	0.0010	0.05	0.0003395	102	70	130	0.05075	0.9	20	
Lithium	0.406	0.10	0.05	0.3601		70	130	0.4025	0.8	20	A
Magnesium	73.9	1.0	1	75.14		70	130	73.58	0.4	20	A
Manganese	50.0	0.0010	0.05	51.98		70	130	50.6	1.1	20	AE
Molybdenum	0.0491	0.0010	0.05	0.0007911	97	70	130	0.04809	2.0	20	
Nickel	0.174	0.0050	0.05	0.1285	90	70	130	0.1743	0.5	20	
Potassium	16.2	1.0	1	15.93		70	130	16.36	1.0	20	A
Selenium	0.0524	0.0010	0.05	0.0006118	104	70	130	0.05189	1.0	20	
Silver	0.0209	0.0010	0.02	0.0009192	100	70	130	0.02084	0.5	20	
Sodium	65.0	1.0	1	65.68		70	130	64.61	0.6	20	A
Strontium	2.32	0.010	0.05	2.381		70	130	2.332	0.6	20	A
Thallium	0.0528	0.00050	0.05	0	106	70	130	0.05246	0.7	20	
Tin	0.0425	0.050	0.05	0.0002459	85	70	130	0.0423		20	
Titanium	0.0458	0.0050	0.05	0	92	70	130	0.04471	2.4	20	
Uranium	0.0522	0.00030	0.05	0.001337	102	70	130	0.05139	1.5	20	
Vanadium	0.0493	0.010	0.05	0.0007894	97	70	130	0.05011	1.6	20	
Zinc	29.4	0.010	0.05	30.18		70	130	29.71	1.2	20	AE

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190627

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116C: 67	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 11/17/23 05:35	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 28	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0510	0.10	0.05	0	102	90	110				
Antimony	0.0511	0.050	0.05	0	102	90	110				
Arsenic	0.0505	0.0050	0.05	0	101	90	110				
Barium	0.0510	0.10	0.05	0	102	90	110				
Beryllium	0.0511	0.0010	0.05	0	102	90	110				
Cadmium	0.0523	0.0010	0.05	0	105	90	110				
Calcium	12.6	0.50	12.5	0	101	90	110				
Chromium	0.0519	0.010	0.05	0	104	90	110				
Cobalt	0.0511	0.010	0.05	0	102	90	110				
Copper	0.0525	0.010	0.05	0	105	90	110				
Iron	1.32	0.020	1.3	0	101	90	110				
Lead	0.0522	0.010	0.05	0	104	90	110				
Lithium	0.645	0.10	0.625	0	103	90	110				
Magnesium	13.4	0.50	12.5	0	107	90	110				
Manganese	0.0550	0.010	0.05	0	110	90	110				
Molybdenum	0.0524	0.0050	0.05	0	105	90	110				
Nickel	0.0516	0.010	0.05	0	103	90	110				
Potassium	12.6	0.50	12.5	0	101	90	110				
Selenium	0.0525	0.0050	0.05	0	105	90	110				
Silver	0.0217	0.0050	0.02	0	108	90	110				
Sodium	13.6	0.50	12.5	0	109	90	110				
Strontium	0.0480	0.10	0.05	0	96	90	110				
Thallium	0.0511	0.10	0.05	0	102	90	110				
Tin	0.0516	0.10	0.05	0	103	90	110				
Titanium	0.0507	0.010	0.05	0	101	90	110				
Uranium	0.0517	0.00030	0.05	0	103	90	110				
Vanadium	0.0512	0.10	0.05	0	102	90	110				
Zinc	0.0547	0.010	0.05	0	109	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
 Page 266 of 322



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190627

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116C: 67	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.8								
Analysis Date: 11/17/23 05:35	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analyses 28	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116C: 79	SampType: Sample Matrix Spike	Lab ID: H23110571-031BMS	Method: E200.8								
Analysis Date: 11/17/23 06:14	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analyses 27	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aluminum	0.0542	0.030	0.05	0.005294	98	70	130				
Antimony	0.0460	0.0010	0.05	0.0001722	92	70	130				
Arsenic	0.0563	0.0010	0.05	0.005724	101	70	130				
Barium	0.136	0.050	0.05	0.08709	97	70	130				
Beryllium	0.0535	0.0010	0.05	0	107	70	130				
Cadmium	0.0496	0.0010	0.05	0	99	70	130				
Calcium	52.2	1.0	1	52.41		70	130				A
Chromium	0.0501	0.0050	0.05	0.0002034	100	70	130				
Cobalt	0.0498	0.0050	0.05	0	100	70	130				
Copper	0.0507	0.0050	0.05	0.0003638	101	70	130				
Iron	6.86	0.020	0.15	6.688		70	130				A
Lead	0.0504	0.0010	0.05	0	101	70	130				
Lithium	0.0771	0.10	0.05	0.02097	112	70	130				
Magnesium	16.4	1.0	1	16.06		70	130				A
Manganese	0.475	0.0010	0.05	0.4205		70	130				A
Molybdenum	0.0516	0.0010	0.05	0.005758	92	70	130				
Nickel	0.0498	0.0050	0.05	0	99	70	130				
Potassium	5.50	1.0	1	4.501		70	130				A
Selenium	0.0490	0.0010	0.05	0.001396	95	70	130				
Silver	0.0146	0.0010	0.02	0	73	70	130				
Sodium	29.3	1.0	1	29.47		70	130				A
Strontium	0.450	0.010	0.05	0.4019		70	130				A
Thallium	0.0521	0.00050	0.05	0	104	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
 Page 267 of 322

### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190627

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116C: 79	SampType: Sample Matrix Spike				Lab ID: H23110571-031BMS				Method: E200.8		
Analysis Date: 11/17/23 06:14	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 27	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tin	0.0408	0.050	0.05	0	81	70	130				
Uranium	0.0512	0.00030	0.05	0.003444	96	70	130				
Vanadium	0.0504	0.010	0.05	0.0007036	99	70	130				
Zinc	0.0592	0.010	0.05	0.009456	100	70	130				

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116C: 80	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110571-031BMSD				Method: E200.8		
Analysis Date: 11/17/23 06:17	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 27	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0576	0.030	0.05	0.005294	105	70	130	0.05423	6.0	20	
Antimony	0.0493	0.0010	0.05	0.0001722	98	70	130	0.04596	7.1	20	
Arsenic	0.0566	0.0010	0.05	0.005724	102	70	130	0.05627	0.6	20	
Barium	0.139	0.050	0.05	0.08709	104	70	130	0.1357	2.5	20	
Beryllium	0.0554	0.0010	0.05	0	111	70	130	0.05349	3.5	20	
Cadmium	0.0520	0.0010	0.05	0	104	70	130	0.04958	4.7	20	
Calcium	52.8	1.0	1	52.41		70	130	52.22	1.0	20	A
Chromium	0.0519	0.0050	0.05	0.0002034	103	70	130	0.05008	3.6	20	
Cobalt	0.0518	0.0050	0.05	0	104	70	130	0.04977	4.1	20	
Copper	0.0525	0.0050	0.05	0.0003638	104	70	130	0.05072	3.4	20	
Iron	6.88	0.020	0.15	6.688		70	130	6.856	0.4	20	A
Lead	0.0523	0.0010	0.05	0	105	70	130	0.05039	3.7	20	
Lithium	0.0779	0.10	0.05	0.02097	114	70	130	0.07708		20	
Magnesium	16.6	1.0	1	16.06		70	130	16.45	0.9	20	A
Manganese	0.479	0.0010	0.05	0.4205		70	130	0.4754	0.8	20	A
Molybdenum	0.0543	0.0010	0.05	0.005758	97	70	130	0.05162	5.1	20	
Nickel	0.0511	0.0050	0.05	0	102	70	130	0.04975	2.7	20	
Potassium	5.58	1.0	1	4.501		70	130	5.496	1.5	20	A
Selenium	0.0519	0.0010	0.05	0.001396	101	70	130	0.04903	5.7	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190627

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116C: 80		SampType: Sample Matrix Spike Duplicate			Lab ID: H23110571-031BMSD				Method: E200.8		
Analysis Date: 11/17/23 06:17		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes <b>27</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.0151	0.0010	0.02	0	76	70	130	0.0146	3.6	20	
Sodium	29.4	1.0	1	29.47		70	130	29.28	0.2	20	A
Strontium	0.448	0.010	0.05	0.4019		70	130	0.4505	0.4	20	A
Thallium	0.0539	0.00050	0.05	0	108	70	130	0.05206	3.5	20	
Tin	0.0435	0.050	0.05	0	87	70	130	0.04075		20	
Uranium	0.0533	0.00030	0.05	0.003444	100	70	130	0.05121	4.0	20	
Vanadium	0.0520	0.010	0.05	0.0007036	103	70	130	0.05041	3.1	20	
Zinc	0.0597	0.010	0.05	0.009456	100	70	130	0.05922	0.8	20	

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116C: 82		SampType: Continuing Calibration Verification Standar			Lab ID: CCV				Method: E200.8		
Analysis Date: 11/17/23 06:24		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes <b>28</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0504	0.10	0.05	0	101	90	110				
Antimony	0.0509	0.050	0.05	0	102	90	110				
Arsenic	0.0524	0.0050	0.05	0	105	90	110				
Barium	0.0511	0.10	0.05	0	102	90	110				
Beryllium	0.0513	0.0010	0.05	0	103	90	110				
Cadmium	0.0519	0.0010	0.05	0	104	90	110				
Calcium	12.5	0.50	12.5	0	100	90	110				
Chromium	0.0535	0.010	0.05	0	107	90	110				
Cobalt	0.0534	0.010	0.05	0	107	90	110				
Copper	0.0532	0.010	0.05	0	106	90	110				
Iron	1.36	0.020	1.3	0	105	90	110				
Lead	0.0515	0.010	0.05	0	103	90	110				
Lithium	0.650	0.10	0.625	0	104	90	110				
Magnesium	13.4	0.50	12.5	0	107	90	110				
Manganese	0.0525	0.010	0.05	0	105	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount

### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190627

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116C: 82	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 11/17/23 06:24	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>28</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.0522	0.0050	0.05	0	104	90	110				
Nickel	0.0530	0.010	0.05	0	106	90	110				
Potassium	13.0	0.50	12.5	0	104	90	110				
Selenium	0.0531	0.0050	0.05	0	106	90	110				
Silver	0.0216	0.0050	0.02	0	108	90	110				
Sodium	13.6	0.50	12.5	0	109	90	110				
Strontium	0.0499	0.10	0.05	0	100	90	110				
Thallium	0.0507	0.10	0.05	0	101	90	110				
Tin	0.0513	0.10	0.05	0	103	90	110				
Titanium	0.0484	0.010	0.05	0	97	90	110				
Uranium	0.0512	0.00030	0.05	0	102	90	110				
Vanadium	0.0529	0.10	0.05	0	106	90	110				
Zinc	0.0548	0.010	0.05	0	109	90	110				

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116C: 94	SampType: Sample Matrix Spike				Lab ID: H23110571-041BMS				Method: E200.8		
Analysis Date: 11/17/23 07:03	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>27</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.112	0.030	0.05	0.06649	91	70	130				
Antimony	0.0471	0.0010	0.05	0.0004136	93	70	130				
Arsenic	0.881	0.0010	0.05	0.8328		70	130				A
Barium	0.0766	0.050	0.05	0.02688	99	70	130				
Beryllium	0.0447	0.0010	0.05	0.0003439	89	70	130				
Cadmium	0.0495	0.0010	0.05	0.0005117	98	70	130				
Calcium	136	1.0	1	137.6		70	130				AE
Chromium	0.0498	0.0050	0.05	0	100	70	130				
Cobalt	0.0648	0.0050	0.05	0.01514	99	70	130				
Iron	87.1	0.020	0.15	87.66		70	130				AE

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190627

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116C: 94	SampType: Sample Matrix Spike				Lab ID: H23110571-041BMS				Method: E200.8		
Analysis Date: 11/17/23 07:03	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>27</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.0502	0.0010	0.05	0.0008948	99	70	130				
Lithium	0.0966	0.10	0.05	0.05793	77	70	130				
Magnesium	33.0	1.0	1	34.58		70	130				A
Manganese	9.40	0.0010	0.05	9.275		70	130				AE
Molybdenum	0.0586	0.0010	0.05	0.01035	97	70	130				
Nickel	0.0580	0.0050	0.05	0.008815	98	70	130				
Potassium	14.8	1.0	1	13.65		70	130				A
Selenium	0.0498	0.0010	0.05	0.0005048	99	70	130				
Silver	0.0166	0.0010	0.02	0	83	70	130				
Sodium	45.0	1.0	1	47.52		70	130				A
Strontium	0.610	0.010	0.05	0.5726		70	130				A
Thallium	0.0512	0.00050	0.05	0.00008428	102	70	130				
Tin	0.0450	0.050	0.05	0	90	70	130				
Titanium	0.0508	0.0050	0.05	0	102	70	130				
Uranium	0.0532	0.00030	0.05	0.005303	96	70	130				
Vanadium	0.0500	0.010	0.05	0	100	70	130				
Zinc	11.2	0.010	0.05	11.05		70	130				AE

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116C: 95	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110571-041BMSD				Method: E200.8		
Analysis Date: 11/17/23 07:06	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>27</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.106	0.030	0.05	0.06649	78	70	130	0.1118	5.7	20	
Antimony	0.0480	0.0010	0.05	0.0004136	95	70	130	0.04706	2.0	20	
Arsenic	0.875	0.0010	0.05	0.8328		70	130	0.8814	0.7	20	A
Barium	0.0767	0.050	0.05	0.02688	100	70	130	0.07656	0.2	20	
Beryllium	0.0460	0.0010	0.05	0.0003439	91	70	130	0.04472	2.8	20	
Cadmium	0.0501	0.0010	0.05	0.0005117	99	70	130	0.04948	1.3	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190627

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116C: 95	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110571-041BMSD				Method: E200.8		
Analysis Date: 11/17/23 07:06	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 27	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	136	1.0	1	137.6		70	130	136.4	0.1	20	AE
Chromium	0.0495	0.0050	0.05	0	99	70	130	0.0498	0.5	20	
Cobalt	0.0644	0.0050	0.05	0.01514	99	70	130	0.06475	0.5	20	
Iron	86.4	0.020	0.15	87.66		70	130	87.12	0.9	20	AE
Lead	0.0502	0.0010	0.05	0.0008948	99	70	130	0.05022	0	20	
Lithium	0.0983	0.10	0.05	0.05793	81	70	130	0.09655		20	
Magnesium	33.1	1.0	1	34.58		70	130	33.01	0.3	20	A
Manganese	9.24	0.0010	0.05	9.275		70	130	9.401	1.7	20	AE
Molybdenum	0.0599	0.0010	0.05	0.01035	99	70	130	0.0586	2.2	20	
Nickel	0.0571	0.0050	0.05	0.008815	96	70	130	0.05796	1.6	20	
Potassium	14.7	1.0	1	13.65		70	130	14.78	0.5	20	A
Selenium	0.0502	0.0010	0.05	0.0005048	99	70	130	0.04979	0.7	20	
Silver	0.0163	0.0010	0.02	0	82	70	130	0.01655	1.5	20	
Sodium	45.0	1.0	1	47.52		70	130	44.99	0.1	20	A
Strontium	0.606	0.010	0.05	0.5726		70	130	0.6096	0.6	20	A
Thallium	0.0517	0.00050	0.05	0.00008428	103	70	130	0.0512	1.0	20	
Tin	0.0470	0.050	0.05	0	94	70	130	0.04497		20	
Titanium	0.0499	0.0050	0.05	0	100	70	130	0.05082	1.8	20	
Uranium	0.0533	0.00030	0.05	0.005303	96	70	130	0.05318	0.2	20	
Vanadium	0.0498	0.010	0.05	0	100	70	130	0.04995	0.3	20	
Zinc	11.0	0.010	0.05	11.05		70	130	11.17	1.8	20	AE

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116C: 97	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 11/17/23 07:13	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0493	0.10	0.05	0	99	90	110				
Antimony	0.0514	0.050	0.05	0	103	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190627

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116C: 97	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 11/17/23 07:13	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0524	0.0050	0.05	0	105	90	110				
Barium	0.0507	0.10	0.05	0	101	90	110				
Beryllium	0.0476	0.0010	0.05	0	95	90	110				
Cadmium	0.0524	0.0010	0.05	0	105	90	110				
Calcium	12.6	0.50	12.5	0	100	90	110				
Chromium	0.0538	0.010	0.05	0	108	90	110				
Cobalt	0.0534	0.010	0.05	0	107	90	110				
Iron	1.37	0.020	1.3	0	105	90	110				
Lead	0.0514	0.010	0.05	0	103	90	110				
Lithium	0.586	0.10	0.625	0	94	90	110				
Magnesium	12.9	0.50	12.5	0	103	90	110				
Molybdenum	0.0522	0.0050	0.05	0	104	90	110				
Nickel	0.0531	0.010	0.05	0	106	90	110				
Potassium	13.1	0.50	12.5	0	105	90	110				
Selenium	0.0517	0.0050	0.05	0	103	90	110				
Silver	0.0216	0.0050	0.02	0	108	90	110				
Sodium	13.2	0.50	12.5	0	106	90	110				
Strontium	0.0496	0.10	0.05	0	99	90	110				
Thallium	0.0501	0.10	0.05	0	100	90	110				
Tin	0.0519	0.10	0.05	0	104	90	110				
Titanium	0.0506	0.010	0.05	0	101	90	110				
Uranium	0.0505	0.00030	0.05	0	101	90	110				
Vanadium	0.0535	0.10	0.05	0	107	90	110				

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
 Page 273 of 322



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190627

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116C: 104	SampType: Sample Matrix Spike				Lab ID: H23110571-051BMS				Method: E200.8		
Analysis Date: 11/17/23 07:35	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 28	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0403	0.030	0.05	0	81	70	130				
Antimony	0.0468	0.0010	0.05	0	94	70	130				
Arsenic	0.0567	0.0010	0.05	0.00757	98	70	130				
Barium	0.0618	0.050	0.05	0.01329	97	70	130				
Beryllium	0.0452	0.0010	0.05	0	90	70	130				
Cadmium	0.0525	0.0010	0.05	0.004137	97	70	130				
Calcium	116	1.0	1	116.6		70	130				AE
Chromium	0.0492	0.0050	0.05	0.0002659	98	70	130				
Cobalt	0.0487	0.0050	0.05	0	97	70	130				
Copper	0.108	0.0050	0.05	0.05843	100	70	130				
Iron	0.146	0.020	0.15	0.007208	92	70	130				
Lead	0.0480	0.0010	0.05	0	96	70	130				
Lithium	0.276	0.10	0.05	0.2394		70	130				A
Magnesium	25.7	1.0	1	25.41		70	130				A
Manganese	0.0554	0.0010	0.05	0.004316	102	70	130				
Molybdenum	0.0492	0.0010	0.05	0.003142	92	70	130				
Nickel	0.0494	0.0050	0.05	0.00157	96	70	130				
Potassium	12.5	1.0	1	11.5		70	130				A
Selenium	0.0482	0.0010	0.05	0.000214	96	70	130				
Silver	0.0196	0.0010	0.02	0.0001038	98	70	130				
Sodium	82.3	1.0	1	83.43		70	130				A
Strontium	1.44	0.010	0.05	1.41		70	130				A
Thallium	0.0493	0.00050	0.05	0.0001953	98	70	130				
Tin	0.0404	0.050	0.05	0.0002928	80	70	130				
Titanium	0.0448	0.0050	0.05	0	89	70	130				
Uranium	0.0487	0.00030	0.05	0.002442	93	70	130				
Vanadium	0.0507	0.010	0.05	0.001951	97	70	130				
Zinc	0.489	0.010	0.05	0.4355		70	130				A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
 Page 274 of 322



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190627

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116C: 104	SampType: Sample Matrix Spike	Lab ID: H23110571-051BMS	Method: E200.8								
Analysis Date: 11/17/23 07:35	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 28	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS205-H_231116C: 105	SampType: Sample Matrix Spike Duplicate	Lab ID: H23110571-051BMSD	Method: E200.8								
Analysis Date: 11/17/23 07:39	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 28	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aluminum	0.0451	0.030	0.05	0	90	70	130	0.04026	11	20	
Antimony	0.0470	0.0010	0.05	0	94	70	130	0.04677	0.6	20	
Arsenic	0.0570	0.0010	0.05	0.00757	99	70	130	0.05671	0.4	20	
Barium	0.0622	0.050	0.05	0.01329	98	70	130	0.06175	0.8	20	
Beryllium	0.0471	0.0010	0.05	0	94	70	130	0.0452	4.1	20	
Cadmium	0.0536	0.0010	0.05	0.004137	99	70	130	0.05248	2.1	20	
Calcium	115	1.0	1	116.6		70	130	116.5	0.9	20	AE
Chromium	0.0500	0.0050	0.05	0.0002659	100	70	130	0.04916	1.8	20	
Cobalt	0.0498	0.0050	0.05	0	100	70	130	0.04874	2.2	20	
Copper	0.108	0.0050	0.05	0.05843	100	70	130	0.1082	0.2	20	
Iron	0.150	0.020	0.15	0.007208	95	70	130	0.1459	3.0	20	
Lead	0.0491	0.0010	0.05	0	98	70	130	0.04798	2.2	20	
Lithium	0.276	0.10	0.05	0.2394		70	130	0.2762	0.1	20	A
Magnesium	26.1	1.0	1	25.41		70	130	25.74	1.2	20	A
Manganese	0.0521	0.0010	0.05	0.004316	96	70	130	0.05543	6.2	20	
Molybdenum	0.0510	0.0010	0.05	0.003142	96	70	130	0.04918	3.7	20	
Nickel	0.0514	0.0050	0.05	0.00157	100	70	130	0.04943	4.0	20	
Potassium	12.6	1.0	1	11.5		70	130	12.48	0.9	20	A
Selenium	0.0491	0.0010	0.05	0.000214	98	70	130	0.04824	1.7	20	
Silver	0.0202	0.0010	0.02	0.0001038	100	70	130	0.01962	2.7	20	
Sodium	83.3	1.0	1	83.43		70	130	82.26	1.3	20	A
Strontium	1.43	0.010	0.05	1.41		70	130	1.435	0.2	20	A
Thallium	0.0504	0.00050	0.05	0.0001953	100	70	130	0.0493	2.2	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190627

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_231116C: 105	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110571-051BMSD				Method: E200.8		
Analysis Date: 11/17/23 07:39	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 28	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Tin	0.0433	0.050	0.05	0.0002928	86	70	130	0.04038		20	
Titanium	0.0488	0.0050	0.05	0	97	70	130	0.04475	8.6	20	
Uranium	0.0501	0.00030	0.05	0.002442	95	70	130	0.04874	2.7	20	
Vanadium	0.0518	0.010	0.05	0.001951	100	70	130	0.0507	2.1	20	
Zinc	0.477	0.010	0.05	0.4355		70	130	0.4889	2.5	20	A

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110571

**BatchID:** R190705

**Date:** 04-Jan-24

Run ID :Run Order:	ICP2-HE_231208B: 6	SampType:	Initial Calibration Verification Standard	Lab ID:	ICV	Method:	E200.7					
Analysis Date:	12/08/23 08:22	Units:	mg/L	Prep Info:	Prep Date:	Prep Method:						
Analytes	5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		0.779	0.10	0.8	0	97	95	105				
Calcium		39.4	1.0	40	0	99	95	105				
Copper		0.802	0.012	0.8	0	100	95	105				
Iron		3.99	0.020	4	0	100	95	105				
Manganese		3.85	0.010	4	0	96	95	105				

Associated samples: H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-054B, H23110571-055B

Run ID :Run Order:	ICP2-HE_231208B: 8	SampType:	Continuing Calibration Verification Standar	Lab ID:	CCV-1	Method:	E200.7					
Analysis Date:	12/08/23 08:34	Units:	mg/L	Prep Info:	Prep Date:	Prep Method:						
Analytes	5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		2.45	0.10	2.5	0	98	95	105				
Calcium		25.0	1.0	25	0	100	95	105				
Copper		2.46	0.012	2.5	0	99	95	105				
Iron		2.50	0.020	2.5	0	100	95	105				
Manganese		2.52	0.010	2.5	0	101	95	105				

Associated samples: H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-054B, H23110571-055B

Run ID :Run Order:	ICP2-HE_231208B: 14	SampType:	Method Blank	Lab ID:	MB	Method:	E200.7					
Analysis Date:	12/08/23 08:59	Units:	mg/L	Prep Info:	Prep Date:	Prep Method:						
Analytes	5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron		ND	0.004									
Calcium		ND	0.2									
Copper		ND	0.01									
Iron		ND	0.008									
Manganese		ND	0.001									

Associated samples: H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-054B, H23110571-055B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110571

**BatchID:** R190705

**Date:** 04-Jan-24

Run ID :Run Order: <b>ICP2-HE_231208B: 15</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>			Method: <b>E200.7</b>			
Analysis Date: <b>12/08/23 09:03</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>5</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.949	0.10	1	0	<b>95</b>	85	115				
Calcium	51.8	1.0	50	0	<b>104</b>	85	115				
Copper	1.00	0.012	1	0	<b>100</b>	85	115				
Iron	5.08	0.020	5	0	<b>102</b>	85	115				
Manganese	5.00	0.010	5	0	<b>100</b>	85	115				

Associated samples: **H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-054B, H23110571-055B**

Run ID :Run Order: <b>ICP2-HE_231208B: 37</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>			Method: <b>E200.7</b>			
Analysis Date: <b>12/08/23 14:31</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>5</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.46	0.10	2.5	0	<b>98</b>	90	110				
Calcium	25.3	1.0	25	0	<b>101</b>	90	110				
Copper	2.53	0.012	2.5	0	<b>101</b>	90	110				
Iron	2.52	0.020	2.5	0	<b>101</b>	90	110				
Manganese	2.66	0.010	2.5	0	<b>106</b>	90	110				

Associated samples: **H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-054B, H23110571-055B**

Run ID :Run Order: <b>ICP2-HE_231208B: 41</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23110571-015BMS2</b>			Method: <b>E200.7</b>			
Analysis Date: <b>12/08/23 14:49</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>5</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	4.92	0.050	5	0.1292	<b>96</b>	70	130				
Calcium	695	1.0	250	462.3	<b>93</b>	70	130				
Copper	38.4	0.061	5	32.09		70	130				A
Iron	332	0.041	25	313.7		70	130				A
Manganese	239	0.045	25	219.6		70	130				A

Associated samples: **H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-054B, H23110571-055B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190705

Date: 04-Jan-24

Run ID :Run Order: ICP2-HE_231208B: 42	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110571-015BMSD2				Method: E200.7		
Analysis Date: 12/08/23 14:53	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	5.02	0.050	5	0.1292	98	70	130	4.925	1.8	20	
Calcium	717	1.0	250	462.3	102	70	130	695.3	3.0	20	
Copper	38.4	0.061	5	32.09		70	130	38.35	0.2	20	A
Iron	342	0.041	25	313.7		70	130	332.4	2.9	20	A
Manganese	246	0.045	25	219.6		70	130	239.2	2.8	20	A

Associated samples: H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_231208B: 49	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 12/08/23 15:20	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.46	0.10	2.5	0	99	90	110				
Calcium	26.1	1.0	25	0	104	90	110				
Copper	2.56	0.012	2.5	0	103	90	110				
Iron	2.61	0.020	2.5	0	105	90	110				

Associated samples: H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-054B, H23110571-055B



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190737

Date: 04-Jan-24

Run ID :Run Order: ICP2-HE_231211B: 6	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.7		
Analysis Date: 12/11/23 08:52	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lithium	0.801	0.10	0.8	0	100	95	105				
Manganese	3.99	0.010	4	0	100	95	105				
Zinc	0.824	0.010	0.8	0	103	95	105				

Associated samples: H23110571-005B, H23110571-014B, H23110571-015B, H23110571-018B, H23110571-021B, H23110571-025B, H23110571-027B, H23110571-041B, H23110571-045B, H23110571-047B, H23110571-050B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_231211B: 7	SampType: Continuing Calibration Verification Standar				Lab ID: CCV-1				Method: E200.7		
Analysis Date: 12/11/23 08:56	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lithium	1.24	0.10	1.25	0	99	95	105				
Manganese	2.56	0.010	2.5	0	102	95	105				
Zinc	2.61	0.010	2.5	0	104	95	105				

Associated samples: H23110571-005B, H23110571-014B, H23110571-015B, H23110571-018B, H23110571-021B, H23110571-025B, H23110571-027B, H23110571-041B, H23110571-045B, H23110571-047B, H23110571-050B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_231211B: 13	SampType: Method Blank				Lab ID: MB				Method: E200.7		
Analysis Date: 12/11/23 09:19	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lithium	ND	0.002									
Manganese	ND	0.001									
Zinc	ND	0.003									

Associated samples: H23110571-005B, H23110571-014B, H23110571-015B, H23110571-018B, H23110571-021B, H23110571-025B, H23110571-027B, H23110571-041B, H23110571-045B, H23110571-047B, H23110571-050B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_231211B: 17	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.7		
Analysis Date: 12/11/23 09:37	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lithium	1.02	0.10	1	0	102	85	115				
Manganese	4.97	0.010	5	0	99	85	115				
Zinc	0.970	0.010	1	0	97	85	115				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190737

Date: 04-Jan-24

Run ID :Run Order: ICP2-HE_231211B: 17	SampType: Laboratory Fortified Blank	Lab ID: LFB	Method: E200.7								
Analysis Date: 12/11/23 09:37	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110571-005B, H23110571-014B, H23110571-015B, H23110571-018B, H23110571-021B, H23110571-025B, H23110571-027B, H23110571-041B, H23110571-045B, H23110571-047B, H23110571-050B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_231211B: 39	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.7								
Analysis Date: 12/11/23 11:48	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lithium	1.36	0.10	1.25	0	108	90	110				
Manganese	2.50	0.010	2.5	0	100	90	110				
Zinc	2.53	0.010	2.5	0	101	90	110				

Associated samples: H23110571-005B, H23110571-014B, H23110571-015B, H23110571-018B, H23110571-021B, H23110571-025B, H23110571-027B, H23110571-041B, H23110571-045B, H23110571-047B, H23110571-050B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_231211B: 48	SampType: Sample Matrix Spike	Lab ID: H23110571-005BMS2	Method: E200.7								
Analysis Date: 12/11/23 12:19	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lithium	5.97	0.10	5	0.4269	111	70	130				
Manganese	72.8	0.0068	25	52.34	82	70	130				
Zinc	28.3	0.014	5	25.04		70	130				A

Associated samples: H23110571-005B, H23110571-014B, H23110571-015B, H23110571-018B, H23110571-021B, H23110571-025B, H23110571-027B, H23110571-041B, H23110571-045B, H23110571-047B, H23110571-050B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_231211B: 49	SampType: Sample Matrix Spike Duplicate	Lab ID: H23110571-005BMSD2	Method: E200.7								
Analysis Date: 12/11/23 12:22	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lithium	5.90	0.10	5	0.4269	110	70	130	5.974	1.2	20	
Manganese	73.0	0.0068	25	52.34	83	70	130	72.76	0.3	20	
Zinc	28.5	0.014	5	25.04		70	130	28.31	0.8	20	A

Associated samples: H23110571-005B, H23110571-014B, H23110571-015B, H23110571-018B, H23110571-021B, H23110571-025B, H23110571-027B, H23110571-041B, H23110571-045B, H23110571-047B, H23110571-050B, H23110571-053B, H23110571-054B, H23110571-055B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount

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## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110571

**BatchID:** R190737

**Date:** 04-Jan-24

Run ID :Run Order: <b>ICP2-HE_231211B: 52</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E200.7</b>			
Analysis Date: <b>12/11/23 12:34</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lithium	1.32	0.10	1.25	0	<b>106</b>	90	110				
Manganese	2.52	0.010	2.5	0	<b>101</b>	90	110				
Zinc	2.49	0.010	2.5	0	<b>99</b>	90	110				
Associated samples: <b>H23110571-005B, H23110571-014B, H23110571-015B, H23110571-018B, H23110571-021B, H23110571-025B, H23110571-027B, H23110571-041B, H23110571-045B, H23110571-047B, H23110571-050B, H23110571-053B, H23110571-054B, H23110571-055B</b>											

Run ID :Run Order: <b>ICP2-HE_231211B: 56</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E200.7</b>			
Analysis Date: <b>12/11/23 12:56</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lithium	1.28	0.10	1.25	0	<b>102</b>	90	110				
Manganese	2.53	0.010	2.5	0	<b>101</b>	90	110				
Zinc	2.64	0.010	2.5	0	<b>106</b>	90	110				
Associated samples: <b>H23110571-005B, H23110571-014B, H23110571-015B, H23110571-018B, H23110571-021B, H23110571-025B, H23110571-027B, H23110571-041B, H23110571-045B, H23110571-047B, H23110571-050B, H23110571-053B, H23110571-054B, H23110571-055B</b>											

Run ID :Run Order: <b>ICP2-HE_231211B: 66</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E200.7</b>			
Analysis Date: <b>12/11/23 13:34</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lithium	1.31	0.10	1.25	0	<b>105</b>	90	110				
Manganese	2.59	0.010	2.5	0	<b>104</b>	90	110				
Zinc	2.66	0.010	2.5	0	<b>106</b>	90	110				
Associated samples: <b>H23110571-005B, H23110571-014B, H23110571-015B, H23110571-018B, H23110571-021B, H23110571-025B, H23110571-027B, H23110571-041B, H23110571-045B, H23110571-047B, H23110571-050B, H23110571-053B, H23110571-054B, H23110571-055B</b>											

Run ID :Run Order: <b>ICP2-HE_231211B: 68</b>		SampType: <b>Sample Matrix Spike</b>			Lab ID: <b>H23110571-050BMS2</b>			Method: <b>E200.7</b>			
Analysis Date: <b>12/11/23 13:42</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>3</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lithium	12.5	0.10	10	0.7108	<b>118</b>	70	130				
Manganese	276	0.014	50	246.8		70	130				A
Zinc	184	0.028	10	185.9		70	130				A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R190737

Date: 04-Jan-24

Run ID :Run Order: ICP2-HE_231211B: 68	SampType: Sample Matrix Spike	Lab ID: H23110571-050BMS2	Method: E200.7								
Analysis Date: 12/11/23 13:42	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110571-005B, H23110571-014B, H23110571-015B, H23110571-018B, H23110571-021B, H23110571-025B, H23110571-027B, H23110571-041B, H23110571-045B, H23110571-047B, H23110571-050B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_231211B: 69	SampType: Sample Matrix Spike Duplicate	Lab ID: H23110571-050BMSD2	Method: E200.7								
Analysis Date: 12/11/23 13:45	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lithium	11.8	0.10	10	0.7108	111	70	130	12.51	5.6	20	
Manganese	291	0.014	50	246.8		70	130	276.3	5.1	20	A
Zinc	195	0.028	10	185.9		70	130	183.9	5.8	20	A

Associated samples: H23110571-005B, H23110571-014B, H23110571-015B, H23110571-018B, H23110571-021B, H23110571-025B, H23110571-027B, H23110571-041B, H23110571-045B, H23110571-047B, H23110571-050B, H23110571-053B, H23110571-054B, H23110571-055B

### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R191217

Date: 04-Jan-24

Run ID :Run Order: ICPMS206-H_231228A: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.8			
Analysis Date: 12/28/23 12:15	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0297	0.0010	0.03	0	99	90	110				
Copper	0.0614	0.010	0.06	0	102	90	110				
Iron	0.312	0.020	0.3	0	104	90	110				
Manganese	0.318	0.010	0.3	0	106	90	110				
Molybdenum	0.0581	0.0050	0.06	0	97	90	110				
Selenium	0.0591	0.0050	0.06	0	98	90	110				
Thorium	0.0638	0.0010	0.06	0	106	90	110				
Titanium	0.0603	0.010	0.06	0	100	90	110				
Uranium	0.0610	0.00030	0.06	0	102	90	110				
Zinc	0.0613	0.010	0.06	0	102	90	110				

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS206-H_231228A: 20	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 12/28/23 13:01	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0487	0.0010	0.05	0	97	90	110				
Copper	0.0502	0.010	0.05	0	100	90	110				
Iron	1.33	0.020	1.3	0	103	90	110				
Manganese	0.0503	0.010	0.05	0	101	90	110				
Molybdenum	0.0490	0.0050	0.05	0	98	90	110				
Selenium	0.0481	0.0050	0.05	0	96	90	110				
Thorium	0.0493	0.0010	0.05	0	99	90	110				
Titanium	0.0492	0.010	0.05	0	98	90	110				
Uranium	0.0502	0.00030	0.05	0	100	90	110				
Zinc	0.0497	0.010	0.05	0	99	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R191217

Date: 04-Jan-24

Run ID :Run Order: **ICPMS206-H\_231228A: 20**      SampType: **Continuing Calibration Verification Standar**      Lab ID: **CCV**      Method: **E200.8**  
 Analysis Date: **12/28/23 13:01**      Units: **mg/L**      Prep Info:      Prep Date:      Prep Method:  
 Analytes **10**      Result      PQL      SPK value      SPK Ref Val      %REC      LowLimit      HighLimit      RPD Ref Val      %RPD      RPDLimit      Qual

Associated samples: **H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B**

Run ID :Run Order: **ICPMS206-H\_231228A: 22**      SampType: **Method Blank**      Lab ID: **LRB**      Method: **E200.8**  
 Analysis Date: **12/28/23 13:08**      Units: **mg/L**      Prep Info:      Prep Date:      Prep Method:  
 Analytes **10**      Result      PQL      SPK value      SPK Ref Val      %REC      LowLimit      HighLimit      RPD Ref Val      %RPD      RPDLimit      Qual

Beryllium	ND	0.00003									
Copper	0.00004	0.00004									
Iron	0.002	0.0007									
Manganese	ND	0.00005									
Molybdenum	0.00003	7E-06									
Selenium	0.00002	0.00002									
Thorium	0.00002	4E-06									
Titanium	ND	0.0002									
Uranium	9E-06	3E-06									
Zinc	ND	0.0007									

Associated samples: **H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B**

Run ID :Run Order: **ICPMS206-H\_231228A: 23**      SampType: **Laboratory Fortified Blank**      Lab ID: **LFB**      Method: **E200.8**  
 Analysis Date: **12/28/23 13:12**      Units: **mg/L**      Prep Info:      Prep Date:      Prep Method:  
 Analytes **10**      Result      PQL      SPK value      SPK Ref Val      %REC      LowLimit      HighLimit      RPD Ref Val      %RPD      RPDLimit      Qual

Beryllium	0.0479	0.0010	0.05	0	<b>96</b>	85	115				
Copper	0.0510	0.010	0.05	0	<b>102</b>	85	115				

**Qualifiers:**    ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
                       J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R191217

Date: 04-Jan-24

Run ID :Run Order: ICPMS206-H_231228A: 23		SampType: Laboratory Fortified Blank			Lab ID: LFB			Method: E200.8			
Analysis Date: 12/28/23 13:12		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.164	0.020	0.15	0	109	85	115				
Manganese	0.0503	0.010	0.05	0	101	85	115				
Molybdenum	0.0487	0.0050	0.05	0	97	85	115				
Selenium	0.0477	0.0050	0.05	0	95	85	115				
Thorium	0.0481	0.0010	0.05	0	96	85	115				
Titanium	0.0482	0.010	0.05	0	96	85	115				
Uranium	0.0483	0.00030	0.05	0	97	85	115				
Zinc	0.0511	0.010	0.05	0	102	85	115				

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS206-H_231228A: 36		SampType: Sample Matrix Spike			Lab ID: H23110571-001BMS			Method: E200.8			
Analysis Date: 12/28/23 13:45		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0508	0.0010	0.05	0	101	70	130				
Copper	0.0526	0.0050	0.05	0.001798	102	70	130				
Iron	0.153	0.020	0.15	0.003316	100	70	130				
Manganese	0.0528	0.0010	0.05	0.001896	102	70	130				
Molybdenum	0.0707	0.0010	0.05	0.0215	98	70	130				
Selenium	0.0488	0.0010	0.05	0.000218	97	70	130				
Thorium	0.0514	0.0050	0.05	0.00003603	103	70	130				
Titanium	0.0500	0.0050	0.05	0	100	70	130				
Uranium	0.0566	0.00030	0.05	0.004232	105	70	130				
Zinc	0.0987	0.010	0.05	0.04744	103	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R191217

Date: 04-Jan-24

Run ID :Run Order: ICPMS206-H_231228A: 36	SampType: Sample Matrix Spike	Lab ID: H23110571-001BMS	Method: E200.8								
Analysis Date: 12/28/23 13:45	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS206-H_231228A: 37	SampType: Sample Matrix Spike Duplicate	Lab ID: H23110571-001BMSD	Method: E200.8								
Analysis Date: 12/28/23 13:47	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0515	0.0010	0.05	0	103	70	130	0.05075	1.4	20	
Copper	0.0525	0.0050	0.05	0.001798	101	70	130	0.05259	0.2	20	
Iron	0.154	0.020	0.15	0.003316	100	70	130	0.1526	0.7	20	
Manganese	0.0527	0.0010	0.05	0.001896	102	70	130	0.0528	0.2	20	
Molybdenum	0.0715	0.0010	0.05	0.0215	100	70	130	0.07072	1.1	20	
Selenium	0.0491	0.0010	0.05	0.000218	98	70	130	0.04876	0.8	20	
Thorium	0.0522	0.0050	0.05	0.00003603	104	70	130	0.05144	1.5	20	
Titanium	0.0499	0.0050	0.05	0	100	70	130	0.05004	0.3	20	
Uranium	0.0555	0.00030	0.05	0.004232	103	70	130	0.05659	1.9	20	
Zinc	0.0981	0.010	0.05	0.04744	101	70	130	0.09873	0.6	20	

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS206-H_231228A: 38	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.8								
Analysis Date: 12/28/23 13:49	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0492	0.0010	0.05	0	98	90	110				
Copper	0.0513	0.010	0.05	0	103	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R191217

Date: 04-Jan-24

Run ID :Run Order: ICPMS206-H_231228A: 38	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 12/28/23 13:49	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.31	0.020	1.3	0	101	90	110				
Manganese	0.0510	0.010	0.05	0	102	90	110				
Molybdenum	0.0496	0.0050	0.05	0	99	90	110				
Selenium	0.0494	0.0050	0.05	0	99	90	110				
Thorium	0.0506	0.0010	0.05	0	101	90	110				
Titanium	0.0499	0.010	0.05	0	100	90	110				
Uranium	0.0515	0.00030	0.05	0	103	90	110				
Zinc	0.0511	0.010	0.05	0	102	90	110				

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS206-H_231228A: 50	SampType: Sample Matrix Spike				Lab ID: H23110571-031BMS				Method: E200.8		
Analysis Date: 12/28/23 14:19	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0488	0.0010	0.05	0	98	70	130				
Copper	0.0495	0.0050	0.05	0.000357	98	70	130				
Iron	6.89	0.020	0.15	6.677		70	130				A
Manganese	0.523	0.0010	0.05	0.45		70	130				A
Molybdenum	0.0534	0.0010	0.05	0.006001	95	70	130				
Selenium	0.0487	0.0010	0.05	0.00005532	97	70	130				
Thorium	0.0508	0.0050	0.05	0.00001946	102	70	130				
Titanium	0.0497	0.0050	0.05	0.0008195	98	70	130				
Uranium	0.0538	0.00030	0.05	0.003053	101	70	130				
Zinc	0.0584	0.010	0.05	0.008077	101	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R191217

Date: 04-Jan-24

Run ID :Run Order: ICPMS206-H_231228A: 50	SampType: Sample Matrix Spike	Lab ID: H23110571-031BMS	Method: E200.8								
Analysis Date: 12/28/23 14:19	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS206-H_231228A: 51	SampType: Sample Matrix Spike Duplicate	Lab ID: H23110571-031BMSD	Method: E200.8								
Analysis Date: 12/28/23 14:21	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0499	0.0010	0.05	0	<b>100</b>	70	130	0.04884	<b>2.1</b>	20	
Copper	0.0492	0.0050	0.05	0.000357	<b>98</b>	70	130	0.04954	<b>0.6</b>	20	
Iron	6.73	0.020	0.15	6.677		70	130	6.891	<b>2.4</b>	20	A
Manganese	0.506	0.0010	0.05	0.45		70	130	0.5233	<b>3.3</b>	20	A
Molybdenum	0.0539	0.0010	0.05	0.006001	<b>96</b>	70	130	0.05343	<b>0.9</b>	20	
Selenium	0.0481	0.0010	0.05	0.00005532	<b>96</b>	70	130	0.04873	<b>1.4</b>	20	
Thorium	0.0519	0.0050	0.05	0.00001946	<b>104</b>	70	130	0.05078	<b>2.2</b>	20	
Titanium	0.0504	0.0050	0.05	0.0008195	<b>99</b>	70	130	0.04973	<b>1.4</b>	20	
Uranium	0.0544	0.00030	0.05	0.003053	<b>103</b>	70	130	0.05377	<b>1.1</b>	20	
Zinc	0.0584	0.010	0.05	0.008077	<b>101</b>	70	130	0.0584	<b>0.1</b>	20	

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS206-H_231228A: 53	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.8								
Analysis Date: 12/28/23 14:27	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0506	0.0010	0.05	0	<b>101</b>	90	110				
Copper	0.0505	0.010	0.05	0	<b>101</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R191217

Date: 04-Jan-24

Run ID :Run Order: ICPMS206-H_231228A: 53	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 12/28/23 14:27	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.34	0.020	1.3	0	103	90	110				
Manganese	0.0509	0.010	0.05	0	102	90	110				
Molybdenum	0.0479	0.0050	0.05	0	96	90	110				
Selenium	0.0495	0.0050	0.05	0	99	90	110				
Thorium	0.0511	0.0010	0.05	0	102	90	110				
Titanium	0.0500	0.010	0.05	0	100	90	110				
Uranium	0.0510	0.00030	0.05	0	102	90	110				
Zinc	0.0503	0.010	0.05	0	101	90	110				

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS206-H_231228A: 65	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 12/28/23 14:58	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0506	0.0010	0.05	0	101	90	110				
Copper	0.0503	0.010	0.05	0	101	90	110				
Iron	1.33	0.020	1.3	0	102	90	110				
Manganese	0.0505	0.010	0.05	0	101	90	110				
Molybdenum	0.0484	0.0050	0.05	0	97	90	110				
Selenium	0.0499	0.0050	0.05	0	100	90	110				
Thorium	0.0521	0.0010	0.05	0	104	90	110				
Titanium	0.0497	0.010	0.05	0	99	90	110				
Uranium	0.0499	0.00030	0.05	0	100	90	110				
Zinc	0.0508	0.010	0.05	0	102	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R191217

Date: 04-Jan-24

Run ID :Run Order: ICPMS206-H_231228A: 65	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.8								
Analysis Date: 12/28/23 14:58	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS206-H_231228A: 72	SampType: Sample Matrix Spike	Lab ID: H23110571-011BMS	Method: E200.8								
Analysis Date: 12/28/23 15:13	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0985	0.0010	0.1	0	99	70	130				
Copper	0.145	0.0050	0.1	0.0475	98	70	130				
Iron	0.304	0.020	0.3	0.002084	101	70	130				
Manganese	0.108	0.0010	0.1	0.0007688	107	70	130				
Molybdenum	0.103	0.0010	0.1	0.007002	96	70	130				
Selenium	0.0999	0.0010	0.1	0.0007256	99	70	130				
Thorium	0.108	0.0050	0.1	0.00005594	108	70	130				
Titanium	0.0985	0.0050	0.1	0	99	70	130				
Uranium	0.160	0.00030	0.1	0.0551	105	70	130				
Zinc	0.753	0.010	0.1	0.6476		70	130				A

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS206-H_231228A: 73	SampType: Sample Matrix Spike Duplicate	Lab ID: H23110571-011BMSD	Method: E200.8								
Analysis Date: 12/28/23 15:15	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.101	0.0010	0.1	0	101	70	130	0.09852	2.2	20	
Copper	0.146	0.0050	0.1	0.0475	98	70	130	0.1454	0.2	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R191217

Date: 04-Jan-24

Run ID :Run Order: ICPMS206-H_231228A: 73		SampType: Sample Matrix Spike Duplicate			Lab ID: H23110571-011BMSD				Method: E200.8		
Analysis Date: 12/28/23 15:15		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.298	0.020	0.3	0.002084	99	70	130	0.3042	1.9	20	
Manganese	0.102	0.0010	0.1	0.0007688	101	70	130	0.1076	5.2	20	
Molybdenum	0.101	0.0010	0.1	0.007002	94	70	130	0.1028	2.2	20	
Selenium	0.0990	0.0010	0.1	0.0007256	98	70	130	0.09986	0.8	20	
Thorium	0.107	0.0050	0.1	0.00005594	107	70	130	0.1081	0.9	20	
Titanium	0.0988	0.0050	0.1	0	99	70	130	0.09854	0.2	20	
Uranium	0.163	0.00030	0.1	0.0551	108	70	130	0.1604	1.6	20	
Zinc	0.752	0.010	0.1	0.6476		70	130	0.753	0.2	20	A

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS206-H_231228A: 75		SampType: Continuing Calibration Verification Standar			Lab ID: CCV				Method: E200.8		
Analysis Date: 12/28/23 15:21		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0518	0.0010	0.05	0	104	90	110				
Copper	0.0506	0.010	0.05	0	101	90	110				
Iron	1.35	0.020	1.3	0	104	90	110				
Manganese	0.0507	0.010	0.05	0	101	90	110				
Molybdenum	0.0476	0.0050	0.05	0	95	90	110				
Selenium	0.0506	0.0050	0.05	0	101	90	110				
Thorium	0.0524	0.0010	0.05	0	105	90	110				
Titanium	0.0489	0.010	0.05	0	98	90	110				
Uranium	0.0506	0.00030	0.05	0	101	90	110				
Zinc	0.0512	0.010	0.05	0	102	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R191217

Date: 04-Jan-24

Run ID :Run Order: ICPMS206-H_231228A: 75	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.8								
Analysis Date: 12/28/23 15:21	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS206-H_231228A: 82	SampType: Sample Matrix Spike	Lab ID: H23110571-021BMS	Method: E200.8								
Analysis Date: 12/28/23 15:37	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.101	0.0010	0.1	0.0007142	100	70	130				
Copper	4.53	0.0050	0.1	4.656		70	130				A
Iron	0.344	0.020	0.3	0.05552	96	70	130				
Manganese	51.2	0.0010	0.1	52.76		70	130				AE
Molybdenum	0.0943	0.0010	0.1	0.0007048	94	70	130				
Selenium	0.101	0.0010	0.1	0.000508	101	70	130				
Thorium	0.110	0.0050	0.1	0.00002378	110	70	130				
Titanium	0.0936	0.0050	0.1	0	94	70	130				
Uranium	0.104	0.00030	0.1	0.001288	103	70	130				
Zinc	30.9	0.010	0.1	30.74		70	130				AE

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS206-H_231228A: 83	SampType: Sample Matrix Spike Duplicate	Lab ID: H23110571-021BMSD	Method: E200.8								
Analysis Date: 12/28/23 15:39	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.102	0.0010	0.1	0.0007142	101	70	130	0.1012	0.7	20	
Copper	4.56	0.0050	0.1	4.656		70	130	4.532	0.7	20	A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount

### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R191217

Date: 04-Jan-24

Run ID :Run Order: ICPMS206-H_231228A: 83		SampType: Sample Matrix Spike Duplicate				Lab ID: H23110571-021BMSD				Method: E200.8	
Analysis Date: 12/28/23 15:39		Units: mg/L		Prep Info: Prep Date:				Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.345	0.020	0.3	0.05552	96	70	130	0.3438	0.3	20	
Manganese	50.9	0.0010	0.1	52.76		70	130	51.2	0.6	20	AE
Molybdenum	0.0975	0.0010	0.1	0.0007048	97	70	130	0.09428	3.4	20	
Selenium	0.101	0.0010	0.1	0.000508	101	70	130	0.1013	0.1	20	
Thorium	0.106	0.0050	0.1	0.00002378	106	70	130	0.1097	3.0	20	
Titanium	0.0968	0.0050	0.1	0	97	70	130	0.09364	3.4	20	
Uranium	0.105	0.00030	0.1	0.001288	104	70	130	0.1042	0.8	20	
Zinc	31.0	0.010	0.1	30.74		70	130	30.9	0.5	20	AE

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS206-H_231228A: 85		SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8	
Analysis Date: 12/28/23 15:45		Units: mg/L		Prep Info: Prep Date:				Prep Method:			
Analytes <b>8</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0505	0.0010	0.05	0	101	90	110				
Copper	0.0535	0.010	0.05	0	107	90	110				
Iron	1.29	0.020	1.3	0	99	90	110				
Molybdenum	0.0476	0.0050	0.05	0	95	90	110				
Selenium	0.0532	0.0050	0.05	0	106	90	110				
Thorium	0.0498	0.0010	0.05	0	100	90	110				
Titanium	0.0493	0.010	0.05	0	99	90	110				
Uranium	0.0491	0.00030	0.05	0	98	90	110				

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R191217

Date: 04-Jan-24

Run ID :Run Order: ICPMS206-H_231228A: 92	SampType: Sample Matrix Spike				Lab ID: H23110571-041BMS				Method: E200.8		
Analysis Date: 12/28/23 16:00	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.100	0.0010	0.1	0.000202	100	70	130				
Copper	0.106	0.0050	0.1	0.01174	94	70	130				
Iron	86.9	0.020	0.3	86.46		70	130				A
Manganese	9.62	0.0010	0.1	9.654		70	130				A
Molybdenum	0.106	0.0010	0.1	0.01055	95	70	130				
Selenium	0.0993	0.0010	0.1	0.00005978	99	70	130				
Thorium	0.111	0.0050	0.1	0.0001566	111	70	130				
Titanium	0.0957	0.0050	0.1	0	96	70	130				
Uranium	0.106	0.00030	0.1	0.004862	101	70	130				
Zinc	11.7	0.010	0.1	11.62		70	130				A

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS206-H_231228A: 93	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110571-041BMSD				Method: E200.8		
Analysis Date: 12/28/23 16:02	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.100	0.0010	0.1	0.000202	100	70	130	0.1004	0.2	20	
Copper	0.107	0.0050	0.1	0.01174	96	70	130	0.1058	1.5	20	
Iron	86.8	0.020	0.3	86.46		70	130	86.88	0.1	20	A
Manganese	9.89	0.0010	0.1	9.654		70	130	9.62	2.8	20	A
Molybdenum	0.106	0.0010	0.1	0.01055	95	70	130	0.1059	0.3	20	
Selenium	0.101	0.0010	0.1	0.00005978	101	70	130	0.09934	1.7	20	
Thorium	0.110	0.0050	0.1	0.0001566	110	70	130	0.1115	0.9	20	
Titanium	0.0972	0.0050	0.1	0	97	70	130	0.09566	1.6	20	
Uranium	0.104	0.00030	0.1	0.004862	99	70	130	0.1062	1.8	20	
Zinc	11.7	0.010	0.1	11.62		70	130	11.74	0.2	20	A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R191217

Date: 04-Jan-24

Run ID :Run Order: **ICPMS206-H\_231228A: 93**      SampType: **Sample Matrix Spike Duplicate**      Lab ID: **H23110571-041BMSD**      Method: **E200.8**  
 Analysis Date: **12/28/23 16:02**      Units: **mg/L**      Prep Info:      Prep Date:      Prep Method:  
 Analytes **10**      Result      PQL      SPK value      SPK Ref Val      %REC      LowLimit      HighLimit      RPD Ref Val      %RPD      RPDLimit      Qual

Associated samples: **H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B**

Run ID :Run Order: **ICPMS206-H\_231228A: 95**      SampType: **Continuing Calibration Verification Standar**      Lab ID: **CCV**      Method: **E200.8**  
 Analysis Date: **12/28/23 16:08**      Units: **mg/L**      Prep Info:      Prep Date:      Prep Method:  
 Analytes **10**      Result      PQL      SPK value      SPK Ref Val      %REC      LowLimit      HighLimit      RPD Ref Val      %RPD      RPDLimit      Qual

Analytes	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0511	0.0010	0.05	0	102	90	110				
Copper	0.0500	0.010	0.05	0	100	90	110				
Iron	1.33	0.020	1.3	0	102	90	110				
Manganese	0.0504	0.010	0.05	0	101	90	110				
Molybdenum	0.0472	0.0050	0.05	0	94	90	110				
Selenium	0.0533	0.0050	0.05	0	107	90	110				
Thorium	0.0527	0.0010	0.05	0	105	90	110				
Titanium	0.0487	0.010	0.05	0	97	90	110				
Uranium	0.0506	0.00030	0.05	0	101	90	110				
Zinc	0.0525	0.010	0.05	0	105	90	110				

Associated samples: **H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B**

Run ID :Run Order: **ICPMS206-H\_231228A: 101**      SampType: **Sample Matrix Spike**      Lab ID: **H23110571-051BMS**      Method: **E200.8**  
 Analysis Date: **12/28/23 16:21**      Units: **mg/L**      Prep Info:      Prep Date:      Prep Method:  
 Analytes **10**      Result      PQL      SPK value      SPK Ref Val      %REC      LowLimit      HighLimit      RPD Ref Val      %RPD      RPDLimit      Qual

Analytes	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0993	0.0010	0.1	0.00007746	99	70	130				
Copper	0.151	0.0050	0.1	0.05592	95	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R191217

Date: 04-Jan-24

Run ID :Run Order: ICPMS206-H_231228A: 101	SampType: Sample Matrix Spike				Lab ID: H23110571-051BMS				Method: E200.8		
Analysis Date: 12/28/23 16:21	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	0.323	0.020	0.3	0.03406	96	70	130				
Manganese	0.124	0.0010	0.1	0.02702	97	70	130				
Molybdenum	0.0950	0.0010	0.1	0.002956	92	70	130				
Selenium	0.105	0.0010	0.1	0.0001868	105	70	130				
Thorium	0.104	0.0050	0.1	0.00006668	104	70	130				
Titanium	0.0966	0.0050	0.1	0	97	70	130				
Uranium	0.100	0.00030	0.1	0.002412	98	70	130				
Zinc	0.570	0.010	0.1	0.4642		70	130				A

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS206-H_231228A: 102	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110571-051BMSD				Method: E200.8		
Analysis Date: 12/28/23 16:24	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.105	0.0010	0.1	0.00007746	105	70	130	0.09926	5.3	20	
Copper	0.156	0.0050	0.1	0.05592	100	70	130	0.1506	3.4	20	
Iron	0.302	0.020	0.3	0.03406	89	70	130	0.3226	6.5	20	
Manganese	0.104	0.0010	0.1	0.02702	77	70	130	0.1243	18	20	
Molybdenum	0.0982	0.0010	0.1	0.002956	95	70	130	0.09498	3.3	20	
Selenium	0.105	0.0010	0.1	0.0001868	105	70	130	0.1053	0.2	20	
Thorium	0.107	0.0050	0.1	0.00006668	107	70	130	0.1037	3.1	20	
Titanium	0.0986	0.0050	0.1	0	99	70	130	0.09664	2.0	20	
Uranium	0.104	0.00030	0.1	0.002412	102	70	130	0.1003	3.7	20	
Zinc	0.561	0.010	0.1	0.4642		70	130	0.57	1.6	20	A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R191217

Date: 04-Jan-24

Run ID :Run Order: **ICPMS206-H\_231228A: 102** SampType: **Sample Matrix Spike Duplicate** Lab ID: **H23110571-051BMSD** Method: **E200.8**  
 Analysis Date: **12/28/23 16:24** Units: **mg/L** Prep Info: Prep Date: Prep Method:  
 Analytes **10** Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Associated samples: **H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B**

Run ID :Run Order: **ICPMS206-H\_231228A: 104** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.8**  
 Analysis Date: **12/28/23 16:29** Units: **mg/L** Prep Info: Prep Date: Prep Method:  
 Analytes **10** Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Beryllium	0.0524	0.0010	0.05	0	105	90	110				
Copper	0.0503	0.010	0.05	0	101	90	110				
Iron	1.34	0.020	1.3	0	103	90	110				
Manganese	0.0540	0.010	0.05	0	108	90	110				
Molybdenum	0.0473	0.0050	0.05	0	95	90	110				
Selenium	0.0548	0.0050	0.05	0	110	90	110				
Thorium	0.0515	0.0010	0.05	0	103	90	110				
Titanium	0.0500	0.010	0.05	0	100	90	110				
Uranium	0.0498	0.00030	0.05	0	100	90	110				
Zinc	0.0541	0.010	0.05	0	108	90	110				

Associated samples: **H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B**

Run ID :Run Order: **ICPMS206-H\_231228A: 114** SampType: **Continuing Calibration Verification Standar** Lab ID: **CCV** Method: **E200.8**  
 Analysis Date: **12/28/23 16:57** Units: **mg/L** Prep Info: Prep Date: Prep Method:  
 Analytes **10** Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Beryllium	0.0510	0.0010	0.05	0	102	90	110				
Copper	0.0504	0.010	0.05	0	101	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limit N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R191217

Date: 04-Jan-24

Run ID :Run Order: ICPMS206-H_231228A: 114	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 12/28/23 16:57	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	1.33	0.020	1.3	0	103	90	110				
Manganese	0.0519	0.010	0.05	0	104	90	110				
Molybdenum	0.0473	0.0050	0.05	0	95	90	110				
Selenium	0.0533	0.0050	0.05	0	107	90	110				
Thorium	0.0512	0.0010	0.05	0	102	90	110				
Titanium	0.0498	0.010	0.05	0	100	90	110				
Uranium	0.0493	0.00030	0.05	0	99	90	110				
Zinc	0.0535	0.010	0.05	0	107	90	110				

Associated samples: H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICPMS206-H_231228A: 128	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 12/28/23 18:52	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.0507	0.0010	0.05	0	101	90	110				
Copper	0.0519	0.010	0.05	0	104	90	110				
Iron	1.39	0.020	1.3	0	107	90	110				
Manganese	0.0514	0.010	0.05	0	103	90	110				
Molybdenum	0.0484	0.0050	0.05	0	97	90	110				
Selenium	0.0490	0.0050	0.05	0	98	90	110				
Thorium	0.0518	0.0010	0.05	0	104	90	110				
Titanium	0.0507	0.010	0.05	0	101	90	110				
Uranium	0.0523	0.00030	0.05	0	105	90	110				
Zinc	0.0520	0.010	0.05	0	104	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110571

**BatchID:** R191217

**Date:** 04-Jan-24

Run ID :Run Order: **ICPMS206-H\_231228A: 128**

SampType: **Continuing Calibration Verification Standar**

Lab ID: **CCV**

Method: **E200.8**

Analysis Date: **12/28/23 18:52**

Units: **mg/L**

Prep Info: Prep Date:

Prep Method:

Analytes **10**

Result

PQL

SPK value

SPK Ref Val

%REC

LowLimit

HighLimit

RPD Ref Val

%RPD

RPDLimit

Qual

Associated samples: **H23110571-001B, H23110571-002B, H23110571-003B, H23110571-004B, H23110571-005B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-010B, H23110571-011B, H23110571-012B, H23110571-013B, H23110571-014B, H23110571-015B, H23110571-016B, H23110571-017B, H23110571-018B, H23110571-019B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-023B, H23110571-024B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-031B, H23110571-032B, H23110571-033B, H23110571-034B, H23110571-035B, H23110571-036B, H23110571-037B, H23110571-038B, H23110571-039B, H23110571-040B, H23110571-041B, H23110571-042B, H23110571-043B, H23110571-044B, H23110571-045B, H23110571-046B, H23110571-047B, H23110571-048B, H23110571-049B, H23110571-050B, H23110571-051B, H23110571-052B, H23110571-053B, H23110571-054B, H23110571-055B**

**Qualifiers:** ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limit

N - Analyte concentration was not sufficiently high to calculate RPD

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R191281

Date: 04-Jan-24

Run ID :Run Order: ICP2-HE_240102A: 6	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.7		
Analysis Date: 01/02/24 08:40	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	39.6	1.0	40	0	99	95	105				
Magnesium	39.4	1.0	40	0	99	95	105				
Potassium	41.4	1.0	40	0	103	95	105				
Sodium	41.3	1.0	40	0	103	95	105				

Associated samples: H23110571-003B, H23110571-004B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-011B, H23110571-012B, H23110571-014B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-034B, H23110571-039B, H23110571-043B, H23110571-044B, H23110571-047B, H23110571-050B, H23110571-051B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_240102A: 7	SampType: Continuing Calibration Verification Standar				Lab ID: CCV-1				Method: E200.7		
Analysis Date: 01/02/24 08:43	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	25.4	1.0	25	0	102	95	105				
Magnesium	25.3	1.0	25	0	101	95	105				
Potassium	26.0	1.0	25	0	104	95	105				
Sodium	25.8	1.0	25	0	103	95	105				

Associated samples: H23110571-003B, H23110571-004B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-011B, H23110571-012B, H23110571-014B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-034B, H23110571-039B, H23110571-043B, H23110571-044B, H23110571-047B, H23110571-050B, H23110571-051B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_240102A: 13	SampType: Method Blank				Lab ID: MB				Method: E200.7		
Analysis Date: 01/02/24 09:07	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.2									
Magnesium	ND	0.05									
Potassium	ND	0.06									
Sodium	0.05	0.03									

Associated samples: H23110571-003B, H23110571-004B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-011B, H23110571-012B, H23110571-014B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-034B, H23110571-039B, H23110571-043B, H23110571-044B, H23110571-047B, H23110571-050B, H23110571-051B, H23110571-054B, H23110571-055B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R191281

Date: 04-Jan-24

Run ID :Run Order: ICP2-HE_240102A: 14	SampType: Laboratory Fortified Blank				Lab ID: LFB			Method: E200.7			
Analysis Date: 01/02/24 09:10	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	44.4	1.0	50	0	89	85	115				
Magnesium	47.7	1.0	50	0	95	85	115				
Potassium	50.8	1.0	50	0	102	85	115				
Sodium	52.1	1.0	50	0	104	85	115				

Associated samples: H23110571-003B, H23110571-004B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-011B, H23110571-012B, H23110571-014B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-034B, H23110571-039B, H23110571-043B, H23110571-044B, H23110571-047B, H23110571-050B, H23110571-051B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_240102A: 157	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.7			
Analysis Date: 01/02/24 18:58	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	27.1	1.0	25	0	109	90	110				
Magnesium	25.5	1.0	25	0	102	90	110				
Potassium	26.3	1.0	25	0	105	90	110				
Sodium	25.6	1.0	25	0	102	90	110				

Associated samples: H23110571-003B, H23110571-004B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-011B, H23110571-012B, H23110571-014B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-034B, H23110571-039B, H23110571-043B, H23110571-044B, H23110571-047B, H23110571-050B, H23110571-051B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_240102A: 163	SampType: Sample Matrix Spike				Lab ID: H23110571-001BMS2			Method: E200.7			
Analysis Date: 01/02/24 19:22	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	73.6	1.0	50	30.18	87	70	130				
Magnesium	54.7	1.0	50	7.101	95	70	130				
Potassium	58.7	1.0	50	3.309	111	70	130				
Sodium	78.8	1.0	50	21.09	115	70	130				

Associated samples: H23110571-003B, H23110571-004B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-011B, H23110571-012B, H23110571-014B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-034B, H23110571-039B, H23110571-043B, H23110571-044B, H23110571-047B, H23110571-050B, H23110571-051B, H23110571-054B, H23110571-055B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R191281

Date: 04-Jan-24

Run ID :Run Order: ICP2-HE_240102A: 164	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110571-001BMSD2				Method: E200.7		
Analysis Date: 01/02/24 19:25	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	71.9	1.0	50	30.18	83	70	130	73.58	2.3	20	
Magnesium	52.8	1.0	50	7.101	91	70	130	54.73	3.7	20	
Potassium	53.5	1.0	50	3.309	100	70	130	58.67	9.1	20	
Sodium	72.7	1.0	50	21.09	103	70	130	78.78	8.1	20	

Associated samples: H23110571-003B, H23110571-004B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-011B, H23110571-012B, H23110571-014B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-034B, H23110571-039B, H23110571-043B, H23110571-044B, H23110571-047B, H23110571-050B, H23110571-051B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_240102A: 167	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 01/02/24 19:37	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	25.0	1.0	25	0	100	90	110				
Magnesium	25.3	1.0	25	0	101	90	110				
Potassium	26.2	1.0	25	0	105	90	110				
Sodium	25.8	1.0	25	0	103	90	110				

Associated samples: H23110571-003B, H23110571-004B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-011B, H23110571-012B, H23110571-014B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-034B, H23110571-039B, H23110571-043B, H23110571-044B, H23110571-047B, H23110571-050B, H23110571-051B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_240102A: 178	SampType: Sample Matrix Spike				Lab ID: H23110571-011BMS2				Method: E200.7		
Analysis Date: 01/02/24 20:18	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	197	1.0	50	154.7	84	70	130				
Magnesium	83.4	1.0	50	36.67	93	70	130				
Potassium	67.9	1.0	50	11.91	112	70	130				
Sodium	136	1.0	50	78.37	115	70	130				

Associated samples: H23110571-003B, H23110571-004B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-011B, H23110571-012B, H23110571-014B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-034B, H23110571-039B, H23110571-043B, H23110571-044B, H23110571-047B, H23110571-050B, H23110571-051B, H23110571-054B, H23110571-055B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R191281

Date: 04-Jan-24

Run ID :Run Order: ICP2-HE_240102A: 179	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 01/02/24 20:22	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	24.1	1.0	25	0	97	90	110				
Magnesium	24.1	1.0	25	0	97	90	110				
Potassium	27.4	1.0	25	0	110	90	110				
Sodium	26.6	1.0	25	0	106	90	110				

Associated samples: H23110571-003B, H23110571-004B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-011B, H23110571-012B, H23110571-014B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-034B, H23110571-039B, H23110571-043B, H23110571-044B, H23110571-047B, H23110571-050B, H23110571-051B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_240102A: 181	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110571-011BMSD2				Method: E200.7		
Analysis Date: 01/02/24 20:29	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	196	1.0	50	154.7	82	70	130	196.6	0.4	20	
Magnesium	82.9	1.0	50	36.67	92	70	130	83.37	0.6	20	
Potassium	66.6	1.0	50	11.91	109	70	130	67.86	1.8	20	
Sodium	133	1.0	50	78.37	109	70	130	135.8	2.2	20	

Associated samples: H23110571-003B, H23110571-004B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-011B, H23110571-012B, H23110571-014B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-034B, H23110571-039B, H23110571-043B, H23110571-044B, H23110571-047B, H23110571-050B, H23110571-051B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_240102A: 189	SampType: Sample Matrix Spike				Lab ID: H23110571-021BMS2				Method: E200.7		
Analysis Date: 01/02/24 20:59	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	257	1.0	50	199.6	115	70	130				
Magnesium	113	1.0	50	62.08	102	70	130				
Potassium	72.5	1.0	50	15.65	114	70	130				
Sodium	117	1.0	50	56.14	122	70	130				

Associated samples: H23110571-003B, H23110571-004B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-011B, H23110571-012B, H23110571-014B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-034B, H23110571-039B, H23110571-043B, H23110571-044B, H23110571-047B, H23110571-050B, H23110571-051B, H23110571-054B, H23110571-055B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R191281

Date: 04-Jan-24

Run ID :Run Order: ICP2-HE_240102A: 190	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110571-021BMSD2				Method: E200.7		
Analysis Date: 01/02/24 21:03	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	262	1.0	50	199.6	125	70	130	257.3	1.9	20	
Magnesium	115	1.0	50	62.08	105	70	130	113.3	1.1	20	
Potassium	70.8	1.0	50	15.65	110	70	130	72.49	2.4	20	
Sodium	115	1.0	50	56.14	118	70	130	117	1.4	20	

Associated samples: H23110571-003B, H23110571-004B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-011B, H23110571-012B, H23110571-014B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-034B, H23110571-039B, H23110571-043B, H23110571-044B, H23110571-047B, H23110571-050B, H23110571-051B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_240102A: 191	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 01/02/24 21:07	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	25.0	1.0	25	0	100	90	110				
Magnesium	24.9	1.0	25	0	99	90	110				
Potassium	26.4	1.0	25	0	106	90	110				
Sodium	25.5	1.0	25	0	102	90	110				

Associated samples: H23110571-003B, H23110571-004B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-011B, H23110571-012B, H23110571-014B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-034B, H23110571-039B, H23110571-043B, H23110571-044B, H23110571-047B, H23110571-050B, H23110571-051B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_240102A: 203	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 01/02/24 21:52	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	25.1	1.0	25	0	100	90	110				
Magnesium	24.7	1.0	25	0	99	90	110				
Potassium	26.5	1.0	25	0	106	90	110				
Sodium	25.5	1.0	25	0	102	90	110				

Associated samples: H23110571-003B, H23110571-004B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-011B, H23110571-012B, H23110571-014B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-034B, H23110571-039B, H23110571-043B, H23110571-044B, H23110571-047B, H23110571-050B, H23110571-051B, H23110571-054B, H23110571-055B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R191281

Date: 04-Jan-24

Run ID :Run Order: ICP2-HE_240102A: 206	SampType: Sample Matrix Spike				Lab ID: H23110571-031BMS2				Method: E200.7		
Analysis Date: 01/02/24 22:05	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	100	1.0	50	53.65	93	70	130				
Magnesium	60.3	1.0	50	13.85	93	70	130				
Potassium	56.2	1.0	50	4.767	103	70	130				
Sodium	77.2	1.0	50	25.59	103	70	130				

Associated samples: H23110571-003B, H23110571-004B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-011B, H23110571-012B, H23110571-014B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-034B, H23110571-039B, H23110571-043B, H23110571-044B, H23110571-047B, H23110571-050B, H23110571-051B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_240102A: 207	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110571-031BMSD2				Method: E200.7		
Analysis Date: 01/02/24 22:09	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	97.3	1.0	50	53.65	87	70	130	100	2.7	20	
Magnesium	59.6	1.0	50	13.85	91	70	130	60.33	1.3	20	
Potassium	59.0	1.0	50	4.767	108	70	130	56.2	4.8	20	
Sodium	80.2	1.0	50	25.59	109	70	130	77.16	3.9	20	

Associated samples: H23110571-003B, H23110571-004B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-011B, H23110571-012B, H23110571-014B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-034B, H23110571-039B, H23110571-043B, H23110571-044B, H23110571-047B, H23110571-050B, H23110571-051B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_240102A: 216	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 01/02/24 22:43	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	25.1	1.0	25	0	100	90	110				
Magnesium	24.5	1.0	25	0	98	90	110				
Potassium	27.0	1.0	25	0	108	90	110				
Sodium	26.2	1.0	25	0	105	90	110				

Associated samples: H23110571-003B, H23110571-004B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-011B, H23110571-012B, H23110571-014B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-034B, H23110571-039B, H23110571-043B, H23110571-044B, H23110571-047B, H23110571-050B, H23110571-051B, H23110571-054B, H23110571-055B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R191281

Date: 04-Jan-24

Run ID :Run Order: ICP2-HE_240102A: 220		SampType: Sample Matrix Spike			Lab ID: H23110571-041BMS2				Method: E200.7		
Analysis Date: 01/02/24 22:58		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	195	1.0	50	139.3	111	70	130				
Magnesium	80.6	1.0	50	30.3	101	70	130				
Potassium	67.1	1.0	50	14.06	106	70	130				
Sodium	95.3	1.0	50	41.8	107	70	130				

Associated samples: H23110571-003B, H23110571-004B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-011B, H23110571-012B, H23110571-014B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-034B, H23110571-039B, H23110571-043B, H23110571-044B, H23110571-047B, H23110571-050B, H23110571-051B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_240102A: 221		SampType: Sample Matrix Spike Duplicate			Lab ID: H23110571-041BMSD2				Method: E200.7		
Analysis Date: 01/02/24 23:02		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	186	1.0	50	139.3	94	70	130	194.7	4.3	20	
Magnesium	75.5	1.0	50	30.3	90	70	130	80.65	6.6	20	
Potassium	63.9	1.0	50	14.06	100	70	130	67.14	4.9	20	
Sodium	92.1	1.0	50	41.8	101	70	130	95.27	3.3	20	

Associated samples: H23110571-003B, H23110571-004B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-011B, H23110571-012B, H23110571-014B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-034B, H23110571-039B, H23110571-043B, H23110571-044B, H23110571-047B, H23110571-050B, H23110571-051B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_240102A: 228		SampType: Continuing Calibration Verification Standar			Lab ID: CCV				Method: E200.7		
Analysis Date: 01/02/24 23:28		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	25.3	1.0	25	0	101	90	110				
Magnesium	24.4	1.0	25	0	98	90	110				
Potassium	26.5	1.0	25	0	106	90	110				
Sodium	25.5	1.0	25	0	102	90	110				

Associated samples: H23110571-003B, H23110571-004B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-011B, H23110571-012B, H23110571-014B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-034B, H23110571-039B, H23110571-043B, H23110571-044B, H23110571-047B, H23110571-050B, H23110571-051B, H23110571-054B, H23110571-055B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R191281

Date: 04-Jan-24

Run ID :Run Order: ICP2-HE_240102A: 234	SampType: Sample Matrix Spike				Lab ID: H23110571-051BMS2				Method: E200.7		
Analysis Date: 01/02/24 23:51	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	172	1.0	50	122	100	70	130				
Magnesium	72.0	1.0	50	23.72	97	70	130				
Potassium	63.8	1.0	50	11.69	104	70	130				
Sodium	130	1.0	50	76.78	106	70	130				

Associated samples: H23110571-003B, H23110571-004B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-011B, H23110571-012B, H23110571-014B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-034B, H23110571-039B, H23110571-043B, H23110571-044B, H23110571-047B, H23110571-050B, H23110571-051B, H23110571-054B, H23110571-055B

Run ID :Run Order: ICP2-HE_240102A: 235	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110571-051BMSD2				Method: E200.7		
Analysis Date: 01/02/24 23:54	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	167	1.0	50	122	89	70	130	171.9	3.0	20	
Magnesium	68.5	1.0	50	23.72	90	70	130	71.98	4.9	20	
Potassium	65.6	1.0	50	11.69	108	70	130	63.78	2.7	20	
Sodium	136	1.0	50	76.78	119	70	130	129.8	4.8	20	

Associated samples: H23110571-003B, H23110571-004B, H23110571-006B, H23110571-007B, H23110571-008B, H23110571-009B, H23110571-011B, H23110571-012B, H23110571-014B, H23110571-020B, H23110571-021B, H23110571-022B, H23110571-025B, H23110571-026B, H23110571-027B, H23110571-028B, H23110571-029B, H23110571-030B, H23110571-034B, H23110571-039B, H23110571-043B, H23110571-044B, H23110571-047B, H23110571-050B, H23110571-051B, H23110571-054B, H23110571-055B



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110571

**BatchID:** R191309

**Date:** 04-Jan-24

Run ID :Run Order: ICPMS205-H_240102A: 13	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.8			
Analysis Date: 01/02/24 15:17	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0303	0.0010	0.03	0	101	90	110				
Copper	0.0594	0.010	0.06	0	99	90	110				
Iron	0.303	0.020	0.3	0	101	90	110				
Manganese	0.296	0.010	0.3	0	99	90	110				
Zinc	0.0603	0.010	0.06	0	101	90	110				

Associated samples: H23110571-016B, H23110571-017B, H23110571-022B

Run ID :Run Order: ICPMS205-H_240102A: 23	SampType: Method Blank				Lab ID: LRB			Method: E200.8			
Analysis Date: 01/02/24 15:53	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	ND	0.00002									
Copper	ND	0.0001									
Iron	ND	0.004									
Manganese	ND	0.0003									
Zinc	ND	0.001									

Associated samples: H23110571-016B, H23110571-017B, H23110571-022B

Run ID :Run Order: ICPMS205-H_240102A: 24	SampType: Laboratory Fortified Blank				Lab ID: LFB			Method: E200.8			
Analysis Date: 01/02/24 15:56	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0495	0.0010	0.05	0	99	85	115				
Copper	0.0498	0.010	0.05	0	100	85	115				
Iron	0.152	0.020	0.15	0	101	85	115				
Manganese	0.0486	0.010	0.05	0	97	85	115				
Zinc	0.0510	0.010	0.05	0	102	85	115				

Associated samples: H23110571-016B, H23110571-017B, H23110571-022B



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: R191309

Date: 04-Jan-24

Run ID :Run Order: ICPMS205-H_240102A: 57	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 01/02/24 21:47	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0505	0.0010	0.05	0	101	90	110				
Copper	0.0514	0.010	0.05	0	103	90	110				
Iron	1.33	0.020	1.3	0	102	90	110				
Manganese	0.0506	0.010	0.05	0	101	90	110				
Zinc	0.0509	0.010	0.05	0	102	90	110				

Associated samples: H23110571-016B, H23110571-017B, H23110571-022B

Run ID :Run Order: ICPMS205-H_240102A: 62	SampType: Sample Matrix Spike				Lab ID: H23110571-022BMS				Method: E200.8		
Analysis Date: 01/02/24 22:03	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0499	0.0010	0.05	0.0004579	99	70	130				
Copper	0.0516	0.0050	0.05	0.002017	99	70	130				
Iron	0.150	0.020	0.15	0	100	70	130				
Manganese	0.0492	0.0010	0.05	0	98	70	130				
Zinc	0.102	0.010	0.05	0.05094	101	70	130				

Associated samples: H23110571-016B, H23110571-017B, H23110571-022B

Run ID :Run Order: ICPMS205-H_240102A: 63	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110571-022BMSD				Method: E200.8		
Analysis Date: 01/02/24 22:06	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0508	0.0010	0.05	0.0004579	101	70	130	0.04987	1.8	20	
Copper	0.0518	0.0050	0.05	0.002017	100	70	130	0.0516	0.4	20	
Iron	0.150	0.020	0.15	0	100	70	130	0.1496	0.5	20	
Manganese	0.0485	0.0010	0.05	0	97	70	130	0.04922	1.4	20	
Zinc	0.102	0.010	0.05	0.05094	103	70	130	0.1016	0.8	20	

Associated samples: H23110571-016B, H23110571-017B, H23110571-022B



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: TDS23116A

Date: 04-Jan-24

Run ID :Run Order: ACCU-124 (14410200)_231116B: 1	SampType: Method Blank	Lab ID: MB-1_231116	Method: A2540 C								
Analysis Date: 11/16/23 12:59	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	ND	6									

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-043A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: ACCU-124 (14410200)_231116B: 2	SampType: Laboratory Control Sample	Lab ID: LCS-2_231116	Method: A2540 C								
Analysis Date: 11/16/23 12:59	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	1940	50	2000	0	97	90	110				

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-043A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: ACCU-124 (14410200)_231116B: 4	SampType: Sample Duplicate	Lab ID: H23110571-014A DUP	Method: A2540 C								
Analysis Date: 11/16/23 13:01	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	5370	100		0				5400	0.6	10	

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-043A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: TDS23116A

Date: 04-Jan-24

Run ID :Run Order: ACCU-124 (14410200)_231116B: 2	SampType: Sample Duplicate	Lab ID: H23110571-018A DUP	Method: A2540 C								
Analysis Date: 11/16/23 13:18	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	4170	100		0				4200	0.8	10	

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-043A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

Run ID :Run Order: ACCU-124 (14410200)_231116B: 5	SampType: Sample Duplicate	Lab ID: H23110571-037A DUP	Method: A2540 C								
Analysis Date: 11/16/23 15:36	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	717	25		0				719	0.3	10	

Associated samples: H23110571-001A, H23110571-002A, H23110571-003A, H23110571-004A, H23110571-005A, H23110571-006A, H23110571-007A, H23110571-008A, H23110571-009A, H23110571-010A, H23110571-011A, H23110571-012A, H23110571-013A, H23110571-014A, H23110571-015A, H23110571-016A, H23110571-017A, H23110571-018A, H23110571-020A, H23110571-021A, H23110571-022A, H23110571-023A, H23110571-024A, H23110571-025A, H23110571-026A, H23110571-027A, H23110571-028A, H23110571-029A, H23110571-030A, H23110571-031A, H23110571-032A, H23110571-033A, H23110571-034A, H23110571-035A, H23110571-037A, H23110571-038A, H23110571-039A, H23110571-040A, H23110571-041A, H23110571-042A, H23110571-043A, H23110571-044A, H23110571-045A, H23110571-046A, H23110571-047A, H23110571-048A, H23110571-049A, H23110571-050A, H23110571-051A, H23110571-052A, H23110571-053A, H23110571-054A, H23110571-055A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount  
 Page 312 of 322



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110571

BatchID: TDS231117A

Date: 04-Jan-24

Run ID :Run Order: ACCU-124 (14410200)_231117B: 1	SampType: Method Blank	Lab ID: MB-1_231117	Method: A2540 C								
Analysis Date: 11/17/23 12:23	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	ND	6									
Associated samples: H23110571-019A, H23110571-036A											

Run ID :Run Order: ACCU-124 (14410200)_231117B: 2	SampType: Laboratory Control Sample	Lab ID: LCS-2_231117	Method: A2540 C								
Analysis Date: 11/17/23 12:23	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	1920	50	2000	0	96	90	110				
Associated samples: H23110571-019A, H23110571-036A											

Run ID :Run Order: ACCU-124 (14410200)_231117B: 4	SampType: Sample Duplicate	Lab ID: H23110571-019A DUP	Method: A2540 C								
Analysis Date: 11/17/23 16:14	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	441	25		0				441	0.0	10	
Associated samples: H23110571-019A, H23110571-036A											

Run ID :Run Order: ACCU-124 (14410200)_231117B: 4	SampType: Sample Duplicate	Lab ID: H23110571-036A DUP	Method: A2540 C								
Analysis Date: 11/17/23 16:14	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	206	25		0				211	2.4	10	
Associated samples: H23110571-019A, H23110571-036A											

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





# Work Order Receipt Checklist

MT Dept of Justice

H23110571

Login completed by: Taylor K. Jones

Date Received: 11/15/2023

Reviewed by: wjohnson

Received by: WJJ

Reviewed Date: 11/17/2023

Carrier name: Hand Deliver

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	4.0°C On Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

## Contact and Corrective Action Comments:

The Temperature Blank temperature for shipping container 1 was 1.8°C, shipping container 2 was 2.0°C, shipping container 3 was 4.0°C, shipping container 4 was 0.0°C, shipping container 5 was 0.0°C, shipping container 6 was 3.3°C, shipping container 7 was 0.4°C, shipping container 8 was 2.5°C, shipping container 9 was -1.0°C, shipping container 10 was 2.4°C, shipping container 11 was 1.3°C, shipping container 12 was 1.6°C, shipping container 13 was 0.6°C and shipping container 14 was 0.9°C.



## Work Order Receipt Checklist - Continued

MT Dept of Justice

H23110571

Sample BPS07-07B for DOC was received at pH >2. Phosphoric acid (2 mL) was added in the laboratory to preserve to pH <2.

The collection time for AMW-13B2 on the COC is 13:48 and on the sample containers it is 13:47. Used time provided on the COC.

tj 11/16/23



Trust our People. Trust our Data.

# Chain of Custody & Analytical Request Record

www.energylab.com

### Account Information (Billing information)

Company/Name	MT DOJ / Natural Resource Damage Program	
Contact	Jim Ford	
Phone	(406) 439-2108	
Mailing Address	1720 9th Avenue	
City, State, Zip	Helena, Montana 59620-1425	
Email	jford@mt.gov	
Receive Invoice	<input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email
Purchase Order	Quote 2187	Bottle Order 45915/6/9

### Report Information (if different than Account Information)

Company/Name	Water & Environmental Technologies	
Contact	Janelle Garza	
Phone	(406) 565-4291	
Mailing Address	480 East Park Street	
City, State, Zip	Butte, Montana 59701	
Email	jgarza@waterenvtech.com	
Receive Report	<input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	
Special Report/Formats	<input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC <input checked="" type="checkbox"/> EDD/EDT (contact laboratory) <input type="checkbox"/> Other	

### Comments

Please do not use any "EB" or "FB" samples for MS/MSD.

C1 1.8      C4 3.3      C11 1.3  
 C2 2.0      C7 0.4      C12 1.6  
 C3 4.0      C8 2.5      C13 0.6  
 C4 0.0      C9 1.0      C14 0.9  
 C5 0.0      C10 2.4

### Project Information

Project Name, PWSID, Permit, etc.	NRDPM16 TO2 - Task 001		
Sampler Name	Janelle Garza	Sampler Phone	(406) 599-6770
Sample Origin State	Montana	EPA/State Compliance	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
URANIUM MINING CLIENTS MUST indicate sample type			
<input type="checkbox"/> Unprocessed Ore			
<input type="checkbox"/> Processed Ore (Ground or Refined) **CALL BEFORE SENDING			
<input type="checkbox"/> 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)			

### Matrix Codes

- A - Air
- W- Water
- S - Solids/Solids
- V - Vegetation
- B - Bioassay
- O - Oil
- DW - Drinking Water

### Analysis Requested

	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	pH & pH Meas. Temp A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353.2	Dissolved Metals E200.7/8	See Attached	RUSH TAT	ELI LAB ID Laboratory Use Only					
1	✓	✓	✓	✓	✓	✓	✓	✓	✓								
2	✓	✓	✓	✓	✓	✓	✓	✓	✓								
3	✓	✓	✓	✓	✓	✓	✓	✓	✓								
4	✓	✓	✓	✓	✓	✓	✓	✓	✓								
5	✓	✓	✓	✓	✓	✓	✓	✓	✓								
6	✓	✓	✓	✓	✓	✓	✓	✓	✓								
7	✓	✓	✓	✓	✓	✓	✓	✓	✓								
8	✓	✓	✓	✓	✓	✓	✓	✓	✓								
9	✓	✓	✓	✓	✓	✓	✓	✓	✓								

All turnaround times are standard unless marked as RUSH.  
 Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page

C12  
C12  
C12  
C12  
C10  
C10  
C10  
C10  
C10  
C10

Sample Identification (Name, Location, Interval, etc.)	Collection		Number of Containers	Matrix (See Codes Above)	pH & pH Meas. Temp A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353.2	Dissolved Metals E200.7/8	See Attached	RUSH TAT	ELI LAB ID Laboratory Use Only
	Date	Time														
1 PMP-11A	11/13/2023	11:13 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓			H23110571
2 BPS07-07B	11/13/2023	11:26 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓			
3 BPS07-07	11/13/2023	11:54 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓			
4 BPS07-23	11/13/2023	12:34 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓			
5 MSD-03	11/13/2023	12:55 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓			
6 AMW-13B	11/13/2023	1:27 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓			
7 MF-11	11/13/2023	1:42 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓			
8 AMW-13B2	11/13/2023	1:48 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓			
9 MSD-04	11/13/2023	2:10 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓			

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print) Janelle Garza	Date/Time 11-15-23/1430	Signature <i>JG</i>	Received by (print) Christina Eggensperger	Date/Time 11-15-23/1430	Signature <i>CE</i>			
	Relinquished by (print) Christina Eggensperger	Date/Time 11-15-23/1559	Signature <i>CE</i>	Received by Laboratory (print) Wendy	Date/Time 11-15-23/1559	Signature <i>W</i>			
LABORATORY USE ONLY									
Shipped By <i>haddad</i>	Cooler ID(s) Y	Custody Seals Y N C B	Intact Y N	Receipt Temp 50 °C	Temp Blank Y N	On Ice Y N	Payment Type CC Cash Check	Amount \$	Receipt Number (cash/check only)

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.





# Chain of Custody & Analytical Request Record

www.energylab.com

### Account Information (Billing information)

Company/Name	MT DOJ / Natural Resource Damage Program		
Contact	Jim Ford		
Phone	(406) 439-2108		
Mailing Address	1720 9th Avenue		
City, State, Zip	Helena, Montana 59620-1425		
Email	jford@mt.gov		
Receive Invoice	<input type="checkbox"/> Hard Copy	<input checked="" type="checkbox"/> Email	Receive Report
			<input type="checkbox"/> Hard Copy
			<input checked="" type="checkbox"/> Email
Purchase Order	Quote	Bottle Order	
	2187	45915/6/9	

### Report Information (if different than Account Information)

Company/Name	Water & Environmental Technologies		
Contact	Janelle Garza		
Phone	(406) 565-4291		
Mailing Address	480 East Park Street		
City, State, Zip	Butte, Montana 59701		
Email	jgarza@waterenvtech.com		
Receive Report	<input type="checkbox"/> Hard Copy	<input checked="" type="checkbox"/> Email	
Special Report/Formats	<input type="checkbox"/> LEVEL IV <input type="checkbox"/> INELAC <input checked="" type="checkbox"/> EDD/EDT (contact laboratory) <input type="checkbox"/> Other _____		

### Comments

Please do not use any "EB" or "FB" samples for MS/MSD.

C1 1.8    C6 3.3    C11 1.3  
 C2 2.0    C7 0.4    C12 1.6  
 C3 4.0    C8 2.5    C13 0.6  
 C4 0.0    C9 1.0    C14 0.9  
 C5 0.0    C10 2.4    C14 0.9

### Project Information

Project Name, PWSID, Permit, etc.	NRDPM16 TO2 - Task 001		
Sampler Name	Janelle Garza	Sampler Phone	(406) 599-6770
Sample Origin State	Montana	EPA/State Compliance	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>URANIUM MINING CLIENTS MUST indicate sample type</b> <input type="checkbox"/> Unprocessed Ore <input type="checkbox"/> Processed Ore (Ground or Refined) **CALL BEFORE SENDING <input type="checkbox"/> 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)			

### Matrix Codes

- A - Air
- W - Water
- S - Soils/Solids
- V - Vegetation
- B - Bioassay
- O - Oil
- DW - Drinking Water

### Analysis Requested

	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	pH & pH Meas. Temp A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353.2	Dissolved Metals E200.7/8	See Attached	RUSH TAT	ELI LAB ID Laboratory Use Only	
1 AMW-13C	✓	✓	✓	✓	✓	✓	✓	✓	✓			H23110571	
2 PMP-09A	✓	✓	✓	✓	✓	✓	✓	✓	✓				
3 PMP-07A	✓	✓	✓	✓	✓	✓	✓	✓	✓				
4 FB-2	✓	✓	✓	✓	✓	✓	✓	✓	✓				
5 MSD-02B	✓	✓	✓	✓	✓	✓	✓	✓	✓				
6 DUP-2	✓	✓	✓	✓	✓	✓	✓	✓	✓				
7 EB-2	✓	✓	✓	✓	✓	✓	✓	✓	✓				
8 FB-4	✓	✓	✓	✓	✓	✓	✓	✓	✓				
9 BPS11-18B	✓	✓	✓	✓	✓	✓	✓	✓	✓				

All turnaround times are standard unless marked as RUSH.  
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page

C6  
C6  
C6  
C3  
C3  
C3  
C3  
C8  
C8

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print) Janelle Garza	Date/Time 11-15-23/1430	Signature <i>JG</i>	Received by (print) Christina Eggenberger	Date/Time 11-15-23/1430	Signature <i>CE</i>
	Relinquished by (print) Christina Eggenberger	Date/Time 11-15-23/1559	Signature <i>CE</i>	Received by Laboratory (print) Christina Eggenberger	Date/Time 11-15-23/1559	Signature <i>CE</i>
<b>LABORATORY USE ONLY</b>						
Shipped By <i>Handful</i>	Cooler ID(s) Y	Custody Seals Y N C B	Intact Y N	Receipt Temp 5°C °C	Temp Blank Y N	On Ice Y N
			Payment Type CC Cash Check	Amount \$	Receipt Number (cash/check only)	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.





# Chain of Custody & Analytical Request Record

www.energylab.com

### Account Information (Billing information)

Company/Name MT DOJ / Natural Resource Damage Program		
Contact Jim Ford		
Phone (406) 439-2108		
Mailing Address 1720 9th Avenue		
City, State, Zip Helena, Montana 59620-1425		
Email jford@mt.gov		
Receive Invoice <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	
Purchase Order	Quote 2187	Bottle Order 45915/6/9

### Report Information (if different than Account Information)

Company/Name Water & Environmental Technologies	
Contact Janelle Garza	
Phone (406) 565-4291	
Mailing Address 480 East Park Street	
City, State, Zip Butte, Montana 59701	
Email jgarza@waterenvtech.com	
Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	
Special Report/Formats	
<input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC <input checked="" type="checkbox"/> EDD/EDT (contact laboratory) <input type="checkbox"/> Other	

### Comments

Please do not use any "EB" or "FB" samples for MS/MSD.

C1 1.8 C6 3.3 C11 1.3  
 C2 2.0 C7 0.4 C12 1.6  
 C3 4.0 C8 2.5 C13 0.6  
 C4 0.0 C9 7.0 C14 0.9  
 C5 0.0 C10 2.4

### Project Information

Project Name, PWSID, Permit, etc. NRDP16 TO2 - Task 001	
Sampler Name Janelle Garza	Sampler Phone (406) 599-6770
Sample Origin State Montana	EPA/State Compliance <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
URANIUM MINING CLIENTS MUST indicate sample type	
<input type="checkbox"/> Unprocessed Ore	
<input type="checkbox"/> Processed Ore (Ground or Refined) **CALL BEFORE SENDING	
<input type="checkbox"/> 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)	

### Matrix Codes

- A - Air
- W - Water
- S - Soils/ Solids
- V - Vegetation
- B - Bioassay
- O - Oil
- DW - Drinking Water

### Analysis Requested

	+	+	+	+	+	+	+	+	+	+	+	+	+	+
pH & pH Meas. Temp														
A4500-H B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Conductivity														
A25510 B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
TDS														
A2540 C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CaCO3, HCO3, CO3														
A2320 B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cl(-), SO4(2-), Br(-), F(-)														
E300.0	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Hardness														
A2340 B	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
DOC & TOC														
A5310 C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Nitrate+Nitrite														
E353.2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Dissolved Metals														
E200.7/8	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
See Attached														

All turnaround times are standard unless marked as RUSH.  
 Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page

Sample Identification (Name, Location, Interval, etc.)	Collection		Number of Containers	Matrix (See Codes Above)	Analysis Requested													See Attached	RUSH TAT	ELI LAB ID Laboratory Use Only
	Date	Time			pH & pH Meas. Temp	Conductivity	TDS	CaCO3, HCO3, CO3	Cl(-), SO4(2-), Br(-), F(-)	Hardness	DOC & TOC	Nitrate+Nitrite	Dissolved Metals							
1 PMP-08A2	11/14/2023	9:42 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		H23110571		
2 PMP-08B	11/14/2023	10:02 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
3 BPS11-18C	11/14/2023	10:22 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
4 PMP-11B	11/14/2023	10:45 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
5 DUP-4	11/14/2023	10:46 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
6 BPS11-10A	11/14/2023	11:03 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
7 PMP-05A	11/14/2023	11:07 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
8 BPS11-10B	11/14/2023	11:30 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
9 PMP-05BR	11/14/2023	11:33 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print) Janelle Garza	Date/Time 11-15-23/1430	Signature [Signature]	Received by (print) Christine Eggensperger	Date/Time 11-15-23/1430	Signature [Signature]
	Relinquished by (print) Christine Eggensperger	Date/Time 11-15-23/1559	Signature [Signature]	Received by Laboratory (print) [Signature]	Date/Time 11-15-23/1559	Signature [Signature]

### LABORATORY USE ONLY

Shipped By [Signature]	Cooler ID(s) Y	Custody Seals Y N C B	Intact Y N	Receipt Temp 50°C	Temp Blank Y N	On Ice Y N	Payment Type CC Cash Check	Amount \$	Receipt Number (cash/check only)
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Trust our People. Trust our Data.

# Chain of Custody & Analytical Request Record

www.energylab.com

### Account Information (Billing information)

Company/Name MT DOJ / Natural Resource Damage Program		
Contact Jim Ford		
Phone (406) 439-2108		
Mailing Address 1720 9th Avenue		
City, State, Zip Helena, Montana 59620-1425		
Email jford@mt.gov		
Receive Invoice <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	
Purchase Order	Quote 2187	Bottle Order 45915/6/9

### Report Information (if different than Account Information)

Company/Name Water & Environmental Technologies		
Contact Janelle Garza		
Phone (406) 565-4291		
Mailing Address 480 East Park Street		
City, State, Zip Butte, Montana 59701		
Email jgarza@waterenvtech.com		
Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email		
Special Report/Formats		
<input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC <input checked="" type="checkbox"/> EDD/EDT (contact laboratory) <input type="checkbox"/> Other		

### Comments

Please do not use any "EB" or "FB" samples for MS/MSD.

C1 1.8	C6 3.3	C11 1.3
C2 2.0	C7 0.4	C12 1.6
C3 4.0	C8 2.5	C13 0.6
C4 0.0	C9 1.0	C14 0.9
C5 0.0	C10 2.4	

### Project Information

Project Name, PWSID, Permit, etc. NRDP16 TO2 - Task 001	
Sampler Name Janelle Garza	Sampler Phone (406) 599-6770
Sample Origin State Montana	EPA/State Compliance <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
URANIUM MINING CLIENTS MUST indicate sample type	
<input type="checkbox"/> Unprocessed Ore	
<input type="checkbox"/> Processed Ore (Ground or Refined) **CALL BEFORE SENDING	
<input checked="" type="checkbox"/> 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)	

### Matrix Codes

- A - Air
- W - Water
- S - Soils/Solids
- V - Vegetation
- B - Bioassay
- O - Oil
- DW - Drinking Water

### Analysis Requested

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
pH & pH Meas. Temp A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353.2	Dissolved Metals E200.7/8	See Attached										

All turnaround times are standard unless marked as RUSH.  
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page

Sample Identification (Name, Location, Interval, etc.)	Collection		Number of Containers	Matrix (See Codes Above)	Analysis Requested													See Attached	RUSH TAT	ELI LAB ID Laboratory Use Only		
	Date	Time			pH & pH Meas. Temp A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353.2	Dissolved Metals E200.7/8									
1 BPS11-11B	11/14/2023	3:18 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			H23110571
2 DUP-1	11/14/2023	3:19 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
3 PMP-06A	11/14/2023	3:19 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
4 EB-1	11/14/2023	3:30 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
5 PMP-08A	11/14/2023	3:43 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
6 FB-1	11/14/2023	3:45 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
7 PMP-06B	11/14/2023	3:50 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
8 BPS11-11C	11/14/2023	4:13 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
9 BPS07-11A	11/15/2023	9:28 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			

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ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print) Janelle Garza	Date/Time 11-15-23/1430	Signature <i>JG</i>	Received by (print) christina eggensperger	Date/Time 11-15-23/1430	Signature <i>[Signature]</i>
	Relinquished by (print) christina eggensperger	Date/Time 11-15-23/1559	Signature <i>[Signature]</i>	Received by Laboratory (print) christina eggensperger	Date/Time 11-15-23/1559	Signature <i>[Signature]</i>
LABORATORY USE ONLY						
Shipped By <i>[Signature]</i>	Cooler ID(s) <i>[Signature]</i>	Custody Seals Y N C B <i>[Signature]</i>	Intact Y N <i>[Signature]</i>	Receipt Temp <i>see</i> °C	Temp Blank Y N <i>[Signature]</i>	On Ice Y N <i>[Signature]</i>
Payment Type CC Cash Check			Amount \$	Receipt Number (cash/check only)		

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# Chain of Custody & Analytical Request Record

www.energylab.com

### Account Information (Billing information)

Company/Name MT DOJ / Natural Resource Damage Program		
Contact Jim Ford		
Phone (406) 439-2108		
Mailing Address 1720 9th Avenue		
City, State, Zip Helena, Montana 59620-1425		
Email jford@mt.gov		
Receive Invoice <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	
Purchase Order	Quote 2187	Bottle Order 45915/6/9

### Report Information (if different than Account Information)

Company/Name Water & Environmental Technologies		
Contact Janelle Garza		
Phone (406) 565-4291		
Mailing Address 480 East Park Street		
City, State, Zip Butte, Montana 59701		
Email jgarza@waterenvtech.com		
Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email		
Special Report/Formats		
<input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC <input checked="" type="checkbox"/> EDD/EDT (contact laboratory) <input type="checkbox"/> Other		

### Comments

Please do not use any "EB" or "FB" samples for MS/MSD.

C1 1.8  
 C2 2.0  
 C3 4.0  
 C4 0.0  
 C5 0.0  
 C6 3.3  
 C7 0.4  
 C8 2.5  
 C9 7.0  
 C10 2.4  
 C11  
 C12  
 C13  
 C14 0.9

1.3  
1.6  
0.6  
0.9

### Project Information

Project Name, PWSID, Permit, etc. NRDP16 TO2 - Task 001	
Sampler Name Janelle Garza	Sampler Phone (406) 599-6770
Sample Origin State Montana	EPA/State Compliance <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
URANIUM MINING CLIENTS MUST indicate sample type	
<input type="checkbox"/> Unprocessed Ore	
<input type="checkbox"/> Processed Ore (Ground or Refined) **CALL BEFORE SENDING	
<input checked="" type="checkbox"/> 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)	

### Matrix Codes

- A - Air
- W - Water
- S - Solids/Solids
- V - Vegetation
- B - Bioassay
- O - Oil
- DW - Drinking Water

### Analysis Requested

+	+	+	+	+	+	+	+	+	+	+	+	+	+
pH & pH Meas. Temp A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353.2	Dissolved Metals E200.7/8	See Attached				

All turnaround times are standard unless marked as RUSH.

Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page

Sample Identification (Name, Location, Interval, etc.)	Collection		Number of Containers	Matrix (See Codes Above)	Analysis Requested										RUSH TAT	ELI LAB ID Laboratory Use Only
	Date	Time			pH & pH Meas. Temp A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353.2	Dissolved Metals E200.7/8	See Attached		
1 GS-29SR	11/15/2023	9:29 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		H23110571
2 BPS07-11B	11/15/2023	9:49 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
3 PMP-10A	11/15/2023	10:03 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
4 PMP-10B	11/15/2023	10:26 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
5 AMW-01B	11/15/2023	10:47 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
6 AMC-24C	11/15/2023	11:03 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
7 BPS11-14A	11/15/2023	11:52 am	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
8 BPS11-14B	11/15/2023	12:16 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
9 AMC-23B	11/15/2023	12:27 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print) Janelle Garza	Date/Time 11-15-23/1430	Signature [Signature]	Received by (print) Christina Egnensperger	Date/Time 11-15-23/1430	Signature [Signature]
	Relinquished by (print) Christina Egnensperger	Date/Time 11-15-23/1559	Signature [Signature]	Received by Laboratory (print) [Signature]	Date/Time 11-15-23/1559	Signature [Signature]
LABORATORY USE ONLY						
Shipped By [Signature]	Cooler ID(s) Y	Custody Seals Y N C B	Intact Y N	Receipt Temp °C [Signature]	Temp Blank Y N	On Ice Y N
Payment Type CC Cash Check			Amount \$	Receipt Number (cash/check only)		

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.





Trust our People. Trust our Data.

# Chain of Custody & Analytical Request Record

www.energylab.com

### Account Information (Billing information)

Company/Name MT DOJ / Natural Resource Damage Program		
Contact Jim Ford		
Phone (406) 439-2108		
Mailing Address 1720 9th Avenue		
City, State, Zip Helena, Montana 59620-1425		
Email jford@mt.gov		
Receive Invoice <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	
Purchase Order	Quote 2187	Bottle Order 45915/6/9

### Report Information (if different than Account Information)

Company/Name Water & Environmental Technologies	
Contact Janelle Garza	
Phone (406) 565-4291	
Mailing Address 480 East Park Street	
City, State, Zip Butte, Montana 59701	
Email jgarza@waterenvtech.com	
Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	
Special Report/Formats: <input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC <input checked="" type="checkbox"/> EDD/EDT (contact laboratory) <input type="checkbox"/> Other	

### Comments

Please do not use any "EB" or "FB" samples for MS/MSD.

C1 1.8 C6 3.3 C11 1.3  
 C2 2.0 C7 0.4 C12 1.6  
 C3 4.0 C8 2.5 C13 0.6  
 C4 2.0 C9 7.0 C14 0.9  
 C5 0.0 C10 2.4

### Project Information

Project Name, PWSID, Permit, etc. NRDP16 TO2 - Task 001	
Sampler Name Janelle Garza	Sampler Phone (406) 599-6770
Sample Origin State Montana	EPA/State Compliance <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
URANIUM MINING CLIENTS MUST indicate sample type <input type="checkbox"/> Unprocessed Ore <input type="checkbox"/> Processed Ore (Ground or Refined) **CALL BEFORE SENDING <input type="checkbox"/> 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)	

### Matrix Codes

- A - Air
- W - Water
- S - Soils/Solids
- V - Vegetation
- B - Bioassay
- O - Oil
- DW - Drinking Water

### Analysis Requested

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
pH & pH Meas. Temp A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353.2	Dissolved Metals E200.7/8	See Attached						

All turnaround times are standard unless marked as RUSH.  
 Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page

Sample Identification <small>(Name, Location, Interval, etc.)</small>	Collection		Number of Containers	Matrix <small>(See Codes Above)</small>	Analysis Requested												RUSH TAT	ELI LAB ID <small>Laboratory Use Only</small>
	Date	Time			pH & pH Meas. Temp A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353.2	Dissolved Metals E200.7/8	See Attached				
C9 1 AMW-01C	11/15/2023	12:56 pm	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		H23110571	
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print) Janelle Garza	Date/Time 11-15-23/1430	Signature <i>Janelle Garza</i>	Received by (print) Christina Eggensperger	Date/Time 11-15-23/1430	Signature <i>Christina Eggensperger</i>			
	Relinquished by (print) Christina Eggensperger	Date/Time 11-15-23/1559	Signature <i>Christina Eggensperger</i>	Received By Laboratory (print) Montana	Date/Time 11-15-23/1559	Signature <i>[Signature]</i>			
LABORATORY USE ONLY									
Shipped By <i>haddad</i>	Cooler ID(s) <i>4</i>	Custody Seals Y <input checked="" type="checkbox"/> N <input type="checkbox"/> C <input type="checkbox"/> B <input type="checkbox"/>	Intact Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	Receipt Temp °C <i>5.0</i>	Temp Blank Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	On Ice Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	Payment Type CC Cash Check	Amount \$	Receipt Number (cash/check only)

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.



# ANALYTICAL SUMMARY REPORT

December 19, 2023

MT Dept of Justice  
Natural Resource Damage Program  
Helena, MT 59620-1425

Work Order: H23110658      Quote ID: H2187  
Project Name: NRDPM16 TO2\_001

Energy Laboratories Inc Helena MT received the following 7 samples for MT Dept of Justice on 11/17/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H23110658-001	PMP-12	11/16/23 13:15	11/17/23	Surface Water	Rare Earth Metals, Dissolved Rare Earth Metals, Total Recoverable Metals by ICP/ICPMS, Dissolved Metals by ICP/ICPMS, Tot. Rec. Alkalinity to pH 4.5 Anion - Cation Balance Carbon, Dissolved Organic Conductivity Carbon, Total Organic Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Metals Digestion by E200.2 Rare Metals Digestion by E200.2 Solids, Total Dissolved
H23110658-002	SS-04	11/16/23 13:45	11/17/23	Surface Water	Same As Above
H23110658-003	DUP-5	11/16/23 13:46	11/17/23	Surface Water	Same As Above
H23110658-004	FB-5	11/16/23 14:05	11/17/23	Surface Water	Same As Above
H23110658-005	MSDSG-02	11/16/23 14:19	11/17/23	Surface Water	Same As Above
H23110658-006	MSDSG-05	11/16/23 14:41	11/17/23	Surface Water	Same As Above
H23110658-007	MSDSG-03	11/16/23 15:20	11/17/23	Surface Water	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

Digitally signed by  
Jessica C. Smith  
Date: 2023.12.19 10:46:21 -07:00



**CLIENT:** MT Dept of Justice  
**Project:** NRDPM16 TO2\_001  
**Work Order:** H23110658

**Report Date:** 12/19/23

## **CASE NARRATIVE**

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Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002.





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-12  
**Lab ID:** H23110658-001  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2\_001  
**Collection Date:** 11/16/23 13:15 **DateReceived:** 11/17/23  
**Report Date:** 12/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.2	s.u.	H	0.1		A4500-H B	11/17/23 14:53 / eek		PHSC_101-H_231117A : 95		R190164
pH Measurement Temp	16.3	°C				A4500-H B	11/17/23 14:53 / eek		PHSC_101-H_231117A : 95		R190164
Conductivity @ 25 C	2250	umhos/cm		5		A2510 B	11/17/23 14:53 / eek		PHSC_101-H_231117A : 96		R190164
Solids, Total Dissolved TDS @ 180 C	1980	mg/L		50		A2540 C	11/20/23 12:38 / dpw		-124 (14410200)_231120B : 8		TDS231120A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	86	mg/L		4		A2320 B	11/21/23 09:24 / dpw		PHSC_101-H_231121A : 10		R190255
Bicarbonate as HCO3	100	mg/L		4		A2320 B	11/21/23 09:24 / dpw		PHSC_101-H_231121A : 10		R190255
Carbonate as CO3	ND	mg/L		4		A2320 B	11/21/23 09:24 / dpw		PHSC_101-H_231121A : 10		R190255
Chloride	27	mg/L		1		E300.0	11/18/23 09:35 / SR		C METROHM_231116A : 193		R190187
Sulfate	1290	mg/L		1		E300.0	11/20/23 19:18 / SR		IC METROHM_231120A : 23		R190257
Bromide	ND	mg/L		0.5		E300.0	11/18/23 09:35 / SR		C METROHM_231116A : 193		R190187
Fluoride	1.3	mg/L		0.1		E300.0	11/18/23 09:35 / SR		C METROHM_231116A : 193		R190187
Hardness as CaCO3	1210	mg/L		1		A2340 B	11/27/23 20:28 / SR		CALC_231205A : 47		R190552
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.4	mg/L		0.5		A5310 C	11/29/23 04:24 / eli-c		SUB-C301424 : 19		C_R301424
Organic Carbon, Total (TOC)	2.2	mg/L		0.5		A5310 C	11/28/23 20:20 / eli-c		SUB-C301424 : 4		C_R301424
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.10	mg/L		0.01		E353.2	11/29/23 17:39 / JAR		SEAL AA500_231129A : 111		R190433
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	12/01/23 11:32 / dck		ICPMS206-H_231201B : 28		R190518
Antimony	ND	mg/L		0.0005		E200.8	12/01/23 11:32 / dck		ICPMS206-H_231201B : 28		R190518
Arsenic	0.003	mg/L		0.001		E200.8	12/01/23 11:32 / dck		ICPMS206-H_231201B : 28		R190518
Barium	0.044	mg/L		0.003		E200.8	12/01/23 11:32 / dck		ICPMS206-H_231201B : 28		R190518
Beryllium	ND	mg/L		0.0008		E200.8	12/01/23 11:32 / dck		ICPMS206-H_231201B : 28		R190518
Boron	0.06	mg/L		0.05		E200.7	11/27/23 20:28 / slj		ICP2-HE_231127A : 156		R190361
Cadmium	0.00032	mg/L		0.00003		E200.8	12/15/23 20:38 / dck		ICPMS206-H_231215A : 114		R190901
Cesium	ND	mg/L		0.01		E200.8	11/30/23 13:50 / dck		ICPMS206-H_231130A : 74		R190453

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



**LABORATORY ANALYTICAL REPORT**

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-12  
**Lab ID:** H23110658-001  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2\_001  
**Collection Date:** 11/16/23 13:15 **DateReceived:** 11/17/23  
**Report Date:** 12/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	473	mg/L		1		E200.7	11/27/23 20:28 / slj		ICP2-HE_231127A : 156		R190361
Chromium	ND	mg/L		0.005		E200.8	12/01/23 11:32 / dck		ICPMS206-H_231201B : 28		R190518
Cobalt	ND	mg/L		0.005		E200.8	12/01/23 11:32 / dck		ICPMS206-H_231201B : 28		R190518
Copper	0.006	mg/L		0.002		E200.8	12/01/23 11:32 / dck		ICPMS206-H_231201B : 28		R190518
Gallium	ND	mg/L		0.01		E200.8	11/30/23 13:50 / dck		ICPMS206-H_231130A : 74		R190453
Iron	0.05	mg/L		0.02		E200.8	12/15/23 20:38 / dck		ICPMS206-H_231215A : 114		R190901
Lead	ND	mg/L		0.0003		E200.8	12/01/23 11:32 / dck		ICPMS206-H_231201B : 28		R190518
Lanthanum	ND	mg/L		0.01		E200.8	11/30/23 13:50 / dck		ICPMS206-H_231130A : 74		R190453
Lithium	ND	mg/L		0.1		E200.8	12/01/23 11:32 / dck		ICPMS206-H_231201B : 28		R190518
Magnesium	8	mg/L		1		E200.7	11/27/23 20:28 / slj		ICP2-HE_231127A : 156		R190361
Neodymium	ND	mg/L		0.005		E200.8	11/30/23 13:50 / dck		ICPMS206-H_231130A : 74		R190453
Niobium	ND	mg/L		0.01		E200.8	11/30/23 13:50 / dck		ICPMS206-H_231130A : 74		R190453
Manganese	0.501	mg/L		0.001		E200.8	12/15/23 20:38 / dck		ICPMS206-H_231215A : 114		R190901
Molybdenum	0.663	mg/L		0.001		E200.8	12/01/23 11:32 / dck		ICPMS206-H_231201B : 28		R190518
Nickel	ND	mg/L		0.002		E200.8	12/01/23 11:32 / dck		ICPMS206-H_231201B : 28		R190518
Palladium	ND	mg/L		0.01		E200.8	11/30/23 13:50 / dck		ICPMS206-H_231130A : 74		R190453
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 13:50 / dck		ICPMS206-H_231130A : 74		R190453
Rubidium	0.04	mg/L		0.01		E200.8	11/30/23 13:50 / dck		ICPMS206-H_231130A : 74		R190453
Potassium	31	mg/L		1		E200.8	12/01/23 11:32 / dck		ICPMS206-H_231201B : 28		R190518
Selenium	0.002	mg/L		0.001		E200.8	12/01/23 11:32 / dck		ICPMS206-H_231201B : 28		R190518
Silver	ND	mg/L		0.0002		E200.8	12/01/23 11:32 / dck		ICPMS206-H_231201B : 28		R190518
Sodium	92	mg/L		1		E200.8	12/01/23 11:32 / dck		ICPMS206-H_231201B : 28		R190518
Strontium	1.98	mg/L		0.01		E200.7	11/27/23 20:28 / slj		ICP2-HE_231127A : 156		R190361
Thallium	ND	mg/L		0.0002		E200.8	12/01/23 11:32 / dck		ICPMS206-H_231201B : 28		R190518
Thorium	ND	mg/L		0.005		E200.8	12/01/23 11:32 / dck		ICPMS206-H_231201B : 28		R190518
Tin	ND	mg/L		0.05		E200.8	12/01/23 11:32 / dck		ICPMS206-H_231201B : 28		R190518
Titanium	ND	mg/L		0.005		E200.8	12/01/23 11:32 / dck		ICPMS206-H_231201B : 28		R190518
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 13:50 / dck		ICPMS206-H_231130A : 74		R190453
Uranium	0.0030	mg/L		0.0002		E200.8	12/01/23 11:32 / dck		ICPMS206-H_231201B : 28		R190518
Vanadium	ND	mg/L		0.01		E200.8	12/01/23 11:32 / dck		ICPMS206-H_231201B : 28		R190518
Zinc	0.097	mg/L		0.008		E200.8	12/15/23 20:38 / dck		ICPMS206-H_231215A : 114		R190901
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 13:50 / dck		ICPMS206-H_231130A : 74		R190453

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-12  
**Lab ID:** H23110658-001  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2\_001  
**Collection Date:** 11/16/23 13:15 **DateReceived:** 11/17/23  
**Report Date:** 12/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	0.068	mg/L		0.009		E200.8	12/15/23 20:41 / dck	11/20/23 17:20	ICPMS206-H_231215A : 115		69420
Antimony	ND	mg/L		0.0005		E200.8	12/01/23 16:25 / dck	11/20/23 17:20	ICPMS205-H_231201B : 58		69420
Arsenic	0.005	mg/L		0.001		E200.8	12/01/23 16:25 / dck	11/20/23 17:20	ICPMS205-H_231201B : 58		69420
Barium	0.045	mg/L		0.003		E200.8	12/01/23 16:25 / dck	11/20/23 17:20	ICPMS205-H_231201B : 58		69420
Beryllium	ND	mg/L		0.0008		E200.8	12/01/23 16:25 / dck	11/20/23 17:20	ICPMS205-H_231201B : 58		69420
Cesium	ND	mg/L		0.01		E200.8	11/30/23 13:52 / dck	11/21/23 09:54	ICPMS206-H_231130A : 75		69431
Cadmium	0.00046	mg/L		0.00003		E200.8	12/01/23 16:25 / dck	11/20/23 17:20	ICPMS205-H_231201B : 58		69420
Chromium	ND	mg/L		0.005		E200.8	12/01/23 16:25 / dck	11/20/23 17:20	ICPMS205-H_231201B : 58		69420
Cobalt	ND	mg/L		0.005		E200.8	12/01/23 16:25 / dck	11/20/23 17:20	ICPMS205-H_231201B : 58		69420
Copper	0.011	mg/L		0.002		E200.8	12/01/23 16:25 / dck	11/20/23 17:20	ICPMS205-H_231201B : 58		69420
Gallium	ND	mg/L		0.01		E200.8	11/30/23 13:52 / dck	11/21/23 09:54	ICPMS206-H_231130A : 75		69431
Iron	0.49	mg/L		0.02		E200.8	12/01/23 16:25 / dck	11/20/23 17:20	ICPMS205-H_231201B : 58		69420
Lead	0.0011	mg/L		0.0003		E200.8	12/01/23 16:25 / dck	11/20/23 17:20	ICPMS205-H_231201B : 58		69420
Lanthanum	ND	mg/L		0.1		E200.8	11/30/23 13:52 / dck	11/21/23 09:54	ICPMS206-H_231130A : 75		69431
Lithium	ND	mg/L		0.1		E200.8	12/01/23 16:25 / dck	11/20/23 17:20	ICPMS205-H_231201B : 58		69420
Neodymium	ND	mg/L		0.01		E200.8	11/30/23 13:52 / dck	11/21/23 09:54	ICPMS206-H_231130A : 75		69431
Niobium	ND	mg/L		0.01		E200.8	11/30/23 13:52 / dck	11/21/23 09:54	ICPMS206-H_231130A : 75		69431
Manganese	0.502	mg/L		0.001		E200.8	12/01/23 16:25 / dck	11/20/23 17:20	ICPMS205-H_231201B : 58		69420
Molybdenum	0.689	mg/L		0.001		E200.8	12/01/23 16:25 / dck	11/20/23 17:20	ICPMS205-H_231201B : 58		69420
Nickel	ND	mg/L		0.002		E200.8	12/01/23 16:25 / dck	11/20/23 17:20	ICPMS205-H_231201B : 58		69420
Palladium	ND	mg/L		0.01		E200.8	11/30/23 13:52 / dck	11/21/23 09:54	ICPMS206-H_231130A : 75		69431
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 13:52 / dck	11/21/23 09:54	ICPMS206-H_231130A : 75		69431
Rubidium	0.04	mg/L		0.01		E200.8	11/30/23 13:52 / dck	11/21/23 09:54	ICPMS206-H_231130A : 75		69431
Selenium	0.002	mg/L		0.001		E200.8	12/01/23 16:25 / dck	11/20/23 17:20	ICPMS205-H_231201B : 58		69420
Silver	ND	mg/L		0.0002		E200.8	12/01/23 16:25 / dck	11/20/23 17:20	ICPMS205-H_231201B : 58		69420
Strontium	1.94	mg/L		0.01		E200.8	12/01/23 16:25 / dck	11/20/23 17:20	ICPMS205-H_231201B : 58		69420
Thallium	ND	mg/L		0.0002		E200.8	12/01/23 16:25 / dck	11/20/23 17:20	ICPMS205-H_231201B : 58		69420
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 13:52 / dck	11/21/23 09:54	ICPMS206-H_231130A : 75		69431
Tin	ND	mg/L		0.05		E200.8	12/01/23 16:25 / dck	11/20/23 17:20	ICPMS205-H_231201B : 58		69420
Titanium	ND	mg/L		0.005		E200.8	12/01/23 16:25 / dck	11/20/23 17:20	ICPMS205-H_231201B : 58		69420
Thorium	ND	mg/L		0.005		E200.8	12/15/23 20:41 / dck	11/20/23 17:20	ICPMS206-H_231215A : 115		69420
Uranium	0.0033	mg/L		0.0003		E200.8	12/01/23 16:25 / dck	11/20/23 17:20	ICPMS205-H_231201B : 58		69420

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-12  
**Lab ID:** H23110658-001  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2\_001  
**Collection Date:** 11/16/23 13:15      **DateReceived:** 11/17/23  
**Report Date:** 12/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	12/01/23 16:25 / dck	11/20/23 17:20	ICPMS205-H_231201B : 58		69420
Zinc	0.105	mg/L		0.008		E200.8	12/01/23 16:25 / dck	11/20/23 17:20	ICPMS205-H_231201B : 58		69420
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 13:52 / dck	11/21/23 09:54	ICPMS206-H_231130A : 75		69431
<b>DATA QUALITY</b>											
A/C Balance	-0.76	%				A1030 E	12/05/23 09:20 / SR		CALC_231205A : 45		R190552

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** SS-04  
**Lab ID:** H23110658-002  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2\_001  
**Collection Date:** 11/16/23 13:45 **DateReceived:** 11/17/23  
**Report Date:** 12/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.7	s.u.	H	0.1		A4500-H B	11/17/23 15:21 / eek		PHSC_101-H_231117A : 123		R190164
pH Measurement Temp	16.5	°C				A4500-H B	11/17/23 15:21 / eek		PHSC_101-H_231117A : 123		R190164
Conductivity @ 25 C	334	umhos/cm		5		A2510 B	11/17/23 15:21 / eek		PHSC_101-H_231117A : 124		R190164
Solids, Total Dissolved TDS @ 180 C	214	mg/L		20		A2540 C	11/20/23 12:38 / dpw		-124 (14410200)_231120B : 9		TDS231120A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	96	mg/L		4		A2320 B	11/21/23 09:31 / dpw		PHSC_101-H_231121A : 12		R190255
Bicarbonate as HCO3	120	mg/L		4		A2320 B	11/21/23 09:31 / dpw		PHSC_101-H_231121A : 12		R190255
Carbonate as CO3	ND	mg/L		4		A2320 B	11/21/23 09:31 / dpw		PHSC_101-H_231121A : 12		R190255
Chloride	21	mg/L		1		E300.0	11/18/23 09:50 / SR		C METROHM_231116A : 194		R190187
Sulfate	36	mg/L		1		E300.0	11/18/23 09:50 / SR		C METROHM_231116A : 194		R190187
Bromide	ND	mg/L		0.5		E300.0	11/18/23 09:50 / SR		C METROHM_231116A : 194		R190187
Fluoride	0.2	mg/L		0.1		E300.0	11/18/23 09:50 / SR		C METROHM_231116A : 194		R190187
Hardness as CaCO3	135	mg/L		1		A2340 B	11/27/23 20:39 / SR		CALC_231205A : 58		R190552
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.7	mg/L		0.5		A5310 C	11/29/23 05:13 / eli-c		SUB-C301424 : 22		C_R301424
Organic Carbon, Total (TOC)	2.7	mg/L		0.5		A5310 C	11/28/23 21:08 / eli-c		SUB-C301424 : 7		C_R301424
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.89	mg/L		0.01		E353.2	11/29/23 17:40 / JAR		SEAL AA500_231129A : 112		R190433
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	12/01/23 11:36 / dck		ICPMS206-H_231201B : 29		R190518
Antimony	ND	mg/L		0.0005		E200.8	12/01/23 11:36 / dck		ICPMS206-H_231201B : 29		R190518
Arsenic	0.002	mg/L		0.001		E200.8	12/01/23 11:36 / dck		ICPMS206-H_231201B : 29		R190518
Barium	0.046	mg/L		0.003		E200.8	12/01/23 11:36 / dck		ICPMS206-H_231201B : 29		R190518
Beryllium	ND	mg/L		0.0008		E200.8	12/01/23 11:36 / dck		ICPMS206-H_231201B : 29		R190518
Boron	ND	mg/L		0.05		E200.7	11/27/23 20:39 / slj		ICP2-HE_231127A : 159		R190361
Cadmium	ND	mg/L		0.00003		E200.8	12/01/23 11:36 / dck		ICPMS206-H_231201B : 29		R190518
Cesium	ND	mg/L		0.01		E200.8	11/30/23 13:54 / dck		ICPMS206-H_231130A : 76		R190453

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** SS-04  
**Lab ID:** H23110658-002  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2\_001  
**Collection Date:** 11/16/23 13:45 **DateReceived:** 11/17/23  
**Report Date:** 12/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	38	mg/L		1		E200.7	11/27/23 20:39 / slj		ICP2-HE_231127A : 159		R190361
Chromium	ND	mg/L		0.005		E200.8	12/01/23 11:36 / dck		ICPMS206-H_231201B : 29		R190518
Cobalt	ND	mg/L		0.005		E200.8	12/01/23 11:36 / dck		ICPMS206-H_231201B : 29		R190518
Copper	0.003	mg/L		0.002		E200.8	12/01/23 11:36 / dck		ICPMS206-H_231201B : 29		R190518
Gallium	ND	mg/L		0.01		E200.8	11/30/23 13:54 / dck		ICPMS206-H_231130A : 76		R190453
Iron	0.03	mg/L		0.02		E200.8	12/15/23 20:16 / dck		ICPMS206-H_231215A : 108		R190901
Lead	ND	mg/L		0.0003		E200.8	12/01/23 11:36 / dck		ICPMS206-H_231201B : 29		R190518
Lanthanum	ND	mg/L		0.01		E200.8	11/30/23 13:54 / dck		ICPMS206-H_231130A : 76		R190453
Lithium	ND	mg/L		0.1		E200.8	12/01/23 11:36 / dck		ICPMS206-H_231201B : 29		R190518
Magnesium	10	mg/L		1		E200.7	11/27/23 20:39 / slj		ICP2-HE_231127A : 159		R190361
Neodymium	ND	mg/L		0.005		E200.8	11/30/23 13:54 / dck		ICPMS206-H_231130A : 76		R190453
Niobium	ND	mg/L		0.01		E200.8	11/30/23 13:54 / dck		ICPMS206-H_231130A : 76		R190453
Manganese	0.036	mg/L		0.001		E200.8	12/15/23 20:16 / dck		ICPMS206-H_231215A : 108		R190901
Molybdenum	0.006	mg/L		0.001		E200.8	12/01/23 11:36 / dck		ICPMS206-H_231201B : 29		R190518
Nickel	ND	mg/L		0.002		E200.8	12/01/23 11:36 / dck		ICPMS206-H_231201B : 29		R190518
Palladium	ND	mg/L		0.01		E200.8	11/30/23 13:54 / dck		ICPMS206-H_231130A : 76		R190453
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 13:54 / dck		ICPMS206-H_231130A : 76		R190453
Rubidium	ND	mg/L		0.01		E200.8	11/30/23 13:54 / dck		ICPMS206-H_231130A : 76		R190453
Potassium	3	mg/L		1		E200.8	12/01/23 11:36 / dck		ICPMS206-H_231201B : 29		R190518
Selenium	ND	mg/L		0.001		E200.8	12/01/23 11:36 / dck		ICPMS206-H_231201B : 29		R190518
Silver	ND	mg/L		0.0002		E200.8	12/01/23 11:36 / dck		ICPMS206-H_231201B : 29		R190518
Sodium	15	mg/L		1		E200.8	12/01/23 11:36 / dck		ICPMS206-H_231201B : 29		R190518
Strontium	0.24	mg/L		0.01		E200.8	12/01/23 11:36 / dck		ICPMS206-H_231201B : 29		R190518
Thallium	ND	mg/L		0.0002		E200.8	12/01/23 11:36 / dck		ICPMS206-H_231201B : 29		R190518
Thorium	ND	mg/L		0.005		E200.8	12/01/23 11:36 / dck		ICPMS206-H_231201B : 29		R190518
Tin	ND	mg/L		0.05		E200.8	12/01/23 11:36 / dck		ICPMS206-H_231201B : 29		R190518
Titanium	ND	mg/L		0.005		E200.8	12/01/23 11:36 / dck		ICPMS206-H_231201B : 29		R190518
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 13:54 / dck		ICPMS206-H_231130A : 76		R190453
Uranium	0.0036	mg/L		0.0002		E200.8	12/01/23 11:36 / dck		ICPMS206-H_231201B : 29		R190518
Vanadium	ND	mg/L		0.01		E200.8	12/01/23 11:36 / dck		ICPMS206-H_231201B : 29		R190518
Zinc	ND	mg/L		0.008		E200.8	12/15/23 20:16 / dck		ICPMS206-H_231215A : 108		R190901
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 13:54 / dck		ICPMS206-H_231130A : 76		R190453

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** SS-04  
**Lab ID:** H23110658-002  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2\_001  
**Collection Date:** 11/16/23 13:45 **DateReceived:** 11/17/23  
**Report Date:** 12/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	0.025	mg/L		0.009		E200.8	12/15/23 20:20 / dck	11/20/23 17:21	ICPMS206-H_231215A : 109		69420
Antimony	ND	mg/L		0.0005		E200.8	12/01/23 16:28 / dck	11/20/23 17:21	ICPMS205-H_231201B : 59		69420
Arsenic	0.003	mg/L		0.001		E200.8	12/01/23 16:28 / dck	11/20/23 17:21	ICPMS205-H_231201B : 59		69420
Barium	0.049	mg/L		0.003		E200.8	12/01/23 16:28 / dck	11/20/23 17:21	ICPMS205-H_231201B : 59		69420
Beryllium	ND	mg/L		0.0008		E200.8	12/01/23 16:28 / dck	11/20/23 17:21	ICPMS205-H_231201B : 59		69420
Cesium	ND	mg/L		0.01		E200.8	11/30/23 13:56 / dck	11/21/23 09:54	ICPMS206-H_231130A : 77		69431
Cadmium	ND	mg/L		0.00003		E200.8	12/01/23 16:28 / dck	11/20/23 17:21	ICPMS205-H_231201B : 59		69420
Chromium	ND	mg/L		0.005		E200.8	12/01/23 16:28 / dck	11/20/23 17:21	ICPMS205-H_231201B : 59		69420
Cobalt	ND	mg/L		0.005		E200.8	12/01/23 16:28 / dck	11/20/23 17:21	ICPMS205-H_231201B : 59		69420
Copper	0.003	mg/L		0.002		E200.8	12/01/23 16:28 / dck	11/20/23 17:21	ICPMS205-H_231201B : 59		69420
Gallium	ND	mg/L		0.01		E200.8	11/30/23 13:56 / dck	11/21/23 09:54	ICPMS206-H_231130A : 77		69431
Iron	0.30	mg/L		0.02		E200.8	12/01/23 16:28 / dck	11/20/23 17:21	ICPMS205-H_231201B : 59		69420
Lead	0.0003	mg/L		0.0003		E200.8	12/01/23 16:28 / dck	11/20/23 17:21	ICPMS205-H_231201B : 59		69420
Lanthanum	ND	mg/L		0.1		E200.8	11/30/23 13:56 / dck	11/21/23 09:54	ICPMS206-H_231130A : 77		69431
Lithium	ND	mg/L		0.1		E200.8	12/01/23 16:28 / dck	11/20/23 17:21	ICPMS205-H_231201B : 59		69420
Neodymium	ND	mg/L		0.01		E200.8	11/30/23 13:56 / dck	11/21/23 09:54	ICPMS206-H_231130A : 77		69431
Niobium	ND	mg/L		0.01		E200.8	11/30/23 13:56 / dck	11/21/23 09:54	ICPMS206-H_231130A : 77		69431
Manganese	0.039	mg/L		0.001		E200.8	12/01/23 16:28 / dck	11/20/23 17:21	ICPMS205-H_231201B : 59		69420
Molybdenum	0.007	mg/L		0.001		E200.8	12/01/23 16:28 / dck	11/20/23 17:21	ICPMS205-H_231201B : 59		69420
Nickel	ND	mg/L		0.002		E200.8	12/01/23 16:28 / dck	11/20/23 17:21	ICPMS205-H_231201B : 59		69420
Palladium	ND	mg/L		0.01		E200.8	11/30/23 13:56 / dck	11/21/23 09:54	ICPMS206-H_231130A : 77		69431
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 13:56 / dck	11/21/23 09:54	ICPMS206-H_231130A : 77		69431
Rubidium	ND	mg/L		0.01		E200.8	11/30/23 13:56 / dck	11/21/23 09:54	ICPMS206-H_231130A : 77		69431
Selenium	ND	mg/L		0.001		E200.8	12/01/23 16:28 / dck	11/20/23 17:21	ICPMS205-H_231201B : 59		69420
Silver	ND	mg/L		0.0002		E200.8	12/01/23 16:28 / dck	11/20/23 17:21	ICPMS205-H_231201B : 59		69420
Strontium	0.22	mg/L		0.01		E200.8	12/01/23 16:28 / dck	11/20/23 17:21	ICPMS205-H_231201B : 59		69420
Thallium	ND	mg/L		0.0002		E200.8	12/01/23 16:28 / dck	11/20/23 17:21	ICPMS205-H_231201B : 59		69420
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 13:56 / dck	11/21/23 09:54	ICPMS206-H_231130A : 77		69431
Tin	ND	mg/L		0.05		E200.8	12/01/23 16:28 / dck	11/20/23 17:21	ICPMS205-H_231201B : 59		69420
Titanium	ND	mg/L		0.005		E200.8	12/01/23 16:28 / dck	11/20/23 17:21	ICPMS205-H_231201B : 59		69420
Thorium	ND	mg/L		0.005		E200.8	12/15/23 20:20 / dck	11/20/23 17:21	ICPMS206-H_231215A : 109		69420
Uranium	0.0040	mg/L		0.0003		E200.8	12/01/23 16:28 / dck	11/20/23 17:21	ICPMS205-H_231201B : 59		69420

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** SS-04  
**Lab ID:** H23110658-002  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2\_001  
**Collection Date:** 11/16/23 13:45 **DateReceived:** 11/17/23  
**Report Date:** 12/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	12/01/23 16:28 / dck	11/20/23 17:21	ICPMS205-H_231201B : 59		69420
Zinc	ND	mg/L		0.008		E200.8	12/01/23 16:28 / dck	11/20/23 17:21	ICPMS205-H_231201B : 59		69420
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 13:56 / dck	11/21/23 09:54	ICPMS206-H_231130A : 77		69431
<b>DATA QUALITY</b>											
A/C Balance	1.28	%				A1030 E	12/05/23 09:20 / SR		CALC_231205A : 56		R190552

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-5  
**Lab ID:** H23110658-003  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2\_001  
**Collection Date:** 11/16/23 13:46  
**Date Received:** 11/17/23  
**Report Date:** 12/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.8	s.u.	H	0.1		A4500-H B	11/17/23 15:23 / eek		PHSC_101-H_231117A : 125		R190164
pH Measurement Temp	16.2	°C				A4500-H B	11/17/23 15:23 / eek		PHSC_101-H_231117A : 125		R190164
Conductivity @ 25 C	335	umhos/cm		5		A2510 B	11/17/23 15:23 / eek		PHSC_101-H_231117A : 126		R190164
Solids, Total Dissolved TDS @ 180 C	215	mg/L		20		A2540 C	11/20/23 12:39 / dpw		124 (14410200)_231120B : 10		TDS231120A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	96	mg/L		4		A2320 B	11/21/23 09:38 / dpw		PHSC_101-H_231121A : 14		R190255
Bicarbonate as HCO3	120	mg/L		4		A2320 B	11/21/23 09:38 / dpw		PHSC_101-H_231121A : 14		R190255
Carbonate as CO3	ND	mg/L		4		A2320 B	11/21/23 09:38 / dpw		PHSC_101-H_231121A : 14		R190255
Chloride	21	mg/L		1		E300.0	11/18/23 10:04 / SR		C METROHM_231116A : 195		R190187
Sulfate	36	mg/L		1		E300.0	11/18/23 10:04 / SR		C METROHM_231116A : 195		R190187
Bromide	ND	mg/L		0.5		E300.0	11/18/23 10:04 / SR		C METROHM_231116A : 195		R190187
Fluoride	0.2	mg/L		0.1		E300.0	11/18/23 10:04 / SR		C METROHM_231116A : 195		R190187
Hardness as CaCO3	143	mg/L		1		A2340 B	11/27/23 20:43 / SR		CALC_231205A : 69		R190552
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.7	mg/L		0.5		A5310 C	11/29/23 05:29 / eli-c		SUB-C301424 : 23		C_R301424
Organic Carbon, Total (TOC)	2.7	mg/L		0.5		A5310 C	11/28/23 21:59 / eli-c		SUB-C301424 : 9		C_R301424
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.89	mg/L		0.01		E353.2	11/29/23 17:41 / JAR		SEAL AA500_231129A : 113		R190433
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	12/01/23 11:39 / dck		ICPMS206-H_231201B : 30		R190518
Antimony	ND	mg/L		0.0005		E200.8	12/01/23 11:39 / dck		ICPMS206-H_231201B : 30		R190518
Arsenic	0.002	mg/L		0.001		E200.8	12/01/23 11:39 / dck		ICPMS206-H_231201B : 30		R190518
Barium	0.047	mg/L		0.003		E200.8	12/01/23 11:39 / dck		ICPMS206-H_231201B : 30		R190518
Beryllium	ND	mg/L		0.0008		E200.8	12/01/23 11:39 / dck		ICPMS206-H_231201B : 30		R190518
Boron	ND	mg/L		0.05		E200.7	11/27/23 20:43 / slj		ICP2-HE_231127A : 160		R190361
Cadmium	ND	mg/L		0.00003		E200.8	12/01/23 11:39 / dck		ICPMS206-H_231201B : 30		R190518
Cesium	ND	mg/L		0.01		E200.8	11/30/23 13:58 / dck		ICPMS206-H_231130A : 78		R190453

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-5  
**Lab ID:** H23110658-003  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2\_001  
**Collection Date:** 11/16/23 13:46 **DateReceived:** 11/17/23  
**Report Date:** 12/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	40	mg/L		1		E200.7	11/27/23 20:43 / slj		ICP2-HE_231127A : 160		R190361
Chromium	ND	mg/L		0.005		E200.8	12/01/23 11:39 / dck		ICPMS206-H_231201B : 30		R190518
Cobalt	ND	mg/L		0.005		E200.8	12/01/23 11:39 / dck		ICPMS206-H_231201B : 30		R190518
Copper	ND	mg/L		0.002		E200.8	12/01/23 11:39 / dck		ICPMS206-H_231201B : 30		R190518
Gallium	ND	mg/L		0.01		E200.8	11/30/23 13:58 / dck		ICPMS206-H_231130A : 78		R190453
Iron	0.03	mg/L		0.02		E200.8	12/15/23 20:23 / dck		ICPMS206-H_231215A : 110		R190901
Lead	ND	mg/L		0.0003		E200.8	12/01/23 11:39 / dck		ICPMS206-H_231201B : 30		R190518
Lanthanum	ND	mg/L		0.01		E200.8	11/30/23 13:58 / dck		ICPMS206-H_231130A : 78		R190453
Lithium	ND	mg/L		0.1		E200.8	12/01/23 11:39 / dck		ICPMS206-H_231201B : 30		R190518
Magnesium	10	mg/L		1		E200.7	11/27/23 20:43 / slj		ICP2-HE_231127A : 160		R190361
Neodymium	ND	mg/L		0.005		E200.8	11/30/23 13:58 / dck		ICPMS206-H_231130A : 78		R190453
Niobium	ND	mg/L		0.01		E200.8	11/30/23 13:58 / dck		ICPMS206-H_231130A : 78		R190453
Manganese	0.036	mg/L		0.001		E200.8	12/15/23 20:23 / dck		ICPMS206-H_231215A : 110		R190901
Molybdenum	0.005	mg/L		0.001		E200.8	12/01/23 11:39 / dck		ICPMS206-H_231201B : 30		R190518
Nickel	ND	mg/L		0.002		E200.8	12/01/23 11:39 / dck		ICPMS206-H_231201B : 30		R190518
Palladium	ND	mg/L		0.01		E200.8	11/30/23 13:58 / dck		ICPMS206-H_231130A : 78		R190453
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 13:58 / dck		ICPMS206-H_231130A : 78		R190453
Rubidium	ND	mg/L		0.01		E200.8	11/30/23 13:58 / dck		ICPMS206-H_231130A : 78		R190453
Potassium	3	mg/L		1		E200.8	12/01/23 11:39 / dck		ICPMS206-H_231201B : 30		R190518
Selenium	ND	mg/L		0.001		E200.8	12/01/23 11:39 / dck		ICPMS206-H_231201B : 30		R190518
Silver	ND	mg/L		0.0002		E200.8	12/01/23 11:39 / dck		ICPMS206-H_231201B : 30		R190518
Sodium	14	mg/L		1		E200.8	12/01/23 11:39 / dck		ICPMS206-H_231201B : 30		R190518
Strontium	0.23	mg/L		0.01		E200.8	12/01/23 11:39 / dck		ICPMS206-H_231201B : 30		R190518
Thallium	ND	mg/L		0.0002		E200.8	12/01/23 11:39 / dck		ICPMS206-H_231201B : 30		R190518
Thorium	ND	mg/L		0.005		E200.8	12/01/23 11:39 / dck		ICPMS206-H_231201B : 30		R190518
Tin	ND	mg/L		0.05		E200.8	12/01/23 11:39 / dck		ICPMS206-H_231201B : 30		R190518
Titanium	ND	mg/L		0.005		E200.8	12/01/23 11:39 / dck		ICPMS206-H_231201B : 30		R190518
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 13:58 / dck		ICPMS206-H_231130A : 78		R190453
Uranium	0.0036	mg/L		0.0002		E200.8	12/01/23 11:39 / dck		ICPMS206-H_231201B : 30		R190518
Vanadium	ND	mg/L		0.01		E200.8	12/01/23 11:39 / dck		ICPMS206-H_231201B : 30		R190518
Zinc	ND	mg/L		0.008		E200.8	12/15/23 20:23 / dck		ICPMS206-H_231215A : 110		R190901
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 13:58 / dck		ICPMS206-H_231130A : 78		R190453

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-5  
**Lab ID:** H23110658-003  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2\_001  
**Collection Date:** 11/16/23 13:46 **DateReceived:** 11/17/23  
**Report Date:** 12/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	0.025	mg/L		0.009		E200.8	12/15/23 20:27 / dck	11/20/23 17:21	ICPMS206-H_231215A : 111		69420
Antimony	ND	mg/L		0.0005		E200.8	12/01/23 16:32 / dck	11/20/23 17:21	ICPMS205-H_231201B : 60		69420
Arsenic	0.003	mg/L		0.001		E200.8	12/01/23 16:32 / dck	11/20/23 17:21	ICPMS205-H_231201B : 60		69420
Barium	0.047	mg/L		0.003		E200.8	12/01/23 16:32 / dck	11/20/23 17:21	ICPMS205-H_231201B : 60		69420
Beryllium	ND	mg/L		0.0008		E200.8	12/01/23 16:32 / dck	11/20/23 17:21	ICPMS205-H_231201B : 60		69420
Cesium	ND	mg/L		0.01		E200.8	11/30/23 14:00 / dck	11/21/23 09:54	ICPMS206-H_231130A : 79		69431
Cadmium	ND	mg/L		0.00003		E200.8	12/01/23 16:32 / dck	11/20/23 17:21	ICPMS205-H_231201B : 60		69420
Chromium	ND	mg/L		0.005		E200.8	12/01/23 16:32 / dck	11/20/23 17:21	ICPMS205-H_231201B : 60		69420
Cobalt	ND	mg/L		0.005		E200.8	12/01/23 16:32 / dck	11/20/23 17:21	ICPMS205-H_231201B : 60		69420
Copper	0.003	mg/L		0.002		E200.8	12/01/23 16:32 / dck	11/20/23 17:21	ICPMS205-H_231201B : 60		69420
Gallium	ND	mg/L		0.01		E200.8	11/30/23 14:00 / dck	11/21/23 09:54	ICPMS206-H_231130A : 79		69431
Iron	0.29	mg/L		0.02		E200.8	12/01/23 16:32 / dck	11/20/23 17:21	ICPMS205-H_231201B : 60		69420
Lead	0.0005	mg/L		0.0003		E200.8	12/01/23 16:32 / dck	11/20/23 17:21	ICPMS205-H_231201B : 60		69420
Lanthanum	ND	mg/L		0.1		E200.8	11/30/23 14:00 / dck	11/21/23 09:54	ICPMS206-H_231130A : 79		69431
Lithium	ND	mg/L		0.1		E200.8	12/01/23 16:32 / dck	11/20/23 17:21	ICPMS205-H_231201B : 60		69420
Neodymium	ND	mg/L		0.01		E200.8	11/30/23 14:00 / dck	11/21/23 09:54	ICPMS206-H_231130A : 79		69431
Niobium	ND	mg/L		0.01		E200.8	11/30/23 14:00 / dck	11/21/23 09:54	ICPMS206-H_231130A : 79		69431
Manganese	0.039	mg/L		0.001		E200.8	12/01/23 16:32 / dck	11/20/23 17:21	ICPMS205-H_231201B : 60		69420
Molybdenum	0.006	mg/L		0.001		E200.8	12/01/23 16:32 / dck	11/20/23 17:21	ICPMS205-H_231201B : 60		69420
Nickel	ND	mg/L		0.002		E200.8	12/01/23 16:32 / dck	11/20/23 17:21	ICPMS205-H_231201B : 60		69420
Palladium	ND	mg/L		0.01		E200.8	11/30/23 14:00 / dck	11/21/23 09:54	ICPMS206-H_231130A : 79		69431
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 14:00 / dck	11/21/23 09:54	ICPMS206-H_231130A : 79		69431
Rubidium	ND	mg/L		0.01		E200.8	11/30/23 14:00 / dck	11/21/23 09:54	ICPMS206-H_231130A : 79		69431
Selenium	ND	mg/L		0.001		E200.8	12/01/23 16:32 / dck	11/20/23 17:21	ICPMS205-H_231201B : 60		69420
Silver	ND	mg/L		0.0002		E200.8	12/01/23 16:32 / dck	11/20/23 17:21	ICPMS205-H_231201B : 60		69420
Strontium	0.22	mg/L		0.01		E200.8	12/01/23 16:32 / dck	11/20/23 17:21	ICPMS205-H_231201B : 60		69420
Thallium	ND	mg/L		0.0002		E200.8	12/01/23 16:32 / dck	11/20/23 17:21	ICPMS205-H_231201B : 60		69420
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 14:00 / dck	11/21/23 09:54	ICPMS206-H_231130A : 79		69431
Tin	ND	mg/L		0.05		E200.8	12/01/23 16:32 / dck	11/20/23 17:21	ICPMS205-H_231201B : 60		69420
Titanium	ND	mg/L		0.005		E200.8	12/01/23 16:32 / dck	11/20/23 17:21	ICPMS205-H_231201B : 60		69420
Thorium	ND	mg/L		0.005		E200.8	12/15/23 20:27 / dck	11/20/23 17:21	ICPMS206-H_231215A : 111		69420
Uranium	0.0039	mg/L		0.0003		E200.8	12/01/23 16:32 / dck	11/20/23 17:21	ICPMS205-H_231201B : 60		69420

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-5  
**Lab ID:** H23110658-003  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2\_001  
**Collection Date:** 11/16/23 13:46 **DateReceived:** 11/17/23  
**Report Date:** 12/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	12/01/23 16:32 / dck	11/20/23 17:21	ICPMS205-H_231201B : 60		69420
Zinc	ND	mg/L		0.008		E200.8	12/01/23 16:32 / dck	11/20/23 17:21	ICPMS205-H_231201B : 60		69420
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 14:00 / dck	11/21/23 09:54	ICPMS206-H_231130A : 79		69431
<b>DATA QUALITY</b>											
A/C Balance	3.11	%				A1030 E	12/05/23 09:21 / SR		CALC_231205A : 67		R190552

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-5  
**Lab ID:** H23110658-004  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2\_001  
**Collection Date:** 11/16/23 14:05  
**Date Received:** 11/17/23  
**Report Date:** 12/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.5	s.u.	H	0.1		A4500-H B	11/17/23 15:25 / eek		PHSC_101-H_231117A : 127		R190164
pH Measurement Temp	16.1	°C				A4500-H B	11/17/23 15:25 / eek		PHSC_101-H_231117A : 127		R190164
Conductivity @ 25 C	ND	umhos/cm		5		A2510 B	11/17/23 15:25 / eek		PHSC_101-H_231117A : 128		R190164
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	L	20		A2540 C	11/20/23 12:39 / dpw		I24 (14410200)_231120B : 11		TDS231120A
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.											
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	11/21/23 09:44 / dpw		PHSC_101-H_231121A : 16		R190255
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	11/21/23 09:44 / dpw		PHSC_101-H_231121A : 16		R190255
Carbonate as CO3	ND	mg/L		4		A2320 B	11/21/23 09:44 / dpw		PHSC_101-H_231121A : 16		R190255
Chloride	ND	mg/L		1		E300.0	11/18/23 10:19 / SR		C METROHM_231116A : 196		R190187
Sulfate	ND	mg/L		1		E300.0	11/18/23 10:19 / SR		C METROHM_231116A : 196		R190187
Bromide	ND	mg/L		0.5		E300.0	11/18/23 10:19 / SR		C METROHM_231116A : 196		R190187
Fluoride	ND	mg/L		0.1		E300.0	11/18/23 10:19 / SR		C METROHM_231116A : 196		R190187
Hardness as CaCO3	ND	mg/L		1		A2340 B	11/27/23 20:58 / SR		CALC_231205A : 80		R190552
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	11/29/23 06:20 / eli-c		SUB-C301424 : 25		C_R301424
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	11/28/23 22:47 / eli-c		SUB-C301424 : 12		C_R301424
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	11/29/23 17:42 / JAR		SEAL AA500_231129A : 114		R190433
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	12/01/23 11:43 / dck		ICPMS206-H_231201B : 31		R190518
Antimony	ND	mg/L		0.0005		E200.8	12/01/23 11:43 / dck		ICPMS206-H_231201B : 31		R190518
Arsenic	ND	mg/L		0.001		E200.8	12/01/23 11:43 / dck		ICPMS206-H_231201B : 31		R190518
Barium	ND	mg/L		0.003		E200.8	12/01/23 11:43 / dck		ICPMS206-H_231201B : 31		R190518
Beryllium	ND	mg/L		0.0008		E200.8	12/01/23 11:43 / dck		ICPMS206-H_231201B : 31		R190518
Boron	ND	mg/L		0.05		E200.7	11/27/23 20:58 / slj		ICP2-HE_231127A : 164		R190361
Cadmium	ND	mg/L		0.00003		E200.8	12/01/23 11:43 / dck		ICPMS206-H_231201B : 31		R190518
Cesium	ND	mg/L		0.01		E200.8	11/30/23 14:02 / dck		ICPMS206-H_231130A : 80		R190453

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time

L -Lowest available reporting limit for the analytical method used and/or volume submitted



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-5  
**Lab ID:** H23110658-004  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2\_001  
**Collection Date:** 11/16/23 14:05 **DateReceived:** 11/17/23  
**Report Date:** 12/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	ND	mg/L		1		E200.7	11/27/23 20:58 / slj		ICP2-HE_231127A : 164		R190361
Chromium	ND	mg/L		0.005		E200.8	12/01/23 11:43 / dck		ICPMS206-H_231201B : 31		R190518
Cobalt	ND	mg/L		0.005		E200.8	12/01/23 11:43 / dck		ICPMS206-H_231201B : 31		R190518
Copper	ND	mg/L		0.002		E200.8	12/01/23 11:43 / dck		ICPMS206-H_231201B : 31		R190518
Gallium	ND	mg/L		0.01		E200.8	11/30/23 14:02 / dck		ICPMS206-H_231130A : 80		R190453
Iron	ND	mg/L		0.02		E200.8	12/01/23 11:43 / dck		ICPMS206-H_231201B : 31		R190518
Lead	ND	mg/L		0.0003		E200.8	12/01/23 11:43 / dck		ICPMS206-H_231201B : 31		R190518
Lanthanum	ND	mg/L		0.01		E200.8	11/30/23 14:02 / dck		ICPMS206-H_231130A : 80		R190453
Lithium	ND	mg/L		0.1		E200.8	12/01/23 11:43 / dck		ICPMS206-H_231201B : 31		R190518
Magnesium	ND	mg/L		1		E200.7	11/27/23 20:58 / slj		ICP2-HE_231127A : 164		R190361
Neodymium	ND	mg/L		0.005		E200.8	11/30/23 14:02 / dck		ICPMS206-H_231130A : 80		R190453
Niobium	ND	mg/L		0.01		E200.8	11/30/23 14:02 / dck		ICPMS206-H_231130A : 80		R190453
Manganese	ND	mg/L		0.001		E200.8	12/15/23 20:30 / dck		ICPMS206-H_231215A : 112		R190901
Molybdenum	ND	mg/L		0.001		E200.8	12/01/23 11:43 / dck		ICPMS206-H_231201B : 31		R190518
Nickel	ND	mg/L		0.002		E200.8	12/01/23 11:43 / dck		ICPMS206-H_231201B : 31		R190518
Palladium	ND	mg/L		0.01		E200.8	11/30/23 14:02 / dck		ICPMS206-H_231130A : 80		R190453
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 14:02 / dck		ICPMS206-H_231130A : 80		R190453
Rubidium	ND	mg/L		0.01		E200.8	11/30/23 14:02 / dck		ICPMS206-H_231130A : 80		R190453
Potassium	ND	mg/L		1		E200.8	12/01/23 11:43 / dck		ICPMS206-H_231201B : 31		R190518
Selenium	ND	mg/L		0.001		E200.8	12/01/23 11:43 / dck		ICPMS206-H_231201B : 31		R190518
Silver	ND	mg/L		0.0002		E200.8	12/01/23 11:43 / dck		ICPMS206-H_231201B : 31		R190518
Sodium	ND	mg/L		1		E200.8	12/01/23 11:43 / dck		ICPMS206-H_231201B : 31		R190518
Strontium	ND	mg/L		0.01		E200.8	12/01/23 11:43 / dck		ICPMS206-H_231201B : 31		R190518
Thallium	ND	mg/L		0.0002		E200.8	12/01/23 11:43 / dck		ICPMS206-H_231201B : 31		R190518
Thorium	ND	mg/L		0.005		E200.8	12/01/23 11:43 / dck		ICPMS206-H_231201B : 31		R190518
Tin	ND	mg/L		0.05		E200.8	12/01/23 11:43 / dck		ICPMS206-H_231201B : 31		R190518
Titanium	ND	mg/L		0.005		E200.8	12/01/23 11:43 / dck		ICPMS206-H_231201B : 31		R190518
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 14:02 / dck		ICPMS206-H_231130A : 80		R190453
Uranium	ND	mg/L		0.0002		E200.8	12/01/23 11:43 / dck		ICPMS206-H_231201B : 31		R190518
Vanadium	ND	mg/L		0.01		E200.8	12/01/23 11:43 / dck		ICPMS206-H_231201B : 31		R190518
Zinc	ND	mg/L		0.008		E200.8	12/15/23 20:30 / dck		ICPMS206-H_231215A : 112		R190901
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 14:02 / dck		ICPMS206-H_231130A : 80		R190453

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-5  
**Lab ID:** H23110658-004  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2\_001  
**Collection Date:** 11/16/23 14:05 **DateReceived:** 11/17/23  
**Report Date:** 12/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	ND	mg/L		0.009		E200.8	12/15/23 20:34 / dck	11/20/23 17:21	ICPMS206-H_231215A : 113		69420
Antimony	ND	mg/L		0.0005		E200.8	12/01/23 16:35 / dck	11/20/23 17:21	ICPMS205-H_231201B : 61		69420
Arsenic	ND	mg/L		0.001		E200.8	12/01/23 16:35 / dck	11/20/23 17:21	ICPMS205-H_231201B : 61		69420
Barium	ND	mg/L		0.003		E200.8	12/01/23 16:35 / dck	11/20/23 17:21	ICPMS205-H_231201B : 61		69420
Beryllium	ND	mg/L		0.0008		E200.8	12/01/23 16:35 / dck	11/20/23 17:21	ICPMS205-H_231201B : 61		69420
Cesium	ND	mg/L		0.01		E200.8	11/30/23 14:04 / dck	11/21/23 09:54	ICPMS206-H_231130A : 81		69431
Cadmium	ND	mg/L		0.00003		E200.8	12/01/23 16:35 / dck	11/20/23 17:21	ICPMS205-H_231201B : 61		69420
Chromium	ND	mg/L		0.005		E200.8	12/01/23 16:35 / dck	11/20/23 17:21	ICPMS205-H_231201B : 61		69420
Cobalt	ND	mg/L		0.005		E200.8	12/01/23 16:35 / dck	11/20/23 17:21	ICPMS205-H_231201B : 61		69420
Copper	ND	mg/L		0.002		E200.8	12/01/23 16:35 / dck	11/20/23 17:21	ICPMS205-H_231201B : 61		69420
Gallium	ND	mg/L		0.01		E200.8	11/30/23 14:04 / dck	11/21/23 09:54	ICPMS206-H_231130A : 81		69431
Iron	ND	mg/L		0.02		E200.8	12/01/23 16:35 / dck	11/20/23 17:21	ICPMS205-H_231201B : 61		69420
Lead	ND	mg/L		0.0003		E200.8	12/01/23 16:35 / dck	11/20/23 17:21	ICPMS205-H_231201B : 61		69420
Lanthanum	ND	mg/L		0.1		E200.8	11/30/23 14:04 / dck	11/21/23 09:54	ICPMS206-H_231130A : 81		69431
Lithium	ND	mg/L		0.1		E200.8	12/01/23 16:35 / dck	11/20/23 17:21	ICPMS205-H_231201B : 61		69420
Neodymium	ND	mg/L		0.01		E200.8	11/30/23 14:04 / dck	11/21/23 09:54	ICPMS206-H_231130A : 81		69431
Niobium	ND	mg/L		0.01		E200.8	11/30/23 14:04 / dck	11/21/23 09:54	ICPMS206-H_231130A : 81		69431
Manganese	ND	mg/L		0.001		E200.8	12/01/23 16:35 / dck	11/20/23 17:21	ICPMS205-H_231201B : 61		69420
Molybdenum	ND	mg/L		0.001		E200.8	12/01/23 16:35 / dck	11/20/23 17:21	ICPMS205-H_231201B : 61		69420
Nickel	ND	mg/L		0.002		E200.8	12/01/23 16:35 / dck	11/20/23 17:21	ICPMS205-H_231201B : 61		69420
Palladium	ND	mg/L		0.01		E200.8	11/30/23 14:04 / dck	11/21/23 09:54	ICPMS206-H_231130A : 81		69431
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 14:04 / dck	11/21/23 09:54	ICPMS206-H_231130A : 81		69431
Rubidium	ND	mg/L		0.01		E200.8	11/30/23 14:04 / dck	11/21/23 09:54	ICPMS206-H_231130A : 81		69431
Selenium	ND	mg/L		0.001		E200.8	12/01/23 16:35 / dck	11/20/23 17:21	ICPMS205-H_231201B : 61		69420
Silver	ND	mg/L		0.0002		E200.8	12/01/23 16:35 / dck	11/20/23 17:21	ICPMS205-H_231201B : 61		69420
Strontium	ND	mg/L		0.01		E200.8	12/01/23 16:35 / dck	11/20/23 17:21	ICPMS205-H_231201B : 61		69420
Thallium	ND	mg/L		0.0002		E200.8	12/01/23 16:35 / dck	11/20/23 17:21	ICPMS205-H_231201B : 61		69420
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 14:04 / dck	11/21/23 09:54	ICPMS206-H_231130A : 81		69431
Tin	ND	mg/L		0.05		E200.8	12/01/23 16:35 / dck	11/20/23 17:21	ICPMS205-H_231201B : 61		69420
Titanium	ND	mg/L		0.005		E200.8	12/01/23 16:35 / dck	11/20/23 17:21	ICPMS205-H_231201B : 61		69420
Thorium	ND	mg/L		0.005		E200.8	12/15/23 20:34 / dck	11/20/23 17:21	ICPMS206-H_231215A : 113		69420
Uranium	ND	mg/L		0.0003		E200.8	12/01/23 16:35 / dck	11/20/23 17:21	ICPMS205-H_231201B : 61		69420

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-5  
**Lab ID:** H23110658-004  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2\_001  
**Collection Date:** 11/16/23 14:05 **DateReceived:** 11/17/23  
**Report Date:** 12/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	12/01/23 16:35 / dck	11/20/23 17:21	ICPMS205-H_231201B : 61		69420
Zinc	ND	mg/L		0.008		E200.8	12/01/23 16:35 / dck	11/20/23 17:21	ICPMS205-H_231201B : 61		69420
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 14:04 / dck	11/21/23 09:54	ICPMS206-H_231130A : 81		69431
<b>DATA QUALITY</b>											
A/C Balance	100	%				A1030 E	12/05/23 09:21 / SR		CALC_231205A : 78		R190552
The Anion/Cation Balance Difference is <math>\leq \pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-02  
**Lab ID:** H23110658-005  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2\_001  
**Collection Date:** 11/16/23 14:19 **DateReceived:** 11/17/23  
**Report Date:** 12/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.5	s.u.	H	0.1		A4500-H B	11/17/23 15:27 / eek		PHSC_101-H_231117A : 129		R190164
pH Measurement Temp	15.9	°C				A4500-H B	11/17/23 15:27 / eek		PHSC_101-H_231117A : 129		R190164
Conductivity @ 25 C	358	umhos/cm		5		A2510 B	11/17/23 15:27 / eek		PHSC_101-H_231117A : 130		R190164
Solids, Total Dissolved TDS @ 180 C	223	mg/L		20		A2540 C	11/20/23 12:40 / dpw		124 (14410200)_231120B : 12		TDS231120A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	130	mg/L		4		A2320 B	11/21/23 09:49 / dpw		PHSC_101-H_231121A : 18		R190255
Bicarbonate as HCO3	150	mg/L		4		A2320 B	11/21/23 09:49 / dpw		PHSC_101-H_231121A : 18		R190255
Carbonate as CO3	ND	mg/L		4		A2320 B	11/21/23 09:49 / dpw		PHSC_101-H_231121A : 18		R190255
Chloride	9	mg/L		1		E300.0	11/18/23 10:33 / SR		C METROHM_231116A : 197		R190187
Sulfate	42	mg/L		1		E300.0	11/18/23 10:33 / SR		C METROHM_231116A : 197		R190187
Bromide	ND	mg/L		0.5		E300.0	11/18/23 10:33 / SR		C METROHM_231116A : 197		R190187
Fluoride	0.4	mg/L		0.1		E300.0	11/18/23 10:33 / SR		C METROHM_231116A : 197		R190187
Hardness as CaCO3	142	mg/L		1		A2340 B	11/27/23 21:02 / SR		CALC_231205A : 91		R190552
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.6	mg/L		0.5		A5310 C	11/29/23 06:35 / eli-c		SUB-C301424 : 26		C_R301424
Organic Carbon, Total (TOC)	1.6	mg/L		0.5		A5310 C	11/28/23 23:06 / eli-c		SUB-C301424 : 13		C_R301424
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.04	mg/L		0.01		E353.2	11/29/23 17:45 / JAR		SEAL AA500_231129A : 117		R190433
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	12/01/23 11:47 / dck		ICPMS206-H_231201B : 32		R190518
Antimony	ND	mg/L		0.0005		E200.8	12/01/23 11:47 / dck		ICPMS206-H_231201B : 32		R190518
Arsenic	0.006	mg/L		0.001		E200.8	12/01/23 11:47 / dck		ICPMS206-H_231201B : 32		R190518
Barium	0.064	mg/L		0.003		E200.8	12/01/23 11:47 / dck		ICPMS206-H_231201B : 32		R190518
Beryllium	ND	mg/L		0.0008		E200.8	12/01/23 11:47 / dck		ICPMS206-H_231201B : 32		R190518
Boron	ND	mg/L		0.05		E200.7	11/27/23 21:02 / slj		ICP2-HE_231127A : 165		R190361
Cadmium	ND	mg/L		0.00003		E200.8	12/01/23 11:47 / dck		ICPMS206-H_231201B : 32		R190518
Cesium	ND	mg/L		0.01		E200.8	11/30/23 14:06 / dck		ICPMS206-H_231130A : 82		R190453

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-02  
**Lab ID:** H23110658-005  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2\_001  
**Collection Date:** 11/16/23 14:19 **DateReceived:** 11/17/23  
**Report Date:** 12/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	41	mg/L		1		E200.7	11/27/23 21:02 / slj		ICP2-HE_231127A : 165		R190361
Chromium	ND	mg/L		0.005		E200.8	12/01/23 11:47 / dck		ICPMS206-H_231201B : 32		R190518
Cobalt	ND	mg/L		0.005		E200.8	12/01/23 11:47 / dck		ICPMS206-H_231201B : 32		R190518
Copper	ND	mg/L		0.002		E200.8	12/01/23 11:47 / dck		ICPMS206-H_231201B : 32		R190518
Gallium	ND	mg/L		0.01		E200.8	11/30/23 14:06 / dck		ICPMS206-H_231130A : 82		R190453
Iron	ND	mg/L		0.02		E200.8	12/01/23 11:47 / dck		ICPMS206-H_231201B : 32		R190518
Lead	ND	mg/L		0.0003		E200.8	12/01/23 11:47 / dck		ICPMS206-H_231201B : 32		R190518
Lanthanum	ND	mg/L		0.01		E200.8	11/30/23 14:06 / dck		ICPMS206-H_231130A : 82		R190453
Lithium	ND	mg/L		0.1		E200.8	12/01/23 11:47 / dck		ICPMS206-H_231201B : 32		R190518
Magnesium	9	mg/L		1		E200.7	11/27/23 21:02 / slj		ICP2-HE_231127A : 165		R190361
Neodymium	ND	mg/L		0.005		E200.8	11/30/23 14:06 / dck		ICPMS206-H_231130A : 82		R190453
Niobium	ND	mg/L		0.01		E200.8	11/30/23 14:06 / dck		ICPMS206-H_231130A : 82		R190453
Manganese	0.655	mg/L		0.001		E200.8	12/15/23 20:45 / dck		ICPMS206-H_231215A : 116		R190901
Molybdenum	0.018	mg/L		0.001		E200.8	12/01/23 11:47 / dck		ICPMS206-H_231201B : 32		R190518
Nickel	ND	mg/L		0.002		E200.8	12/01/23 11:47 / dck		ICPMS206-H_231201B : 32		R190518
Palladium	ND	mg/L		0.01		E200.8	11/30/23 14:06 / dck		ICPMS206-H_231130A : 82		R190453
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 14:06 / dck		ICPMS206-H_231130A : 82		R190453
Rubidium	ND	mg/L		0.01		E200.8	11/30/23 14:06 / dck		ICPMS206-H_231130A : 82		R190453
Potassium	5	mg/L		1		E200.8	12/01/23 11:47 / dck		ICPMS206-H_231201B : 32		R190518
Selenium	ND	mg/L		0.001		E200.8	12/01/23 11:47 / dck		ICPMS206-H_231201B : 32		R190518
Silver	ND	mg/L		0.0002		E200.8	12/01/23 11:47 / dck		ICPMS206-H_231201B : 32		R190518
Sodium	19	mg/L		1		E200.8	12/01/23 11:47 / dck		ICPMS206-H_231201B : 32		R190518
Strontium	0.25	mg/L		0.01		E200.8	12/01/23 11:47 / dck		ICPMS206-H_231201B : 32		R190518
Thallium	ND	mg/L		0.0002		E200.8	12/01/23 11:47 / dck		ICPMS206-H_231201B : 32		R190518
Thorium	ND	mg/L		0.005		E200.8	12/01/23 11:47 / dck		ICPMS206-H_231201B : 32		R190518
Tin	ND	mg/L		0.05		E200.8	12/01/23 11:47 / dck		ICPMS206-H_231201B : 32		R190518
Titanium	ND	mg/L		0.005		E200.8	12/01/23 11:47 / dck		ICPMS206-H_231201B : 32		R190518
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 14:06 / dck		ICPMS206-H_231130A : 82		R190453
Uranium	0.0038	mg/L		0.0002		E200.8	12/01/23 11:47 / dck		ICPMS206-H_231201B : 32		R190518
Vanadium	ND	mg/L		0.01		E200.8	12/01/23 11:47 / dck		ICPMS206-H_231201B : 32		R190518
Zinc	ND	mg/L		0.008		E200.8	12/15/23 20:45 / dck		ICPMS206-H_231215A : 116		R190901
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 14:06 / dck		ICPMS206-H_231130A : 82		R190453

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-02  
**Lab ID:** H23110658-005  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2\_001  
**Collection Date:** 11/16/23 14:19 **DateReceived:** 11/17/23  
**Report Date:** 12/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	2.43	mg/L		0.009		E200.8	12/15/23 20:48 / dck	11/20/23 17:21	ICPMS206-H_231215A : 117		69420
Antimony	0.0007	mg/L		0.0005		E200.8	12/01/23 16:38 / dck	11/20/23 17:21	ICPMS205-H_231201B : 62		69420
Arsenic	0.013	mg/L		0.001		E200.8	12/01/23 16:38 / dck	11/20/23 17:21	ICPMS205-H_231201B : 62		69420
Barium	0.087	mg/L		0.003		E200.8	12/01/23 16:38 / dck	11/20/23 17:21	ICPMS205-H_231201B : 62		69420
Beryllium	ND	mg/L		0.0008		E200.8	12/01/23 16:38 / dck	11/20/23 17:21	ICPMS205-H_231201B : 62		69420
Cesium	ND	mg/L		0.01		E200.8	11/30/23 14:18 / dck	11/21/23 09:54	ICPMS206-H_231130A : 87		69431
Cadmium	0.00129	mg/L		0.00005		E200.8	12/01/23 16:38 / dck	11/20/23 17:21	ICPMS205-H_231201B : 62		69420
Chromium	ND	mg/L		0.005		E200.8	12/01/23 16:38 / dck	11/20/23 17:21	ICPMS205-H_231201B : 62		69420
Cobalt	ND	mg/L		0.005		E200.8	12/01/23 16:38 / dck	11/20/23 17:21	ICPMS205-H_231201B : 62		69420
Copper	0.041	mg/L		0.002		E200.8	12/01/23 16:38 / dck	11/20/23 17:21	ICPMS205-H_231201B : 62		69420
Gallium	ND	mg/L		0.01		E200.8	11/30/23 14:18 / dck	11/21/23 09:54	ICPMS206-H_231130A : 87		69431
Iron	3.11	mg/L		0.02		E200.8	12/01/23 16:38 / dck	11/20/23 17:21	ICPMS205-H_231201B : 62		69420
Lead	0.0190	mg/L		0.0003		E200.8	12/01/23 16:38 / dck	11/20/23 17:21	ICPMS205-H_231201B : 62		69420
Lanthanum	ND	mg/L		0.1		E200.8	11/30/23 14:18 / dck	11/21/23 09:54	ICPMS206-H_231130A : 87		69431
Lithium	ND	mg/L		0.1		E200.8	12/01/23 16:38 / dck	11/20/23 17:21	ICPMS205-H_231201B : 62		69420
Neodymium	ND	mg/L		0.01		E200.8	11/30/23 14:18 / dck	11/21/23 09:54	ICPMS206-H_231130A : 87		69431
Niobium	ND	mg/L		0.01		E200.8	11/30/23 14:18 / dck	11/21/23 09:54	ICPMS206-H_231130A : 87		69431
Manganese	0.789	mg/L		0.001		E200.8	12/01/23 16:38 / dck	11/20/23 17:21	ICPMS205-H_231201B : 62		69420
Molybdenum	0.020	mg/L		0.001		E200.8	12/01/23 16:38 / dck	11/20/23 17:21	ICPMS205-H_231201B : 62		69420
Nickel	0.002	mg/L		0.002		E200.8	12/01/23 16:38 / dck	11/20/23 17:21	ICPMS205-H_231201B : 62		69420
Palladium	ND	mg/L		0.01		E200.8	11/30/23 14:18 / dck	11/21/23 09:54	ICPMS206-H_231130A : 87		69431
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 14:18 / dck	11/21/23 09:54	ICPMS206-H_231130A : 87		69431
Rubidium	ND	mg/L		0.01		E200.8	11/30/23 14:18 / dck	11/21/23 09:54	ICPMS206-H_231130A : 87		69431
Selenium	ND	mg/L		0.001		E200.8	12/01/23 16:38 / dck	11/20/23 17:21	ICPMS205-H_231201B : 62		69420
Silver	0.0003	mg/L		0.0002		E200.8	12/01/23 16:38 / dck	11/20/23 17:21	ICPMS205-H_231201B : 62		69420
Strontium	0.24	mg/L		0.01		E200.8	12/01/23 16:38 / dck	11/20/23 17:21	ICPMS205-H_231201B : 62		69420
Thallium	ND	mg/L		0.0002		E200.8	12/01/23 16:38 / dck	11/20/23 17:21	ICPMS205-H_231201B : 62		69420
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 14:18 / dck	11/21/23 09:54	ICPMS206-H_231130A : 87		69431
Tin	ND	mg/L		0.05		E200.8	12/01/23 16:38 / dck	11/20/23 17:21	ICPMS205-H_231201B : 62		69420
Titanium	0.136	mg/L		0.005		E200.8	12/01/23 16:38 / dck	11/20/23 17:21	ICPMS205-H_231201B : 62		69420
Thorium	ND	mg/L		0.005		E200.8	12/15/23 20:48 / dck	11/20/23 17:21	ICPMS206-H_231215A : 117		69420
Uranium	0.0047	mg/L		0.0003		E200.8	12/01/23 16:38 / dck	11/20/23 17:21	ICPMS205-H_231201B : 62		69420

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-02  
**Lab ID:** H23110658-005  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2\_001  
**Collection Date:** 11/16/23 14:19      **DateReceived:** 11/17/23  
**Report Date:** 12/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	12/01/23 16:38 / dck	11/20/23 17:21	ICPMS205-H_231201B : 62		69420
Zinc	0.208	mg/L		0.008		E200.8	12/01/23 16:38 / dck	11/20/23 17:21	ICPMS205-H_231201B : 62		69420
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 14:18 / dck	11/21/23 09:54	ICPMS206-H_231130A : 87		69431
<b>DATA QUALITY</b>											
A/C Balance	1.54	%				A1030 E	12/05/23 09:21 / SR		CALC_231205A : 89		R190552

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-05  
**Lab ID:** H23110658-006  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2\_001  
**Collection Date:** 11/16/23 14:41 **DateReceived:** 11/17/23  
**Report Date:** 12/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.7	s.u.	H	0.1		A4500-H B	11/17/23 15:31 / eek		PHSC_101-H_231117A : 133		R190164
pH Measurement Temp	16.3	°C				A4500-H B	11/17/23 15:31 / eek		PHSC_101-H_231117A : 133		R190164
Conductivity @ 25 C	326	umhos/cm		5		A2510 B	11/17/23 15:31 / eek		PHSC_101-H_231117A : 134		R190164
Solids, Total Dissolved TDS @ 180 C	207	mg/L		20		A2540 C	11/20/23 12:40 / dpw		124 (14410200)_231120B : 13		TDS231120A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	93	mg/L		4		A2320 B	11/21/23 10:03 / dpw		PHSC_101-H_231121A : 22		R190255
Bicarbonate as HCO3	110	mg/L		4		A2320 B	11/21/23 10:03 / dpw		PHSC_101-H_231121A : 22		R190255
Carbonate as CO3	ND	mg/L		4		A2320 B	11/21/23 10:03 / dpw		PHSC_101-H_231121A : 22		R190255
Chloride	20	mg/L		1		E300.0	11/18/23 10:48 / SR		C METROHM_231116A : 198		R190187
Sulfate	35	mg/L		1		E300.0	11/18/23 10:48 / SR		C METROHM_231116A : 198		R190187
Bromide	ND	mg/L		0.5		E300.0	11/18/23 10:48 / SR		C METROHM_231116A : 198		R190187
Fluoride	0.2	mg/L		0.1		E300.0	11/18/23 10:48 / SR		C METROHM_231116A : 198		R190187
Hardness as CaCO3	121	mg/L		1		A2340 B	11/27/23 21:06 / SR		CALC_231205A : 102		R190552
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.6	mg/L		0.5		A5310 C	11/29/23 07:23 / eli-c		SUB-C301424 : 29		C_R301424
Organic Carbon, Total (TOC)	2.5	mg/L		0.5		A5310 C	11/28/23 23:22 / eli-c		SUB-C301424 : 14		C_R301424
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.95	mg/L		0.01		E353.2	11/29/23 17:48 / JAR		SEAL AA500_231129A : 120		R190433
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	12/01/23 11:50 / dck		ICPMS206-H_231201B : 33		R190518
Antimony	ND	mg/L		0.0005		E200.8	12/01/23 11:50 / dck		ICPMS206-H_231201B : 33		R190518
Arsenic	0.002	mg/L		0.001		E200.8	12/01/23 11:50 / dck		ICPMS206-H_231201B : 33		R190518
Barium	0.047	mg/L		0.003		E200.8	12/01/23 11:50 / dck		ICPMS206-H_231201B : 33		R190518
Beryllium	ND	mg/L		0.0008		E200.8	12/01/23 11:50 / dck		ICPMS206-H_231201B : 33		R190518
Boron	ND	mg/L		0.05		E200.7	11/27/23 21:06 / slj		ICP2-HE_231127A : 166		R190361
Cadmium	ND	mg/L		0.00003		E200.8	12/01/23 11:50 / dck		ICPMS206-H_231201B : 33		R190518
Cesium	ND	mg/L		0.01		E200.8	11/30/23 14:25 / dck		ICPMS206-H_231130A : 90		R190453

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-05  
**Lab ID:** H23110658-006  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2\_001  
**Collection Date:** 11/16/23 14:41 **DateReceived:** 11/17/23  
**Report Date:** 12/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	34	mg/L		1		E200.7	11/27/23 21:06 / slj		ICP2-HE_231127A : 166		R190361
Chromium	ND	mg/L		0.005		E200.8	12/01/23 11:50 / dck		ICPMS206-H_231201B : 33		R190518
Cobalt	ND	mg/L		0.005		E200.8	12/01/23 11:50 / dck		ICPMS206-H_231201B : 33		R190518
Copper	0.003	mg/L		0.002		E200.8	12/01/23 11:50 / dck		ICPMS206-H_231201B : 33		R190518
Gallium	ND	mg/L		0.01		E200.8	11/30/23 14:25 / dck		ICPMS206-H_231130A : 90		R190453
Iron	0.02	mg/L		0.02		E200.8	12/15/23 21:12 / dck		ICPMS206-H_231215A : 124		R190901
Lead	ND	mg/L		0.0003		E200.8	12/01/23 11:50 / dck		ICPMS206-H_231201B : 33		R190518
Lanthanum	ND	mg/L		0.01		E200.8	11/30/23 14:25 / dck		ICPMS206-H_231130A : 90		R190453
Lithium	ND	mg/L		0.1		E200.8	12/01/23 11:50 / dck		ICPMS206-H_231201B : 33		R190518
Magnesium	9	mg/L		1		E200.7	11/27/23 21:06 / slj		ICP2-HE_231127A : 166		R190361
Neodymium	ND	mg/L		0.005		E200.8	11/30/23 14:25 / dck		ICPMS206-H_231130A : 90		R190453
Niobium	ND	mg/L		0.01		E200.8	11/30/23 14:25 / dck		ICPMS206-H_231130A : 90		R190453
Manganese	0.032	mg/L		0.001		E200.8	12/15/23 21:12 / dck		ICPMS206-H_231215A : 124		R190901
Molybdenum	0.005	mg/L		0.001		E200.8	12/01/23 11:50 / dck		ICPMS206-H_231201B : 33		R190518
Nickel	0.003	mg/L		0.002		E200.8	12/01/23 11:50 / dck		ICPMS206-H_231201B : 33		R190518
Palladium	ND	mg/L		0.01		E200.8	11/30/23 14:25 / dck		ICPMS206-H_231130A : 90		R190453
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 14:25 / dck		ICPMS206-H_231130A : 90		R190453
Rubidium	ND	mg/L		0.01		E200.8	11/30/23 14:25 / dck		ICPMS206-H_231130A : 90		R190453
Potassium	3	mg/L		1		E200.8	12/01/23 11:50 / dck		ICPMS206-H_231201B : 33		R190518
Selenium	ND	mg/L		0.001		E200.8	12/01/23 11:50 / dck		ICPMS206-H_231201B : 33		R190518
Silver	ND	mg/L		0.0002		E200.8	12/01/23 11:50 / dck		ICPMS206-H_231201B : 33		R190518
Sodium	14	mg/L		1		E200.8	12/01/23 11:50 / dck		ICPMS206-H_231201B : 33		R190518
Strontium	0.23	mg/L		0.01		E200.8	12/01/23 11:50 / dck		ICPMS206-H_231201B : 33		R190518
Thallium	ND	mg/L		0.0002		E200.8	12/01/23 11:50 / dck		ICPMS206-H_231201B : 33		R190518
Thorium	ND	mg/L		0.005		E200.8	12/01/23 11:50 / dck		ICPMS206-H_231201B : 33		R190518
Tin	ND	mg/L		0.05		E200.8	12/01/23 11:50 / dck		ICPMS206-H_231201B : 33		R190518
Titanium	ND	mg/L		0.005		E200.8	12/01/23 11:50 / dck		ICPMS206-H_231201B : 33		R190518
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 14:25 / dck		ICPMS206-H_231130A : 90		R190453
Uranium	0.0034	mg/L		0.0002		E200.8	12/01/23 11:50 / dck		ICPMS206-H_231201B : 33		R190518
Vanadium	ND	mg/L		0.01		E200.8	12/01/23 11:50 / dck		ICPMS206-H_231201B : 33		R190518
Zinc	ND	mg/L		0.008		E200.8	12/15/23 21:12 / dck		ICPMS206-H_231215A : 124		R190901
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 14:25 / dck		ICPMS206-H_231130A : 90		R190453

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-05  
**Lab ID:** H23110658-006  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2\_001  
**Collection Date:** 11/16/23 14:41 **DateReceived:** 11/17/23  
**Report Date:** 12/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	0.051	mg/L		0.009		E200.8	12/15/23 21:16 / dck	11/20/23 17:21	ICPMS206-H_231215A : 125		69420
Antimony	ND	mg/L		0.0005		E200.8	12/01/23 16:41 / dck	11/20/23 17:21	ICPMS205-H_231201B : 63		69420
Arsenic	0.002	mg/L		0.001		E200.8	12/01/23 16:41 / dck	11/20/23 17:21	ICPMS205-H_231201B : 63		69420
Barium	0.050	mg/L		0.003		E200.8	12/01/23 16:41 / dck	11/20/23 17:21	ICPMS205-H_231201B : 63		69420
Beryllium	ND	mg/L		0.0008		E200.8	12/01/23 16:41 / dck	11/20/23 17:21	ICPMS205-H_231201B : 63		69420
Cesium	ND	mg/L		0.01		E200.8	11/30/23 14:27 / dck	11/21/23 09:54	ICPMS206-H_231130A : 91		69431
Cadmium	ND	mg/L		0.00003		E200.8	12/01/23 16:41 / dck	11/20/23 17:21	ICPMS205-H_231201B : 63		69420
Chromium	ND	mg/L		0.005		E200.8	12/01/23 16:41 / dck	11/20/23 17:21	ICPMS205-H_231201B : 63		69420
Cobalt	ND	mg/L		0.005		E200.8	12/01/23 16:41 / dck	11/20/23 17:21	ICPMS205-H_231201B : 63		69420
Copper	0.003	mg/L		0.002		E200.8	12/01/23 16:41 / dck	11/20/23 17:21	ICPMS205-H_231201B : 63		69420
Gallium	ND	mg/L		0.01		E200.8	11/30/23 14:27 / dck	11/21/23 09:54	ICPMS206-H_231130A : 91		69431
Iron	0.34	mg/L		0.02		E200.8	12/01/23 16:41 / dck	11/20/23 17:21	ICPMS205-H_231201B : 63		69420
Lead	0.0004	mg/L		0.0003		E200.8	12/01/23 16:41 / dck	11/20/23 17:21	ICPMS205-H_231201B : 63		69420
Lanthanum	ND	mg/L		0.1		E200.8	11/30/23 14:27 / dck	11/21/23 09:54	ICPMS206-H_231130A : 91		69431
Lithium	ND	mg/L		0.1		E200.8	12/01/23 16:41 / dck	11/20/23 17:21	ICPMS205-H_231201B : 63		69420
Neodymium	ND	mg/L		0.01		E200.8	11/30/23 14:27 / dck	11/21/23 09:54	ICPMS206-H_231130A : 91		69431
Niobium	ND	mg/L		0.01		E200.8	11/30/23 14:27 / dck	11/21/23 09:54	ICPMS206-H_231130A : 91		69431
Manganese	0.037	mg/L		0.001		E200.8	12/01/23 16:41 / dck	11/20/23 17:21	ICPMS205-H_231201B : 63		69420
Molybdenum	0.006	mg/L		0.001		E200.8	12/15/23 21:16 / dck	11/20/23 17:21	ICPMS206-H_231215A : 125		69420
Nickel	ND	mg/L		0.002		E200.8	12/01/23 16:41 / dck	11/20/23 17:21	ICPMS205-H_231201B : 63		69420
Palladium	ND	mg/L		0.01		E200.8	11/30/23 14:27 / dck	11/21/23 09:54	ICPMS206-H_231130A : 91		69431
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 14:27 / dck	11/21/23 09:54	ICPMS206-H_231130A : 91		69431
Rubidium	ND	mg/L		0.01		E200.8	11/30/23 14:27 / dck	11/21/23 09:54	ICPMS206-H_231130A : 91		69431
Selenium	ND	mg/L		0.001		E200.8	12/01/23 16:41 / dck	11/20/23 17:21	ICPMS205-H_231201B : 63		69420
Silver	ND	mg/L		0.0002		E200.8	12/01/23 16:41 / dck	11/20/23 17:21	ICPMS205-H_231201B : 63		69420
Strontium	0.21	mg/L		0.01		E200.8	12/01/23 16:41 / dck	11/20/23 17:21	ICPMS205-H_231201B : 63		69420
Thallium	ND	mg/L		0.0002		E200.8	12/01/23 16:41 / dck	11/20/23 17:21	ICPMS205-H_231201B : 63		69420
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 14:27 / dck	11/21/23 09:54	ICPMS206-H_231130A : 91		69431
Tin	ND	mg/L		0.05		E200.8	12/01/23 16:41 / dck	11/20/23 17:21	ICPMS205-H_231201B : 63		69420
Titanium	ND	mg/L		0.005		E200.8	12/01/23 16:41 / dck	11/20/23 17:21	ICPMS205-H_231201B : 63		69420
Thorium	ND	mg/L		0.005		E200.8	12/15/23 21:16 / dck	11/20/23 17:21	ICPMS206-H_231215A : 125		69420
Uranium	0.0039	mg/L		0.0003		E200.8	12/01/23 16:41 / dck	11/20/23 17:21	ICPMS205-H_231201B : 63		69420

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-05  
**Lab ID:** H23110658-006  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2\_001  
**Collection Date:** 11/16/23 14:41 **DateReceived:** 11/17/23  
**Report Date:** 12/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	12/01/23 16:41 / dck	11/20/23 17:21	ICPMS205-H_231201B : 63		69420
Zinc	ND	mg/L		0.008		E200.8	12/01/23 16:41 / dck	11/20/23 17:21	ICPMS205-H_231201B : 63		69420
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 14:27 / dck	11/21/23 09:54	ICPMS206-H_231130A : 91		69431
<b>DATA QUALITY</b>											
A/C Balance	-2.58	%				A1030 E	12/05/23 09:21 / SR		CALC_231205A : 100		R190552

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-03  
**Lab ID:** H23110658-007  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2\_001  
**Collection Date:** 11/16/23 15:20 **DateReceived:** 11/17/23  
**Report Date:** 12/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	7.3	s.u.	H	0.1		A4500-H B	11/17/23 15:33 / eek		PHSC_101-H_231117A : 135		R190164
pH Measurement Temp	16.0	°C				A4500-H B	11/17/23 15:33 / eek		PHSC_101-H_231117A : 135		R190164
Conductivity @ 25 C	364	umhos/cm		5		A2510 B	11/17/23 15:33 / eek		PHSC_101-H_231117A : 136		R190164
Solids, Total Dissolved TDS @ 180 C	242	mg/L		20		A2540 C	11/20/23 12:40 / dpw		124 (14410200)_231120B : 14		TDS231120A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	95	mg/L		4		A2320 B	11/21/23 10:09 / dpw		PHSC_101-H_231121A : 24		R190255
Bicarbonate as HCO3	120	mg/L		4		A2320 B	11/21/23 10:09 / dpw		PHSC_101-H_231121A : 24		R190255
Carbonate as CO3	ND	mg/L		4		A2320 B	11/21/23 10:09 / dpw		PHSC_101-H_231121A : 24		R190255
Chloride	12	mg/L		1		E300.0	11/18/23 11:02 / SR		C METROHM_231116A : 199		R190187
Sulfate	64	mg/L		1		E300.0	11/18/23 11:02 / SR		C METROHM_231116A : 199		R190187
Bromide	ND	mg/L		0.5		E300.0	11/18/23 11:02 / SR		C METROHM_231116A : 199		R190187
Fluoride	0.4	mg/L		0.1		E300.0	11/18/23 11:02 / SR		C METROHM_231116A : 199		R190187
Hardness as CaCO3	136	mg/L		1		A2340 B	11/27/23 21:09 / SR		CALC_231205A : 113		R190552
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.1	mg/L		0.5		A5310 C	11/29/23 07:39 / eli-c		SUB-C301424 : 30		C_R301424
Organic Carbon, Total (TOC)	2.3	mg/L		0.5		A5310 C	11/28/23 23:38 / eli-c		SUB-C301424 : 15		C_R301424
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.49	mg/L		0.01		E353.2	11/29/23 17:49 / JAR		SEAL AA500_231129A : 121		R190433
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	12/01/23 11:54 / dck		ICPMS206-H_231201B : 34		R190518
Antimony	ND	mg/L		0.0005		E200.8	12/01/23 11:54 / dck		ICPMS206-H_231201B : 34		R190518
Arsenic	0.004	mg/L		0.001		E200.8	12/01/23 11:54 / dck		ICPMS206-H_231201B : 34		R190518
Barium	0.038	mg/L		0.003		E200.8	12/01/23 11:54 / dck		ICPMS206-H_231201B : 34		R190518
Beryllium	ND	mg/L		0.0008		E200.8	12/01/23 11:54 / dck		ICPMS206-H_231201B : 34		R190518
Boron	ND	mg/L		0.05		E200.7	11/27/23 21:09 / slj		ICP2-HE_231127A : 167		R190361
Cadmium	ND	mg/L		0.00003		E200.8	12/01/23 11:54 / dck		ICPMS206-H_231201B : 34		R190518
Cesium	ND	mg/L		0.01		E200.8	11/30/23 14:29 / dck		ICPMS206-H_231130A : 92		R190453

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-03  
**Lab ID:** H23110658-007  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2\_001  
**Collection Date:** 11/16/23 15:20 **DateReceived:** 11/17/23  
**Report Date:** 12/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	40	mg/L		1		E200.7	11/27/23 21:09 / slj		ICP2-HE_231127A : 167		R190361
Chromium	ND	mg/L		0.005		E200.8	12/01/23 11:54 / dck		ICPMS206-H_231201B : 34		R190518
Cobalt	ND	mg/L		0.005		E200.8	12/01/23 11:54 / dck		ICPMS206-H_231201B : 34		R190518
Copper	ND	mg/L		0.002		E200.8	12/01/23 11:54 / dck		ICPMS206-H_231201B : 34		R190518
Gallium	ND	mg/L		0.01		E200.8	11/30/23 14:29 / dck		ICPMS206-H_231130A : 92		R190453
Iron	0.02	mg/L		0.02		E200.8	12/15/23 21:20 / dck		ICPMS206-H_231215A : 126		R190901
Lead	ND	mg/L		0.0003		E200.8	12/01/23 11:54 / dck		ICPMS206-H_231201B : 34		R190518
Lanthanum	ND	mg/L		0.01		E200.8	11/30/23 14:29 / dck		ICPMS206-H_231130A : 92		R190453
Lithium	ND	mg/L		0.1		E200.8	12/01/23 11:54 / dck		ICPMS206-H_231201B : 34		R190518
Magnesium	9	mg/L		1		E200.7	11/27/23 21:09 / slj		ICP2-HE_231127A : 167		R190361
Neodymium	ND	mg/L		0.005		E200.8	11/30/23 14:29 / dck		ICPMS206-H_231130A : 92		R190453
Niobium	ND	mg/L		0.01		E200.8	11/30/23 14:29 / dck		ICPMS206-H_231130A : 92		R190453
Manganese	0.185	mg/L		0.001		E200.8	12/15/23 21:20 / dck		ICPMS206-H_231215A : 126		R190901
Molybdenum	0.013	mg/L		0.001		E200.8	12/01/23 11:54 / dck		ICPMS206-H_231201B : 34		R190518
Nickel	ND	mg/L		0.002		E200.8	12/15/23 21:20 / dck		ICPMS206-H_231215A : 126		R190901
Palladium	ND	mg/L		0.01		E200.8	11/30/23 14:29 / dck		ICPMS206-H_231130A : 92		R190453
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 14:29 / dck		ICPMS206-H_231130A : 92		R190453
Rubidium	ND	mg/L		0.01		E200.8	11/30/23 14:29 / dck		ICPMS206-H_231130A : 92		R190453
Potassium	4	mg/L		1		E200.8	12/01/23 11:54 / dck		ICPMS206-H_231201B : 34		R190518
Selenium	ND	mg/L		0.001		E200.8	12/01/23 11:54 / dck		ICPMS206-H_231201B : 34		R190518
Silver	ND	mg/L		0.0002		E200.8	12/01/23 11:54 / dck		ICPMS206-H_231201B : 34		R190518
Sodium	19	mg/L		1		E200.8	12/01/23 11:54 / dck		ICPMS206-H_231201B : 34		R190518
Strontium	0.25	mg/L		0.01		E200.8	12/01/23 11:54 / dck		ICPMS206-H_231201B : 34		R190518
Thallium	ND	mg/L		0.0002		E200.8	12/01/23 11:54 / dck		ICPMS206-H_231201B : 34		R190518
Thorium	ND	mg/L		0.005		E200.8	12/01/23 11:54 / dck		ICPMS206-H_231201B : 34		R190518
Tin	ND	mg/L		0.05		E200.8	12/01/23 11:54 / dck		ICPMS206-H_231201B : 34		R190518
Titanium	ND	mg/L		0.005		E200.8	12/01/23 11:54 / dck		ICPMS206-H_231201B : 34		R190518
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 14:29 / dck		ICPMS206-H_231130A : 92		R190453
Uranium	0.0019	mg/L		0.0002		E200.8	12/01/23 11:54 / dck		ICPMS206-H_231201B : 34		R190518
Vanadium	ND	mg/L		0.01		E200.8	12/01/23 11:54 / dck		ICPMS206-H_231201B : 34		R190518
Zinc	0.036	mg/L		0.008		E200.8	12/15/23 21:20 / dck		ICPMS206-H_231215A : 126		R190901
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 14:29 / dck		ICPMS206-H_231130A : 92		R190453

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-03  
**Lab ID:** H23110658-007  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2\_001  
**Collection Date:** 11/16/23 15:20 **DateReceived:** 11/17/23  
**Report Date:** 12/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Aluminum	0.056	mg/L		0.009		E200.8	12/15/23 21:23 / dck	11/20/23 17:21	ICPMS206-H_231215A : 127		69420
Antimony	ND	mg/L		0.0005		E200.8	12/01/23 16:45 / dck	11/20/23 17:21	ICPMS205-H_231201B : 64		69420
Arsenic	0.005	mg/L		0.001		E200.8	12/01/23 16:45 / dck	11/20/23 17:21	ICPMS205-H_231201B : 64		69420
Barium	0.041	mg/L		0.003		E200.8	12/01/23 16:45 / dck	11/20/23 17:21	ICPMS205-H_231201B : 64		69420
Beryllium	ND	mg/L		0.0008		E200.8	12/01/23 16:45 / dck	11/20/23 17:21	ICPMS205-H_231201B : 64		69420
Cesium	ND	mg/L		0.01		E200.8	11/30/23 14:31 / dck	11/21/23 09:54	ICPMS206-H_231130A : 93		69431
Cadmium	0.00032	mg/L		0.00003		E200.8	12/01/23 16:45 / dck	11/20/23 17:21	ICPMS205-H_231201B : 64		69420
Chromium	ND	mg/L		0.005		E200.8	12/01/23 16:45 / dck	11/20/23 17:21	ICPMS205-H_231201B : 64		69420
Cobalt	ND	mg/L		0.005		E200.8	12/01/23 16:45 / dck	11/20/23 17:21	ICPMS205-H_231201B : 64		69420
Copper	0.003	mg/L		0.002		E200.8	12/01/23 16:45 / dck	11/20/23 17:21	ICPMS205-H_231201B : 64		69420
Gallium	ND	mg/L		0.01		E200.8	11/30/23 14:31 / dck	11/21/23 09:54	ICPMS206-H_231130A : 93		69431
Iron	0.38	mg/L		0.02		E200.8	12/01/23 16:45 / dck	11/20/23 17:21	ICPMS205-H_231201B : 64		69420
Lead	0.0009	mg/L		0.0003		E200.8	12/01/23 16:45 / dck	11/20/23 17:21	ICPMS205-H_231201B : 64		69420
Lanthanum	ND	mg/L		0.1		E200.8	11/30/23 14:31 / dck	11/21/23 09:54	ICPMS206-H_231130A : 93		69431
Lithium	ND	mg/L		0.1		E200.8	12/01/23 16:45 / dck	11/20/23 17:21	ICPMS205-H_231201B : 64		69420
Neodymium	ND	mg/L		0.01		E200.8	11/30/23 14:31 / dck	11/21/23 09:54	ICPMS206-H_231130A : 93		69431
Niobium	ND	mg/L		0.01		E200.8	11/30/23 14:31 / dck	11/21/23 09:54	ICPMS206-H_231130A : 93		69431
Manganese	0.199	mg/L		0.001		E200.8	12/01/23 16:45 / dck	11/20/23 17:21	ICPMS205-H_231201B : 64		69420
Molybdenum	0.014	mg/L		0.001		E200.8	12/01/23 16:45 / dck	11/20/23 17:21	ICPMS205-H_231201B : 64		69420
Nickel	ND	mg/L		0.002		E200.8	12/01/23 16:45 / dck	11/20/23 17:21	ICPMS205-H_231201B : 64		69420
Palladium	ND	mg/L		0.01		E200.8	11/30/23 14:31 / dck	11/21/23 09:54	ICPMS206-H_231130A : 93		69431
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 14:31 / dck	11/21/23 09:54	ICPMS206-H_231130A : 93		69431
Rubidium	ND	mg/L		0.01		E200.8	11/30/23 14:31 / dck	11/21/23 09:54	ICPMS206-H_231130A : 93		69431
Selenium	ND	mg/L		0.001		E200.8	12/01/23 16:45 / dck	11/20/23 17:21	ICPMS205-H_231201B : 64		69420
Silver	ND	mg/L		0.0002		E200.8	12/01/23 16:45 / dck	11/20/23 17:21	ICPMS205-H_231201B : 64		69420
Strontium	0.23	mg/L		0.01		E200.8	12/01/23 16:45 / dck	11/20/23 17:21	ICPMS205-H_231201B : 64		69420
Thallium	ND	mg/L		0.0002		E200.8	12/01/23 16:45 / dck	11/20/23 17:21	ICPMS205-H_231201B : 64		69420
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 14:31 / dck	11/21/23 09:54	ICPMS206-H_231130A : 93		69431
Tin	ND	mg/L		0.05		E200.8	12/01/23 16:45 / dck	11/20/23 17:21	ICPMS205-H_231201B : 64		69420
Titanium	ND	mg/L		0.005		E200.8	12/01/23 16:45 / dck	11/20/23 17:21	ICPMS205-H_231201B : 64		69420
Thorium	ND	mg/L		0.005		E200.8	12/15/23 21:23 / dck	11/20/23 17:21	ICPMS206-H_231215A : 127		69420
Uranium	0.0022	mg/L		0.0003		E200.8	12/01/23 16:45 / dck	11/20/23 17:21	ICPMS205-H_231201B : 64		69420

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSDSG-03  
**Lab ID:** H23110658-007  
**Matrix:** Surface Water

**Project:** NRDPM16 TO2\_001  
**Collection Date:** 11/16/23 15:20      **DateReceived:** 11/17/23  
**Report Date:** 12/19/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, TOTAL RECOVERABLE</b>											
Vanadium	ND	mg/L		0.01		E200.8	12/01/23 16:45 / dck	11/20/23 17:21	ICPMS205-H_231201B : 64		69420
Zinc	0.085	mg/L		0.008		E200.8	12/01/23 16:45 / dck	11/20/23 17:21	ICPMS205-H_231201B : 64		69420
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 14:31 / dck	11/21/23 09:54	ICPMS206-H_231130A : 93		69431
<b>DATA QUALITY</b>											
A/C Balance	-0.05	%				A1030 E	12/05/23 09:22 / SR		CALC_231205A : 111		R190552

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110658

**BatchID:** 69420

**Date:** 19-Dec-23

Run ID :Run Order: ICPMS205-H_231201B: 40	SampType: Method Blank				Lab ID: MB-69420				Method: E200.8		
Analysis Date: 12/01/23 15:27	Units: mg/L		Prep Info: Prep Date: 11/20/2023				Prep Method: E200.2				
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.006									
Antimony	ND	0.0002									
Arsenic	ND	0.0001									
Barium	ND	0.0002									
Beryllium	ND	0.0002									
Cadmium	ND	0.00003									
Chromium	ND	0.0002									
Cobalt	ND	0.0003									
Copper	ND	0.0003									
Iron	ND	0.009									
Lead	ND	0.0001									
Lithium	ND	0.001									
Manganese	ND	0.0003									
Molybdenum	0.0003	0.0002									
Nickel	ND	0.0002									
Selenium	ND	0.0001									
Silver	ND	0.00006									
Strontium	ND	0.0002									
Thallium	ND	0.0001									
Tin	0.0006	0.0004									
Thorium	0.0008	0.0003									
Titanium	ND	0.002									
Uranium	0.00007	0.00003									
Vanadium	ND	0.0001									
Zinc	ND	0.001									

Associated samples: H23110658-001C, H23110658-002C, H23110658-003C, H23110658-004C, H23110658-005C, H23110658-006C, H23110658-007C

Run ID :Run Order: ICPMS206-H_231215A: 107	SampType: Method Blank				Lab ID: MB-69420				Method: E200.8		
Analysis Date: 12/15/23 20:12	Units: mg/L		Prep Info: Prep Date: 11/20/2023				Prep Method: E200.2				
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.002									
Antimony	ND	0.00006									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110658

BatchID: 69420

Date: 19-Dec-23

Run ID :Run Order: ICPMS206-H_231215A: 107	SampType: Method Blank				Lab ID: MB-69420				Method: E200.8		
Analysis Date: 12/15/23 20:12	Units: mg/L				Prep Info: Prep Date: 11/20/2023				Prep Method: E200.2		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0001	0.00002									
Barium	ND	0.00004									
Beryllium	ND	0.00005									
Cadmium	ND	5E-06									
Chromium	ND	0.00007									
Cobalt	ND	0.00002									
Copper	ND	0.0001									
Iron	ND	0.005									
Lead	ND	0.00005									
Lithium	0.0007	0.0005									
Manganese	ND	0.0002									
Molybdenum	0.00002	0.00002									
Nickel	ND	0.0001									
Selenium	0.00001	0.00001									
Silver	ND	8E-06									
Strontium	ND	0.00002									
Thallium	ND	8E-06									
Tin	ND	0.0008									
Titanium	ND	0.0003									
Thorium	0.00002	9E-06									
Uranium	ND	4E-06									
Vanadium	0.0008	0.00002									
Zinc	ND	0.0006									

Associated samples: H23110658-001C, H23110658-002C, H23110658-003C, H23110658-004C, H23110658-005C, H23110658-006C, H23110658-007C

Run ID :Run Order: ICPMS206-H_231215A: 118	SampType: Laboratory Control Sample				Lab ID: LCS-69420				Method: E200.8		
Analysis Date: 12/15/23 20:52	Units: mg/L				Prep Info: Prep Date: 11/20/2023				Prep Method: E200.2		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.42	0.030	2.5	0	97	85	115				
Antimony	0.548	0.0010	0.5	0	110	85	115				
Arsenic	0.485	0.0010	0.5	0	97	85	115				
Barium	0.538	0.050	0.5	0	108	85	115				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110658

BatchID: 69420

Date: 19-Dec-23

Run ID :Run Order: ICPMS206-H_231215A: 118	SampType: Laboratory Control Sample				Lab ID: LCS-69420				Method: E200.8		
Analysis Date: 12/15/23 20:52	Units: mg/L				Prep Info: Prep Date: 11/20/2023				Prep Method: E200.2		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	0.247	0.0010	0.25	0	99	85	115				
Cadmium	0.257	0.0010	0.25	0	103	85	115				
Chromium	0.532	0.0050	0.5	0	106	85	115				
Cobalt	0.490	0.0050	0.5	0	98	85	115				
Copper	0.527	0.0050	0.5	0	105	85	115				
Iron	2.54	0.020	2.5	0	101	85	115				
Lead	0.494	0.0010	0.5	0	99	85	115				
Lithium	0.478	0.10	0.5	0	96	85	115				
Manganese	2.45	0.0010	2.5	0	98	85	115				
Molybdenum	0.519	0.0010	0.5	0	104	85	115				
Nickel	0.480	0.0050	0.5	0	96	85	115				
Selenium	0.503	0.0010	0.5	0	101	85	115				
Silver	0.0491	0.0010	0.05	0	98	85	115				
Strontium	0.534	0.010	0.5	0	107	85	115				
Thallium	0.516	0.00050	0.5	0	103	85	115				
Tin	0.546	0.050	0.5	0	109	85	115				
Titanium	0.509	0.0050	0.5	0	102	85	115				
Thorium	0.0524	0.0050	0.05	0	105	85	115				
Uranium	0.512	0.00030	0.5	0	102	85	115				
Vanadium	0.532	0.010	0.5	0	106	85	115				
Zinc	0.496	0.010	0.5	0	99	85	115				

Associated samples: H23110658-001C, H23110658-002C, H23110658-003C, H23110658-004C, H23110658-005C, H23110658-006C, H23110658-007C

Run ID :Run Order: ICPMS206-H_231215A: 119	SampType: Sample Matrix Spike				Lab ID: H23110658-001CMS3				Method: E200.8		
Analysis Date: 12/15/23 20:55	Units: mg/L				Prep Info: Prep Date: 11/20/2023				Prep Method: E200.2		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.45	0.030	2.5	0.06812	95	70	130				
Antimony	0.519	0.0010	0.5	0.0002682	104	70	130				
Arsenic	0.492	0.0010	0.5	0.005039	97	70	130				
Barium	0.568	0.050	0.5	0.04236	105	70	130				
Beryllium	0.240	0.0010	0.25	0	96	70	130				
Cadmium	0.242	0.0010	0.25	0.0003902	96	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110658

**BatchID:** 69420

**Date:** 19-Dec-23

Run ID :Run Order: ICPMS206-H_231215A: 119	SampType: Sample Matrix Spike				Lab ID: H23110658-001CMS3				Method: E200.8		
Analysis Date: 12/15/23 20:55	Units: mg/L				Prep Info: Prep Date: 11/20/2023				Prep Method: E200.2		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.490	0.0050	0.5	0.0002026	98	70	130				
Cobalt	0.480	0.0050	0.5	0.0002459	96	70	130				
Copper	0.514	0.0050	0.5	0.01054	101	70	130				
Iron	2.93	0.020	2.5	0.4797	98	70	130				
Lead	0.521	0.0010	0.5	0.001101	104	70	130				
Lithium	0.482	0.10	0.5	0.01574	93	70	130				
Manganese	2.91	0.0010	2.5	0.5163	96	70	130				
Molybdenum	1.19	0.0010	0.5	0.6602	107	70	130				
Nickel	0.477	0.0050	0.5	0.0006254	95	70	130				
Selenium	0.496	0.0010	0.5	0.001885	99	70	130				
Silver	0.0455	0.0010	0.05	0	91	70	130				
Strontium	2.52	0.010	0.5	1.976	109	70	130				
Thallium	0.520	0.00050	0.5	0.00001121	104	70	130				
Tin	0.514	0.050	0.5	0	103	70	130				
Titanium	0.498	0.0050	0.5	0.003487	99	70	130				
Thorium	0.0552	0.0050	0.05	0.00006992	110	70	130				
Uranium	0.520	0.00030	0.5	0.003048	103	70	130				
Vanadium	0.528	0.010	0.5	0.00122	105	70	130				
Zinc	0.593	0.010	0.5	0.1066	97	70	130				

Associated samples: H23110658-001C, H23110658-002C, H23110658-003C, H23110658-004C, H23110658-005C, H23110658-006C, H23110658-007C

Run ID :Run Order: ICPMS206-H_231215A: 120	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110658-001CMSD3				Method: E200.8		
Analysis Date: 12/15/23 20:58	Units: mg/L				Prep Info: Prep Date: 11/20/2023				Prep Method: E200.2		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.50	0.030	2.5	0.06812	97	70	130	2.448	1.9	20	
Antimony	0.513	0.0010	0.5	0.0002682	103	70	130	0.5189	1.1	20	
Arsenic	0.490	0.0010	0.5	0.005039	97	70	130	0.4919	0.4	20	
Barium	0.553	0.050	0.5	0.04236	102	70	130	0.5675	2.6	20	
Beryllium	0.243	0.0010	0.25	0	97	70	130	0.24	1.4	20	
Cadmium	0.241	0.0010	0.25	0.0003902	96	70	130	0.2416	0.1	20	
Chromium	0.511	0.0050	0.5	0.0002026	102	70	130	0.49	4.2	20	
Cobalt	0.473	0.0050	0.5	0.0002459	95	70	130	0.4798	1.3	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110658

BatchID: 69420

Date: 19-Dec-23

Run ID :Run Order: ICPMS206-H_231215A: 120	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110658-001CMSD3				Method: E200.8		
Analysis Date: 12/15/23 20:58	Units: mg/L				Prep Info: Prep Date: 11/20/2023				Prep Method: E200.2		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.521	0.0050	0.5	0.01054	102	70	130	0.5141	1.4	20	
Iron	2.95	0.020	2.5	0.4797	99	70	130	2.934	0.6	20	
Lead	0.499	0.0010	0.5	0.001101	100	70	130	0.5214	4.4	20	
Lithium	0.489	0.10	0.5	0.01574	95	70	130	0.4817	1.6	20	
Manganese	2.92	0.0010	2.5	0.5163	96	70	130	2.906	0.6	20	
Molybdenum	1.14	0.0010	0.5	0.6602	95	70	130	1.193	5.0	20	
Nickel	0.476	0.0050	0.5	0.0006254	95	70	130	0.4767	0.1	20	
Selenium	0.497	0.0010	0.5	0.001885	99	70	130	0.4965	0	20	
Silver	0.0456	0.0010	0.05	0	91	70	130	0.04553	0	20	
Strontium	2.46	0.010	0.5	1.976	97	70	130	2.522	2.4	20	
Thallium	0.504	0.00050	0.5	0.00001121	101	70	130	0.5198	3.0	20	
Tin	0.516	0.050	0.5	0	103	70	130	0.5138	0.4	20	
Titanium	0.500	0.0050	0.5	0.003487	99	70	130	0.4985	0.3	20	
Thorium	0.0544	0.0050	0.05	0.00006992	109	70	130	0.05525	1.5	20	
Uranium	0.521	0.00030	0.5	0.003048	104	70	130	0.5202	0.1	20	
Vanadium	0.526	0.010	0.5	0.00122	105	70	130	0.5281	0.5	20	
Zinc	0.593	0.010	0.5	0.1066	97	70	130	0.5934	0	20	

Associated samples: H23110658-001C, H23110658-002C, H23110658-003C, H23110658-004C, H23110658-005C, H23110658-006C, H23110658-007C

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110658

BatchID: 69431

Date: 19-Dec-23

Run ID :Run Order: ICPMS206-H_231130A: 60	SampType: Method Blank				Lab ID: MB-69431				Method: E200.8		
Analysis Date: 11/30/23 13:20	Units: mg/L				Prep Info: Prep Date: 11/21/2023				Prep Method: E200.2		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	ND	0.0003									
Gallium	0.00007	0.00005									
Lanthanum	ND	0.00005									
Neodymium	ND	0.00004									
Niobium	ND	0.00004									
Palladium	ND	0.00004									
Praseodymium	ND	0.00005									
Rubidium	ND	0.00003									
Tungsten	0.00008	0.00008									
Zirconium	ND	0.00006									

Associated samples: H23110658-001C, H23110658-002C, H23110658-003C, H23110658-004C, H23110658-005C, H23110658-006C, H23110658-007C

Run ID :Run Order: ICPMS206-H_231130A: 68	SampType: Laboratory Control Sample				Lab ID: LCS-69431				Method: E200.8		
Analysis Date: 11/30/23 13:37	Units: mg/L				Prep Info: Prep Date: 11/21/2023				Prep Method: E200.2		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0526	0.010	0.05	0	105	85	115				
Gallium	0.0513	0.010	0.05	0	103	85	115				
Lanthanum	0.0529	0.10	0.05	0	106	85	115				
Neodymium	0.0528	0.0010	0.05	0	106	85	115				
Niobium	0.0538	0.0010	0.05	0	108	85	115				
Palladium	0.0501	0.010	0.05	0	100	85	115				
Praseodymium	0.0529	0.0010	0.05	0	106	85	115				
Rubidium	0.0541	0.010	0.05	0	108	85	115				
Tungsten	0.0493	0.10	0.05	0	99	85	115				
Zirconium	0.0553	0.0050	0.05	0	111	85	115				

Associated samples: H23110658-001C, H23110658-002C, H23110658-003C, H23110658-004C, H23110658-005C, H23110658-006C, H23110658-007C

Run ID :Run Order: ICPMS206-H_231130A: 84	SampType: Sample Matrix Spike				Lab ID: H23110658-005CMS3				Method: E200.8		
Analysis Date: 11/30/23 14:12	Units: mg/L				Prep Info: Prep Date: 11/21/2023				Prep Method: E200.2		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.106	0.010	0.1	0	106	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
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### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110658

BatchID: 69431

Date: 19-Dec-23

Run ID :Run Order: ICPMS206-H_231130A: 84	SampType: Sample Matrix Spike				Lab ID: H23110658-005CMS3				Method: E200.8		
Analysis Date: 11/30/23 14:12	Units: mg/L				Prep Info: Prep Date: 11/21/2023				Prep Method: E200.2		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gallium	0.101	0.010	0.1	0.0008166	101	70	130				
Lanthanum	0.107	0.10	0.1	0.002082	105	70	130				
Neodymium	0.109	0.0010	0.1	0.001517	107	70	130				
Niobium	0.0841	0.0010	0.1	0.0003374	84	70	130				
Palladium	0.0853	0.010	0.1	0.0001048	85	70	130				
Praseodymium	0.107	0.0010	0.1	0.000409	107	70	130				
Rubidium	0.110	0.010	0.1	0.006856	103	70	130				
Tungsten	0.0956	0.10	0.1	0.001452	94	70	130				
Zirconium	0.0766	0.0050	0.1	0.0005142	76	70	130				

Associated samples: H23110658-001C, H23110658-002C, H23110658-003C, H23110658-004C, H23110658-005C, H23110658-006C, H23110658-007C

Run ID :Run Order: ICPMS206-H_231130A: 85	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110658-005CMSD3				Method: E200.8		
Analysis Date: 11/30/23 14:14	Units: mg/L				Prep Info: Prep Date: 11/21/2023				Prep Method: E200.2		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.105	0.010	0.1	0	105	70	130	0.1059	1.3	20	
Gallium	0.102	0.010	0.1	0.0008166	101	70	130	0.1014	0.3	20	
Lanthanum	0.110	0.10	0.1	0.002082	108	70	130	0.1071	2.7	20	
Neodymium	0.109	0.0010	0.1	0.001517	108	70	130	0.1086	0.7	20	
Niobium	0.0847	0.0010	0.1	0.0003374	84	70	130	0.0841	0.7	20	
Palladium	0.0850	0.010	0.1	0.0001048	85	70	130	0.0853	0.4	20	
Praseodymium	0.109	0.0010	0.1	0.000409	108	70	130	0.1074	1.1	20	
Rubidium	0.109	0.010	0.1	0.006856	103	70	130	0.11	0.6	20	
Tungsten	0.0952	0.10	0.1	0.001452	94	70	130	0.09556		20	
Zirconium	0.0782	0.0050	0.1	0.0005142	78	70	130	0.0766	2.1	20	

Associated samples: H23110658-001C, H23110658-002C, H23110658-003C, H23110658-004C, H23110658-005C, H23110658-006C, H23110658-007C

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110658

BatchID: C\_R301424

Date: 19-Dec-23

Run ID :Run Order: <b>SUB-C301424: 1</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/28/23 17:11</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	ND	0.1									
Associated samples: <b>H23110658-001E, H23110658-001F, H23110658-002E, H23110658-002F, H23110658-003E, H23110658-003F, H23110658-004E, H23110658-004F, H23110658-005E, H23110658-005F, H23110658-006E, H23110658-006F, H23110658-007E, H23110658-007F</b>											

Run ID :Run Order: <b>SUB-C301424: 2</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/28/23 17:27</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.00	0.50	5	0	<b>100</b>	90	111	0			
Associated samples: <b>H23110658-001E, H23110658-001F, H23110658-002E, H23110658-002F, H23110658-003E, H23110658-003F, H23110658-004E, H23110658-004F, H23110658-005E, H23110658-005F, H23110658-006E, H23110658-006F, H23110658-007E, H23110658-007F</b>											

Run ID :Run Order: <b>SUB-C301424: 3</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/28/23 17:42</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	5.01	0.50	5	0	<b>100</b>	90	110	0			
Associated samples: <b>H23110658-001E, H23110658-001F, H23110658-002E, H23110658-002F, H23110658-003E, H23110658-003F, H23110658-004E, H23110658-004F, H23110658-005E, H23110658-005F, H23110658-006E, H23110658-006F, H23110658-007E, H23110658-007F</b>											

Run ID :Run Order: <b>SUB-C301424: 5</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>C23110739-001FMS</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/28/23 20:37</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	7.19	0.50	5	2.237	<b>99</b>	90	111	0			
Associated samples: <b>H23110658-001E, H23110658-001F, H23110658-002E, H23110658-002F, H23110658-003E, H23110658-003F, H23110658-004E, H23110658-004F, H23110658-005E, H23110658-005F, H23110658-006E, H23110658-006F, H23110658-007E, H23110658-007F</b>											

Run ID :Run Order: <b>SUB-C301424: 6</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>C23110739-001FMSD</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/28/23 20:53</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	7.19	0.50	5	2.237	<b>99</b>	90	111	7.195	<b>0.1</b>	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110658

BatchID: C\_R301424

Date: 19-Dec-23

Run ID :Run Order: <b>SUB-C301424: 6</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>C23110739-001FMSD</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>11/28/23 20:53</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110658-001E, H23110658-001F, H23110658-002E, H23110658-002F, H23110658-003E, H23110658-003F, H23110658-004E, H23110658-004F, H23110658-005E, H23110658-005F, H23110658-006E, H23110658-006F, H23110658-007E, H23110658-007F

Run ID :Run Order: <b>SUB-C301424: 8</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV-11940</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>11/28/23 21:25</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	5.01	0.50	5	0	<b>100</b>	90	110	0			
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Associated samples: H23110658-001E, H23110658-001F, H23110658-002E, H23110658-002F, H23110658-003E, H23110658-003F, H23110658-004E, H23110658-004F, H23110658-005E, H23110658-005F, H23110658-006E, H23110658-006F, H23110658-007E, H23110658-007F

Run ID :Run Order: <b>SUB-C301424: 10</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23110658-003F</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>11/28/23 22:16</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	7.54	0.50	5	2.68	<b>97</b>	90	111	0			
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Associated samples: H23110658-001E, H23110658-001F, H23110658-002E, H23110658-002F, H23110658-003E, H23110658-003F, H23110658-004E, H23110658-004F, H23110658-005E, H23110658-005F, H23110658-006E, H23110658-006F, H23110658-007E, H23110658-007F

Run ID :Run Order: <b>SUB-C301424: 11</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23110658-003F</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>11/28/23 22:31</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	7.57	0.50	5	2.68	<b>98</b>	90	111	7.538	<b>0.4</b>	20	
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Associated samples: H23110658-001E, H23110658-001F, H23110658-002E, H23110658-002F, H23110658-003E, H23110658-003F, H23110658-004E, H23110658-004F, H23110658-005E, H23110658-005F, H23110658-006E, H23110658-006F, H23110658-007E, H23110658-007F

Run ID :Run Order: <b>SUB-C301424: 16</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS-11923</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>11/29/23 01:01</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Dissolved (DOC)	5.02	0.50	5	0	<b>100</b>	88	112	0			
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Associated samples: H23110658-001E, H23110658-001F, H23110658-002E, H23110658-002F, H23110658-003E, H23110658-003F, H23110658-004E, H23110658-004F, H23110658-005E, H23110658-005F, H23110658-006E, H23110658-006F, H23110658-007E, H23110658-007F

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110658

BatchID: C\_R301424

Date: 19-Dec-23

Run ID :Run Order: <b>SUB-C301424: 17</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/29/23 01:16</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	ND	0.1									
Associated samples: <b>H23110658-001E, H23110658-001F, H23110658-002E, H23110658-002F, H23110658-003E, H23110658-003F, H23110658-004E, H23110658-004F, H23110658-005E, H23110658-005F, H23110658-006E, H23110658-006F, H23110658-007E, H23110658-007F</b>											

Run ID :Run Order: <b>SUB-C301424: 18</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV-11940</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/29/23 01:36</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	5.01	0.50	5	0	<b>100</b>	90	110	0			
Associated samples: <b>H23110658-001E, H23110658-001F, H23110658-002E, H23110658-002F, H23110658-003E, H23110658-003F, H23110658-004E, H23110658-004F, H23110658-005E, H23110658-005F, H23110658-006E, H23110658-006F, H23110658-007E, H23110658-007F</b>											

Run ID :Run Order: <b>SUB-C301424: 20</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23110658-001E</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/29/23 04:41</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	7.29	0.50	5	2.443	<b>97</b>	88	112	0			
Associated samples: <b>H23110658-001E, H23110658-001F, H23110658-002E, H23110658-002F, H23110658-003E, H23110658-003F, H23110658-004E, H23110658-004F, H23110658-005E, H23110658-005F, H23110658-006E, H23110658-006F, H23110658-007E, H23110658-007F</b>											

Run ID :Run Order: <b>SUB-C301424: 21</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23110658-001E</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/29/23 04:57</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	7.26	0.50	5	2.443	<b>96</b>	88	112	7.292	<b>0.4</b>	20	
Associated samples: <b>H23110658-001E, H23110658-001F, H23110658-002E, H23110658-002F, H23110658-003E, H23110658-003F, H23110658-004E, H23110658-004F, H23110658-005E, H23110658-005F, H23110658-006E, H23110658-006F, H23110658-007E, H23110658-007F</b>											

Run ID :Run Order: <b>SUB-C301424: 24</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV-11940</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/29/23 05:46</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.99	0.50	5	0	<b>100</b>	90	110	0			

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110658

BatchID: C\_R301424

Date: 19-Dec-23

Run ID :Run Order: <b>SUB-C301424: 24</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV-11940</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>11/29/23 05:46</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110658-001E, H23110658-001F, H23110658-002E, H23110658-002F, H23110658-003E, H23110658-003F, H23110658-004E, H23110658-004F, H23110658-005E, H23110658-005F, H23110658-006E, H23110658-006F, H23110658-007E, H23110658-007F

Run ID :Run Order: <b>SUB-C301424: 27</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23110658-005E</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>11/29/23 06:51</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Dissolved (DOC)	6.53	0.50	5	1.635	98	88	112	0			
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Associated samples: H23110658-001E, H23110658-001F, H23110658-002E, H23110658-002F, H23110658-003E, H23110658-003F, H23110658-004E, H23110658-004F, H23110658-005E, H23110658-005F, H23110658-006E, H23110658-006F, H23110658-007E, H23110658-007F

Run ID :Run Order: <b>SUB-C301424: 28</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23110658-005E</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>11/29/23 07:07</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Dissolved (DOC)	6.54	0.50	5	1.635	98	88	112	6.531	0.1	20	
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Associated samples: H23110658-001E, H23110658-001F, H23110658-002E, H23110658-002F, H23110658-003E, H23110658-003F, H23110658-004E, H23110658-004F, H23110658-005E, H23110658-005F, H23110658-006E, H23110658-006F, H23110658-007E, H23110658-007F

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110658

BatchID: R190164

Date: 19-Dec-23

Run ID :Run Order: PHSC_101-H_231117A: 2	SampType: Initial Calibration Verification Standard				Lab ID: SC 150			Method: A2510 B			
Analysis Date: 11/17/23 08:32	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	154	5.0	150	0	102	90	110				
Associated samples: H23110658-001A, H23110658-002A, H23110658-003A, H23110658-004A, H23110658-005A, H23110658-006A, H23110658-007A											

Run ID :Run Order: PHSC_101-H_231117A: 3	SampType: Initial Calibration Verification Standard				Lab ID: SC 20000			Method: A2510 B			
Analysis Date: 11/17/23 08:33	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	20000	5.0	20000	0	100	90	110				
Associated samples: H23110658-001A, H23110658-002A, H23110658-003A, H23110658-004A, H23110658-005A, H23110658-006A, H23110658-007A											

Run ID :Run Order: PHSC_101-H_231117A: 4	SampType: Initial Calibration Verification Standard				Lab ID: SC 5000			Method: A2510 B			
Analysis Date: 11/17/23 08:35	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	4980	5.0	5000	0	100	90	110				
Associated samples: H23110658-001A, H23110658-002A, H23110658-003A, H23110658-004A, H23110658-005A, H23110658-006A, H23110658-007A											

Run ID :Run Order: PHSC_101-H_231117A: 5	SampType: Laboratory Control Sample				Lab ID: SC 1000			Method: A2510 B			
Analysis Date: 11/17/23 08:37	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1000	5.0	1000	0	100	90	110				
Associated samples: H23110658-001A, H23110658-002A, H23110658-003A, H23110658-004A, H23110658-005A, H23110658-006A, H23110658-007A											

Run ID :Run Order: PHSC_101-H_231117A: 6	SampType: Method Blank				Lab ID: MBLK			Method: A2510 B			
Analysis Date: 11/17/23 09:11	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	ND	5									
Associated samples: H23110658-001A, H23110658-002A, H23110658-003A, H23110658-004A, H23110658-005A, H23110658-006A, H23110658-007A											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110658

BatchID: R190164

Date: 19-Dec-23

Run ID :Run Order: PHSC_101-H_231117A: 46	SampType: Continuing Calibration Verification Standar	Lab ID: CCV - SC 1413	Method: A2510 B								
Analysis Date: 11/17/23 09:54	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1430	5.0	1413	0	101	90	110				

Associated samples: H23110658-001A, H23110658-002A, H23110658-003A, H23110658-004A, H23110658-005A, H23110658-006A, H23110658-007A

Run ID :Run Order: PHSC_101-H_231117A: 98	SampType: Sample Duplicate	Lab ID: H23110658-001ADUP	Method: A2510 B								
Analysis Date: 11/17/23 14:56	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	2270	5.0		0				2252	0.7	10	

Associated samples: H23110658-001A, H23110658-002A, H23110658-003A, H23110658-004A, H23110658-005A, H23110658-006A, H23110658-007A

Run ID :Run Order: PHSC_101-H_231117A: 132	SampType: Sample Duplicate	Lab ID: H23110658-005ADUP	Method: A2510 B								
Analysis Date: 11/17/23 15:29	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	326	5.0		0				357.5	9.2	10	

Associated samples: H23110658-001A, H23110658-002A, H23110658-003A, H23110658-004A, H23110658-005A, H23110658-006A, H23110658-007A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110658

BatchID: R190164

Date: 19-Dec-23

Run ID :Run Order: PHSC_101-H_231117A: 1	SampType: Initial Calibration Verification Standard				Lab ID: pH 7			Method: A4500-H B			
Analysis Date: 11/17/23 08:26	Units: s.u.				Prep Info: Prep Date:			Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	99	98	102				
pH Measurement Temp	20.2			0		0	0				

Associated samples: H23110658-001A, H23110658-002A, H23110658-003A, H23110658-004A, H23110658-005A, H23110658-006A, H23110658-007A

Run ID :Run Order: PHSC_101-H_231117A: 45	SampType: Continuing Calibration Verification Standar				Lab ID: CCV - pH 7			Method: A4500-H B			
Analysis Date: 11/17/23 09:52	Units: s.u.				Prep Info: Prep Date:			Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	101	98	102				
pH Measurement Temp	18.8			0		0	0				

Associated samples: H23110658-001A, H23110658-002A, H23110658-003A, H23110658-004A, H23110658-005A, H23110658-006A, H23110658-007A

Run ID :Run Order: PHSC_101-H_231117A: 97	SampType: Sample Duplicate				Lab ID: H23110658-001ADUP			Method: A4500-H B			
Analysis Date: 11/17/23 14:56	Units: s.u.				Prep Info: Prep Date:			Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.2	0.1		0				7.21	0.6	3	H
pH Measurement Temp	15.9			0				16.3			

Associated samples: H23110658-001A, H23110658-002A, H23110658-003A, H23110658-004A, H23110658-005A, H23110658-006A, H23110658-007A

Run ID :Run Order: PHSC_101-H_231117A: 131	SampType: Sample Duplicate				Lab ID: H23110658-005ADUP			Method: A4500-H B			
Analysis Date: 11/17/23 15:29	Units: s.u.				Prep Info: Prep Date:			Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.7	0.1		0				7.53	2.1	3	H
pH Measurement Temp	16.3			0				15.9			

Associated samples: H23110658-001A, H23110658-002A, H23110658-003A, H23110658-004A, H23110658-005A, H23110658-006A, H23110658-007A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



## ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110658

**BatchID:** R190187

**Date:** 19-Dec-23

Run ID :Run Order: <b>IC METROHM_231116A: 2</b>		SampType: <b>Method Blank</b>			Lab ID: <b>ICB</b>			Method: <b>E300.0</b>			
Analysis Date: <b>11/16/23 11:45</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.02									
Sulfate	ND	0.03									
Bromide	ND	0.001									
Fluoride	ND	0.01									

Associated samples: H23110658-001A, H23110658-002A, H23110658-003A, H23110658-004A, H23110658-005A, H23110658-006A, H23110658-007A

Run ID :Run Order: <b>IC METROHM_231116A: 3</b>		SampType: <b>Initial Calibration Verification Standard</b>			Lab ID: <b>ICV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>11/16/23 12:00</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	102	1.0	100	0	<b>102</b>	90	110				
Sulfate	399	1.0	400	0	<b>100</b>	90	110				
Bromide	4.99	0.50	5	0	<b>100</b>	90	110				
Fluoride	5.41	0.10	5	0	<b>108</b>	90	110				

Associated samples: H23110658-001A, H23110658-002A, H23110658-003A, H23110658-004A, H23110658-005A, H23110658-006A, H23110658-007A

Run ID :Run Order: <b>IC METROHM_231116A: 4</b>		SampType: <b>Laboratory Fortified Blank</b>			Lab ID: <b>LFB</b>			Method: <b>E300.0</b>			
Analysis Date: <b>11/16/23 12:14</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	24.5	1.0	25	0	<b>98</b>	90	110				
Sulfate	101	1.0	100	0	<b>101</b>	90	110				
Bromide	1.19	0.50	1.25	0	<b>95</b>	90	110				
Fluoride	1.15	0.10	1.25	0	<b>92</b>	90	110				

Associated samples: H23110658-001A, H23110658-002A, H23110658-003A, H23110658-004A, H23110658-005A, H23110658-006A, H23110658-007A

Run ID :Run Order: <b>IC METROHM_231116A: 189</b>		SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>			Method: <b>E300.0</b>			
Analysis Date: <b>11/18/23 08:38</b>		Units: <b>mg/L</b>			Prep Info: Prep Date:			Prep Method:			
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	50.5	1.0	50	0	<b>101</b>	90	110				
Sulfate	202	1.0	200	0	<b>101</b>	90	110				
Bromide	2.38	0.50	2.5	0	<b>95</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110658

BatchID: R190187

Date: 19-Dec-23

Run ID :Run Order: <b>IC METROHM_231116A: 189</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>				Method: <b>E300.0</b>		
Analysis Date: <b>11/18/23 08:38</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.38	0.10	2.5	0	<b>95</b>	90	110				

Associated samples: H23110658-001A, H23110658-002A, H23110658-003A, H23110658-004A, H23110658-005A, H23110658-006A, H23110658-007A

Run ID :Run Order: <b>IC METROHM_231116A: 200</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23110658-007AMS</b>				Method: <b>E300.0</b>		
Analysis Date: <b>11/18/23 11:16</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	37.7	1.0	25	12.33	<b>101</b>	90	110				
Sulfate	163	1.0	100	64.1	<b>99</b>	90	110				
Bromide	1.16	0.50	1.25	0.048	<b>89</b>	90	110				S
Fluoride	1.67	0.10	1.25	0.402	<b>101</b>	90	110				

Associated samples: H23110658-001A, H23110658-002A, H23110658-003A, H23110658-004A, H23110658-005A, H23110658-006A, H23110658-007A

Run ID :Run Order: <b>IC METROHM_231116A: 201</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23110658-007AMSD</b>				Method: <b>E300.0</b>		
Analysis Date: <b>11/18/23 11:31</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	37.8	1.0	25	12.33	<b>102</b>	90	110	37.7	<b>0.2</b>	20	
Sulfate	165	1.0	100	64.1	<b>100</b>	90	110	163.2	<b>0.9</b>	20	
Bromide	1.16	0.50	1.25	0.048	<b>89</b>	90	110	1.159	<b>0.4</b>	20	S
Fluoride	1.67	0.10	1.25	0.402	<b>101</b>	90	110	1.67	<b>0.1</b>	20	

Associated samples: H23110658-001A, H23110658-002A, H23110658-003A, H23110658-004A, H23110658-005A, H23110658-006A, H23110658-007A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110658

BatchID: R190255

Date: 19-Dec-23

Run ID :Run Order: PHSC_101-H_231121A: 6	SampType: Method Blank	Lab ID: MBLK	Method: A2320 B								
Analysis Date: 11/21/23 09:01	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									
Associated samples: H23110658-001A, H23110658-002A, H23110658-003A, H23110658-004A, H23110658-005A, H23110658-006A, H23110658-007A											

Run ID :Run Order: PHSC_101-H_231121A: 7	SampType: Laboratory Control Sample	Lab ID: LCS	Method: A2320 B								
Analysis Date: 11/21/23 09:06	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	580	4.0	600	0	96	90	110				
Associated samples: H23110658-001A, H23110658-002A, H23110658-003A, H23110658-004A, H23110658-005A, H23110658-006A, H23110658-007A											

Run ID :Run Order: PHSC_101-H_231121A: 20	SampType: Sample Duplicate	Lab ID: H23110658-005ADUP	Method: A2320 B								
Analysis Date: 11/21/23 09:56	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	130	4.0		0				125.3	1.0	10	
Bicarbonate as HCO3	150	4.0		0				152.3	1.0	10	
Carbonate as CO3	ND	4.0		0				0		10	
Associated samples: H23110658-001A, H23110658-002A, H23110658-003A, H23110658-004A, H23110658-005A, H23110658-006A, H23110658-007A											

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110658

BatchID: R190257

Date: 19-Dec-23

Run ID :Run Order: <b>IC METROHM_231120A: 2</b>	SampType: <b>Method Blank</b>				Lab ID: <b>ICB</b>				Method: <b>E300.0</b>		
Analysis Date: <b>11/20/23 14:16</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	ND	0.03									

Associated samples: H23110658-001A

Run ID :Run Order: <b>IC METROHM_231120A: 3</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>				Method: <b>E300.0</b>		
Analysis Date: <b>11/20/23 14:30</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	401	1.0	400	0	<b>100</b>	90	110				

Associated samples: H23110658-001A

Run ID :Run Order: <b>IC METROHM_231120A: 4</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>				Method: <b>E300.0</b>		
Analysis Date: <b>11/20/23 14:45</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	102	1.0	100	0	<b>102</b>	90	110				

Associated samples: H23110658-001A

Run ID :Run Order: <b>IC METROHM_231120A: 17</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23110653-010AMS</b>				Method: <b>E300.0</b>		
Analysis Date: <b>11/20/23 17:51</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	588	1.0	200	384.4	<b>102</b>	90	110				

Associated samples: H23110658-001A

Run ID :Run Order: <b>IC METROHM_231120A: 18</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23110653-010AMSD</b>				Method: <b>E300.0</b>		
Analysis Date: <b>11/20/23 18:06</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	589	1.0	200	384.4	<b>103</b>	90	110	587.5	<b>0.3</b>	20	

Associated samples: H23110658-001A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110658

**BatchID:** R190257

**Date:** 19-Dec-23

Run ID :Run Order: <b>IC METROHM_231120A: 19</b>	SampType: <b>Continuing Calibration Verification Standar</b>			Lab ID: <b>CCV</b>	Method: <b>E300.0</b>						
Analysis Date: <b>11/20/23 18:20</b>	Units: <b>mg/L</b>		Prep Info: Prep Date:			Prep Method:					
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	199	1.0	200	0	<b>99</b>	90	110				

Associated samples: **H23110658-001A**

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110658

**BatchID:** R190361

**Date:** 19-Dec-23

Run ID :Run Order: <b>ICP2-HE_231127A: 6</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>				Method: <b>E200.7</b>		
Analysis Date: <b>11/27/23 10:36</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.781	0.10	0.8	0	<b>98</b>	95	105				
Calcium	40.5	1.0	40	0	<b>101</b>	95	105				
Magnesium	40.4	1.0	40	0	<b>101</b>	95	105				
Strontium	0.808	0.10	0.8	0	<b>101</b>	95	105				

Associated samples: **H23110658-001B, H23110658-002B, H23110658-003B, H23110658-004B, H23110658-005B, H23110658-006B, H23110658-007B**

Run ID :Run Order: <b>ICP2-HE_231127A: 8</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV-1</b>				Method: <b>E200.7</b>		
Analysis Date: <b>11/27/23 10:46</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.46	0.10	2.5	0	<b>99</b>	95	105				
Calcium	25.7	1.0	25	0	<b>103</b>	95	105				
Magnesium	25.3	1.0	25	0	<b>101</b>	95	105				
Strontium	2.52	0.10	2.5	0	<b>101</b>	95	105				

Associated samples: **H23110658-001B, H23110658-002B, H23110658-003B, H23110658-004B, H23110658-005B, H23110658-006B, H23110658-007B**

Run ID :Run Order: <b>ICP2-HE_231127A: 14</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MB</b>				Method: <b>E200.7</b>		
Analysis Date: <b>11/27/23 11:09</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.004									
Calcium	ND	0.2									
Magnesium	ND	0.05									
Strontium	ND	0.0003									

Associated samples: **H23110658-001B, H23110658-002B, H23110658-003B, H23110658-004B, H23110658-005B, H23110658-006B, H23110658-007B**

Run ID :Run Order: <b>ICP2-HE_231127A: 15</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>				Method: <b>E200.7</b>		
Analysis Date: <b>11/27/23 11:13</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.904	0.10	1	0	<b>90</b>	85	115				
Calcium	51.4	1.0	50	0	<b>103</b>	85	115				
Magnesium	50.4	1.0	50	0	<b>101</b>	85	115				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110658

BatchID: R190361

Date: 19-Dec-23

Run ID :Run Order: ICP2-HE_231127A: 15	SampType: Laboratory Fortified Blank				Lab ID: LFB			Method: E200.7			
Analysis Date: 11/27/23 11:13	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Strontium	1.01	0.10	1	0	101	85	115				

Associated samples: H23110658-001B, H23110658-002B, H23110658-003B, H23110658-004B, H23110658-005B, H23110658-006B, H23110658-007B

Run ID :Run Order: ICP2-HE_231127A: 145	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.7			
Analysis Date: 11/27/23 19:47	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.63	0.10	2.5	0	105	90	110				
Calcium	27.6	1.0	25	0	110	90	110				
Magnesium	26.4	1.0	25	0	106	90	110				
Strontium	2.63	0.10	2.5	0	105	90	110				

Associated samples: H23110658-001B, H23110658-002B, H23110658-003B, H23110658-004B, H23110658-005B, H23110658-006B, H23110658-007B

Run ID :Run Order: ICP2-HE_231127A: 157	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.7			
Analysis Date: 11/27/23 20:32	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	2.56	0.10	2.5	0	102	90	110				
Calcium	25.8	1.0	25	0	103	90	110				
Magnesium	25.8	1.0	25	0	103	90	110				
Strontium	2.59	0.10	2.5	0	103	90	110				

Associated samples: H23110658-001B, H23110658-002B, H23110658-003B, H23110658-004B, H23110658-005B, H23110658-006B, H23110658-007B

Run ID :Run Order: ICP2-HE_231127A: 162	SampType: Sample Matrix Spike				Lab ID: H23110658-003BMS2			Method: E200.7			
Analysis Date: 11/27/23 20:51	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.952	0.050	1	0.0266	93	70	130				
Calcium	87.9	1.0	50	40.24	95	70	130				
Magnesium	59.3	1.0	50	10.27	98	70	130				
Strontium	1.22	0.010	1	0.2363	98	70	130				

Associated samples: H23110658-001B, H23110658-002B, H23110658-003B, H23110658-004B, H23110658-005B, H23110658-006B, H23110658-007B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110658

**BatchID:** R190361

**Date:** 19-Dec-23

Run ID :Run Order: **ICP2-HE\_231127A: 163**

SampType: **Sample Matrix Spike Duplicate**

Lab ID: **H23110658-003BMSD2**

Method: **E200.7**

Analysis Date: **11/27/23 20:54**

Units: **mg/L**

Prep Info: Prep Date:

Prep Method:

Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	0.982	0.050	1	0.0266	<b>96</b>	70	130	0.952	<b>3.1</b>	20	
Calcium	89.4	1.0	50	40.24	<b>98</b>	70	130	87.9	<b>1.7</b>	20	
Magnesium	60.5	1.0	50	10.27	<b>100</b>	70	130	59.3	<b>1.9</b>	20	
Strontium	1.24	0.010	1	0.2363	<b>101</b>	70	130	1.22	<b>1.9</b>	20	

Associated samples: **H23110658-001B, H23110658-002B, H23110658-003B, H23110658-004B, H23110658-005B, H23110658-006B, H23110658-007B**

**Qualifiers:** ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limit

N - Analyte concentration was not sufficiently high to calculate RPD

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110658

BatchID: R190433

Date: 19-Dec-23

Run ID :Run Order: <b>SEAL AA500_231129A: 12</b>	SampType: <b>Method Blank</b>				Lab ID: <b>ICB</b>				Method: <b>E353.2</b>		
Analysis Date: <b>11/29/23 15:56</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.01									

Associated samples: H23110658-001D, H23110658-002D, H23110658-003D, H23110658-004D, H23110658-005D, H23110658-006D, H23110658-007D

Run ID :Run Order: <b>SEAL AA500_231129A: 14</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>				Method: <b>E353.2</b>		
Analysis Date: <b>11/29/23 15:58</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.984	0.010	1	0	<b>98</b>	90	110				

Associated samples: H23110658-001D, H23110658-002D, H23110658-003D, H23110658-004D, H23110658-005D, H23110658-006D, H23110658-007D

Run ID :Run Order: <b>SEAL AA500_231129A: 15</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>				Method: <b>E353.2</b>		
Analysis Date: <b>11/29/23 15:59</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.984	0.011	1	0	<b>98</b>	90	110				

Associated samples: H23110658-001D, H23110658-002D, H23110658-003D, H23110658-004D, H23110658-005D, H23110658-006D, H23110658-007D

Run ID :Run Order: <b>SEAL AA500_231129A: 101</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>				Method: <b>E353.2</b>		
Analysis Date: <b>11/29/23 17:29</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.963	0.010	1	0	<b>96</b>	90	110				

Associated samples: H23110658-001D, H23110658-002D, H23110658-003D, H23110658-004D, H23110658-005D, H23110658-006D, H23110658-007D

Run ID :Run Order: <b>SEAL AA500_231129A: 115</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>				Method: <b>E353.2</b>		
Analysis Date: <b>11/29/23 17:43</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.01	0.010	1	0	<b>101</b>	90	110				

Associated samples: H23110658-001D, H23110658-002D, H23110658-003D, H23110658-004D, H23110658-005D, H23110658-006D, H23110658-007D

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110658

**BatchID:** R190433

**Date:** 19-Dec-23

Run ID :Run Order: <b>SEAL AA500_231129A: 118</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23110658-005DMS</b>				Method: <b>E353.2</b>		
Analysis Date: <b>11/29/23 17:46</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.986	0.011	1	0.043	<b>94</b>	90	110				
Associated samples: <b>H23110658-001D, H23110658-002D, H23110658-003D, H23110658-004D, H23110658-005D, H23110658-006D, H23110658-007D</b>											

Run ID :Run Order: <b>SEAL AA500_231129A: 119</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23110658-005DMSD</b>				Method: <b>E353.2</b>		
Analysis Date: <b>11/29/23 17:47</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.04	0.011	1	0.043	<b>99</b>	90	110	0.9861	<b>4.8</b>	10	
Associated samples: <b>H23110658-001D, H23110658-002D, H23110658-003D, H23110658-004D, H23110658-005D, H23110658-006D, H23110658-007D</b>											





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110658

BatchID: R190453

Date: 19-Dec-23

Run ID :Run Order: ICPMS206-H_231130A: 12		SampType: Initial Calibration Verification Standard			Lab ID: ICV			Method: E200.8			
Analysis Date: 11/30/23 10:59		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0612	0.010	0.06	0	102	90	110				
Gallium	0.0602	0.010	0.06	0	100	90	110				
Lanthanum	0.0623	0.010	0.06	0	104	90	110				
Neodymium	0.0627	0.0050	0.06	0	105	90	110				
Niobium	0.0549	0.0010	0.06	0	92	90	110				
Palladium	0.0618	0.010	0.06	0	103	90	110				
Praseodymium	0.0615	0.0010	0.06	0	103	90	110				
Rubidium	0.0603	0.010	0.06	0	101	90	110				
Tungsten	0.0570	0.10	0.06	0	95	90	110				
Zirconium	0.0630	0.0050	0.06	0	105	90	110				

Associated samples: H23110658-001B, H23110658-001C, H23110658-002B, H23110658-002C, H23110658-003B, H23110658-003C, H23110658-004B, H23110658-004C, H23110658-005B, H23110658-005C, H23110658-006B, H23110658-006C, H23110658-007B, H23110658-007C

Run ID :Run Order: ICPMS206-H_231130A: 22		SampType: Method Blank			Lab ID: LRB			Method: E200.8			
Analysis Date: 11/30/23 11:41		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	ND	0.0003									
Gallium	ND	0.00004									
Lanthanum	ND	0.00004									
Neodymium	ND	0.00004									
Niobium	0.00004	0.00004									
Palladium	ND	0.00004									
Praseodymium	ND	0.00005									
Rubidium	ND	0.00003									
Tungsten	ND	0.00003									
Zirconium	ND	0.00006									

Associated samples: H23110658-001B, H23110658-002B, H23110658-003B, H23110658-004B, H23110658-005B, H23110658-006B, H23110658-007B

Run ID :Run Order: ICPMS206-H_231130A: 23		SampType: Laboratory Fortified Blank			Lab ID: LFB			Method: E200.8			
Analysis Date: 11/30/23 11:43		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0521	0.010	0.05	0	104	85	115				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110658

BatchID: R190453

Date: 19-Dec-23

Run ID :Run Order: ICPMS206-H_231130A: 23	SampType: Laboratory Fortified Blank				Lab ID: LFB			Method: E200.8			
Analysis Date: 11/30/23 11:43	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gallium	0.0503	0.010	0.05	0	101	85	115				
Lanthanum	0.0514	0.010	0.05	0	103	85	115				
Neodymium	0.0508	0.0050	0.05	0	101	85	115				
Niobium	0.0524	0.0010	0.05	0	105	85	115				
Palladium	0.0503	0.010	0.05	0	101	85	115				
Praseodymium	0.0506	0.0010	0.05	0	101	85	115				
Rubidium	0.0509	0.010	0.05	0	102	85	115				
Tungsten	0.0512	0.10	0.05	0	102	85	115				
Zirconium	0.0502	0.0050	0.05	0	100	85	115				

Associated samples: H23110658-001B, H23110658-002B, H23110658-003B, H23110658-004B, H23110658-005B, H23110658-006B, H23110658-007B

Run ID :Run Order: ICPMS206-H_231130A: 72	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 11/30/23 13:45	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0514	0.010	0.05	0	103	90	110				
Gallium	0.0503	0.010	0.05	0	101	90	110				
Lanthanum	0.0510	0.010	0.05	0	102	90	110				
Neodymium	0.0516	0.0050	0.05	0	103	90	110				
Niobium	0.0522	0.0010	0.05	0	104	90	110				
Palladium	0.0503	0.010	0.05	0	101	90	110				
Praseodymium	0.0520	0.0010	0.05	0	104	90	110				
Rubidium	0.0534	0.010	0.05	0	107	90	110				
Tungsten	0.0482	0.10	0.05	0	96	90	110				
Zirconium	0.0515	0.0050	0.05	0	103	90	110				

Associated samples: H23110658-001B, H23110658-001C, H23110658-002B, H23110658-002C, H23110658-003B, H23110658-003C, H23110658-004B, H23110658-004C, H23110658-005B, H23110658-005C, H23110658-006B, H23110658-006C, H23110658-007B, H23110658-007C

Run ID :Run Order: ICPMS206-H_231130A: 88	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 11/30/23 14:20	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0518	0.010	0.05	0	104	90	110				
Gallium	0.0503	0.010	0.05	0	101	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110658

BatchID: R190453

Date: 19-Dec-23

Run ID :Run Order: ICPMS206-H_231130A: 88		SampType: Continuing Calibration Verification Standar			Lab ID: CCV			Method: E200.8			
Analysis Date: 11/30/23 14:20		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lanthanum	0.0515	0.010	0.05	0	103	90	110				
Neodymium	0.0515	0.0050	0.05	0	103	90	110				
Niobium	0.0516	0.0010	0.05	0	103	90	110				
Palladium	0.0497	0.010	0.05	0	99	90	110				
Praseodymium	0.0516	0.0010	0.05	0	103	90	110				
Rubidium	0.0533	0.010	0.05	0	107	90	110				
Tungsten	0.0479	0.10	0.05	0	96	90	110				
Zirconium	0.0523	0.0050	0.05	0	105	90	110				

Associated samples: H23110658-001B, H23110658-001C, H23110658-002B, H23110658-002C, H23110658-003B, H23110658-003C, H23110658-004B, H23110658-004C, H23110658-005B, H23110658-005C, H23110658-006B, H23110658-006C, H23110658-007B, H23110658-007C

Run ID :Run Order: ICPMS206-H_231130A: 100		SampType: Sample Matrix Spike			Lab ID: H23110659-001BMS			Method: E200.8			
Analysis Date: 11/30/23 14:46		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0500	0.010	0.05	0	100	70	130				
Gallium	0.0468	0.010	0.05	0.0002275	93	70	130				
Lanthanum	0.0579	0.010	0.05	0.007515	101	70	130				
Neodymium	0.0533	0.0050	0.05	0.001682	103	70	130				
Niobium	0.0515	0.0010	0.05	0.00003835	103	70	130				
Palladium	0.0474	0.010	0.05	0.001103	93	70	130				
Praseodymium	0.0526	0.0010	0.05	0.0004562	104	70	130				
Rubidium	0.0546	0.010	0.05	0.005487	98	70	130				
Tungsten	0.0488	0.10	0.05	0	98	70	130				
Zirconium	0.0523	0.0050	0.05	0.0003572	104	70	130				

Associated samples: H23110658-001B, H23110658-002B, H23110658-003B, H23110658-004B, H23110658-005B, H23110658-006B, H23110658-007B

Run ID :Run Order: ICPMS206-H_231130A: 101		SampType: Sample Matrix Spike Duplicate			Lab ID: H23110659-001BMSD			Method: E200.8			
Analysis Date: 11/30/23 14:48		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0516	0.010	0.05	0	103	70	130	0.04995	3.2	20	
Gallium	0.0474	0.010	0.05	0.0002275	94	70	130	0.04684	1.3	20	
Lanthanum	0.0597	0.010	0.05	0.007515	104	70	130	0.0579	3.0	20	

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110658

BatchID: R190453

Date: 19-Dec-23

Run ID :Run Order: ICPMS206-H_231130A: 101	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110659-001BMSD				Method: E200.8		
Analysis Date: 11/30/23 14:48	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Neodymium	0.0543	0.0050	0.05	0.001682	105	70	130	0.05331	1.8	20	
Niobium	0.0504	0.0010	0.05	0.00003835	101	70	130	0.05153			
Palladium	0.0475	0.010	0.05	0.001103	93	70	130	0.04741	0.1	20	
Praseodymium	0.0524	0.0010	0.05	0.0004562	104	70	130	0.05262			
Rubidium	0.0565	0.010	0.05	0.005487	102	70	130	0.05455	3.5	20	
Tungsten	0.0489	0.10	0.05	0	98	70	130	0.04884		20	
Zirconium	0.0531	0.0050	0.05	0.0003572	105	70	130	0.05234	1.4	20	

Associated samples: H23110658-001B, H23110658-002B, H23110658-003B, H23110658-004B, H23110658-005B, H23110658-006B, H23110658-007B



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110658

BatchID: R190508

Date: 19-Dec-23

Run ID :Run Order: ICPMS205-H_231201B: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.8			
Analysis Date: 12/01/23 13:55	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0608	0.050	0.06	0	101	90	110				
Arsenic	0.0622	0.0050	0.06	0	104	90	110				
Barium	0.0606	0.10	0.06	0	101	90	110				
Beryllium	0.0301	0.0010	0.03	0	100	90	110				
Cadmium	0.0307	0.0010	0.03	0	102	90	110				
Chromium	0.0612	0.010	0.06	0	102	90	110				
Cobalt	0.0618	0.010	0.06	0	103	90	110				
Copper	0.0619	0.010	0.06	0	103	90	110				
Iron	0.304	0.020	0.3	0	101	90	110				
Lead	0.0597	0.010	0.06	0	99	90	110				
Lithium	0.0605	0.10	0.06	0	101	90	110				
Manganese	0.302	0.010	0.3	0	101	90	110				
Molybdenum	0.0590	0.0050	0.06	0	98	90	110				
Nickel	0.0618	0.010	0.06	0	103	90	110				
Selenium	0.0605	0.0050	0.06	0	101	90	110				
Silver	0.0305	0.0050	0.03	0	102	90	110				
Strontium	0.0611	0.10	0.06	0	102	90	110				
Thallium	0.0597	0.10	0.06	0	99	90	110				
Tin	0.0609	0.10	0.06	0	101	90	110				
Titanium	0.0601	0.010	0.06	0	100	90	110				
Uranium	0.0600	0.00030	0.06	0	100	90	110				
Vanadium	0.0609	0.10	0.06	0	101	90	110				
Zinc	0.0614	0.010	0.06	0	102	90	110				

Associated samples: H23110658-001C, H23110658-002C, H23110658-003C, H23110658-004C, H23110658-005C, H23110658-006C, H23110658-007C

Run ID :Run Order: ICPMS205-H_231201B: 56	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 12/01/23 16:19	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	0.0506	0.050	0.05	0	101	90	110				
Arsenic	0.0518	0.0050	0.05	0	103	90	110				
Barium	0.0512	0.10	0.05	0	102	90	110				
Beryllium	0.0524	0.0010	0.05	0	105	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110658

BatchID: R190508

Date: 19-Dec-23

Run ID :Run Order: ICPMS205-H_231201B: 56	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 12/01/23 16:19	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 23	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0517	0.0010	0.05	0	103	90	110				
Chromium	0.0520	0.010	0.05	0	104	90	110				
Cobalt	0.0519	0.010	0.05	0	104	90	110				
Copper	0.0520	0.010	0.05	0	104	90	110				
Iron	1.32	0.020	1.3	0	102	90	110				
Lead	0.0509	0.010	0.05	0	102	90	110				
Lithium	0.656	0.10	0.625	0	105	90	110				
Manganese	0.0504	0.010	0.05	0	101	90	110				
Molybdenum	0.0503	0.0050	0.05	0	101	90	110				
Nickel	0.0514	0.010	0.05	0	103	90	110				
Selenium	0.0522	0.0050	0.05	0	104	90	110				
Silver	0.0210	0.0050	0.02	0	105	90	110				
Strontium	0.0512	0.10	0.05	0	102	90	110				
Thallium	0.0507	0.10	0.05	0	101	90	110				
Tin	0.0479	0.10	0.05	0	96	90	110				
Titanium	0.0488	0.010	0.05	0	98	90	110				
Uranium	0.0501	0.00030	0.05	0	100	90	110				
Vanadium	0.0517	0.10	0.05	0	103	90	110				
Zinc	0.0528	0.010	0.05	0	106	90	110				

Associated samples: H23110658-001C, H23110658-002C, H23110658-003C, H23110658-004C, H23110658-005C, H23110658-006C, H23110658-007C

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110658

BatchID: R190518

Date: 19-Dec-23

Run ID :Run Order: ICPMS206-H_231201B: 14	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.8			
Analysis Date: 12/01/23 10:42	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.301	0.10	0.3	0	100	90	110				
Antimony	0.0600	0.050	0.06	0	100	90	110				
Arsenic	0.0604	0.0050	0.06	0	101	90	110				
Barium	0.0610	0.10	0.06	0	102	90	110				
Beryllium	0.0284	0.0010	0.03	0	95	90	110				
Cadmium	0.0310	0.0010	0.03	0	103	90	110				
Chromium	0.0617	0.010	0.06	0	103	90	110				
Cobalt	0.0623	0.010	0.06	0	104	90	110				
Copper	0.0628	0.010	0.06	0	105	90	110				
Iron	0.314	0.020	0.3	0	105	90	110				
Lead	0.0599	0.010	0.06	0	100	90	110				
Lithium	0.0603	0.10	0.06	0	100	90	110				
Molybdenum	0.0578	0.0050	0.06	0	96	90	110				
Nickel	0.0622	0.010	0.06	0	104	90	110				
Potassium	3.18	0.50	3	0	106	90	110				
Selenium	0.0602	0.0050	0.06	0	100	90	110				
Silver	0.0307	0.0050	0.03	0	102	90	110				
Sodium	3.09	0.50	3	0	103	90	110				
Strontium	0.0619	0.10	0.06	0	103	90	110				
Thallium	0.0597	0.10	0.06	0	100	90	110				
Thorium	0.0632	0.0010	0.06	0	105	90	110				
Tin	0.0596	0.10	0.06	0	99	90	110				
Titanium	0.0606	0.010	0.06	0	101	90	110				
Uranium	0.0604	0.00030	0.06	0	101	90	110				
Vanadium	0.0606	0.10	0.06	0	101	90	110				

Associated samples: H23110658-001B, H23110658-002B, H23110658-003B, H23110658-004B, H23110658-005B, H23110658-006B, H23110658-007B

Run ID :Run Order: ICPMS206-H_231201B: 22	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 12/01/23 11:11	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0517	0.10	0.05	0	103	90	110				
Antimony	0.0500	0.050	0.05	0	100	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110658

**BatchID:** R190518

**Date:** 19-Dec-23

Run ID :Run Order: ICPMS206-H_231201B: 22	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 12/01/23 11:11	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.0503	0.0050	0.05	0	101	90	110				
Barium	0.0510	0.10	0.05	0	102	90	110				
Beryllium	0.0478	0.0010	0.05	0	96	90	110				
Cadmium	0.0510	0.0010	0.05	0	102	90	110				
Chromium	0.0506	0.010	0.05	0	101	90	110				
Cobalt	0.0507	0.010	0.05	0	101	90	110				
Copper	0.0508	0.010	0.05	0	102	90	110				
Iron	1.29	0.020	1.3	0	99	90	110				
Lead	0.0499	0.010	0.05	0	100	90	110				
Lithium	0.604	0.10	0.625	0	97	90	110				
Molybdenum	0.0494	0.0050	0.05	0	99	90	110				
Nickel	0.0506	0.010	0.05	0	101	90	110				
Potassium	12.5	0.50	12.5	0	100	90	110				
Selenium	0.0498	0.0050	0.05	0	100	90	110				
Silver	0.0204	0.0050	0.02	0	102	90	110				
Sodium	12.7	0.50	12.5	0	101	90	110				
Strontium	0.0502	0.10	0.05	0	100	90	110				
Thallium	0.0496	0.10	0.05	0	99	90	110				
Thorium	0.0472	0.0010	0.05	0	94	90	110				
Tin	0.0500	0.10	0.05	0	100	90	110				
Titanium	0.0494	0.010	0.05	0	99	90	110				
Uranium	0.0482	0.00030	0.05	0	96	90	110				
Vanadium	0.0500	0.10	0.05	0	100	90	110				

Associated samples: H23110658-001B, H23110658-002B, H23110658-003B, H23110658-004B, H23110658-005B, H23110658-006B, H23110658-007B

Run ID :Run Order: ICPMS206-H_231201B: 24	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 12/01/23 11:18	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.002									
Antimony	ND	0.00002									
Arsenic	ND	0.00001									
Barium	ND	0.0003									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110658

**BatchID:** R190518

**Date:** 19-Dec-23

Run ID :Run Order: ICPMS206-H_231201B: 24	SampType: Method Blank				Lab ID: LRB				Method: E200.8		
Analysis Date: 12/01/23 11:18	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Beryllium	ND	0.00003									
Cadmium	0.00002	7E-06									
Chromium	ND	0.00001									
Cobalt	ND	0.00001									
Copper	ND	0.00004									
Iron	0.002	0.0007									
Lead	ND	0.00002									
Lithium	ND	0.0001									
Molybdenum	0.00003	7E-06									
Nickel	ND	0.00003									
Potassium	0.03	0.02									
Selenium	ND	0.00002									
Silver	ND	3E-06									
Sodium	0.01	0.004									
Strontium	ND	0.00007									
Thallium	0.00002	7E-06									
Thorium	0.00001	4E-06									
Tin	ND	0.0003									
Titanium	ND	0.0002									
Uranium	0.00002	3E-06									
Vanadium	ND	0.00001									

Associated samples: H23110658-001B, H23110658-002B, H23110658-003B, H23110658-004B, H23110658-005B, H23110658-006B, H23110658-007B

Run ID :Run Order: ICPMS206-H_231201B: 25	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.8		
Analysis Date: 12/01/23 11:21	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0547	0.10	0.05	0	109	85	115				
Antimony	0.0514	0.050	0.05	0	103	85	115				
Arsenic	0.0513	0.0050	0.05	0	103	85	115				
Barium	0.0523	0.10	0.05	0	105	85	115				
Beryllium	0.0499	0.0010	0.05	0	100	85	115				
Cadmium	0.0533	0.0010	0.05	0	107	85	115				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110658

BatchID: R190518

Date: 19-Dec-23

Run ID :Run Order: ICPMS206-H_231201B: 25	SampType: Laboratory Fortified Blank				Lab ID: LFB			Method: E200.8			
Analysis Date: 12/01/23 11:21	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.0520	0.010	0.05	0	104	85	115				
Cobalt	0.0538	0.010	0.05	0	108	85	115				
Copper	0.0536	0.010	0.05	0	107	85	115				
Iron	0.162	0.020	0.15	0	108	85	115				
Lead	0.0515	0.010	0.05	0	103	85	115				
Lithium	0.0548	0.10	0.05	0	110	85	115				
Molybdenum	0.0504	0.0050	0.05	0	101	85	115				
Nickel	0.0533	0.010	0.05	0	107	85	115				
Potassium	1.09	0.50	1	0	109	85	115				
Selenium	0.0509	0.0050	0.05	0	102	85	115				
Silver	0.0213	0.0050	0.02	0	107	85	115				
Sodium	1.11	0.50	1	0	111	85	115				
Strontium	0.0520	0.10	0.05	0	104	85	115				
Thallium	0.0518	0.10	0.05	0	104	85	115				
Thorium	0.0450	0.0010	0.05	0	90	85	115				
Tin	0.0523	0.10	0.05	0	105	85	115				
Titanium	0.0521	0.010	0.05	0	104	85	115				
Uranium	0.0496	0.00030	0.05	0	99	85	115				
Vanadium	0.0505	0.10	0.05	0	101	85	115				

Associated samples: H23110658-001B, H23110658-002B, H23110658-003B, H23110658-004B, H23110658-005B, H23110658-006B, H23110658-007B

Run ID :Run Order: ICPMS206-H_231201B: 53	SampType: Sample Matrix Spike				Lab ID: H23110659-011BMS			Method: E200.8			
Analysis Date: 12/01/23 13:00	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.370	0.030	0.05	0.3216		70	130				A
Antimony	0.0546	0.0010	0.05	0.0009487	107	70	130				
Arsenic	0.0572	0.0010	0.05	0.005566	103	70	130				
Barium	0.169	0.050	0.05	0.1153	108	70	130				
Beryllium	0.0527	0.0010	0.05	0.0002481	105	70	130				
Cadmium	0.269	0.0010	0.05	0.2175		70	130				A
Chromium	0.0526	0.0050	0.05	0.0004222	104	70	130				
Cobalt	0.0762	0.0050	0.05	0.025	102	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110658

BatchID: R190518

Date: 19-Dec-23

Run ID :Run Order: ICPMS206-H_231201B: 53	SampType: Sample Matrix Spike				Lab ID: H23110659-011BMS				Method: E200.8		
Analysis Date: 12/01/23 13:00	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	0.617	0.0050	0.05	0.5797		70	130				A
Iron	1.55	0.020	0.15	1.427		70	130				A
Lead	0.0539	0.0010	0.05	0.002155	104	70	130				
Lithium	0.632	0.10	0.05	0.5582		70	130				A
Molybdenum	0.0552	0.0010	0.05	0.001963	106	70	130				
Nickel	0.125	0.0050	0.05	0.0749	100	70	130				
Potassium	16.7	1.0	1	15.24		70	130				A
Selenium	0.0504	0.0010	0.05	0.0001703	100	70	130				
Silver	0.0210	0.0010	0.02	0.00000467	105	70	130				
Sodium	172	1.0	1	172.6		70	130				A
Strontium	1.71	0.010	0.05	1.686		70	130				A
Thallium	0.0548	0.00050	0.05	0.00002087	110	70	130				
Thorium	0.0523	0.0050	0.05	0	105	70	130				
Tin	0.0542	0.050	0.05	0	108	70	130				
Titanium	0.0524	0.0050	0.05	0	105	70	130				
Uranium	0.0526	0.00030	0.05	0.0006414	104	70	130				
Vanadium	0.0536	0.010	0.05	0	107	70	130				

Associated samples: H23110658-001B, H23110658-002B, H23110658-003B, H23110658-004B, H23110658-005B, H23110658-006B, H23110658-007B

Run ID :Run Order: ICPMS206-H_231201B: 54	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110659-011BMSD				Method: E200.8		
Analysis Date: 12/01/23 13:04	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.376	0.030	0.05	0.3216		70	130	0.3702	1.6	20	A
Antimony	0.0547	0.0010	0.05	0.0009487	107	70	130	0.05462	0.1	20	
Arsenic	0.0574	0.0010	0.05	0.005566	104	70	130	0.05718	0.5	20	
Barium	0.169	0.050	0.05	0.1153	108	70	130	0.1693	0.1	20	
Beryllium	0.0515	0.0010	0.05	0.0002481	103	70	130	0.0527	2.2	20	
Cadmium	0.272	0.0010	0.05	0.2175		70	130	0.2691	0.9	20	A
Chromium	0.0528	0.0050	0.05	0.0004222	105	70	130	0.05265	0.4	20	
Cobalt	0.0760	0.0050	0.05	0.025	102	70	130	0.07623	0.4	20	
Copper	0.615	0.0050	0.05	0.5797		70	130	0.6172	0.4	20	A
Iron	1.55	0.020	0.15	1.427		70	130	1.554	0.5	20	A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110658

BatchID: R190518

Date: 19-Dec-23

Run ID :Run Order: ICPMS206-H_231201B: 54	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110659-011BMSD				Method: E200.8		
Analysis Date: 12/01/23 13:04	Units: mg/L		Prep Info:			Prep Date:			Prep Method:		
Analytes <b>25</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	0.0542	0.0010	0.05	0.002155	104	70	130	0.05394	0.5	20	
Lithium	0.638	0.10	0.05	0.5582		70	130	0.6324	0.9	20	A
Molybdenum	0.0557	0.0010	0.05	0.001963	107	70	130	0.05515	1.0	20	
Nickel	0.125	0.0050	0.05	0.0749	100	70	130	0.1249	0.0	20	
Potassium	16.8	1.0	1	15.24		70	130	16.68	0.4	20	A
Selenium	0.0506	0.0010	0.05	0.0001703	101	70	130	0.05038	0.5	20	
Silver	0.0210	0.0010	0.02	0.00000467	105	70	130	0.02096	0.1	20	
Sodium	174	1.0	1	172.6		70	130	171.7	1.2	20	A
Strontium	1.73	0.010	0.05	1.686		70	130	1.706	1.4	20	A
Thallium	0.0543	0.00050	0.05	0.00002087	109	70	130	0.05483	1.0	20	
Thorium	0.0538	0.0050	0.05	0	107	70	130	0.05228	2.8	20	
Tin	0.0549	0.050	0.05	0	110	70	130	0.05416	1.3	20	
Titanium	0.0531	0.0050	0.05	0	106	70	130	0.05237	1.4	20	
Uranium	0.0525	0.00030	0.05	0.0006414	104	70	130	0.05256	0.2	20	
Vanadium	0.0536	0.010	0.05	0	107	70	130	0.05361	0.1	20	

Associated samples: H23110658-001B, H23110658-002B, H23110658-003B, H23110658-004B, H23110658-005B, H23110658-006B, H23110658-007B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110658

**BatchID:** R190901

**Date:** 19-Dec-23

Run ID :Run Order: ICPMS206-H_231215A: 12		SampType: Initial Calibration Verification Standard			Lab ID: ICV			Method: E200.8			
Analysis Date: 12/15/23 11:04		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.300	0.10	0.3	0	100	90	110				
Cadmium	0.0296	0.0010	0.03	0	99	90	110				
Iron	0.303	0.020	0.3	0	101	90	110				
Manganese	0.298	0.010	0.3	0	99	90	110				
Molybdenum	0.0571	0.0050	0.06	0	95	90	110				
Nickel	0.0598	0.010	0.06	0	100	90	110				
Thorium	0.0600	0.0010	0.06	0	100	90	110				
Zinc	0.0599	0.010	0.06	0	100	90	110				

Associated samples: H23110658-001B, H23110658-001C, H23110658-002B, H23110658-002C, H23110658-003B, H23110658-003C, H23110658-004B, H23110658-004C, H23110658-005B, H23110658-005C, H23110658-006B, H23110658-006C, H23110658-007B, H23110658-007C

Run ID :Run Order: ICPMS206-H_231215A: 22		SampType: Method Blank			Lab ID: LRB			Method: E200.8			
Analysis Date: 12/15/23 11:51		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	ND	7E-06									
Iron	0.001	0.0007									
Manganese	ND	0.00005									
Nickel	ND	0.00003									
Zinc	ND	0.0007									

Associated samples: H23110658-001B, H23110658-002B, H23110658-003B, H23110658-004B, H23110658-005B, H23110658-006B, H23110658-007B

Run ID :Run Order: ICPMS206-H_231215A: 23		SampType: Laboratory Fortified Blank			Lab ID: LFB			Method: E200.8			
Analysis Date: 12/15/23 11:55		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0480	0.0010	0.05	0	96	85	115				
Iron	0.157	0.020	0.15	0	105	85	115				
Manganese	0.0507	0.010	0.05	0	101	85	115				
Nickel	0.0503	0.010	0.05	0	101	85	115				
Zinc	0.0519	0.010	0.05	0	104	85	115				

Associated samples: H23110658-001B, H23110658-002B, H23110658-003B, H23110658-004B, H23110658-005B, H23110658-006B, H23110658-007B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110658

BatchID: R190901

Date: 19-Dec-23

Run ID :Run Order: ICPMS206-H_231215A: 96		SampType: Initial Calibration Verification Standard			Lab ID: ICV			Method: E200.8			
Analysis Date: 12/15/23 18:48		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.300	0.10	0.3	0	100	90	110				
Cadmium	0.0293	0.0010	0.03	0	98	90	110				
Iron	0.306	0.020	0.3	0	102	90	110				
Manganese	0.297	0.010	0.3	0	99	90	110				
Molybdenum	0.0561	0.0050	0.06	0	94	90	110				
Nickel	0.0593	0.010	0.06	0	99	90	110				
Thorium	0.0601	0.0010	0.06	0	100	90	110				
Zinc	0.0602	0.010	0.06	0	100	90	110				

Associated samples: H23110658-001B, H23110658-001C, H23110658-002B, H23110658-002C, H23110658-003B, H23110658-003C, H23110658-004B, H23110658-004C, H23110658-005B, H23110658-005C, H23110658-006B, H23110658-006C, H23110658-007B, H23110658-007C

Run ID :Run Order: ICPMS206-H_231215A: 104		SampType: Continuing Calibration Verification Standar			Lab ID: CCV			Method: E200.8			
Analysis Date: 12/15/23 20:01		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0526	0.10	0.05	0	105	90	110				
Cadmium	0.0504	0.0010	0.05	0	101	90	110				
Iron	1.32	0.020	1.3	0	101	90	110				
Manganese	0.0509	0.010	0.05	0	102	90	110				
Molybdenum	0.0493	0.0050	0.05	0	99	90	110				
Nickel	0.0501	0.010	0.05	0	100	90	110				
Thorium	0.0496	0.0010	0.05	0	99	90	110				
Zinc	0.0510	0.010	0.05	0	102	90	110				

Associated samples: H23110658-001B, H23110658-001C, H23110658-002B, H23110658-002C, H23110658-003B, H23110658-003C, H23110658-004B, H23110658-004C, H23110658-005B, H23110658-005C, H23110658-006B, H23110658-006C, H23110658-007B, H23110658-007C

Run ID :Run Order: ICPMS206-H_231215A: 122		SampType: Continuing Calibration Verification Standar			Lab ID: CCV			Method: E200.8			
Analysis Date: 12/15/23 21:05		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0499	0.10	0.05	0	100	90	110				
Cadmium	0.0501	0.0010	0.05	0	100	90	110				
Iron	1.33	0.020	1.3	0	102	90	110				
Manganese	0.0502	0.010	0.05	0	100	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110658

BatchID: R190901

Date: 19-Dec-23

Run ID :Run Order: ICPMS206-H_231215A: 122	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 12/15/23 21:05	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Molybdenum	0.0492	0.0050	0.05	0	98	90	110				
Nickel	0.0507	0.010	0.05	0	101	90	110				
Thorium	0.0528	0.0010	0.05	0	106	90	110				
Zinc	0.0517	0.010	0.05	0	103	90	110				

Associated samples: H23110658-001B, H23110658-001C, H23110658-002B, H23110658-002C, H23110658-003B, H23110658-003C, H23110658-004B, H23110658-004C, H23110658-005B, H23110658-005C, H23110658-006B, H23110658-006C, H23110658-007B, H23110658-007C

Run ID :Run Order: ICPMS206-H_231215A: 131	SampType: Sample Matrix Spike				Lab ID: H23110658-007BMS				Method: E200.8		
Analysis Date: 12/15/23 21:37	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0500	0.0010	0.05	0.00002217	100	70	130				
Iron	0.176	0.020	0.15	0.02161	103	70	130				
Manganese	0.230	0.0010	0.05	0.1854	90	70	130				
Nickel	0.0499	0.0050	0.05	0.001153	97	70	130				
Zinc	0.0886	0.010	0.05	0.03618	105	70	130				

Associated samples: H23110658-001B, H23110658-002B, H23110658-003B, H23110658-004B, H23110658-005B, H23110658-006B, H23110658-007B

Run ID :Run Order: ICPMS206-H_231215A: 132	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110658-007BMSD				Method: E200.8		
Analysis Date: 12/15/23 21:41	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 5	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0505	0.0010	0.05	0.00002217	101	70	130	0.05001	1.0	20	
Iron	0.179	0.020	0.15	0.02161	105	70	130	0.1757	1.8	20	
Manganese	0.232	0.0010	0.05	0.1854	94	70	130	0.2304	0.9	20	
Nickel	0.0516	0.0050	0.05	0.001153	101	70	130	0.0499	3.3	20	
Zinc	0.0902	0.010	0.05	0.03618	108	70	130	0.08864	1.7	20	

Associated samples: H23110658-001B, H23110658-002B, H23110658-003B, H23110658-004B, H23110658-005B, H23110658-006B, H23110658-007B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110658

**BatchID:** TDS231120A

**Date:** 19-Dec-23

Run ID :Run Order: <b>ACCU-124 (14410200)_231120B: 1</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MB-1_231120</b>	Method: <b>A2540 C</b>								
Analysis Date: <b>11/20/23 12:32</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	ND	6									
Associated samples: <b>H23110658-001A, H23110658-002A, H23110658-003A, H23110658-004A, H23110658-005A, H23110658-006A, H23110658-007A</b>											

Run ID :Run Order: <b>ACCU-124 (14410200)_231120B: 2</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS-2_231120</b>	Method: <b>A2540 C</b>								
Analysis Date: <b>11/20/23 12:33</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	1990	50	2000	0	<b>100</b>	90	110				
Associated samples: <b>H23110658-001A, H23110658-002A, H23110658-003A, H23110658-004A, H23110658-005A, H23110658-006A, H23110658-007A</b>											

Run ID :Run Order: <b>ACCU-124 (14410200)_231120B: 3</b>	SampType: <b>Sample Duplicate</b>	Lab ID: <b>H23110659-006A DUP</b>	Method: <b>A2540 C</b>								
Analysis Date: <b>11/20/23 12:33</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	1090	25		0							
Associated samples: <b>H23110658-001A, H23110658-002A, H23110658-003A, H23110658-004A, H23110658-005A, H23110658-006A, H23110658-007A</b>											

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



# Work Order Receipt Checklist

MT Dept of Justice

H23110658

Login completed by: Taylor K. Jones

Date Received: 11/17/2023

Reviewed by: wjohnson

Received by: TKJ

Reviewed Date: 11/20/2023

Carrier name: Hand Deliver

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	1.5°C On Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

## Contact and Corrective Action Comments:

The Temperature Blank temperature for shipping container 6 was 0.0°C and shipping container 7 was 1.5°C.  
tj 11/17/23





# Chain of Custody & Analytical Request Record

www.energylab.com

### Account Information (Billing information)

Company/Name MT DOJ / Natural Resource Damage Program		
Contact Jim Ford		
Phone (406) 444-4034		
Mailing Address 1720 9th Avenue		
City, State, Zip Helena, Montana 59620-1425		
Email jford@mt.gov		
Receive Invoice <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	
Purchase Order	Quote 2187	Bottle Order 45917

### Report Information (if different than Account Information)

Company/Name Water & Environmental Technologies	
Contact Janelle Garza	
Phone (406) 565-4291	
Mailing Address 480 East Park Street	
City, State, Zip Butte, Montana 59701	
Email jgarza@waterenvtech.com	
Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	
Special Report/Formats	
<input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC <input checked="" type="checkbox"/> EDD/EDT (contact laboratory) <input type="checkbox"/> Other	

### Comments

Please do not use sample ID FB-5 sample for MS/MSD.

C1 0.0°C  
 C2 -0.2°C  
 C3 0.3°C  
 C4 -1.6°C  
 C5 0.2°C  
 C6 0.0°C  
 C7 1.5°C

### Project Information

Project Name, PWSID, Permit, etc. NRDPM16 TO2 / 001	
Sampler Name Christina Eggenperger	Sampler Phone (406) 531-9486
Sample Origin State Montana	EPA/State Compliance <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
URANIUM MINING CLIENTS MUST indicate sample type	
<input type="checkbox"/> Unprocessed Ore	
<input type="checkbox"/> Processed Ore (Ground or Refined) **CALL BEFORE SENDING	
<input type="checkbox"/> 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)	

### Matrix Codes

- A - Air
- W - Water
- S - Soils/Solids
- V - Vegetation
- B - Bioassay
- O - Oil
- DW - Drinking Water

### Analysis Requested

pH & pH Meas. Temp A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353.2	Total & Dissolved Metals E200.7/8	See Attached
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

All turnaround times are standard unless marked as RUSH.

Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page

C7  
C7  
C7  
C7  
C6  
C6  
C6

Sample Identification (Name, Location, Interval, etc.)	Collection		Number of Containers	Matrix (See Codes Above)	Analysis Requested									See Attached	RUSH TAT	ELI LAB ID Laboratory Use Only
	Date	Time			pH & pH Meas. Temp A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353.2	Total & Dissolved Metals E200.7/8			
1 PMP-12	11/16/2023	1:15 pm	6	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		H23110658	
2 SS-04	11/16/2023	1:45 pm	6	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
3 DUP-5	11/16/2023	1:46 pm	6	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
4 FB-5	11/16/2023	2:05 pm	6	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
5 MSDSG-02	11/16/2023	2:19 pm	6	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
6 MSDSG-05	11/16/2023	2:41 pm	6	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
7 MSDSG-03	11/16/2023	3:20 pm	6	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
8																
9																

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print) Janelle Garza	Date/Time 11-17-23/1000	Signature <i>JGarza</i>	Received by (print) Jace Rhodes	Date/Time 11-17-23/1000	Signature <i>JRhodes</i>			
	Relinquished by (print) Jace Rhodes	Date/Time 11-17-23/1107	Signature <i>JRhodes</i>	Received by Laboratory (print) Taylor Jones	Date/Time 11/17/23 1107	Signature <i>TJones</i>			
LABORATORY USE ONLY									
Shipped By Hand	Cooler ID(s) 4	Custody Seals Y (N) C B	Intact Y N	Receipt Temp comments °C	Temp Blank (Y) N	On Ice (Y) N	Payment Type CC Cash Check	Amount \$	Receipt Number (dash/check only)

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.



# ANALYTICAL SUMMARY REPORT

December 28, 2023

MT Dept of Justice  
Natural Resource Damage Program  
Helena, MT 59620-1425

Work Order: H23110659      Quote ID: H2187  
Project Name: NRDPM16 TO2\_Task 001

Energy Laboratories Inc Helena MT received the following 19 samples for MT Dept of Justice on 11/17/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H23110659-001	PMP-03A	11/15/23 14:26	11/17/23	Groundwater	Rare Earth Metals, Dissolved Metals by ICP/ICPMS, Dissolved Alkalinity to pH 4.5 Anion - Cation Balance Carbon, Dissolved Organic Conductivity Carbon, Total Organic Hardness Anions by Ion Chromatography Nitrogen, Nitrate + Nitrite pH Solids, Total Dissolved
H23110659-002	GS-40R	11/15/23 14:44	11/17/23	Groundwater	Same As Above
H23110659-003	FB-3	11/15/23 14:45	11/17/23	Groundwater	Same As Above
H23110659-004	PMP-01B	11/15/23 15:02	11/17/23	Groundwater	Same As Above
H23110659-005	DUP-3	11/15/23 15:03	11/17/23	Groundwater	Same As Above
H23110659-006	AMW-09	11/15/23 15:14	11/17/23	Groundwater	Same As Above
H23110659-007	EB-3	11/15/23 15:15	11/17/23	Groundwater	Same As Above
H23110659-008	PMP-09B	11/15/23 15:37	11/17/23	Groundwater	Same As Above
H23110659-009	AMW-08	11/15/23 15:46	11/17/23	Groundwater	Same As Above
H23110659-010	PT14-1	11/16/23 9:38	11/17/23	Groundwater	Same As Above
H23110659-011	AMW-01A	11/16/23 9:41	11/17/23	Groundwater	Same As Above
H23110659-012	MSD-02A	11/16/23 10:19	11/17/23	Groundwater	Same As Above
H23110659-013	AMC-24B	11/16/23 10:46	11/17/23	Groundwater	Same As Above
H23110659-014	AMW-20	11/16/23 11:02	11/17/23	Groundwater	Same As Above
H23110659-015	PMP-02B	11/16/23 11:29	11/17/23	Groundwater	Same As Above
H23110659-016	PMP-02A	11/16/23 11:50	11/17/23	Groundwater	Same As Above
H23110659-017	PMP-07B	11/16/23 13:14	11/17/23	Groundwater	Same As Above
H23110659-018	PMP-01A	11/16/23 13:21	11/17/23	Groundwater	Same As Above
H23110659-019	PMP-04B	11/16/23 15:42	11/17/23	Groundwater	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.




## ANALYTICAL SUMMARY REPORT

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

  
Login

Digitally signed by  
Jessica C. Smith  
Date: 2023.12.28 17:19:00 -07:00





**CLIENT:** MT Dept of Justice  
**Project:** NRDPM16 TO2\_Task 001  
**Work Order:** H23110659

**Report Date:** 12/28/23

## CASE NARRATIVE

---

Tests associated with analyst identified as ELI-CA were subcontracted to Energy Laboratories, 2393 Salt Creek Hwy., Casper, WY, EPA Number WY00002.

Sample PMP-01A for N+N was reran for confirmation past the method recommended hold time and those results are reported. jcs 12/28/2023





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-03A  
**Lab ID:** H23110659-001  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/15/23 14:26 **Date Received:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.8	s.u.	H	0.1		A4500-H B	11/17/23 16:10 / eek		PHSC_101-H_231117A : 140		R190164
pH Measurement Temp	15.9	°C				A4500-H B	11/17/23 16:10 / eek		PHSC_101-H_231117A : 140		R190164
Conductivity @ 25 C	3840	umhos/cm		5		A2510 B	11/17/23 16:10 / eek		PHSC_101-H_231117A : 141		R190164
Solids, Total Dissolved TDS @ 180 C	3900	mg/L		100		A2540 C	11/20/23 12:41 / dpw		124 (14410200)_231120B : 15		TDS231120A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	11/21/23 10:16 / dpw		PHSC_101-H_231121A : 26		R190255
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	11/21/23 10:16 / dpw		PHSC_101-H_231121A : 26		R190255
Carbonate as CO3	ND	mg/L		4		A2320 B	11/21/23 10:16 / dpw		PHSC_101-H_231121A : 26		R190255
Chloride	318	mg/L		1		E300.0	11/18/23 11:45 / SR		C METROHM_231116A : 202		R190187
Sulfate	2260	mg/L		1		E300.0	11/18/23 11:45 / SR		C METROHM_231116A : 202		R190187
Bromide	0.9	mg/L		0.5		E300.0	11/18/23 11:45 / SR		C METROHM_231116A : 202		R190187
Fluoride	1.4	mg/L		0.1		E300.0	11/18/23 11:45 / SR		C METROHM_231116A : 202		R190187
Hardness as CaCO3	1320	mg/L		1		A2340 B	12/01/23 11:57 / SR		CALC_231212B : 36		R190781
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.7	mg/L		0.5		A5310 C	11/28/23 23:48 / eli-c		SUB-C301420 : 31		C_R301420
Organic Carbon, Total (TOC)	2.9	mg/L		0.5		A5310 C	11/28/23 14:45 / eli-c		SUB-C301420 : 4		C_R301420
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	11/29/23 17:50 / JAR		SEAL AA500_231129A : 122		R190433
<b>METALS, DISSOLVED</b>											
Aluminum	1.03	mg/L		0.009		E200.8	12/01/23 11:57 / dck		ICPMS206-H_231201B : 35		R190518
Antimony	ND	mg/L		0.0005		E200.8	12/01/23 11:57 / dck		ICPMS206-H_231201B : 35		R190518
Arsenic	0.076	mg/L		0.001		E200.8	12/01/23 11:57 / dck		ICPMS206-H_231201B : 35		R190518
Barium	0.018	mg/L		0.003		E200.8	12/01/23 11:57 / dck		ICPMS206-H_231201B : 35		R190518
Beryllium	0.0059	mg/L		0.0008		E200.8	12/01/23 11:57 / dck		ICPMS206-H_231201B : 35		R190518
Boron	0.64	mg/L		0.05		E200.7	11/27/23 21:13 / slj		ICP2-HE_231127A : 168		R190361
Cadmium	1.16	mg/L		0.00003		E200.8	12/01/23 11:57 / dck		ICPMS206-H_231201B : 35		R190518
Cesium	ND	mg/L		0.01		E200.8	11/30/23 14:33 / dck		ICPMS206-H_231130A : 94		R190453

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-03A  
**Lab ID:** H23110659-001  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/15/23 14:26 **DateReceived:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	335	mg/L		1		E200.7	11/27/23 21:13 / slj		ICP2-HE_231127A : 168		R190361
Chromium	ND	mg/L		0.005		E200.8	12/01/23 11:57 / dck		ICPMS206-H_231201B : 35		R190518
Cobalt	0.939	mg/L		0.005		E200.8	12/01/23 11:57 / dck		ICPMS206-H_231201B : 35		R190518
Copper	6.67	mg/L		0.02		E200.7	11/27/23 21:13 / slj		ICP2-HE_231127A : 168		R190361
Gallium	ND	mg/L		0.01		E200.8	11/30/23 14:33 / dck		ICPMS206-H_231130A : 94		R190453
Iron	326	mg/L		0.02		E200.7	11/27/23 21:13 / slj		ICP2-HE_231127A : 168		R190361
Lead	0.0092	mg/L		0.0003		E200.8	12/01/23 11:57 / dck		ICPMS206-H_231201B : 35		R190518
Lanthanum	ND	mg/L		0.01		E200.8	11/30/23 14:33 / dck		ICPMS206-H_231130A : 94		R190453
Lithium	0.7	mg/L		0.1		E200.8	12/01/23 11:57 / dck		ICPMS206-H_231201B : 35		R190518
Magnesium	118	mg/L		1		E200.8	12/01/23 11:57 / dck		ICPMS206-H_231201B : 35		R190518
Neodymium	ND	mg/L		0.005		E200.8	11/30/23 14:33 / dck		ICPMS206-H_231130A : 94		R190453
Niobium	ND	mg/L		0.01		E200.8	11/30/23 14:33 / dck		ICPMS206-H_231130A : 94		R190453
Manganese	133	mg/L		0.01		E200.7	12/11/23 14:00 / slj		ICP2-HE_231211B : 73		R190737
Molybdenum	ND	mg/L		0.001		E200.8	12/01/23 11:57 / dck		ICPMS206-H_231201B : 35		R190518
Nickel	0.388	mg/L		0.002		E200.8	12/01/23 11:57 / dck		ICPMS206-H_231201B : 35		R190518
Palladium	ND	mg/L		0.01		E200.8	11/30/23 14:33 / dck		ICPMS206-H_231130A : 94		R190453
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 14:33 / dck		ICPMS206-H_231130A : 94		R190453
Rubidium	ND	mg/L		0.01		E200.8	11/30/23 14:33 / dck		ICPMS206-H_231130A : 94		R190453
Potassium	19	mg/L		1		E200.8	12/01/23 11:57 / dck		ICPMS206-H_231201B : 35		R190518
Selenium	ND	mg/L		0.001		E200.8	12/01/23 11:57 / dck		ICPMS206-H_231201B : 35		R190518
Silver	ND	mg/L		0.0002		E200.8	12/01/23 11:57 / dck		ICPMS206-H_231201B : 35		R190518
Sodium	106	mg/L		1		E200.8	12/01/23 11:57 / dck		ICPMS206-H_231201B : 35		R190518
Strontium	2.28	mg/L		0.01		E200.7	11/27/23 21:13 / slj		ICP2-HE_231127A : 168		R190361
Thallium	ND	mg/L		0.0002		E200.8	12/01/23 11:57 / dck		ICPMS206-H_231201B : 35		R190518
Thorium	ND	mg/L		0.005		E200.8	12/01/23 11:57 / dck		ICPMS206-H_231201B : 35		R190518
Tin	ND	mg/L		0.05		E200.8	12/01/23 11:57 / dck		ICPMS206-H_231201B : 35		R190518
Titanium	ND	mg/L		0.005		E200.8	12/01/23 11:57 / dck		ICPMS206-H_231201B : 35		R190518
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 14:33 / dck		ICPMS206-H_231130A : 94		R190453
Uranium	0.0015	mg/L		0.0002		E200.8	12/01/23 11:57 / dck		ICPMS206-H_231201B : 35		R190518
Vanadium	ND	mg/L		0.01		E200.8	12/01/23 11:57 / dck		ICPMS206-H_231201B : 35		R190518
Zinc	148	mg/L		0.03		E200.7	12/11/23 14:00 / slj		ICP2-HE_231211B : 73		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 14:33 / dck		ICPMS206-H_231130A : 94		R190453

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-03A  
**Lab ID:** H23110659-001  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/15/23 14:26      **DateReceived:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.69	%				A1030 E	12/12/23 10:25 / SR		CALC_231212B : 34		R190781

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-40R  
**Lab ID:** H23110659-002  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/15/23 14:44 **Date Received:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.0	s.u.	H	0.1		A4500-H B	11/17/23 16:46 / eek		PHSC_101-H_231117A : 178		R190164
pH Measurement Temp	16.7	°C				A4500-H B	11/17/23 16:46 / eek		PHSC_101-H_231117A : 178		R190164
Conductivity @ 25 C	2380	umhos/cm		5		A2510 B	11/17/23 16:46 / eek		PHSC_101-H_231117A : 179		R190164
Solids, Total Dissolved TDS @ 180 C	2380	mg/L		50		A2540 C	11/20/23 14:18 / dpw		124 (14410200)_231120B : 36		TDS231120A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	11/21/23 10:20 / dpw		PHSC_101-H_231121A : 28		R190255
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	11/21/23 10:20 / dpw		PHSC_101-H_231121A : 28		R190255
Carbonate as CO3	ND	mg/L		4		A2320 B	11/21/23 10:20 / dpw		PHSC_101-H_231121A : 28		R190255
Chloride	18	mg/L		1		E300.0	11/20/23 19:32 / SR		IC METROHM_231120A : 24		R190257
Sulfate	1580	mg/L		1		E300.0	11/20/23 19:32 / SR		IC METROHM_231120A : 24		R190257
Bromide	ND	mg/L		0.5		E300.0	11/20/23 19:32 / SR		IC METROHM_231120A : 24		R190257
Fluoride	1.3	mg/L		0.1		E300.0	11/20/23 19:32 / SR		IC METROHM_231120A : 24		R190257
Hardness as CaCO3	1100	mg/L		1		A2340 B	12/08/23 15:46 / SR		CALC_231212B : 47		R190781
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.2	mg/L		0.5		A5310 C	11/29/23 00:56 / eli-c		SUB-C301420 : 34		C_R301420
Organic Carbon, Total (TOC)	1.3	mg/L		0.5		A5310 C	11/28/23 15:47 / eli-c		SUB-C301420 : 7		C_R301420
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	11/29/23 17:51 / JAR		SEAL AA500_231129A : 123		R190433
<b>METALS, DISSOLVED</b>											
Aluminum	0.422	mg/L		0.009		E200.8	12/01/23 12:01 / dck		ICPMS206-H_231201B : 36		R190518
Antimony	ND	mg/L		0.0005		E200.8	12/01/23 12:01 / dck		ICPMS206-H_231201B : 36		R190518
Arsenic	ND	mg/L		0.001		E200.8	12/01/23 12:01 / dck		ICPMS206-H_231201B : 36		R190518
Barium	0.007	mg/L		0.003		E200.8	12/01/23 12:01 / dck		ICPMS206-H_231201B : 36		R190518
Beryllium	ND	mg/L		0.0008		E200.8	12/01/23 12:01 / dck		ICPMS206-H_231201B : 36		R190518
Boron	0.09	mg/L		0.05		E200.8	12/01/23 12:01 / dck		ICPMS206-H_231201B : 36		R190518
Cadmium	0.120	mg/L		0.00003		E200.8	12/01/23 12:01 / dck		ICPMS206-H_231201B : 36		R190518
Cesium	ND	mg/L		0.01		E200.8	11/30/23 14:35 / dck		ICPMS206-H_231130A : 95		R190453

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-40R  
**Lab ID:** H23110659-002  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/15/23 14:44 **DateReceived:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	314	mg/L		1		E200.7	12/08/23 15:46 / slj		ICP2-HE_231208B : 56		R190705
Chromium	ND	mg/L		0.005		E200.8	12/01/23 12:01 / dck		ICPMS206-H_231201B : 36		R190518
Cobalt	0.362	mg/L		0.005		E200.8	12/01/23 12:01 / dck		ICPMS206-H_231201B : 36		R190518
Copper	0.192	mg/L		0.002		E200.8	12/01/23 12:01 / dck		ICPMS206-H_231201B : 36		R190518
Gallium	ND	mg/L		0.01		E200.8	11/30/23 14:35 / dck		ICPMS206-H_231130A : 95		R190453
Iron	103	mg/L		0.04		E200.7	12/11/23 14:04 / slj		ICP2-HE_231211B : 74		R190737
Lead	0.0011	mg/L		0.0003		E200.8	12/01/23 12:01 / dck		ICPMS206-H_231201B : 36		R190518
Lanthanum	0.01	mg/L		0.01		E200.8	11/30/23 14:35 / dck		ICPMS206-H_231130A : 95		R190453
Lithium	0.3	mg/L		0.1		E200.8	12/01/23 12:01 / dck		ICPMS206-H_231201B : 36		R190518
Magnesium	76	mg/L		1		E200.8	12/01/23 12:01 / dck		ICPMS206-H_231201B : 36		R190518
Neodymium	ND	mg/L		0.005		E200.8	11/30/23 14:35 / dck		ICPMS206-H_231130A : 95		R190453
Niobium	ND	mg/L		0.01		E200.8	11/30/23 14:35 / dck		ICPMS206-H_231130A : 95		R190453
Manganese	79.7	mg/L		0.007		E200.7	12/11/23 14:04 / slj		ICP2-HE_231211B : 74		R190737
Molybdenum	0.001	mg/L		0.001		E200.8	12/01/23 12:01 / dck		ICPMS206-H_231201B : 36		R190518
Nickel	0.211	mg/L		0.002		E200.8	12/01/23 12:01 / dck		ICPMS206-H_231201B : 36		R190518
Palladium	ND	mg/L		0.01		E200.8	11/30/23 14:35 / dck		ICPMS206-H_231130A : 95		R190453
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 14:35 / dck		ICPMS206-H_231130A : 95		R190453
Rubidium	0.08	mg/L		0.01		E200.8	11/30/23 14:35 / dck		ICPMS206-H_231130A : 95		R190453
Potassium	20	mg/L		1		E200.8	12/01/23 12:01 / dck		ICPMS206-H_231201B : 36		R190518
Selenium	ND	mg/L		0.001		E200.8	12/01/23 12:01 / dck		ICPMS206-H_231201B : 36		R190518
Silver	ND	mg/L		0.0002		E200.8	12/01/23 12:01 / dck		ICPMS206-H_231201B : 36		R190518
Sodium	41	mg/L		1		E200.8	12/01/23 12:01 / dck		ICPMS206-H_231201B : 36		R190518
Strontium	2.33	mg/L		0.01		E200.8	12/01/23 12:01 / dck		ICPMS206-H_231201B : 36		R190518
Thallium	0.0007	mg/L		0.0002		E200.8	12/15/23 21:55 / dck		ICPMS206-H_231215A : 136		R190901
Thorium	ND	mg/L		0.005		E200.8	12/01/23 12:01 / dck		ICPMS206-H_231201B : 36		R190518
Tin	ND	mg/L		0.05		E200.8	12/01/23 12:01 / dck		ICPMS206-H_231201B : 36		R190518
Titanium	ND	mg/L		0.005		E200.8	12/01/23 12:01 / dck		ICPMS206-H_231201B : 36		R190518
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 14:35 / dck		ICPMS206-H_231130A : 95		R190453
Uranium	0.0010	mg/L		0.0002		E200.8	12/15/23 21:55 / dck		ICPMS206-H_231215A : 136		R190901
Vanadium	ND	mg/L		0.01		E200.8	12/01/23 12:01 / dck		ICPMS206-H_231201B : 36		R190518
Zinc	42.9	mg/L		0.01		E200.7	12/11/23 14:04 / slj		ICP2-HE_231211B : 74		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 14:35 / dck		ICPMS206-H_231130A : 95		R190453

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** GS-40R  
**Lab ID:** H23110659-002  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/15/23 14:44    **DateReceived:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-2.75	%				A1030 E	12/12/23 10:26 / SR		CALC_231212B : 45		R190781

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-3  
**Lab ID:** H23110659-003  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/15/23 14:45 **Date Received:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.6	s.u.	H	0.1		A4500-H B	11/17/23 16:14 / eek		PHSC_101-H_231117A : 144		R190164
pH Measurement Temp	15.3	°C				A4500-H B	11/17/23 16:14 / eek		PHSC_101-H_231117A : 144		R190164
Conductivity @ 25 C	ND	umhos/cm		5		A2510 B	11/17/23 16:14 / eek		PHSC_101-H_231117A : 145		R190164
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	L	20		A2540 C	11/20/23 12:41 / dpw		124 (14410200)_231120B : 16		TDS231120A
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.											
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	11/21/23 10:24 / dpw		PHSC_101-H_231121A : 30		R190255
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	11/21/23 10:24 / dpw		PHSC_101-H_231121A : 30		R190255
Carbonate as CO3	ND	mg/L		4		A2320 B	11/21/23 10:24 / dpw		PHSC_101-H_231121A : 30		R190255
Chloride	ND	mg/L		1		E300.0	11/20/23 19:47 / SR		IC METROHM_231120A : 25		R190257
Sulfate	ND	mg/L		1		E300.0	11/20/23 19:47 / SR		IC METROHM_231120A : 25		R190257
Bromide	ND	mg/L		0.5		E300.0	11/20/23 19:47 / SR		IC METROHM_231120A : 25		R190257
Fluoride	ND	mg/L		0.1		E300.0	11/20/23 19:47 / SR		IC METROHM_231120A : 25		R190257
Hardness as CaCO3	ND	mg/L		1		A2340 B	12/08/23 16:12 / abc		CALC_231211A : 36		R190718
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	11/29/23 01:11 / eli-c		SUB-C301420 : 35		C_R301420
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	11/28/23 16:02 / eli-c		SUB-C301420 : 8		C_R301420
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	11/29/23 17:52 / JAR		SEAL AA500_231129A : 124		R190433
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	12/01/23 12:04 / dck		ICPMS206-H_231201B : 37		R190518
Antimony	ND	mg/L		0.0005		E200.8	12/01/23 12:04 / dck		ICPMS206-H_231201B : 37		R190518
Arsenic	ND	mg/L		0.001		E200.8	12/01/23 12:04 / dck		ICPMS206-H_231201B : 37		R190518
Barium	ND	mg/L		0.003		E200.8	12/01/23 12:04 / dck		ICPMS206-H_231201B : 37		R190518
Beryllium	ND	mg/L		0.0008		E200.8	12/01/23 12:04 / dck		ICPMS206-H_231201B : 37		R190518
Boron	ND	mg/L		0.05		E200.8	12/01/23 12:04 / dck		ICPMS206-H_231201B : 37		R190518
Cadmium	ND	mg/L		0.00003		E200.8	12/15/23 21:27 / dck		ICPMS206-H_231215A : 128		R190901
Cesium	ND	mg/L		0.01		E200.8	11/30/23 14:37 / dck		ICPMS206-H_231130A : 96		R190453

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time

L -Lowest available reporting limit for the analytical method used and/or volume submitted





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-3  
**Lab ID:** H23110659-003  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/15/23 14:45 **DateReceived:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	ND	mg/L		1		E200.7	12/08/23 16:12 / slj		ICP2-HE_231208B : 63		R190705
Chromium	ND	mg/L		0.005		E200.8	12/01/23 12:04 / dck		ICPMS206-H_231201B : 37		R190518
Cobalt	ND	mg/L		0.005		E200.8	12/01/23 12:04 / dck		ICPMS206-H_231201B : 37		R190518
Copper	ND	mg/L		0.002		E200.8	12/01/23 12:04 / dck		ICPMS206-H_231201B : 37		R190518
Gallium	ND	mg/L		0.01		E200.8	11/30/23 14:37 / dck		ICPMS206-H_231130A : 96		R190453
Iron	ND	mg/L		0.02		E200.8	12/15/23 21:27 / dck		ICPMS206-H_231215A : 128		R190901
Lead	ND	mg/L		0.0003		E200.8	12/01/23 12:04 / dck		ICPMS206-H_231201B : 37		R190518
Lanthanum	ND	mg/L		0.01		E200.8	11/30/23 14:37 / dck		ICPMS206-H_231130A : 96		R190453
Lithium	ND	mg/L		0.1		E200.8	12/01/23 12:04 / dck		ICPMS206-H_231201B : 37		R190518
Magnesium	ND	mg/L		1		E200.8	12/01/23 12:04 / dck		ICPMS206-H_231201B : 37		R190518
Neodymium	ND	mg/L		0.005		E200.8	11/30/23 14:37 / dck		ICPMS206-H_231130A : 96		R190453
Niobium	ND	mg/L		0.01		E200.8	11/30/23 14:37 / dck		ICPMS206-H_231130A : 96		R190453
Manganese	ND	mg/L		0.001		E200.8	12/15/23 21:27 / dck		ICPMS206-H_231215A : 128		R190901
Molybdenum	ND	mg/L		0.001		E200.8	12/01/23 12:04 / dck		ICPMS206-H_231201B : 37		R190518
Nickel	ND	mg/L		0.002		E200.8	12/01/23 12:04 / dck		ICPMS206-H_231201B : 37		R190518
Palladium	ND	mg/L		0.01		E200.8	11/30/23 14:37 / dck		ICPMS206-H_231130A : 96		R190453
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 14:37 / dck		ICPMS206-H_231130A : 96		R190453
Rubidium	ND	mg/L		0.01		E200.8	11/30/23 14:37 / dck		ICPMS206-H_231130A : 96		R190453
Potassium	ND	mg/L		1		E200.8	12/01/23 12:04 / dck		ICPMS206-H_231201B : 37		R190518
Selenium	ND	mg/L		0.001		E200.8	12/01/23 12:04 / dck		ICPMS206-H_231201B : 37		R190518
Silver	ND	mg/L		0.0002		E200.8	12/01/23 12:04 / dck		ICPMS206-H_231201B : 37		R190518
Sodium	ND	mg/L		1		E200.8	12/01/23 12:04 / dck		ICPMS206-H_231201B : 37		R190518
Strontium	ND	mg/L		0.01		E200.8	12/01/23 12:04 / dck		ICPMS206-H_231201B : 37		R190518
Thallium	ND	mg/L		0.0002		E200.8	12/01/23 12:04 / dck		ICPMS206-H_231201B : 37		R190518
Thorium	ND	mg/L		0.005		E200.8	12/01/23 12:04 / dck		ICPMS206-H_231201B : 37		R190518
Tin	ND	mg/L		0.05		E200.8	12/01/23 12:04 / dck		ICPMS206-H_231201B : 37		R190518
Titanium	ND	mg/L		0.005		E200.8	12/01/23 12:04 / dck		ICPMS206-H_231201B : 37		R190518
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 14:37 / dck		ICPMS206-H_231130A : 96		R190453
Uranium	ND	mg/L		0.0002		E200.8	12/01/23 12:04 / dck		ICPMS206-H_231201B : 37		R190518
Vanadium	ND	mg/L		0.01		E200.8	12/01/23 12:04 / dck		ICPMS206-H_231201B : 37		R190518
Zinc	ND	mg/L		0.008		E200.8	12/15/23 21:27 / dck		ICPMS206-H_231215A : 128		R190901
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 14:37 / dck		ICPMS206-H_231130A : 96		R190453

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** FB-3  
**Lab ID:** H23110659-003  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/15/23 14:45      **DateReceived:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	100	%				A1030 E	12/11/23 09:01 / abc		CALC_231211A : 34		R190718
The Anion/Cation Balance Difference is <math>\pm 0.2</math> meq/L											

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-01B  
**Lab ID:** H23110659-004  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/15/23 15:02 **Date Received:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.8	s.u.	H	0.1		A4500-H B	11/17/23 16:15 / eek		PHSC_101-H_231117A : 146		R190164
pH Measurement Temp	15.4	°C				A4500-H B	11/17/23 16:15 / eek		PHSC_101-H_231117A : 146		R190164
Conductivity @ 25 C	1620	umhos/cm		5		A2510 B	11/17/23 16:15 / eek		PHSC_101-H_231117A : 147		R190164
Solids, Total Dissolved TDS @ 180 C	1290	mg/L		20		A2540 C	11/20/23 12:42 / dpw		124 (14410200)_231120B : 17		TDS231120A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	53	mg/L		4		A2320 B	11/21/23 10:28 / dpw		PHSC_101-H_231121A : 32		R190255
Bicarbonate as HCO3	64	mg/L		4		A2320 B	11/21/23 10:28 / dpw		PHSC_101-H_231121A : 32		R190255
Carbonate as CO3	ND	mg/L		4		A2320 B	11/21/23 10:28 / dpw		PHSC_101-H_231121A : 32		R190255
Chloride	72	mg/L		1		E300.0	11/20/23 20:01 / SR		IC METROHM_231120A : 26		R190257
Sulfate	732	mg/L		1		E300.0	11/20/23 20:01 / SR		IC METROHM_231120A : 26		R190257
Bromide	ND	mg/L		0.5		E300.0	11/20/23 20:01 / SR		IC METROHM_231120A : 26		R190257
Fluoride	0.2	mg/L		0.1		E300.0	11/20/23 20:01 / SR		IC METROHM_231120A : 26		R190257
Hardness as CaCO3	628	mg/L		1		A2340 B	12/08/23 16:16 / SR		CALC_231212B : 58		R190781
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.6	mg/L		0.5		A5310 C	11/29/23 01:27 / eli-c		SUB-C301420 : 36		C_R301420
Organic Carbon, Total (TOC)	1.6	mg/L		0.5		A5310 C	11/28/23 16:23 / eli-c		SUB-C301420 : 9		C_R301420
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	6.36	mg/L		0.05		E353.2	11/29/23 17:53 / JAR		SEAL AA500_231129A : 125		R190433
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	12/01/23 12:25 / dck		ICPMS206-H_231201B : 43		R190518
Antimony	ND	mg/L		0.0005		E200.8	12/01/23 12:25 / dck		ICPMS206-H_231201B : 43		R190518
Arsenic	0.006	mg/L		0.001		E200.8	12/01/23 12:25 / dck		ICPMS206-H_231201B : 43		R190518
Barium	0.014	mg/L		0.003		E200.8	12/01/23 12:25 / dck		ICPMS206-H_231201B : 43		R190518
Beryllium	ND	mg/L		0.0008		E200.8	12/01/23 12:25 / dck		ICPMS206-H_231201B : 43		R190518
Boron	0.36	mg/L		0.05		E200.7	12/08/23 16:16 / slj		ICP2-HE_231208B : 64		R190705
Cadmium	0.181	mg/L		0.00003		E200.8	12/01/23 12:25 / dck		ICPMS206-H_231201B : 43		R190518
Cesium	ND	mg/L		0.01		E200.8	11/30/23 14:39 / dck		ICPMS206-H_231130A : 97		R190453

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-01B  
**Lab ID:** H23110659-004  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/15/23 15:02 **DateReceived:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	176	mg/L		1		E200.7	12/08/23 16:16 / slj		ICP2-HE_231208B : 64		R190705
Chromium	ND	mg/L		0.005		E200.8	12/01/23 12:25 / dck		ICPMS206-H_231201B : 43		R190518
Cobalt	ND	mg/L		0.005		E200.8	12/01/23 12:25 / dck		ICPMS206-H_231201B : 43		R190518
Copper	2.25	mg/L		0.002		E200.8	12/01/23 12:25 / dck		ICPMS206-H_231201B : 43		R190518
Gallium	ND	mg/L		0.01		E200.8	11/30/23 14:39 / dck		ICPMS206-H_231130A : 97		R190453
Iron	ND	mg/L		0.02		E200.8	12/01/23 12:25 / dck		ICPMS206-H_231201B : 43		R190518
Lead	ND	mg/L		0.0003		E200.8	12/01/23 12:25 / dck		ICPMS206-H_231201B : 43		R190518
Lanthanum	ND	mg/L		0.01		E200.8	11/30/23 14:39 / dck		ICPMS206-H_231130A : 97		R190453
Lithium	0.2	mg/L		0.1		E200.8	12/01/23 12:25 / dck		ICPMS206-H_231201B : 43		R190518
Magnesium	46	mg/L		1		E200.8	12/01/23 12:25 / dck		ICPMS206-H_231201B : 43		R190518
Neodymium	ND	mg/L		0.005		E200.8	11/30/23 14:39 / dck		ICPMS206-H_231130A : 97		R190453
Niobium	ND	mg/L		0.01		E200.8	11/30/23 14:39 / dck		ICPMS206-H_231130A : 97		R190453
Manganese	37.3	mg/L		0.007		E200.7	12/11/23 14:08 / slj		ICP2-HE_231211B : 75		R190737
Molybdenum	ND	mg/L		0.001		E200.8	12/01/23 12:25 / dck		ICPMS206-H_231201B : 43		R190518
Nickel	0.101	mg/L		0.002		E200.8	12/01/23 12:25 / dck		ICPMS206-H_231201B : 43		R190518
Palladium	ND	mg/L		0.01		E200.8	11/30/23 14:39 / dck		ICPMS206-H_231130A : 97		R190453
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 14:39 / dck		ICPMS206-H_231130A : 97		R190453
Rubidium	0.02	mg/L		0.01		E200.8	11/30/23 14:39 / dck		ICPMS206-H_231130A : 97		R190453
Potassium	11	mg/L		1		E200.8	12/01/23 12:25 / dck		ICPMS206-H_231201B : 43		R190518
Selenium	ND	mg/L		0.001		E200.8	12/01/23 12:25 / dck		ICPMS206-H_231201B : 43		R190518
Silver	0.0004	mg/L		0.0002		E200.8	12/01/23 12:25 / dck		ICPMS206-H_231201B : 43		R190518
Sodium	90	mg/L		1		E200.7	12/08/23 16:16 / slj		ICP2-HE_231208B : 64		R190705
Strontium	1.28	mg/L		0.01		E200.8	12/01/23 12:25 / dck		ICPMS206-H_231201B : 43		R190518
Thallium	ND	mg/L		0.0002		E200.8	12/01/23 12:25 / dck		ICPMS206-H_231201B : 43		R190518
Thorium	ND	mg/L		0.005		E200.8	12/01/23 12:25 / dck		ICPMS206-H_231201B : 43		R190518
Tin	ND	mg/L		0.05		E200.8	12/01/23 12:25 / dck		ICPMS206-H_231201B : 43		R190518
Titanium	ND	mg/L		0.005		E200.8	12/01/23 12:25 / dck		ICPMS206-H_231201B : 43		R190518
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 14:39 / dck		ICPMS206-H_231130A : 97		R190453
Uranium	0.0012	mg/L		0.0002		E200.8	12/01/23 12:25 / dck		ICPMS206-H_231201B : 43		R190518
Vanadium	ND	mg/L		0.01		E200.8	12/01/23 12:25 / dck		ICPMS206-H_231201B : 43		R190518
Zinc	27.3	mg/L		0.01		E200.7	12/11/23 14:08 / slj		ICP2-HE_231211B : 75		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 14:39 / dck		ICPMS206-H_231130A : 97		R190453

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-01B  
**Lab ID:** H23110659-004  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/15/23 15:02    **DateReceived:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-1.79	%				A1030 E	12/12/23 10:27 / SR		CALC_231212B : 56		R190781

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-3  
**Lab ID:** H23110659-005  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/15/23 15:03 **Date Received:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.8	s.u.	H	0.1		A4500-H B	11/17/23 16:17 / eek		PHSC_101-H_231117A : 148		R190164
pH Measurement Temp	15.4	°C				A4500-H B	11/17/23 16:17 / eek		PHSC_101-H_231117A : 148		R190164
Conductivity @ 25 C	1610	umhos/cm		5		A2510 B	11/17/23 16:17 / eek		PHSC_101-H_231117A : 149		R190164
Solids, Total Dissolved TDS @ 180 C	1300	mg/L		20		A2540 C	11/20/23 12:42 / dpw		124 (14410200)_231120B : 18		TDS231120A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	52	mg/L		4		A2320 B	11/21/23 10:35 / dpw		PHSC_101-H_231121A : 34		R190255
Bicarbonate as HCO3	63	mg/L		4		A2320 B	11/21/23 10:35 / dpw		PHSC_101-H_231121A : 34		R190255
Carbonate as CO3	ND	mg/L		4		A2320 B	11/21/23 10:35 / dpw		PHSC_101-H_231121A : 34		R190255
Chloride	72	mg/L		1		E300.0	11/20/23 20:15 / SR		IC METROHM_231120A : 27		R190257
Sulfate	740	mg/L		1		E300.0	11/20/23 20:15 / SR		IC METROHM_231120A : 27		R190257
Bromide	ND	mg/L		0.5		E300.0	11/20/23 20:15 / SR		IC METROHM_231120A : 27		R190257
Fluoride	0.2	mg/L		0.1		E300.0	11/20/23 20:15 / SR		IC METROHM_231120A : 27		R190257
Hardness as CaCO3	593	mg/L		1		A2340 B	12/08/23 16:20 / SR		CALC_231211B : 25		R190745
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.6	mg/L		0.5		A5310 C	11/29/23 01:44 / eli-c		SUB-C301420 : 37		C_R301420
Organic Carbon, Total (TOC)	1.6	mg/L		0.5		A5310 C	11/28/23 16:40 / eli-c		SUB-C301420 : 10		C_R301420
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	6.24	mg/L		0.05		E353.2	11/29/23 17:54 / JAR		SEAL AA500_231129A : 126		R190433
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	12/01/23 12:29 / dck		ICPMS206-H_231201B : 44		R190518
Antimony	ND	mg/L		0.0005		E200.8	12/01/23 12:29 / dck		ICPMS206-H_231201B : 44		R190518
Arsenic	0.006	mg/L		0.001		E200.8	12/01/23 12:29 / dck		ICPMS206-H_231201B : 44		R190518
Barium	0.013	mg/L		0.003		E200.8	12/01/23 12:29 / dck		ICPMS206-H_231201B : 44		R190518
Beryllium	ND	mg/L		0.0008		E200.8	12/01/23 12:29 / dck		ICPMS206-H_231201B : 44		R190518
Boron	0.35	mg/L		0.05		E200.7	11/27/23 22:51 / slj		ICP2-HE_231127A : 191		R190361
Cadmium	0.176	mg/L		0.00003		E200.8	12/01/23 12:29 / dck		ICPMS206-H_231201B : 44		R190518
Cesium	ND	mg/L		0.01		E200.8	11/30/23 14:41 / dck		ICPMS206-H_231130A : 98		R190453

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-3  
**Lab ID:** H23110659-005  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/15/23 15:03 **DateReceived:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	168	mg/L		1		E200.7	12/08/23 16:20 / slj		ICP2-HE_231208B : 65		R190705
Chromium	ND	mg/L		0.005		E200.8	12/01/23 12:29 / dck		ICPMS206-H_231201B : 44		R190518
Cobalt	ND	mg/L		0.005		E200.8	12/01/23 12:29 / dck		ICPMS206-H_231201B : 44		R190518
Copper	2.17	mg/L		0.01		E200.7	11/27/23 22:51 / slj		ICP2-HE_231127A : 191		R190361
Gallium	ND	mg/L		0.01		E200.8	11/30/23 14:41 / dck		ICPMS206-H_231130A : 98		R190453
Iron	ND	mg/L		0.02		E200.8	12/01/23 12:29 / dck		ICPMS206-H_231201B : 44		R190518
Lead	ND	mg/L		0.0003		E200.8	12/01/23 12:29 / dck		ICPMS206-H_231201B : 44		R190518
Lanthanum	ND	mg/L		0.01		E200.8	11/30/23 14:41 / dck		ICPMS206-H_231130A : 98		R190453
Lithium	0.2	mg/L		0.1		E200.8	12/01/23 12:29 / dck		ICPMS206-H_231201B : 44		R190518
Magnesium	42	mg/L		1		E200.7	11/27/23 22:51 / slj		ICP2-HE_231127A : 191		R190361
Neodymium	ND	mg/L		0.005		E200.8	11/30/23 14:41 / dck		ICPMS206-H_231130A : 98		R190453
Niobium	ND	mg/L		0.01		E200.8	11/30/23 14:41 / dck		ICPMS206-H_231130A : 98		R190453
Manganese	34.5	mg/L		0.001		E200.7	11/27/23 22:51 / slj		ICP2-HE_231127A : 191		R190361
Molybdenum	ND	mg/L		0.001		E200.8	12/01/23 12:29 / dck		ICPMS206-H_231201B : 44		R190518
Nickel	0.100	mg/L		0.002		E200.8	12/01/23 12:29 / dck		ICPMS206-H_231201B : 44		R190518
Palladium	ND	mg/L		0.01		E200.8	11/30/23 14:41 / dck		ICPMS206-H_231130A : 98		R190453
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 14:41 / dck		ICPMS206-H_231130A : 98		R190453
Rubidium	0.02	mg/L		0.01		E200.8	11/30/23 14:41 / dck		ICPMS206-H_231130A : 98		R190453
Potassium	12	mg/L		1		E200.8	12/01/23 12:29 / dck		ICPMS206-H_231201B : 44		R190518
Selenium	ND	mg/L		0.001		E200.8	12/01/23 12:29 / dck		ICPMS206-H_231201B : 44		R190518
Silver	0.0004	mg/L		0.0002		E200.8	12/01/23 12:29 / dck		ICPMS206-H_231201B : 44		R190518
Sodium	87	mg/L		1		E200.7	12/08/23 16:20 / slj		ICP2-HE_231208B : 65		R190705
Strontium	1.17	mg/L		0.01		E200.7	11/27/23 22:51 / slj		ICP2-HE_231127A : 191		R190361
Thallium	ND	mg/L		0.0002		E200.8	12/01/23 12:29 / dck		ICPMS206-H_231201B : 44		R190518
Thorium	ND	mg/L		0.005		E200.8	12/01/23 12:29 / dck		ICPMS206-H_231201B : 44		R190518
Tin	ND	mg/L		0.05		E200.8	12/01/23 12:29 / dck		ICPMS206-H_231201B : 44		R190518
Titanium	ND	mg/L		0.005		E200.8	12/01/23 12:29 / dck		ICPMS206-H_231201B : 44		R190518
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 14:41 / dck		ICPMS206-H_231130A : 98		R190453
Uranium	0.0013	mg/L		0.0002		E200.8	12/01/23 12:29 / dck		ICPMS206-H_231201B : 44		R190518
Vanadium	ND	mg/L		0.01		E200.8	12/01/23 12:29 / dck		ICPMS206-H_231201B : 44		R190518
Zinc	26.2	mg/L		0.01		E200.7	12/11/23 14:12 / slj		ICP2-HE_231211B : 76		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 14:41 / dck		ICPMS206-H_231130A : 98		R190453

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** DUP-3  
**Lab ID:** H23110659-005  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/15/23 15:03    **DateReceived:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.86	%				A1030 E	12/11/23 13:54 / SR		CALC_231211B : 23		R190745

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-09  
**Lab ID:** H23110659-006  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/15/23 15:14 **Date Received:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.2	s.u.	H	0.1		A4500-H B	11/17/23 16:19 / eek		PHSC_101-H_231117A : 150		R190164
pH Measurement Temp	15.9	°C				A4500-H B	11/17/23 16:19 / eek		PHSC_101-H_231117A : 150		R190164
Conductivity @ 25 C	1300	umhos/cm		5		A2510 B	11/17/23 16:19 / eek		PHSC_101-H_231117A : 151		R190164
Solids, Total Dissolved TDS @ 180 C	1100	mg/L		20		A2540 C	11/20/23 12:43 / dpw		124 (14410200)_231120B : 21		TDS231120A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	11/21/23 10:41 / dpw		PHSC_101-H_231121A : 36		R190255
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	11/21/23 10:41 / dpw		PHSC_101-H_231121A : 36		R190255
Carbonate as CO3	ND	mg/L		4		A2320 B	11/21/23 10:41 / dpw		PHSC_101-H_231121A : 36		R190255
Chloride	40	mg/L		1		E300.0	11/20/23 20:30 / SR		IC METROHM_231120A : 28		R190257
Sulfate	658	mg/L		1		E300.0	11/20/23 20:30 / SR		IC METROHM_231120A : 28		R190257
Bromide	ND	mg/L		0.5		E300.0	11/20/23 20:30 / SR		IC METROHM_231120A : 28		R190257
Fluoride	2.6	mg/L		0.1		E300.0	11/20/23 20:30 / SR		IC METROHM_231120A : 28		R190257
Hardness as CaCO3	552	mg/L		1		A2340 B	12/08/23 16:24 / SR		CALC_231211B : 36		R190745
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.8	mg/L		0.5		A5310 C	11/29/23 02:00 / eli-c		SUB-C301420 : 38		C_R301420
Organic Carbon, Total (TOC)	0.9	mg/L		0.5		A5310 C	11/28/23 16:56 / eli-c		SUB-C301420 : 11		C_R301420
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	2.35	mg/L		0.01		E353.2	11/29/23 17:55 / JAR		SEAL AA500_231129A : 127		R190433
<b>METALS, DISSOLVED</b>											
Aluminum	4.20	mg/L		0.009		E200.8	12/01/23 12:32 / dck		ICPMS206-H_231201B : 45		R190518
Antimony	ND	mg/L		0.0005		E200.8	12/01/23 12:32 / dck		ICPMS206-H_231201B : 45		R190518
Arsenic	ND	mg/L		0.001		E200.8	12/01/23 12:32 / dck		ICPMS206-H_231201B : 45		R190518
Barium	0.009	mg/L		0.003		E200.8	12/01/23 12:32 / dck		ICPMS206-H_231201B : 45		R190518
Beryllium	0.0104	mg/L		0.0008		E200.8	12/01/23 12:32 / dck		ICPMS206-H_231201B : 45		R190518
Boron	0.14	mg/L		0.05		E200.7	11/27/23 22:54 / slj		ICP2-HE_231127A : 192		R190361
Cadmium	0.0908	mg/L		0.00003		E200.8	12/01/23 12:32 / dck		ICPMS206-H_231201B : 45		R190518
Cesium	ND	mg/L		0.01		E200.8	11/30/23 14:43 / dck		ICPMS206-H_231130A : 99		R190453

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-09  
**Lab ID:** H23110659-006  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/15/23 15:14 **Date Received:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	166	mg/L		1		E200.7	12/08/23 16:24 / slj		ICP2-HE_231208B : 66		R190705
Chromium	ND	mg/L		0.005		E200.8	12/01/23 12:32 / dck		ICPMS206-H_231201B : 45		R190518
Cobalt	0.180	mg/L		0.005		E200.8	12/01/23 12:32 / dck		ICPMS206-H_231201B : 45		R190518
Copper	9.18	mg/L		0.01		E200.7	11/27/23 22:54 / slj		ICP2-HE_231127A : 192		R190361
Gallium	ND	mg/L		0.01		E200.8	11/30/23 14:43 / dck		ICPMS206-H_231130A : 99		R190453
Iron	0.07	mg/L		0.02		E200.8	12/15/23 21:59 / dck		ICPMS206-H_231215A : 137		R190901
Lead	0.0025	mg/L		0.0003		E200.8	12/01/23 12:32 / dck		ICPMS206-H_231201B : 45		R190518
Lanthanum	0.04	mg/L		0.01		E200.8	11/30/23 14:43 / dck		ICPMS206-H_231130A : 99		R190453
Lithium	0.2	mg/L		0.1		E200.8	12/01/23 12:32 / dck		ICPMS206-H_231201B : 45		R190518
Magnesium	34	mg/L		1		E200.7	11/27/23 22:54 / slj		ICP2-HE_231127A : 192		R190361
Neodymium	0.021	mg/L		0.005		E200.8	11/30/23 14:43 / dck		ICPMS206-H_231130A : 99		R190453
Niobium	ND	mg/L		0.01		E200.8	11/30/23 14:43 / dck		ICPMS206-H_231130A : 99		R190453
Manganese	23.5	mg/L		0.001		E200.7	11/27/23 22:54 / slj		ICP2-HE_231127A : 192		R190361
Molybdenum	ND	mg/L		0.001		E200.8	12/01/23 12:32 / dck		ICPMS206-H_231201B : 45		R190518
Nickel	0.089	mg/L		0.002		E200.8	12/01/23 12:32 / dck		ICPMS206-H_231201B : 45		R190518
Palladium	ND	mg/L		0.01		E200.8	11/30/23 14:43 / dck		ICPMS206-H_231130A : 99		R190453
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 14:43 / dck		ICPMS206-H_231130A : 99		R190453
Rubidium	0.03	mg/L		0.01		E200.8	11/30/23 14:43 / dck		ICPMS206-H_231130A : 99		R190453
Potassium	12	mg/L		1		E200.8	12/01/23 12:32 / dck		ICPMS206-H_231201B : 45		R190518
Selenium	ND	mg/L		0.001		E200.8	12/01/23 12:32 / dck		ICPMS206-H_231201B : 45		R190518
Silver	ND	mg/L		0.0002		E200.8	12/01/23 12:32 / dck		ICPMS206-H_231201B : 45		R190518
Sodium	33	mg/L		1		E200.7	12/08/23 16:24 / slj		ICP2-HE_231208B : 66		R190705
Strontium	0.86	mg/L		0.01		E200.8	12/01/23 12:32 / dck		ICPMS206-H_231201B : 45		R190518
Thallium	ND	mg/L		0.0002		E200.8	12/01/23 12:32 / dck		ICPMS206-H_231201B : 45		R190518
Thorium	ND	mg/L		0.005		E200.8	12/01/23 12:32 / dck		ICPMS206-H_231201B : 45		R190518
Tin	ND	mg/L		0.05		E200.8	12/01/23 12:32 / dck		ICPMS206-H_231201B : 45		R190518
Titanium	ND	mg/L		0.005		E200.8	12/01/23 12:32 / dck		ICPMS206-H_231201B : 45		R190518
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 14:43 / dck		ICPMS206-H_231130A : 99		R190453
Uranium	0.0156	mg/L		0.0002		E200.8	12/01/23 12:32 / dck		ICPMS206-H_231201B : 45		R190518
Vanadium	ND	mg/L		0.01		E200.8	12/01/23 12:32 / dck		ICPMS206-H_231201B : 45		R190518
Zinc	28.6	mg/L		0.01		E200.7	12/11/23 14:15 / slj		ICP2-HE_231211B : 77		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 14:43 / dck		ICPMS206-H_231130A : 99		R190453

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-09  
**Lab ID:** H23110659-006  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/15/23 15:14      **DateReceived:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-3.69	%				A1030 E	12/11/23 13:55 / SR		CALC_231211B : 34		R190745

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-3  
**Lab ID:** H23110659-007  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/15/23 15:15 **Date Received:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	3.5	s.u.	H	0.1		A4500-H B	11/17/23 16:21 / eek		PHSC_101-H_231117A : 152		R190164
pH Measurement Temp	15.9	°C				A4500-H B	11/17/23 16:21 / eek		PHSC_101-H_231117A : 152		R190164
Conductivity @ 25 C	157	umhos/cm		5		A2510 B	11/17/23 16:21 / eek		PHSC_101-H_231117A : 153		R190164
Solids, Total Dissolved TDS @ 180 C	ND	mg/L	L	20		A2540 C	11/22/23 11:43 / dpw		-124 (14410200)_231122B : 3		TDS231122A
- TDS did not obtain the minimum residue requirement of 2.5 mg residue.											
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	11/21/23 10:45 / dpw		PHSC_101-H_231121A : 38		R190255
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	11/21/23 10:45 / dpw		PHSC_101-H_231121A : 38		R190255
Carbonate as CO3	ND	mg/L		4		A2320 B	11/21/23 10:45 / dpw		PHSC_101-H_231121A : 38		R190255
Chloride	12	mg/L		1		E300.0	11/20/23 20:44 / SR		IC METROHM_231120A : 29		R190257
Sulfate	ND	mg/L		1		E300.0	11/20/23 20:44 / SR		IC METROHM_231120A : 29		R190257
Bromide	ND	mg/L		0.5		E300.0	11/20/23 20:44 / SR		IC METROHM_231120A : 29		R190257
Fluoride	0.2	mg/L		0.1		E300.0	11/20/23 20:44 / SR		IC METROHM_231120A : 29		R190257
Hardness as CaCO3	1	mg/L		1		A2340 B	11/27/23 23:09 / SR		CALC_231211B : 47		R190745
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.7	mg/L		0.5		A5310 C	11/29/23 02:14 / eli-c		SUB-C301420 : 39		C_R301420
Organic Carbon, Total (TOC)	1.2	mg/L		0.5		A5310 C	11/28/23 17:10 / eli-c		SUB-C301420 : 12		C_R301420
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	11/29/23 17:56 / JAR		SEAL AA500_231129A : 128		R190433
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	12/01/23 12:36 / dck		ICPMS206-H_231201B : 46		R190518
Antimony	ND	mg/L		0.0005		E200.8	12/01/23 12:36 / dck		ICPMS206-H_231201B : 46		R190518
Arsenic	ND	mg/L		0.001		E200.8	12/01/23 12:36 / dck		ICPMS206-H_231201B : 46		R190518
Barium	ND	mg/L		0.003		E200.8	12/01/23 12:36 / dck		ICPMS206-H_231201B : 46		R190518
Beryllium	ND	mg/L		0.0008		E200.8	12/01/23 12:36 / dck		ICPMS206-H_231201B : 46		R190518
Boron	ND	mg/L		0.05		E200.7	11/27/23 23:09 / slj		ICP2-HE_231127A : 196		R190361
Cadmium	0.00041	mg/L		0.00003		E200.8	12/01/23 12:36 / dck		ICPMS206-H_231201B : 46		R190518
Cesium	ND	mg/L		0.01		E200.8	11/30/23 14:56 / dck		ICPMS206-H_231130A : 105		R190453

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time

L -Lowest available reporting limit for the analytical method used and/or volume submitted



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-3  
**Lab ID:** H23110659-007  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/15/23 15:15 **Date Received:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	ND	mg/L		1		E200.7	11/27/23 23:09 / slj		ICP2-HE_231127A : 196		R190361
Chromium	ND	mg/L		0.005		E200.8	12/01/23 12:36 / dck		ICPMS206-H_231201B : 46		R190518
Cobalt	ND	mg/L		0.005		E200.8	12/01/23 12:36 / dck		ICPMS206-H_231201B : 46		R190518
Copper	0.056	mg/L		0.002		E200.8	12/01/23 12:36 / dck		ICPMS206-H_231201B : 46		R190518
Gallium	ND	mg/L		0.01		E200.8	11/30/23 14:56 / dck		ICPMS206-H_231130A : 105		R190453
Iron	0.23	mg/L		0.02		E200.8	12/01/23 12:36 / dck		ICPMS206-H_231201B : 46		R190518
Lead	ND	mg/L		0.0003		E200.8	12/01/23 12:36 / dck		ICPMS206-H_231201B : 46		R190518
Lanthanum	ND	mg/L		0.01		E200.8	11/30/23 14:56 / dck		ICPMS206-H_231130A : 105		R190453
Lithium	ND	mg/L		0.1		E200.8	12/01/23 12:36 / dck		ICPMS206-H_231201B : 46		R190518
Magnesium	ND	mg/L		1		E200.7	11/27/23 23:09 / slj		ICP2-HE_231127A : 196		R190361
Neodymium	ND	mg/L		0.005		E200.8	11/30/23 14:56 / dck		ICPMS206-H_231130A : 105		R190453
Niobium	ND	mg/L		0.01		E200.8	11/30/23 14:56 / dck		ICPMS206-H_231130A : 105		R190453
Manganese	0.024	mg/L		0.001		E200.8	12/15/23 21:30 / dck		ICPMS206-H_231215A : 129		R190901
Molybdenum	ND	mg/L		0.001		E200.8	12/01/23 12:36 / dck		ICPMS206-H_231201B : 46		R190518
Nickel	ND	mg/L		0.002		E200.8	12/01/23 12:36 / dck		ICPMS206-H_231201B : 46		R190518
Palladium	ND	mg/L		0.01		E200.8	11/30/23 14:56 / dck		ICPMS206-H_231130A : 105		R190453
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 14:56 / dck		ICPMS206-H_231130A : 105		R190453
Rubidium	ND	mg/L		0.01		E200.8	11/30/23 14:56 / dck		ICPMS206-H_231130A : 105		R190453
Potassium	ND	mg/L		1		E200.8	12/01/23 12:36 / dck		ICPMS206-H_231201B : 46		R190518
Selenium	ND	mg/L		0.001		E200.8	12/01/23 12:36 / dck		ICPMS206-H_231201B : 46		R190518
Silver	ND	mg/L		0.0002		E200.8	12/01/23 12:36 / dck		ICPMS206-H_231201B : 46		R190518
Sodium	ND	mg/L		1		E200.7	12/08/23 16:31 / slj		ICP2-HE_231208B : 68		R190705
Strontium	ND	mg/L		0.01		E200.8	12/01/23 12:36 / dck		ICPMS206-H_231201B : 46		R190518
Thallium	ND	mg/L		0.0002		E200.8	12/01/23 12:36 / dck		ICPMS206-H_231201B : 46		R190518
Thorium	ND	mg/L		0.005		E200.8	12/01/23 12:36 / dck		ICPMS206-H_231201B : 46		R190518
Tin	ND	mg/L		0.05		E200.8	12/01/23 12:36 / dck		ICPMS206-H_231201B : 46		R190518
Titanium	ND	mg/L		0.005		E200.8	12/01/23 12:36 / dck		ICPMS206-H_231201B : 46		R190518
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 14:56 / dck		ICPMS206-H_231130A : 105		R190453
Uranium	ND	mg/L		0.0002		E200.8	12/01/23 12:36 / dck		ICPMS206-H_231201B : 46		R190518
Vanadium	ND	mg/L		0.01		E200.8	12/01/23 12:36 / dck		ICPMS206-H_231201B : 46		R190518
Zinc	0.032	mg/L		0.008		E200.8	12/15/23 21:30 / dck		ICPMS206-H_231215A : 129		R190901
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 14:56 / dck		ICPMS206-H_231130A : 105		R190453

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** EB-3  
**Lab ID:** H23110659-007  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/15/23 15:15    **DateReceived:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-79.6	%				A1030 E	12/11/23 13:56 / SR		CALC_231211B : 45		R190745

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-09B  
**Lab ID:** H23110659-008  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/15/23 15:37 **Date Received:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.7	s.u.	H	0.1		A4500-H B	11/17/23 16:23 / eek		PHSC_101-H_231117A : 154		R190164
pH Measurement Temp	16.0	°C				A4500-H B	11/17/23 16:23 / eek		PHSC_101-H_231117A : 154		R190164
Conductivity @ 25 C	1450	umhos/cm		5		A2510 B	11/17/23 16:23 / eek		PHSC_101-H_231117A : 155		R190164
Solids, Total Dissolved TDS @ 180 C	1100	mg/L		20		A2540 C	11/20/23 12:45 / dpw		124 (14410200)_231120B : 23		TDS231120A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	120	mg/L		4		A2320 B	11/21/23 10:49 / dpw		PHSC_101-H_231121A : 40		R190255
Bicarbonate as HCO3	140	mg/L		4		A2320 B	11/21/23 10:49 / dpw		PHSC_101-H_231121A : 40		R190255
Carbonate as CO3	ND	mg/L		4		A2320 B	11/21/23 10:49 / dpw		PHSC_101-H_231121A : 40		R190255
Chloride	73	mg/L		1		E300.0	11/20/23 21:13 / SR		IC METROHM_231120A : 31		R190257
Sulfate	561	mg/L		1		E300.0	11/20/23 21:13 / SR		IC METROHM_231120A : 31		R190257
Bromide	ND	mg/L		0.5		E300.0	11/20/23 21:13 / SR		IC METROHM_231120A : 31		R190257
Fluoride	0.7	mg/L		0.1		E300.0	11/20/23 21:13 / SR		IC METROHM_231120A : 31		R190257
Hardness as CaCO3	701	mg/L		1		A2340 B	12/08/23 16:35 / SR		CALC_231211B : 58		R190745
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	0.6	mg/L		0.5		A5310 C	11/29/23 02:30 / eli-c		SUB-C301420 : 40		C_R301420
Organic Carbon, Total (TOC)	0.6	mg/L		0.5		A5310 C	11/28/23 17:27 / eli-c		SUB-C301420 : 13		C_R301420
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	5.63	mg/L		0.05		E353.2	11/29/23 18:02 / JAR		SEAL AA500_231129A : 132		R190433
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	12/01/23 12:39 / dck		ICPMS206-H_231201B : 47		R190518
Antimony	ND	mg/L		0.0005		E200.8	12/01/23 12:39 / dck		ICPMS206-H_231201B : 47		R190518
Arsenic	0.013	mg/L		0.001		E200.8	12/01/23 12:39 / dck		ICPMS206-H_231201B : 47		R190518
Barium	0.036	mg/L		0.003		E200.8	12/01/23 12:39 / dck		ICPMS206-H_231201B : 47		R190518
Beryllium	ND	mg/L		0.0008		E200.8	12/01/23 12:39 / dck		ICPMS206-H_231201B : 47		R190518
Boron	0.08	mg/L		0.05		E200.7	11/27/23 23:13 / slj		ICP2-HE_231127A : 197		R190361
Cadmium	0.0174	mg/L		0.00003		E200.8	12/01/23 12:39 / dck		ICPMS206-H_231201B : 47		R190518
Cesium	ND	mg/L		0.01		E200.8	11/30/23 14:58 / dck		ICPMS206-H_231130A : 106		R190453

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-09B  
**Lab ID:** H23110659-008  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/15/23 15:37 **DateReceived:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	218	mg/L		1		E200.7	12/08/23 16:35 / slj		ICP2-HE_231208B : 69		R190705
Chromium	ND	mg/L		0.005		E200.8	12/01/23 12:39 / dck		ICPMS206-H_231201B : 47		R190518
Cobalt	ND	mg/L		0.005		E200.8	12/01/23 12:39 / dck		ICPMS206-H_231201B : 47		R190518
Copper	0.005	mg/L		0.002		E200.8	12/15/23 22:06 / dck		ICPMS206-H_231215A : 139		R190901
Gallium	ND	mg/L		0.01		E200.8	11/30/23 14:58 / dck		ICPMS206-H_231130A : 106		R190453
Iron	ND	mg/L		0.02		E200.8	12/01/23 12:39 / dck		ICPMS206-H_231201B : 47		R190518
Lead	ND	mg/L		0.0003		E200.8	12/01/23 12:39 / dck		ICPMS206-H_231201B : 47		R190518
Lanthanum	ND	mg/L		0.01		E200.8	11/30/23 14:58 / dck		ICPMS206-H_231130A : 106		R190453
Lithium	0.3	mg/L		0.1		E200.8	12/01/23 12:39 / dck		ICPMS206-H_231201B : 47		R190518
Magnesium	38	mg/L		1		E200.7	11/27/23 23:13 / slj		ICP2-HE_231127A : 197		R190361
Neodymium	ND	mg/L		0.005		E200.8	11/30/23 14:58 / dck		ICPMS206-H_231130A : 106		R190453
Niobium	ND	mg/L		0.01		E200.8	11/30/23 14:58 / dck		ICPMS206-H_231130A : 106		R190453
Manganese	0.041	mg/L		0.001		E200.8	12/15/23 22:06 / dck		ICPMS206-H_231215A : 139		R190901
Molybdenum	0.002	mg/L		0.001		E200.8	12/01/23 12:39 / dck		ICPMS206-H_231201B : 47		R190518
Nickel	0.008	mg/L		0.002		E200.8	12/01/23 12:39 / dck		ICPMS206-H_231201B : 47		R190518
Palladium	ND	mg/L		0.01		E200.8	11/30/23 14:58 / dck		ICPMS206-H_231130A : 106		R190453
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 14:58 / dck		ICPMS206-H_231130A : 106		R190453
Rubidium	0.02	mg/L		0.01		E200.8	11/30/23 14:58 / dck		ICPMS206-H_231130A : 106		R190453
Potassium	13	mg/L		1		E200.8	12/01/23 12:39 / dck		ICPMS206-H_231201B : 47		R190518
Selenium	ND	mg/L		0.001		E200.8	12/01/23 12:39 / dck		ICPMS206-H_231201B : 47		R190518
Silver	ND	mg/L		0.0002		E200.8	12/01/23 12:39 / dck		ICPMS206-H_231201B : 47		R190518
Sodium	64	mg/L		1		E200.7	12/08/23 16:35 / slj		ICP2-HE_231208B : 69		R190705
Strontium	2.50	mg/L		0.01		E200.7	11/27/23 23:13 / slj		ICP2-HE_231127A : 197		R190361
Thallium	ND	mg/L		0.0002		E200.8	12/01/23 12:39 / dck		ICPMS206-H_231201B : 47		R190518
Thorium	ND	mg/L		0.005		E200.8	12/01/23 12:39 / dck		ICPMS206-H_231201B : 47		R190518
Tin	ND	mg/L		0.05		E200.8	12/01/23 12:39 / dck		ICPMS206-H_231201B : 47		R190518
Titanium	ND	mg/L		0.005		E200.8	12/01/23 12:39 / dck		ICPMS206-H_231201B : 47		R190518
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 14:58 / dck		ICPMS206-H_231130A : 106		R190453
Uranium	0.0164	mg/L		0.0002		E200.8	12/01/23 12:39 / dck		ICPMS206-H_231201B : 47		R190518
Vanadium	ND	mg/L		0.01		E200.8	12/01/23 12:39 / dck		ICPMS206-H_231201B : 47		R190518
Zinc	2.06	mg/L		0.008		E200.7	12/11/23 14:27 / slj		ICP2-HE_231211B : 80		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 14:58 / dck		ICPMS206-H_231130A : 106		R190453

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-09B  
**Lab ID:** H23110659-008  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/15/23 15:37    **DateReceived:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	1.80	%				A1030 E	12/11/23 13:57 / SR		CALC_231211B : 56		R190745

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-08  
**Lab ID:** H23110659-009  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/15/23 15:46 **Date Received:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	3.5	s.u.	H	0.1		A4500-H B	11/17/23 16:25 / eek		PHSC_101-H_231117A : 156		R190164
pH Measurement Temp	16.0	°C				A4500-H B	11/17/23 16:25 / eek		PHSC_101-H_231117A : 156		R190164
Conductivity @ 25 C	5600	umhos/cm		5		A2510 B	11/17/23 16:25 / eek		PHSC_101-H_231117A : 157		R190164
Solids, Total Dissolved TDS @ 180 C	5740	mg/L		100		A2540 C	11/20/23 12:49 / dpw		124 (14410200)_231120B : 24		TDS231120A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	11/21/23 10:56 / dpw		PHSC_101-H_231121A : 42		R190255
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	11/21/23 10:56 / dpw		PHSC_101-H_231121A : 42		R190255
Carbonate as CO3	ND	mg/L		4		A2320 B	11/21/23 10:56 / dpw		PHSC_101-H_231121A : 42		R190255
Chloride	94	mg/L		1		E300.0	12/12/23 13:00 / SR		IC METROHM_231212A : 7		R190812
Sulfate	4340	mg/L		1		E300.0	12/12/23 13:00 / SR		IC METROHM_231212A : 7		R190812
Bromide	ND	mg/L		0.5		E300.0	11/20/23 22:25 / SR		IC METROHM_231120A : 36		R190257
Fluoride	9	mg/L	*	0.1		E300.0	11/20/23 22:25 / SR		IC METROHM_231120A : 36		R190257
Hardness as CaCO3	2270	mg/L		1		A2340 B	12/08/23 16:39 / SR		CALC_231213A : 3		R190813
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.6	mg/L		0.5		A5310 C	11/29/23 02:48 / eli-c		SUB-C301420 : 41		C_R301420
Organic Carbon, Total (TOC)	2.8	mg/L		0.5		A5310 C	11/28/23 17:46 / eli-c		SUB-C301420 : 14		C_R301420
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	11/29/23 18:03 / JAR		SEAL AA500_231129A : 133		R190433
<b>METALS, DISSOLVED</b>											
Aluminum	40.8	mg/L		0.1		E200.7	11/27/23 23:16 / slj		ICP2-HE_231127A : 198		R190361
Antimony	ND	mg/L		0.0005		E200.8	12/01/23 12:43 / dck		ICPMS206-H_231201B : 48		R190518
Arsenic	0.006	mg/L		0.001		E200.8	12/01/23 12:43 / dck		ICPMS206-H_231201B : 48		R190518
Barium	ND	mg/L		0.003		E200.8	12/01/23 12:43 / dck		ICPMS206-H_231201B : 48		R190518
Beryllium	0.0398	mg/L		0.0008		E200.8	12/01/23 12:43 / dck		ICPMS206-H_231201B : 48		R190518
Boron	0.07	mg/L		0.05		E200.7	11/27/23 23:16 / slj		ICP2-HE_231127A : 198		R190361
Cadmium	0.400	mg/L		0.00003		E200.8	12/01/23 12:43 / dck		ICPMS206-H_231201B : 48		R190518
Cesium	ND	mg/L		0.01		E200.8	11/30/23 15:00 / dck		ICPMS206-H_231130A : 107		R190453

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** \* - The result exceeds the Maximum Contaminant Level (MCL)

H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-08  
**Lab ID:** H23110659-009  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/15/23 15:46 **DateReceived:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	456	mg/L		1		E200.7	12/08/23 16:39 / slj		ICP2-HE_231208B : 70		R190705
Chromium	ND	mg/L		0.005		E200.8	12/01/23 12:43 / dck		ICPMS206-H_231201B : 48		R190518
Cobalt	0.846	mg/L		0.005		E200.8	12/01/23 12:43 / dck		ICPMS206-H_231201B : 48		R190518
Copper	25.1	mg/L		0.06		E200.7	11/27/23 23:16 / slj		ICP2-HE_231127A : 198		R190361
Gallium	ND	mg/L		0.01		E200.8	11/30/23 15:00 / dck		ICPMS206-H_231130A : 107		R190453
Iron	197	mg/L		0.2		E200.7	12/11/23 14:31 / slj		ICP2-HE_231211B : 81		R190737
Lead	0.0014	mg/L		0.0003		E200.8	12/01/23 12:43 / dck		ICPMS206-H_231201B : 48		R190518
Lanthanum	0.25	mg/L		0.01		E200.8	11/30/23 15:00 / dck		ICPMS206-H_231130A : 107		R190453
Lithium	0.9	mg/L		0.1		E200.8	12/01/23 12:43 / dck		ICPMS206-H_231201B : 48		R190518
Magnesium	276	mg/L		1		E200.8	12/01/23 12:43 / dck		ICPMS206-H_231201B : 48		R190518
Neodymium	0.198	mg/L		0.005		E200.8	11/30/23 15:00 / dck		ICPMS206-H_231130A : 107		R190453
Niobium	ND	mg/L		0.01		E200.8	11/30/23 15:00 / dck		ICPMS206-H_231130A : 107		R190453
Manganese	443	mg/L		0.03		E200.7	12/11/23 14:31 / slj		ICP2-HE_231211B : 81		R190737
Molybdenum	ND	mg/L		0.001		E200.8	12/01/23 12:43 / dck		ICPMS206-H_231201B : 48		R190518
Nickel	0.539	mg/L		0.002		E200.8	12/01/23 12:43 / dck		ICPMS206-H_231201B : 48		R190518
Palladium	ND	mg/L		0.01		E200.8	11/30/23 15:00 / dck		ICPMS206-H_231130A : 107		R190453
Praseodymium	0.05	mg/L		0.01		E200.8	11/30/23 15:00 / dck		ICPMS206-H_231130A : 107		R190453
Rubidium	ND	mg/L		0.01		E200.8	11/30/23 15:00 / dck		ICPMS206-H_231130A : 107		R190453
Potassium	10	mg/L		1		E200.8	12/01/23 12:43 / dck		ICPMS206-H_231201B : 48		R190518
Selenium	ND	mg/L		0.001		E200.8	12/01/23 12:43 / dck		ICPMS206-H_231201B : 48		R190518
Silver	0.0004	mg/L		0.0002		E200.8	12/01/23 12:43 / dck		ICPMS206-H_231201B : 48		R190518
Sodium	81	mg/L		1		E200.7	12/08/23 16:39 / slj		ICP2-HE_231208B : 70		R190705
Strontium	3.16	mg/L		0.01		E200.7	11/27/23 23:16 / slj		ICP2-HE_231127A : 198		R190361
Thallium	ND	mg/L		0.0002		E200.8	12/01/23 12:43 / dck		ICPMS206-H_231201B : 48		R190518
Thorium	0.007	mg/L		0.005		E200.8	12/01/23 12:43 / dck		ICPMS206-H_231201B : 48		R190518
Tin	ND	mg/L		0.05		E200.8	12/01/23 12:43 / dck		ICPMS206-H_231201B : 48		R190518
Titanium	ND	mg/L		0.005		E200.8	12/01/23 12:43 / dck		ICPMS206-H_231201B : 48		R190518
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 15:00 / dck		ICPMS206-H_231130A : 107		R190453
Uranium	0.522	mg/L		0.0002		E200.8	12/01/23 12:43 / dck		ICPMS206-H_231201B : 48		R190518
Vanadium	ND	mg/L		0.01		E200.8	12/01/23 12:43 / dck		ICPMS206-H_231201B : 48		R190518
Zinc	533	mg/L		0.07		E200.7	12/11/23 14:31 / slj		ICP2-HE_231211B : 81		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 15:00 / dck		ICPMS206-H_231130A : 107		R190453

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-08  
**Lab ID:** H23110659-009  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/15/23 15:46      **DateReceived:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-8.60	%				A1030 E	12/13/23 10:01 / SR		CALC_231213A : 1		R190813

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PT14-1  
**Lab ID:** H23110659-010  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/16/23 09:38 **Date Received:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.2	s.u.	H	0.1		A4500-H B	11/17/23 16:27 / eek		PHSC_101-H_231117A : 158		R190164
pH Measurement Temp	16.1	°C				A4500-H B	11/17/23 16:27 / eek		PHSC_101-H_231117A : 158		R190164
Conductivity @ 25 C	2440	umhos/cm		5		A2510 B	11/17/23 16:27 / eek		PHSC_101-H_231117A : 159		R190164
Solids, Total Dissolved TDS @ 180 C	2080	mg/L		50		A2540 C	11/20/23 12:49 / dpw		124 (14410200)_231120B : 25		TDS231120A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	11/21/23 10:59 / dpw		PHSC_101-H_231121A : 44		R190255
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	11/21/23 10:59 / dpw		PHSC_101-H_231121A : 44		R190255
Carbonate as CO3	ND	mg/L		4		A2320 B	11/21/23 10:59 / dpw		PHSC_101-H_231121A : 44		R190255
Chloride	266	mg/L		1		E300.0	11/20/23 22:40 / SR		IC METROHM_231120A : 37		R190257
Sulfate	1100	mg/L		1		E300.0	11/20/23 22:40 / SR		IC METROHM_231120A : 37		R190257
Bromide	0.9	mg/L		0.5		E300.0	11/20/23 22:40 / SR		IC METROHM_231120A : 37		R190257
Fluoride	3.2	mg/L		0.1		E300.0	11/20/23 22:40 / SR		IC METROHM_231120A : 37		R190257
Hardness as CaCO3	967	mg/L		1		A2340 B	12/08/23 16:43 / SR		CALC_231211B : 69		R190745
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.0	mg/L		0.5		A5310 C	11/29/23 03:16 / eli-c		SUB-C301420 : 42		C_R301420
Organic Carbon, Total (TOC)	2.1	mg/L		0.5		A5310 C	11/28/23 18:06 / eli-c		SUB-C301420 : 15		C_R301420
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	11/29/23 18:04 / JAR		SEAL AA500_231129A : 134		R190433
<b>METALS, DISSOLVED</b>											
Aluminum	11.4	mg/L		0.03		E200.7	11/27/23 23:20 / slj		ICP2-HE_231127A : 199		R190361
Antimony	ND	mg/L		0.0005		E200.8	12/01/23 12:46 / dck		ICPMS206-H_231201B : 49		R190518
Arsenic	0.001	mg/L		0.001		E200.8	12/01/23 12:46 / dck		ICPMS206-H_231201B : 49		R190518
Barium	0.016	mg/L		0.003		E200.8	12/01/23 12:46 / dck		ICPMS206-H_231201B : 49		R190518
Beryllium	0.0082	mg/L		0.0008		E200.8	12/01/23 12:46 / dck		ICPMS206-H_231201B : 49		R190518
Boron	0.16	mg/L		0.05		E200.7	11/27/23 23:20 / slj		ICP2-HE_231127A : 199		R190361
Cadmium	0.329	mg/L		0.00003		E200.8	12/01/23 12:46 / dck		ICPMS206-H_231201B : 49		R190518
Cesium	ND	mg/L		0.01		E200.8	11/30/23 15:02 / dck		ICPMS206-H_231130A : 108		R190453

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PT14-1  
**Lab ID:** H23110659-010  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/16/23 09:38 **Date Received:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	312	mg/L		1		E200.7	12/08/23 16:43 / slj		ICP2-HE_231208B : 71		R190705
Chromium	ND	mg/L		0.005		E200.8	12/01/23 12:46 / dck		ICPMS206-H_231201B : 49		R190518
Cobalt	0.167	mg/L		0.005		E200.8	12/01/23 12:46 / dck		ICPMS206-H_231201B : 49		R190518
Copper	25.9	mg/L		0.01		E200.7	11/27/23 23:20 / slj		ICP2-HE_231127A : 199		R190361
Gallium	ND	mg/L		0.01		E200.8	11/30/23 15:02 / dck		ICPMS206-H_231130A : 108		R190453
Iron	73.9	mg/L		0.02		E200.7	11/27/23 23:20 / slj		ICP2-HE_231127A : 199		R190361
Lead	0.0080	mg/L		0.0003		E200.8	12/01/23 12:46 / dck		ICPMS206-H_231201B : 49		R190518
Lanthanum	0.06	mg/L		0.01		E200.8	11/30/23 15:02 / dck		ICPMS206-H_231130A : 108		R190453
Lithium	0.3	mg/L		0.1		E200.8	12/01/23 12:46 / dck		ICPMS206-H_231201B : 49		R190518
Magnesium	46	mg/L		1		E200.7	11/27/23 23:20 / slj		ICP2-HE_231127A : 199		R190361
Neodymium	0.042	mg/L		0.005		E200.8	11/30/23 15:02 / dck		ICPMS206-H_231130A : 108		R190453
Niobium	ND	mg/L		0.01		E200.8	11/30/23 15:02 / dck		ICPMS206-H_231130A : 108		R190453
Manganese	12.4	mg/L		0.001		E200.7	11/27/23 23:20 / slj		ICP2-HE_231127A : 199		R190361
Molybdenum	ND	mg/L		0.001		E200.8	12/01/23 12:46 / dck		ICPMS206-H_231201B : 49		R190518
Nickel	0.098	mg/L		0.002		E200.8	12/01/23 12:46 / dck		ICPMS206-H_231201B : 49		R190518
Palladium	ND	mg/L		0.01		E200.8	11/30/23 15:02 / dck		ICPMS206-H_231130A : 108		R190453
Praseodymium	0.01	mg/L		0.01		E200.8	11/30/23 15:02 / dck		ICPMS206-H_231130A : 108		R190453
Rubidium	ND	mg/L		0.01		E200.8	11/30/23 15:02 / dck		ICPMS206-H_231130A : 108		R190453
Potassium	12	mg/L		1		E200.8	12/01/23 12:46 / dck		ICPMS206-H_231201B : 49		R190518
Selenium	ND	mg/L		0.001		E200.8	12/01/23 12:46 / dck		ICPMS206-H_231201B : 49		R190518
Silver	0.0004	mg/L		0.0002		E200.8	12/01/23 12:46 / dck		ICPMS206-H_231201B : 49		R190518
Sodium	76	mg/L		1		E200.7	12/08/23 16:43 / slj		ICP2-HE_231208B : 71		R190705
Strontium	1.08	mg/L		0.01		E200.7	11/27/23 23:20 / slj		ICP2-HE_231127A : 199		R190361
Thallium	ND	mg/L		0.0002		E200.8	12/01/23 12:46 / dck		ICPMS206-H_231201B : 49		R190518
Thorium	ND	mg/L		0.005		E200.8	12/01/23 12:46 / dck		ICPMS206-H_231201B : 49		R190518
Tin	ND	mg/L		0.05		E200.8	12/01/23 12:46 / dck		ICPMS206-H_231201B : 49		R190518
Titanium	ND	mg/L		0.005		E200.8	12/01/23 12:46 / dck		ICPMS206-H_231201B : 49		R190518
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 15:02 / dck		ICPMS206-H_231130A : 108		R190453
Uranium	0.0440	mg/L		0.0002		E200.8	12/01/23 12:46 / dck		ICPMS206-H_231201B : 49		R190518
Vanadium	0.02	mg/L		0.01		E200.8	12/01/23 12:46 / dck		ICPMS206-H_231201B : 49		R190518
Zinc	47.1	mg/L		0.01		E200.7	12/11/23 14:46 / slj		ICP2-HE_231211B : 85		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 15:02 / dck		ICPMS206-H_231130A : 108		R190453

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PT14-1  
**Lab ID:** H23110659-010  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/16/23 09:38      **DateReceived:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.58	%				A1030 E	12/11/23 13:59 / SR		CALC_231211B : 67		R190745

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01A  
**Lab ID:** H23110659-011  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/16/23 09:41 **Date Received:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.8	s.u.	H	0.1		A4500-H B	11/17/23 16:29 / eek		PHSC_101-H_231117A : 160		R190164
pH Measurement Temp	16.5	°C				A4500-H B	11/17/23 16:29 / eek		PHSC_101-H_231117A : 160		R190164
Conductivity @ 25 C	2780	umhos/cm		5		A2510 B	11/17/23 16:29 / eek		PHSC_101-H_231117A : 161		R190164
Solids, Total Dissolved TDS @ 180 C	2010	mg/L		50		A2540 C	11/20/23 12:49 / dpw		124 (14410200)_231120B : 26		TDS231120A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	59	mg/L		4		A2320 B	11/21/23 11:03 / dpw		PHSC_101-H_231121A : 46		R190255
Bicarbonate as HCO3	72	mg/L		4		A2320 B	11/21/23 11:03 / dpw		PHSC_101-H_231121A : 46		R190255
Carbonate as CO3	ND	mg/L		4		A2320 B	11/21/23 11:03 / dpw		PHSC_101-H_231121A : 46		R190255
Chloride	616	mg/L		1		E300.0	11/20/23 22:54 / SR		IC METROHM_231120A : 38		R190257
Sulfate	559	mg/L		1		E300.0	11/20/23 22:54 / SR		IC METROHM_231120A : 38		R190257
Bromide	2.6	mg/L		0.5		E300.0	11/20/23 22:54 / SR		IC METROHM_231120A : 38		R190257
Fluoride	0.8	mg/L		0.1		E300.0	11/20/23 22:54 / SR		IC METROHM_231120A : 38		R190257
Hardness as CaCO3	1120	mg/L		1		A2340 B	12/08/23 16:59 / abc		CALC_231211A : 47		R190718
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	5.1	mg/L		0.5		A5310 C	11/29/23 04:11 / eli-c		SUB-C301420 : 44		C_R301420
Organic Carbon, Total (TOC)	5.3	mg/L		0.5		A5310 C	11/28/23 19:01 / eli-c		SUB-C301420 : 17		C_R301420
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.36	mg/L		0.01		E353.2	11/29/23 18:07 / JAR		SEAL AA500_231129A : 137		R190433
<b>METALS, DISSOLVED</b>											
Aluminum	0.322	mg/L		0.009		E200.8	12/01/23 12:50 / dck		ICPMS206-H_231201B : 50		R190518
Antimony	0.0009	mg/L		0.0005		E200.8	12/01/23 12:50 / dck		ICPMS206-H_231201B : 50		R190518
Arsenic	0.006	mg/L		0.001		E200.8	12/01/23 12:50 / dck		ICPMS206-H_231201B : 50		R190518
Barium	0.115	mg/L		0.003		E200.8	12/01/23 12:50 / dck		ICPMS206-H_231201B : 50		R190518
Beryllium	ND	mg/L		0.0008		E200.8	12/01/23 12:50 / dck		ICPMS206-H_231201B : 50		R190518
Boron	1.26	mg/L		0.05		E200.7	12/08/23 16:59 / slj		ICP2-HE_231208B : 74		R190705
Cadmium	0.218	mg/L		0.00003		E200.8	12/01/23 12:50 / dck		ICPMS206-H_231201B : 50		R190518
Cesium	ND	mg/L		0.01		E200.8	11/30/23 15:04 / dck		ICPMS206-H_231130A : 109		R190453

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01A  
**Lab ID:** H23110659-011  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/16/23 09:41 **Date Received:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	289	mg/L		1		E200.7	12/08/23 16:59 / slj		ICP2-HE_231208B : 74		R190705
Chromium	ND	mg/L		0.005		E200.8	12/01/23 12:50 / dck		ICPMS206-H_231201B : 50		R190518
Cobalt	0.025	mg/L		0.005		E200.8	12/01/23 12:50 / dck		ICPMS206-H_231201B : 50		R190518
Copper	0.580	mg/L		0.002		E200.8	12/01/23 12:50 / dck		ICPMS206-H_231201B : 50		R190518
Gallium	ND	mg/L		0.01		E200.8	11/30/23 15:04 / dck		ICPMS206-H_231130A : 109		R190453
Iron	1.43	mg/L		0.02		E200.8	12/01/23 12:50 / dck		ICPMS206-H_231201B : 50		R190518
Lead	0.0022	mg/L		0.0003		E200.8	12/01/23 12:50 / dck		ICPMS206-H_231201B : 50		R190518
Lanthanum	ND	mg/L		0.01		E200.8	11/30/23 15:04 / dck		ICPMS206-H_231130A : 109		R190453
Lithium	0.6	mg/L		0.1		E200.8	12/01/23 12:50 / dck		ICPMS206-H_231201B : 50		R190518
Magnesium	97	mg/L		1		E200.8	12/01/23 12:50 / dck		ICPMS206-H_231201B : 50		R190518
Neodymium	ND	mg/L		0.005		E200.8	11/30/23 15:04 / dck		ICPMS206-H_231130A : 109		R190453
Niobium	ND	mg/L		0.01		E200.8	11/30/23 15:04 / dck		ICPMS206-H_231130A : 109		R190453
Manganese	6.40	mg/L		0.007		E200.7	12/11/23 14:49 / slj		ICP2-HE_231211B : 86		R190737
Molybdenum	0.002	mg/L		0.001		E200.8	12/01/23 12:50 / dck		ICPMS206-H_231201B : 50		R190518
Nickel	0.075	mg/L		0.002		E200.8	12/01/23 12:50 / dck		ICPMS206-H_231201B : 50		R190518
Palladium	ND	mg/L		0.01		E200.8	11/30/23 15:04 / dck		ICPMS206-H_231130A : 109		R190453
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 15:04 / dck		ICPMS206-H_231130A : 109		R190453
Rubidium	ND	mg/L		0.01		E200.8	11/30/23 15:04 / dck		ICPMS206-H_231130A : 109		R190453
Potassium	15	mg/L		1		E200.8	12/01/23 12:50 / dck		ICPMS206-H_231201B : 50		R190518
Selenium	ND	mg/L		0.001		E200.8	12/01/23 12:50 / dck		ICPMS206-H_231201B : 50		R190518
Silver	ND	mg/L		0.0002		E200.8	12/01/23 12:50 / dck		ICPMS206-H_231201B : 50		R190518
Sodium	154	mg/L		1		E200.7	12/08/23 16:59 / slj		ICP2-HE_231208B : 74		R190705
Strontium	1.69	mg/L		0.01		E200.8	12/01/23 12:50 / dck		ICPMS206-H_231201B : 50		R190518
Thallium	ND	mg/L		0.0002		E200.8	12/01/23 12:50 / dck		ICPMS206-H_231201B : 50		R190518
Thorium	ND	mg/L		0.005		E200.8	12/01/23 12:50 / dck		ICPMS206-H_231201B : 50		R190518
Tin	ND	mg/L		0.05		E200.8	12/01/23 12:50 / dck		ICPMS206-H_231201B : 50		R190518
Titanium	ND	mg/L		0.005		E200.8	12/01/23 12:50 / dck		ICPMS206-H_231201B : 50		R190518
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 15:04 / dck		ICPMS206-H_231130A : 109		R190453
Uranium	0.0006	mg/L		0.0002		E200.8	12/01/23 12:50 / dck		ICPMS206-H_231201B : 50		R190518
Vanadium	ND	mg/L		0.01		E200.8	12/01/23 12:50 / dck		ICPMS206-H_231201B : 50		R190518
Zinc	17.8	mg/L		0.01		E200.7	12/11/23 14:49 / slj		ICP2-HE_231211B : 86		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 15:04 / dck		ICPMS206-H_231130A : 109		R190453

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-01A  
**Lab ID:** H23110659-011  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/16/23 09:41      **Date Received:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.44	%				A1030 E	12/11/23 09:02 / abc		CALC_231211A : 45		R190718

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-02A  
**Lab ID:** H23110659-012  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/16/23 10:19 **Date Received:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.2	s.u.	H	0.1		A4500-H B	11/17/23 16:31 / eek		PHSC_101-H_231117A : 162		R190164
pH Measurement Temp	16.6	°C				A4500-H B	11/17/23 16:31 / eek		PHSC_101-H_231117A : 162		R190164
Conductivity @ 25 C	905	umhos/cm		5		A2510 B	11/17/23 16:31 / eek		PHSC_101-H_231117A : 163		R190164
Solids, Total Dissolved TDS @ 180 C	668	mg/L		20		A2540 C	11/20/23 12:50 / dpw		124 (14410200)_231120B : 27		TDS231120A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	13	mg/L		4		A2320 B	11/21/23 11:17 / dpw		PHSC_101-H_231121A : 50		R190255
Bicarbonate as HCO3	15	mg/L		4		A2320 B	11/21/23 11:17 / dpw		PHSC_101-H_231121A : 50		R190255
Carbonate as CO3	ND	mg/L		4		A2320 B	11/21/23 11:17 / dpw		PHSC_101-H_231121A : 50		R190255
Chloride	85	mg/L		1		E300.0	11/20/23 23:09 / SR		IC METROHM_231120A : 39		R190257
Sulfate	288	mg/L		1		E300.0	11/20/23 23:09 / SR		IC METROHM_231120A : 39		R190257
Bromide	ND	mg/L		0.5		E300.0	11/20/23 23:09 / SR		IC METROHM_231120A : 39		R190257
Fluoride	0.8	mg/L		0.1		E300.0	11/20/23 23:09 / SR		IC METROHM_231120A : 39		R190257
Hardness as CaCO3	352	mg/L		1		A2340 B	12/08/23 17:13 / abc		CALC_231211A : 58		R190718
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.2	mg/L		0.5		A5310 C	11/29/23 05:13 / eli-c		SUB-C301420 : 47		C_R301420
Organic Carbon, Total (TOC)	1.3	mg/L		0.5		A5310 C	11/28/23 20:04 / eli-c		SUB-C301420 : 20		C_R301420
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	7.49	mg/L		0.05		E353.2	11/29/23 18:08 / JAR		SEAL AA500_231129A : 138		R190433
<b>METALS, DISSOLVED</b>											
Aluminum	0.383	mg/L		0.009		E200.8	12/01/23 12:53 / dck		ICPMS206-H_231201B : 51		R190518
Antimony	ND	mg/L		0.0005		E200.8	12/01/23 12:53 / dck		ICPMS206-H_231201B : 51		R190518
Arsenic	0.001	mg/L		0.001		E200.8	12/01/23 12:53 / dck		ICPMS206-H_231201B : 51		R190518
Barium	0.025	mg/L		0.003		E200.8	12/01/23 12:53 / dck		ICPMS206-H_231201B : 51		R190518
Beryllium	ND	mg/L		0.0008		E200.8	12/01/23 12:53 / dck		ICPMS206-H_231201B : 51		R190518
Boron	0.35	mg/L		0.05		E200.7	12/08/23 17:13 / slj		ICP2-HE_231208B : 75		R190705
Cadmium	0.0708	mg/L		0.00003		E200.8	12/01/23 12:53 / dck		ICPMS206-H_231201B : 51		R190518
Cesium	ND	mg/L		0.01		E200.8	11/30/23 15:06 / dck		ICPMS206-H_231130A : 110		R190453

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-02A  
**Lab ID:** H23110659-012  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/16/23 10:19 **DateReceived:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	103	mg/L		1		E200.7	12/08/23 17:13 / slj		ICP2-HE_231208B : 75		R190705
Chromium	ND	mg/L		0.005		E200.8	12/01/23 12:53 / dck		ICPMS206-H_231201B : 51		R190518
Cobalt	0.096	mg/L		0.005		E200.8	12/01/23 12:53 / dck		ICPMS206-H_231201B : 51		R190518
Copper	0.328	mg/L		0.002		E200.8	12/01/23 12:53 / dck		ICPMS206-H_231201B : 51		R190518
Gallium	ND	mg/L		0.01		E200.8	11/30/23 15:06 / dck		ICPMS206-H_231130A : 110		R190453
Iron	0.03	mg/L		0.02		E200.8	12/15/23 22:10 / dck		ICPMS206-H_231215A : 140		R190901
Lead	0.0014	mg/L		0.0003		E200.8	12/01/23 12:53 / dck		ICPMS206-H_231201B : 51		R190518
Lanthanum	ND	mg/L		0.01		E200.8	11/30/23 15:06 / dck		ICPMS206-H_231130A : 110		R190453
Lithium	ND	mg/L		0.1		E200.8	12/01/23 12:53 / dck		ICPMS206-H_231201B : 51		R190518
Magnesium	23	mg/L		1		E200.8	12/01/23 12:53 / dck		ICPMS206-H_231201B : 51		R190518
Neodymium	ND	mg/L		0.005		E200.8	11/30/23 15:06 / dck		ICPMS206-H_231130A : 110		R190453
Niobium	ND	mg/L		0.01		E200.8	11/30/23 15:06 / dck		ICPMS206-H_231130A : 110		R190453
Manganese	16.6	mg/L		0.007		E200.7	12/11/23 14:53 / slj		ICP2-HE_231211B : 87		R190737
Molybdenum	ND	mg/L		0.001		E200.8	12/01/23 12:53 / dck		ICPMS206-H_231201B : 51		R190518
Nickel	0.046	mg/L		0.002		E200.8	12/01/23 12:53 / dck		ICPMS206-H_231201B : 51		R190518
Palladium	ND	mg/L		0.01		E200.8	11/30/23 15:06 / dck		ICPMS206-H_231130A : 110		R190453
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 15:06 / dck		ICPMS206-H_231130A : 110		R190453
Rubidium	ND	mg/L		0.01		E200.8	11/30/23 15:06 / dck		ICPMS206-H_231130A : 110		R190453
Potassium	8	mg/L		1		E200.8	12/01/23 12:53 / dck		ICPMS206-H_231201B : 51		R190518
Selenium	ND	mg/L		0.001		E200.8	12/01/23 12:53 / dck		ICPMS206-H_231201B : 51		R190518
Silver	ND	mg/L		0.0002		E200.8	12/01/23 12:53 / dck		ICPMS206-H_231201B : 51		R190518
Sodium	33	mg/L		1		E200.7	12/08/23 17:13 / slj		ICP2-HE_231208B : 75		R190705
Strontium	0.63	mg/L		0.01		E200.8	12/01/23 12:53 / dck		ICPMS206-H_231201B : 51		R190518
Thallium	ND	mg/L		0.0002		E200.8	12/01/23 12:53 / dck		ICPMS206-H_231201B : 51		R190518
Thorium	ND	mg/L		0.005		E200.8	12/01/23 12:53 / dck		ICPMS206-H_231201B : 51		R190518
Tin	ND	mg/L		0.05		E200.8	12/01/23 12:53 / dck		ICPMS206-H_231201B : 51		R190518
Titanium	ND	mg/L		0.005		E200.8	12/01/23 12:53 / dck		ICPMS206-H_231201B : 51		R190518
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 15:06 / dck		ICPMS206-H_231130A : 110		R190453
Uranium	0.0005	mg/L		0.0002		E200.8	12/01/23 12:53 / dck		ICPMS206-H_231201B : 51		R190518
Vanadium	ND	mg/L		0.01		E200.8	12/01/23 12:53 / dck		ICPMS206-H_231201B : 51		R190518
Zinc	11.3	mg/L		0.01		E200.7	12/11/23 14:53 / slj		ICP2-HE_231211B : 87		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 15:06 / dck		ICPMS206-H_231130A : 110		R190453

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** MSD-02A  
**Lab ID:** H23110659-012  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/16/23 10:19      **DateReceived:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-3.02	%				A1030 E	12/11/23 09:02 / abc		CALC_231211A : 56		R190718

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-24B  
**Lab ID:** H23110659-013  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/16/23 10:46 **Date Received:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.4	s.u.	H	0.1		A4500-H B	11/17/23 16:33 / eek		PHSC_101-H_231117A : 164		R190164
pH Measurement Temp	16.3	°C				A4500-H B	11/17/23 16:33 / eek		PHSC_101-H_231117A : 164		R190164
Conductivity @ 25 C	1280	umhos/cm		5		A2510 B	11/17/23 16:33 / eek		PHSC_101-H_231117A : 165		R190164
Solids, Total Dissolved TDS @ 180 C	1000	mg/L		20		A2540 C	11/20/23 12:50 / dpw		124 (14410200)_231120B : 28		TDS231120A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	55	mg/L		4		A2320 B	11/21/23 14:40 / dpw		PHSC_101-H_231121A : 78		R190255
Bicarbonate as HCO3	67	mg/L		4		A2320 B	11/21/23 14:40 / dpw		PHSC_101-H_231121A : 78		R190255
Carbonate as CO3	ND	mg/L		4		A2320 B	11/21/23 14:40 / dpw		PHSC_101-H_231121A : 78		R190255
Chloride	27	mg/L		1		E300.0	11/20/23 23:23 / SR		IC METROHM_231120A : 40		R190257
Sulfate	608	mg/L		1		E300.0	11/20/23 23:23 / SR		IC METROHM_231120A : 40		R190257
Bromide	ND	mg/L		0.5		E300.0	11/20/23 23:23 / SR		IC METROHM_231120A : 40		R190257
Fluoride	0.5	mg/L		0.1		E300.0	11/20/23 23:23 / SR		IC METROHM_231120A : 40		R190257
Hardness as CaCO3	546	mg/L		1		A2340 B	12/08/23 17:28 / abc		CALC_231211A : 69		R190718
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	ND	mg/L		0.5		A5310 C	11/29/23 05:29 / eli-c		SUB-C301420 : 48		C_R301420
Organic Carbon, Total (TOC)	ND	mg/L		0.5		A5310 C	11/28/23 20:19 / eli-c		SUB-C301420 : 21		C_R301420
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	1.70	mg/L		0.02		E353.2	11/29/23 18:09 / JAR		SEAL AA500_231129A : 139		R190433
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	12/01/23 12:57 / dck		ICPMS206-H_231201B : 52		R190518
Antimony	ND	mg/L		0.0005		E200.8	12/01/23 12:57 / dck		ICPMS206-H_231201B : 52		R190518
Arsenic	0.004	mg/L		0.001		E200.8	12/01/23 12:57 / dck		ICPMS206-H_231201B : 52		R190518
Barium	0.018	mg/L		0.003		E200.8	12/01/23 12:57 / dck		ICPMS206-H_231201B : 52		R190518
Beryllium	ND	mg/L		0.0008		E200.8	12/01/23 12:57 / dck		ICPMS206-H_231201B : 52		R190518
Boron	0.09	mg/L		0.05		E200.7	12/08/23 17:28 / slj		ICP2-HE_231208B : 79		R190705
Cadmium	0.00602	mg/L		0.00003		E200.8	12/01/23 12:57 / dck		ICPMS206-H_231201B : 52		R190518
Cesium	ND	mg/L		0.01		E200.8	11/30/23 15:19 / dck		ICPMS206-H_231130A : 116		R190453

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-24B  
**Lab ID:** H23110659-013  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/16/23 10:46 **DateReceived:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	157	mg/L		1		E200.7	12/08/23 17:28 / slj		ICP2-HE_231208B : 79		R190705
Chromium	ND	mg/L		0.005		E200.8	12/01/23 12:57 / dck		ICPMS206-H_231201B : 52		R190518
Cobalt	ND	mg/L		0.005		E200.8	12/01/23 12:57 / dck		ICPMS206-H_231201B : 52		R190518
Copper	0.142	mg/L		0.002		E200.8	12/01/23 12:57 / dck		ICPMS206-H_231201B : 52		R190518
Gallium	ND	mg/L		0.01		E200.8	11/30/23 15:19 / dck		ICPMS206-H_231130A : 116		R190453
Iron	ND	mg/L		0.02		E200.8	12/01/23 12:57 / dck		ICPMS206-H_231201B : 52		R190518
Lead	ND	mg/L		0.0003		E200.8	12/01/23 12:57 / dck		ICPMS206-H_231201B : 52		R190518
Lanthanum	ND	mg/L		0.01		E200.8	11/30/23 15:19 / dck		ICPMS206-H_231130A : 116		R190453
Lithium	0.2	mg/L		0.1		E200.8	12/01/23 12:57 / dck		ICPMS206-H_231201B : 52		R190518
Magnesium	37	mg/L		1		E200.8	12/01/23 12:57 / dck		ICPMS206-H_231201B : 52		R190518
Neodymium	ND	mg/L		0.005		E200.8	11/30/23 15:19 / dck		ICPMS206-H_231130A : 116		R190453
Niobium	ND	mg/L		0.01		E200.8	11/30/23 15:19 / dck		ICPMS206-H_231130A : 116		R190453
Manganese	ND	mg/L		0.001		E200.8	12/15/23 21:34 / dck		ICPMS206-H_231215A : 130		R190901
Molybdenum	0.002	mg/L		0.001		E200.8	12/01/23 12:57 / dck		ICPMS206-H_231201B : 52		R190518
Nickel	0.005	mg/L		0.002		E200.8	12/01/23 12:57 / dck		ICPMS206-H_231201B : 52		R190518
Palladium	ND	mg/L		0.01		E200.8	11/30/23 15:19 / dck		ICPMS206-H_231130A : 116		R190453
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 15:19 / dck		ICPMS206-H_231130A : 116		R190453
Rubidium	0.01	mg/L		0.01		E200.8	11/30/23 15:19 / dck		ICPMS206-H_231130A : 116		R190453
Potassium	13	mg/L		1		E200.8	12/01/23 12:57 / dck		ICPMS206-H_231201B : 52		R190518
Selenium	ND	mg/L		0.001		E200.8	12/01/23 12:57 / dck		ICPMS206-H_231201B : 52		R190518
Silver	ND	mg/L		0.0002		E200.8	12/01/23 12:57 / dck		ICPMS206-H_231201B : 52		R190518
Sodium	79	mg/L		1		E200.7	12/08/23 17:28 / slj		ICP2-HE_231208B : 79		R190705
Strontium	1.90	mg/L		0.01		E200.8	12/01/23 12:57 / dck		ICPMS206-H_231201B : 52		R190518
Thallium	ND	mg/L		0.0002		E200.8	12/01/23 12:57 / dck		ICPMS206-H_231201B : 52		R190518
Thorium	ND	mg/L		0.005		E200.8	12/01/23 12:57 / dck		ICPMS206-H_231201B : 52		R190518
Tin	ND	mg/L		0.05		E200.8	12/01/23 12:57 / dck		ICPMS206-H_231201B : 52		R190518
Titanium	ND	mg/L		0.005		E200.8	12/01/23 12:57 / dck		ICPMS206-H_231201B : 52		R190518
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 15:19 / dck		ICPMS206-H_231130A : 116		R190453
Uranium	0.0012	mg/L		0.0002		E200.8	12/01/23 12:57 / dck		ICPMS206-H_231201B : 52		R190518
Vanadium	ND	mg/L		0.01		E200.8	12/01/23 12:57 / dck		ICPMS206-H_231201B : 52		R190518
Zinc	1.19	mg/L		0.008		E200.7	12/11/23 14:57 / slj		ICP2-HE_231211B : 88		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 15:19 / dck		ICPMS206-H_231130A : 116		R190453

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMC-24B  
**Lab ID:** H23110659-013  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/16/23 10:46      **DateReceived:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	0.05	%				A1030 E	12/11/23 09:03 / abc		CALC_231211A : 67		R190718

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-20  
**Lab ID:** H23110659-014  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/16/23 11:02 **Date Received:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.3	s.u.	H	0.1		A4500-H B	11/17/23 16:35 / eek		PHSC_101-H_231117A : 166		R190164
pH Measurement Temp	16.4	°C				A4500-H B	11/17/23 16:35 / eek		PHSC_101-H_231117A : 166		R190164
Conductivity @ 25 C	2210	umhos/cm		5		A2510 B	11/17/23 16:35 / eek		PHSC_101-H_231117A : 167		R190164
Solids, Total Dissolved TDS @ 180 C	2060	mg/L		50		A2540 C	11/20/23 12:51 / dpw		124 (14410200)_231120B : 30		TDS231120A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	16	mg/L		4		A2320 B	11/21/23 14:46 / dpw		PHSC_101-H_231121A : 80		R190255
Bicarbonate as HCO3	19	mg/L		4		A2320 B	11/21/23 14:46 / dpw		PHSC_101-H_231121A : 80		R190255
Carbonate as CO3	ND	mg/L		4		A2320 B	11/21/23 14:46 / dpw		PHSC_101-H_231121A : 80		R190255
Chloride	36	mg/L		1		E300.0	12/12/23 13:14 / SR		IC METROHM_231212A : 8		R190812
Sulfate	1340	mg/L		1		E300.0	12/12/23 13:14 / SR		IC METROHM_231212A : 8		R190812
Bromide	ND	mg/L		0.5		E300.0	11/20/23 23:38 / SR		IC METROHM_231120A : 41		R190257
Fluoride	1.1	mg/L		0.1		E300.0	11/20/23 23:38 / SR		IC METROHM_231120A : 41		R190257
Hardness as CaCO3	1160	mg/L		1		A2340 B	12/08/23 17:32 / SR		CALC_231213A : 14		R190813
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.8	mg/L		0.5		A5310 C	11/29/23 05:45 / eli-c		SUB-C301420 : 49		C_R301420
Organic Carbon, Total (TOC)	1.9	mg/L		0.5		A5310 C	11/28/23 20:36 / eli-c		SUB-C301420 : 22		C_R301420
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.48	mg/L		0.01		E353.2	11/29/23 18:10 / JAR		SEAL AA500_231129A : 140		R190433
<b>METALS, DISSOLVED</b>											
Aluminum	1.10	mg/L		0.03		E200.7	12/08/23 17:32 / slj		ICP2-HE_231208B : 80		R190705
Antimony	ND	mg/L		0.0005		E200.8	12/01/23 13:36 / dck		ICPMS206-H_231201B : 63		R190518
Arsenic	ND	mg/L		0.001		E200.8	12/01/23 13:36 / dck		ICPMS206-H_231201B : 63		R190518
Barium	0.011	mg/L		0.003		E200.8	12/01/23 13:36 / dck		ICPMS206-H_231201B : 63		R190518
Beryllium	0.0012	mg/L		0.0008		E200.8	12/01/23 13:36 / dck		ICPMS206-H_231201B : 63		R190518
Boron	ND	mg/L		0.05		E200.7	12/08/23 17:32 / slj		ICP2-HE_231208B : 80		R190705
Cadmium	0.0815	mg/L		0.00003		E200.8	12/01/23 13:36 / dck		ICPMS206-H_231201B : 63		R190518
Cesium	ND	mg/L		0.01		E200.8	11/30/23 15:21 / dck		ICPMS206-H_231130A : 117		R190453

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-20  
**Lab ID:** H23110659-014  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/16/23 11:02 **Date Received:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	432	mg/L		1		E200.7	12/08/23 17:32 / slj		ICP2-HE_231208B : 80		R190705
Chromium	ND	mg/L		0.005		E200.8	12/01/23 13:36 / dck		ICPMS206-H_231201B : 63		R190518
Cobalt	0.193	mg/L		0.005		E200.8	12/01/23 13:36 / dck		ICPMS206-H_231201B : 63		R190518
Copper	2.76	mg/L		0.002		E200.8	12/01/23 13:36 / dck		ICPMS206-H_231201B : 63		R190518
Gallium	ND	mg/L		0.01		E200.8	11/30/23 15:21 / dck		ICPMS206-H_231130A : 117		R190453
Iron	13.0	mg/L		0.02		E200.8	12/01/23 13:36 / dck		ICPMS206-H_231201B : 63		R190518
Lead	ND	mg/L		0.0003		E200.8	12/01/23 13:36 / dck		ICPMS206-H_231201B : 63		R190518
Lanthanum	0.04	mg/L		0.01		E200.8	11/30/23 15:21 / dck		ICPMS206-H_231130A : 117		R190453
Lithium	0.1	mg/L		0.1		E200.7	12/11/23 15:01 / slj		ICP2-HE_231211B : 89		R190737
Magnesium	19	mg/L		1		E200.7	12/08/23 17:32 / slj		ICP2-HE_231208B : 80		R190705
Neodymium	0.018	mg/L		0.005		E200.8	11/30/23 15:21 / dck		ICPMS206-H_231130A : 117		R190453
Niobium	ND	mg/L		0.01		E200.8	11/30/23 15:21 / dck		ICPMS206-H_231130A : 117		R190453
Manganese	15.9	mg/L		0.007		E200.7	12/11/23 15:01 / slj		ICP2-HE_231211B : 89		R190737
Molybdenum	0.024	mg/L		0.001		E200.8	12/01/23 13:36 / dck		ICPMS206-H_231201B : 63		R190518
Nickel	0.046	mg/L		0.002		E200.8	12/01/23 13:36 / dck		ICPMS206-H_231201B : 63		R190518
Palladium	ND	mg/L		0.01		E200.8	11/30/23 15:21 / dck		ICPMS206-H_231130A : 117		R190453
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 15:21 / dck		ICPMS206-H_231130A : 117		R190453
Rubidium	ND	mg/L		0.01		E200.8	11/30/23 15:21 / dck		ICPMS206-H_231130A : 117		R190453
Potassium	17	mg/L		1		E200.7	12/08/23 17:32 / slj		ICP2-HE_231208B : 80		R190705
Selenium	0.009	mg/L		0.001		E200.8	12/01/23 13:36 / dck		ICPMS206-H_231201B : 63		R190518
Silver	ND	mg/L		0.0002		E200.8	12/01/23 13:36 / dck		ICPMS206-H_231201B : 63		R190518
Sodium	47	mg/L		1		E200.7	12/08/23 17:32 / slj		ICP2-HE_231208B : 80		R190705
Strontium	1.72	mg/L		0.01		E200.8	12/01/23 13:36 / dck		ICPMS206-H_231201B : 63		R190518
Thallium	ND	mg/L		0.0002		E200.8	12/01/23 13:36 / dck		ICPMS206-H_231201B : 63		R190518
Thorium	ND	mg/L		0.005		E200.8	12/01/23 13:36 / dck		ICPMS206-H_231201B : 63		R190518
Tin	ND	mg/L		0.05		E200.8	12/01/23 13:36 / dck		ICPMS206-H_231201B : 63		R190518
Titanium	ND	mg/L		0.005		E200.8	12/01/23 13:36 / dck		ICPMS206-H_231201B : 63		R190518
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 15:21 / dck		ICPMS206-H_231130A : 117		R190453
Uranium	0.0030	mg/L		0.0002		E200.8	12/01/23 13:36 / dck		ICPMS206-H_231201B : 63		R190518
Vanadium	ND	mg/L		0.01		E200.8	12/01/23 13:36 / dck		ICPMS206-H_231201B : 63		R190518
Zinc	17.2	mg/L		0.01		E200.7	12/11/23 15:01 / slj		ICP2-HE_231211B : 89		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 15:21 / dck		ICPMS206-H_231130A : 117		R190453

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** AMW-20  
**Lab ID:** H23110659-014  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/16/23 11:02    **DateReceived:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.48	%				A1030 E	12/13/23 10:02 / SR		CALC_231213A : 12		R190813

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-02B  
**Lab ID:** H23110659-015  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/16/23 11:29 **Date Received:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	4.3	s.u.	H	0.1		A4500-H B	11/17/23 16:37 / eek		PHSC_101-H_231117A : 168		R190164
pH Measurement Temp	16.5	°C				A4500-H B	11/17/23 16:37 / eek		PHSC_101-H_231117A : 168		R190164
Conductivity @ 25 C	6170	umhos/cm		5		A2510 B	11/17/23 16:37 / eek		PHSC_101-H_231117A : 169		R190164
Solids, Total Dissolved TDS @ 180 C	6560	mg/L		200		A2540 C	11/20/23 12:51 / dpw		124 (14410200)_231120B : 31		TDS231120A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	11/21/23 14:53 / dpw		PHSC_101-H_231121A : 82		R190255
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	11/21/23 14:53 / dpw		PHSC_101-H_231121A : 82		R190255
Carbonate as CO3	ND	mg/L		4		A2320 B	11/21/23 14:53 / dpw		PHSC_101-H_231121A : 82		R190255
Chloride	746	mg/L		1		E300.0	12/12/23 13:29 / SR		IC METROHM_231212A : 9		R190812
Sulfate	3390	mg/L		1		E300.0	12/12/23 13:29 / SR		IC METROHM_231212A : 9		R190812
Bromide	0.5	mg/L		0.5		E300.0	11/20/23 23:52 / SR		IC METROHM_231120A : 42		R190257
Fluoride	13.8	mg/L	*	0.1		E300.0	11/20/23 23:52 / SR		IC METROHM_231120A : 42		R190257
Hardness as CaCO3	2260	mg/L		1		A2340 B	12/08/23 17:35 / SR		CALC_231213A : 25		R190813
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.2	mg/L		0.5		A5310 C	11/29/23 06:03 / eli-c		SUB-C301420 : 50		C_R301420
Organic Carbon, Total (TOC)	1.3	mg/L		0.5		A5310 C	11/28/23 20:54 / eli-c		SUB-C301420 : 23		C_R301420
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.10	mg/L		0.01		E353.2	11/29/23 18:11 / JAR		SEAL AA500_231129A : 141		R190433
<b>METALS, DISSOLVED</b>											
Aluminum	17.2	mg/L		0.1		E200.7	12/08/23 17:35 / slj		ICP2-HE_231208B : 81		R190705
Antimony	ND	mg/L		0.0005		E200.8	12/01/23 13:39 / dck		ICPMS206-H_231201B : 64		R190518
Arsenic	0.001	mg/L		0.001		E200.8	12/01/23 13:39 / dck		ICPMS206-H_231201B : 64		R190518
Barium	0.014	mg/L		0.003		E200.8	12/01/23 13:39 / dck		ICPMS206-H_231201B : 64		R190518
Beryllium	0.0240	mg/L		0.0008		E200.8	12/01/23 13:39 / dck		ICPMS206-H_231201B : 64		R190518
Boron	0.16	mg/L		0.05		E200.7	12/08/23 17:35 / slj		ICP2-HE_231208B : 81		R190705
Cadmium	1.91	mg/L		0.00003		E200.8	12/01/23 13:39 / dck		ICPMS206-H_231201B : 64		R190518
Cesium	ND	mg/L		0.01		E200.8	11/30/23 15:23 / dck		ICPMS206-H_231130A : 118		R190453

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** \* - The result exceeds the Maximum Contaminant Level (MCL)

H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-02B  
**Lab ID:** H23110659-015  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/16/23 11:29 **DateReceived:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	565	mg/L		1		E200.7	12/08/23 17:35 / slj		ICP2-HE_231208B : 81		R190705
Chromium	ND	mg/L		0.005		E200.8	12/01/23 13:39 / dck		ICPMS206-H_231201B : 64		R190518
Cobalt	1.48	mg/L		0.005		E200.8	12/01/23 13:39 / dck		ICPMS206-H_231201B : 64		R190518
Copper	152	mg/L		0.06		E200.7	12/08/23 17:35 / slj		ICP2-HE_231208B : 81		R190705
Gallium	ND	mg/L		0.01		E200.8	11/30/23 15:23 / dck		ICPMS206-H_231130A : 118		R190453
Iron	400	mg/L		0.2		E200.7	12/11/23 15:12 / slj		ICP2-HE_231211B : 92		R190737
Lead	0.0062	mg/L		0.0003		E200.8	12/01/23 13:39 / dck		ICPMS206-H_231201B : 64		R190518
Lanthanum	0.29	mg/L		0.01		E200.8	11/30/23 15:23 / dck		ICPMS206-H_231130A : 118		R190453
Lithium	0.9	mg/L		0.1		E200.7	12/11/23 15:12 / slj		ICP2-HE_231211B : 92		R190737
Magnesium	207	mg/L		1		E200.7	12/08/23 17:35 / slj		ICP2-HE_231208B : 81		R190705
Neodymium	0.105	mg/L		0.005		E200.8	11/30/23 15:23 / dck		ICPMS206-H_231130A : 118		R190453
Niobium	ND	mg/L		0.01		E200.8	11/30/23 15:23 / dck		ICPMS206-H_231130A : 118		R190453
Manganese	258	mg/L		0.03		E200.7	12/11/23 15:12 / slj		ICP2-HE_231211B : 92		R190737
Molybdenum	ND	mg/L		0.001		E200.8	12/01/23 13:39 / dck		ICPMS206-H_231201B : 64		R190518
Nickel	0.660	mg/L		0.002		E200.8	12/01/23 13:39 / dck		ICPMS206-H_231201B : 64		R190518
Palladium	ND	mg/L		0.01		E200.8	11/30/23 15:23 / dck		ICPMS206-H_231130A : 118		R190453
Praseodymium	0.04	mg/L		0.01		E200.8	11/30/23 15:23 / dck		ICPMS206-H_231130A : 118		R190453
Rubidium	0.02	mg/L		0.01		E200.8	11/30/23 15:23 / dck		ICPMS206-H_231130A : 118		R190453
Potassium	25	mg/L		2		E200.7	12/08/23 17:35 / slj		ICP2-HE_231208B : 81		R190705
Selenium	0.001	mg/L		0.001		E200.8	12/01/23 13:39 / dck		ICPMS206-H_231201B : 64		R190518
Silver	0.0225	mg/L		0.0002		E200.8	12/01/23 13:39 / dck		ICPMS206-H_231201B : 64		R190518
Sodium	209	mg/L		1		E200.7	12/08/23 17:35 / slj		ICP2-HE_231208B : 81		R190705
Strontium	4.61	mg/L		0.01		E200.8	12/01/23 13:39 / dck		ICPMS206-H_231201B : 64		R190518
Thallium	ND	mg/L		0.0002		E200.8	12/01/23 13:39 / dck		ICPMS206-H_231201B : 64		R190518
Thorium	ND	mg/L		0.005		E200.8	12/01/23 13:39 / dck		ICPMS206-H_231201B : 64		R190518
Tin	ND	mg/L		0.05		E200.8	12/01/23 13:39 / dck		ICPMS206-H_231201B : 64		R190518
Titanium	ND	mg/L		0.005		E200.8	12/01/23 13:39 / dck		ICPMS206-H_231201B : 64		R190518
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 15:23 / dck		ICPMS206-H_231130A : 118		R190453
Uranium	0.0348	mg/L		0.0002		E200.8	12/01/23 13:39 / dck		ICPMS206-H_231201B : 64		R190518
Vanadium	ND	mg/L		0.01		E200.8	12/01/23 13:39 / dck		ICPMS206-H_231201B : 64		R190518
Zinc	279	mg/L		0.07		E200.7	12/11/23 15:12 / slj		ICP2-HE_231211B : 92		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 15:23 / dck		ICPMS206-H_231130A : 118		R190453

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-02B  
**Lab ID:** H23110659-015  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/16/23 11:29      **DateReceived:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-4.70	%				A1030 E	12/13/23 10:03 / SR		CALC_231213A : 23		R190813

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-02A  
**Lab ID:** H23110659-016  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/16/23 11:50 **Date Received:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	3.9	s.u.	H	0.1		A4500-H B	11/17/23 16:39 / eek		PHSC_101-H_231117A : 170		R190164
pH Measurement Temp	16.8	°C				A4500-H B	11/17/23 16:39 / eek		PHSC_101-H_231117A : 170		R190164
Conductivity @ 25 C	2500	umhos/cm		5		A2510 B	11/17/23 16:39 / eek		PHSC_101-H_231117A : 171		R190164
Solids, Total Dissolved TDS @ 180 C	2370	mg/L		50		A2540 C	11/20/23 12:52 / dpw		124 (14410200)_231120B : 32		TDS231120A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	ND	mg/L		4		A2320 B	11/21/23 14:56 / dpw		PHSC_101-H_231121A : 84		R190255
Bicarbonate as HCO3	ND	mg/L		4		A2320 B	11/21/23 14:56 / dpw		PHSC_101-H_231121A : 84		R190255
Carbonate as CO3	ND	mg/L		4		A2320 B	11/21/23 14:56 / dpw		PHSC_101-H_231121A : 84		R190255
Chloride	117	mg/L		1		E300.0	11/21/23 00:06 / SR		IC METROHM_231120A : 43		R190257
Sulfate	1480	mg/L		1		E300.0	11/21/23 00:06 / SR		IC METROHM_231120A : 43		R190257
Bromide	ND	mg/L		0.5		E300.0	11/21/23 00:06 / SR		IC METROHM_231120A : 43		R190257
Fluoride	1.1	mg/L		0.1		E300.0	11/21/23 00:06 / SR		IC METROHM_231120A : 43		R190257
Hardness as CaCO3	985	mg/L		1		A2340 B	12/08/23 17:39 / abc		CALC_231211A : 146		R190718
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.7	mg/L		0.5		A5310 C	11/29/23 06:31 / eli-c		SUB-C301420 : 51		C_R301420
Organic Carbon, Total (TOC)	2.5	mg/L		0.5		A5310 C	11/28/23 21:22 / eli-c		SUB-C301420 : 24		C_R301420
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	11/29/23 18:12 / JAR		SEAL AA500_231129A : 142		R190433
<b>METALS, DISSOLVED</b>											
Aluminum	11.7	mg/L		0.06		E200.7	12/08/23 17:39 / slj		ICP2-HE_231208B : 82		R190705
Antimony	ND	mg/L		0.0005		E200.8	12/01/23 13:43 / dck		ICPMS206-H_231201B : 65		R190518
Arsenic	0.012	mg/L		0.001		E200.8	12/01/23 13:43 / dck		ICPMS206-H_231201B : 65		R190518
Barium	0.014	mg/L		0.003		E200.8	12/01/23 13:43 / dck		ICPMS206-H_231201B : 65		R190518
Beryllium	0.0048	mg/L		0.0008		E200.8	12/01/23 13:43 / dck		ICPMS206-H_231201B : 65		R190518
Boron	0.07	mg/L		0.05		E200.7	12/08/23 17:39 / slj		ICP2-HE_231208B : 82		R190705
Cadmium	0.348	mg/L		0.00003		E200.8	12/01/23 13:43 / dck		ICPMS206-H_231201B : 65		R190518
Cesium	ND	mg/L		0.01		E200.8	11/30/23 15:25 / dck		ICPMS206-H_231130A : 119		R190453

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-02A  
**Lab ID:** H23110659-016  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/16/23 11:50 **Date Received:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	280	mg/L		1		E200.7	12/08/23 17:39 / slj		ICP2-HE_231208B : 82		R190705
Chromium	ND	mg/L		0.005		E200.8	12/01/23 13:43 / dck		ICPMS206-H_231201B : 65		R190518
Cobalt	0.459	mg/L		0.005		E200.8	12/01/23 13:43 / dck		ICPMS206-H_231201B : 65		R190518
Copper	26.3	mg/L		0.02		E200.7	12/08/23 17:39 / slj		ICP2-HE_231208B : 82		R190705
Gallium	ND	mg/L		0.01		E200.8	11/30/23 15:25 / dck		ICPMS206-H_231130A : 119		R190453
Iron	181	mg/L		0.02		E200.7	12/08/23 17:39 / slj		ICP2-HE_231208B : 82		R190705
Lead	0.0769	mg/L		0.0003		E200.8	12/01/23 13:43 / dck		ICPMS206-H_231201B : 65		R190518
Lanthanum	0.09	mg/L		0.01		E200.8	11/30/23 15:25 / dck		ICPMS206-H_231130A : 119		R190453
Lithium	0.3	mg/L		0.1		E200.7	12/11/23 15:16 / slj		ICP2-HE_231211B : 93		R190737
Magnesium	69	mg/L		1		E200.7	12/08/23 17:39 / slj		ICP2-HE_231208B : 82		R190705
Neodymium	0.069	mg/L		0.005		E200.8	11/30/23 15:25 / dck		ICPMS206-H_231130A : 119		R190453
Niobium	ND	mg/L		0.01		E200.8	11/30/23 15:25 / dck		ICPMS206-H_231130A : 119		R190453
Manganese	47.3	mg/L		0.007		E200.7	12/11/23 15:16 / slj		ICP2-HE_231211B : 93		R190737
Molybdenum	ND	mg/L		0.001		E200.8	12/01/23 13:43 / dck		ICPMS206-H_231201B : 65		R190518
Nickel	0.169	mg/L		0.002		E200.8	12/01/23 13:43 / dck		ICPMS206-H_231201B : 65		R190518
Palladium	ND	mg/L		0.01		E200.8	11/30/23 15:25 / dck		ICPMS206-H_231130A : 119		R190453
Praseodymium	0.02	mg/L		0.01		E200.8	11/30/23 15:25 / dck		ICPMS206-H_231130A : 119		R190453
Rubidium	ND	mg/L		0.01		E200.8	11/30/23 15:25 / dck		ICPMS206-H_231130A : 119		R190453
Potassium	8	mg/L		1		E200.7	12/08/23 17:39 / slj		ICP2-HE_231208B : 82		R190705
Selenium	ND	mg/L		0.001		E200.8	12/01/23 13:43 / dck		ICPMS206-H_231201B : 65		R190518
Silver	ND	mg/L		0.0002		E200.8	12/01/23 13:43 / dck		ICPMS206-H_231201B : 65		R190518
Sodium	65	mg/L		1		E200.7	12/08/23 17:39 / slj		ICP2-HE_231208B : 82		R190705
Strontium	1.62	mg/L		0.01		E200.8	12/01/23 13:43 / dck		ICPMS206-H_231201B : 65		R190518
Thallium	ND	mg/L		0.0002		E200.8	12/01/23 13:43 / dck		ICPMS206-H_231201B : 65		R190518
Thorium	ND	mg/L		0.005		E200.8	12/01/23 13:43 / dck		ICPMS206-H_231201B : 65		R190518
Tin	ND	mg/L		0.05		E200.8	12/01/23 13:43 / dck		ICPMS206-H_231201B : 65		R190518
Titanium	ND	mg/L		0.005		E200.8	12/01/23 13:43 / dck		ICPMS206-H_231201B : 65		R190518
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 15:25 / dck		ICPMS206-H_231130A : 119		R190453
Uranium	0.0705	mg/L		0.0002		E200.8	12/01/23 13:43 / dck		ICPMS206-H_231201B : 65		R190518
Vanadium	0.02	mg/L		0.01		E200.8	12/01/23 13:43 / dck		ICPMS206-H_231201B : 65		R190518
Zinc	70.7	mg/L		0.01		E200.7	12/11/23 15:16 / slj		ICP2-HE_231211B : 93		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 15:25 / dck		ICPMS206-H_231130A : 119		R190453

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-02A  
**Lab ID:** H23110659-016  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/16/23 11:50      **DateReceived:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-3.25	%				A1030 E	12/11/23 09:14 / abc		CALC_231211A : 144		R190718

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-07B  
**Lab ID:** H23110659-017  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/16/23 13:14 **Date Received:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	6.0	s.u.	H	0.1		A4500-H B	11/17/23 16:41 / eek		PHSC_101-H_231117A : 172		R190164
pH Measurement Temp	16.7	°C				A4500-H B	11/17/23 16:41 / eek		PHSC_101-H_231117A : 172		R190164
Conductivity @ 25 C	2990	umhos/cm		5		A2510 B	11/17/23 16:41 / eek		PHSC_101-H_231117A : 173		R190164
Solids, Total Dissolved TDS @ 180 C	2960	mg/L		50		A2540 C	11/20/23 12:52 / dpw		124 (14410200)_231120B : 33		TDS231120A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	39	mg/L		4		A2320 B	11/21/23 15:00 / dpw		PHSC_101-H_231121A : 86		R190255
Bicarbonate as HCO3	47	mg/L		4		A2320 B	11/21/23 15:00 / dpw		PHSC_101-H_231121A : 86		R190255
Carbonate as CO3	ND	mg/L		4		A2320 B	11/21/23 15:00 / dpw		PHSC_101-H_231121A : 86		R190255
Chloride	65	mg/L		1		E300.0	11/21/23 00:21 / SR		IC METROHM_231120A : 44		R190257
Sulfate	1930	mg/L		1		E300.0	11/21/23 00:21 / SR		IC METROHM_231120A : 44		R190257
Bromide	ND	mg/L		0.5		E300.0	11/21/23 00:21 / SR		IC METROHM_231120A : 44		R190257
Fluoride	ND	mg/L		0.1		E300.0	11/21/23 00:21 / SR		IC METROHM_231120A : 44		R190257
Hardness as CaCO3	1820	mg/L		1		A2340 B	12/08/23 17:43 / abc		CALC_231211A : 80		R190718
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.1	mg/L		0.5		A5310 C	11/29/23 06:48 / eli-c		SUB-C301420 : 52		C_R301420
Organic Carbon, Total (TOC)	1.1	mg/L		0.5		A5310 C	11/28/23 21:39 / eli-c		SUB-C301420 : 25		C_R301420
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	0.05	mg/L		0.01		E353.2	11/29/23 18:13 / JAR		SEAL AA500_231129A : 143		R190433
<b>METALS, DISSOLVED</b>											
Aluminum	ND	mg/L		0.009		E200.8	12/19/23 13:50 / dck		ICPMS206-H_231219A : 28		R191058
Antimony	ND	mg/L		0.0005		E200.8	12/01/23 13:46 / dck		ICPMS206-H_231201B : 66		R190518
Arsenic	ND	mg/L		0.001		E200.8	12/01/23 13:46 / dck		ICPMS206-H_231201B : 66		R190518
Barium	0.018	mg/L		0.003		E200.8	12/01/23 13:46 / dck		ICPMS206-H_231201B : 66		R190518
Beryllium	ND	mg/L		0.0008		E200.8	12/01/23 13:46 / dck		ICPMS206-H_231201B : 66		R190518
Boron	0.07	mg/L		0.05		E200.7	12/08/23 17:43 / slj		ICP2-HE_231208B : 83		R190705
Cadmium	0.0283	mg/L		0.00003		E200.8	12/01/23 13:46 / dck		ICPMS206-H_231201B : 66		R190518
Cesium	ND	mg/L		0.01		E200.8	11/30/23 15:27 / dck		ICPMS206-H_231130A : 120		R190453

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-07B  
**Lab ID:** H23110659-017  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/16/23 13:14 **DateReceived:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	511	mg/L		1		E200.7	12/08/23 17:43 / slj		ICP2-HE_231208B : 83		R190705
Chromium	ND	mg/L		0.005		E200.8	12/01/23 13:46 / dck		ICPMS206-H_231201B : 66		R190518
Cobalt	0.023	mg/L		0.005		E200.8	12/01/23 13:46 / dck		ICPMS206-H_231201B : 66		R190518
Copper	0.005	mg/L		0.002		E200.8	12/15/23 22:17 / dck		ICPMS206-H_231215A : 142		R190901
Gallium	ND	mg/L		0.01		E200.8	11/30/23 15:27 / dck		ICPMS206-H_231130A : 120		R190453
Iron	0.18	mg/L		0.02		E200.8	12/01/23 13:46 / dck		ICPMS206-H_231201B : 66		R190518
Lead	ND	mg/L		0.0003		E200.8	12/01/23 13:46 / dck		ICPMS206-H_231201B : 66		R190518
Lanthanum	ND	mg/L		0.01		E200.8	11/30/23 15:27 / dck		ICPMS206-H_231130A : 120		R190453
Lithium	0.2	mg/L		0.1		E200.7	12/11/23 15:20 / slj		ICP2-HE_231211B : 94		R190737
Magnesium	132	mg/L		1		E200.7	12/08/23 17:43 / slj		ICP2-HE_231208B : 83		R190705
Neodymium	ND	mg/L		0.005		E200.8	11/30/23 15:27 / dck		ICPMS206-H_231130A : 120		R190453
Niobium	ND	mg/L		0.01		E200.8	11/30/23 15:27 / dck		ICPMS206-H_231130A : 120		R190453
Manganese	17.0	mg/L		0.003		E200.7	12/11/23 15:20 / slj		ICP2-HE_231211B : 94		R190737
Molybdenum	0.003	mg/L		0.001		E200.8	12/01/23 13:46 / dck		ICPMS206-H_231201B : 66		R190518
Nickel	0.035	mg/L		0.002		E200.8	12/01/23 13:46 / dck		ICPMS206-H_231201B : 66		R190518
Palladium	ND	mg/L		0.01		E200.8	11/30/23 15:27 / dck		ICPMS206-H_231130A : 120		R190453
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 15:27 / dck		ICPMS206-H_231130A : 120		R190453
Rubidium	ND	mg/L		0.01		E200.8	11/30/23 15:27 / dck		ICPMS206-H_231130A : 120		R190453
Potassium	14	mg/L		1		E200.7	12/08/23 17:43 / slj		ICP2-HE_231208B : 83		R190705
Selenium	ND	mg/L		0.001		E200.8	12/01/23 13:46 / dck		ICPMS206-H_231201B : 66		R190518
Silver	ND	mg/L		0.0002		E200.8	12/01/23 13:46 / dck		ICPMS206-H_231201B : 66		R190518
Sodium	115	mg/L		1		E200.7	12/08/23 17:43 / slj		ICP2-HE_231208B : 83		R190705
Strontium	3.20	mg/L		0.01		E200.8	12/01/23 13:46 / dck		ICPMS206-H_231201B : 66		R190518
Thallium	ND	mg/L		0.0002		E200.8	12/01/23 13:46 / dck		ICPMS206-H_231201B : 66		R190518
Thorium	ND	mg/L		0.005		E200.8	12/01/23 13:46 / dck		ICPMS206-H_231201B : 66		R190518
Tin	ND	mg/L		0.05		E200.8	12/01/23 13:46 / dck		ICPMS206-H_231201B : 66		R190518
Titanium	ND	mg/L		0.005		E200.8	12/01/23 13:46 / dck		ICPMS206-H_231201B : 66		R190518
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 15:27 / dck		ICPMS206-H_231130A : 120		R190453
Uranium	0.0008	mg/L		0.0002		E200.8	12/15/23 22:17 / dck		ICPMS206-H_231215A : 142		R190901
Vanadium	ND	mg/L		0.01		E200.8	12/01/23 13:46 / dck		ICPMS206-H_231201B : 66		R190518
Zinc	1.59	mg/L		0.008		E200.7	12/11/23 15:20 / slj		ICP2-HE_231211B : 94		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 15:27 / dck		ICPMS206-H_231130A : 120		R190453

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-07B  
**Lab ID:** H23110659-017  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/16/23 13:14      **DateReceived:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-1.30	%				A1030 E	12/11/23 09:03 / abc		CALC_231211A : 78		R190718

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-01A  
**Lab ID:** H23110659-018  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/16/23 13:21 **Date Received:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.0	s.u.	H	0.1		A4500-H B	11/17/23 16:42 / eek		PHSC_101-H_231117A : 174		R190164
pH Measurement Temp	16.5	°C				A4500-H B	11/17/23 16:42 / eek		PHSC_101-H_231117A : 174		R190164
Conductivity @ 25 C	1540	umhos/cm		5		A2510 B	11/17/23 16:42 / eek		PHSC_101-H_231117A : 175		R190164
Solids, Total Dissolved TDS @ 180 C	1100	mg/L		20		A2540 C	11/20/23 12:52 / dpw		124 (14410200)_231120B : 34		TDS231120A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	13	mg/L		4		A2320 B	11/21/23 15:06 / dpw		PHSC_101-H_231121A : 88		R190255
Bicarbonate as HCO3	15	mg/L		4		A2320 B	11/21/23 15:06 / dpw		PHSC_101-H_231121A : 88		R190255
Carbonate as CO3	ND	mg/L		4		A2320 B	11/21/23 15:06 / dpw		PHSC_101-H_231121A : 88		R190255
Chloride	169	mg/L		1		E300.0	11/21/23 00:35 / SR		IC METROHM_231120A : 45		R190257
Sulfate	479	mg/L		1		E300.0	11/21/23 00:35 / SR		IC METROHM_231120A : 45		R190257
Bromide	ND	mg/L		0.5		E300.0	11/21/23 00:35 / SR		IC METROHM_231120A : 45		R190257
Fluoride	1.6	mg/L		0.1		E300.0	11/21/23 00:35 / SR		IC METROHM_231120A : 45		R190257
Hardness as CaCO3	377	mg/L		1		A2340 B	12/08/23 17:46 / abc		CALC_231211A : 91		R190718
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	2.9	mg/L		0.5		A5310 C	11/29/23 07:05 / eli-c		SUB-C301420 : 53		C_R301420
Organic Carbon, Total (TOC)	2.9	mg/L		0.5		A5310 C	11/28/23 21:56 / eli-c		SUB-C301420 : 26		C_R301420
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	16.8	mg/L	H	0.05		E353.2	12/27/23 15:11 / JAR		SEAL AA500_231227B : 19		R191181
<b>METALS, DISSOLVED</b>											
Aluminum	2.34	mg/L		0.03		E200.7	12/08/23 17:46 / slj		ICP2-HE_231208B : 84		R190705
Antimony	ND	mg/L		0.0005		E200.8	12/01/23 13:50 / dck		ICPMS206-H_231201B : 67		R190518
Arsenic	ND	mg/L		0.001		E200.8	12/01/23 13:50 / dck		ICPMS206-H_231201B : 67		R190518
Barium	0.030	mg/L		0.003		E200.8	12/01/23 13:50 / dck		ICPMS206-H_231201B : 67		R190518
Beryllium	0.0082	mg/L		0.0008		E200.8	12/01/23 13:50 / dck		ICPMS206-H_231201B : 67		R190518
Boron	0.60	mg/L		0.05		E200.7	12/08/23 17:46 / slj		ICP2-HE_231208B : 84		R190705
Cadmium	0.158	mg/L		0.00003		E200.8	12/01/23 13:50 / dck		ICPMS206-H_231201B : 67		R190518
Cesium	ND	mg/L		0.01		E200.8	11/30/23 15:30 / dck		ICPMS206-H_231130A : 121		R190453

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-01A  
**Lab ID:** H23110659-018  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/16/23 13:21 **DateReceived:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	109	mg/L		1		E200.7	12/08/23 17:46 / slj		ICP2-HE_231208B : 84		R190705
Chromium	ND	mg/L		0.005		E200.8	12/01/23 13:50 / dck		ICPMS206-H_231201B : 67		R190518
Cobalt	0.111	mg/L		0.005		E200.8	12/01/23 13:50 / dck		ICPMS206-H_231201B : 67		R190518
Copper	9.88	mg/L		0.01		E200.7	12/08/23 17:46 / slj		ICP2-HE_231208B : 84		R190705
Gallium	ND	mg/L		0.01		E200.8	11/30/23 15:30 / dck		ICPMS206-H_231130A : 121		R190453
Iron	0.15	mg/L		0.02		E200.8	12/01/23 13:50 / dck		ICPMS206-H_231201B : 67		R190518
Lead	0.0364	mg/L		0.0003		E200.8	12/01/23 13:50 / dck		ICPMS206-H_231201B : 67		R190518
Lanthanum	ND	mg/L		0.01		E200.8	11/30/23 15:30 / dck		ICPMS206-H_231130A : 121		R190453
Lithium	0.2	mg/L		0.1		E200.7	12/11/23 15:28 / slj		ICP2-HE_231211B : 95		R190737
Magnesium	26	mg/L		1		E200.7	12/08/23 17:46 / slj		ICP2-HE_231208B : 84		R190705
Neodymium	0.007	mg/L		0.005		E200.8	11/30/23 15:30 / dck		ICPMS206-H_231130A : 121		R190453
Niobium	ND	mg/L		0.01		E200.8	11/30/23 15:30 / dck		ICPMS206-H_231130A : 121		R190453
Manganese	16.0	mg/L		0.007		E200.7	12/11/23 15:28 / slj		ICP2-HE_231211B : 95		R190737
Molybdenum	ND	mg/L		0.001		E200.8	12/01/23 13:50 / dck		ICPMS206-H_231201B : 67		R190518
Nickel	0.080	mg/L		0.002		E200.8	12/01/23 13:50 / dck		ICPMS206-H_231201B : 67		R190518
Palladium	ND	mg/L		0.01		E200.8	11/30/23 15:30 / dck		ICPMS206-H_231130A : 121		R190453
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 15:30 / dck		ICPMS206-H_231130A : 121		R190453
Rubidium	ND	mg/L		0.01		E200.8	11/30/23 15:30 / dck		ICPMS206-H_231130A : 121		R190453
Potassium	14	mg/L		1		E200.7	12/08/23 17:46 / slj		ICP2-HE_231208B : 84		R190705
Selenium	ND	mg/L		0.001		E200.8	12/01/23 13:50 / dck		ICPMS206-H_231201B : 67		R190518
Silver	0.0011	mg/L		0.0002		E200.8	12/01/23 13:50 / dck		ICPMS206-H_231201B : 67		R190518
Sodium	144	mg/L		1		E200.7	12/08/23 17:46 / slj		ICP2-HE_231208B : 84		R190705
Strontium	0.93	mg/L		0.01		E200.8	12/01/23 13:50 / dck		ICPMS206-H_231201B : 67		R190518
Thallium	ND	mg/L		0.0002		E200.8	12/01/23 13:50 / dck		ICPMS206-H_231201B : 67		R190518
Thorium	ND	mg/L		0.005		E200.8	12/01/23 13:50 / dck		ICPMS206-H_231201B : 67		R190518
Tin	ND	mg/L		0.05		E200.8	12/01/23 13:50 / dck		ICPMS206-H_231201B : 67		R190518
Titanium	ND	mg/L		0.005		E200.8	12/01/23 13:50 / dck		ICPMS206-H_231201B : 67		R190518
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 15:30 / dck		ICPMS206-H_231130A : 121		R190453
Uranium	0.0068	mg/L		0.0002		E200.8	12/01/23 13:50 / dck		ICPMS206-H_231201B : 67		R190518
Vanadium	ND	mg/L		0.01		E200.8	12/01/23 13:50 / dck		ICPMS206-H_231201B : 67		R190518
Zinc	24.8	mg/L		0.01		E200.7	12/11/23 15:28 / slj		ICP2-HE_231211B : 95		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 15:30 / dck		ICPMS206-H_231130A : 121		R190453

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-01A  
**Lab ID:** H23110659-018  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/16/23 13:21      **DateReceived:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance	-3.20	%				A1030 E	12/11/23 09:03 / abc		CALC_231211A : 89		R190718

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-04B  
**Lab ID:** H23110659-019  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/16/23 15:42 **Date Received:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>PHYSICAL PROPERTIES</b>											
pH	5.1	s.u.	H	0.1		A4500-H B	11/17/23 16:44 / eek		PHSC_101-H_231117A : 176		R190164
pH Measurement Temp	16.6	°C				A4500-H B	11/17/23 16:44 / eek		PHSC_101-H_231117A : 176		R190164
Conductivity @ 25 C	1620	umhos/cm		5		A2510 B	11/17/23 16:44 / eek		PHSC_101-H_231117A : 177		R190164
Solids, Total Dissolved TDS @ 180 C	1360	mg/L		20		A2540 C	11/21/23 13:35 / dpw		124 (14410200)_231120B : 38		TDS231120A
<b>INORGANICS</b>											
Alkalinity, Total as CaCO3	5	mg/L		4		A2320 B	11/21/23 15:13 / dpw		PHSC_101-H_231121A : 90		R190255
Bicarbonate as HCO3	6	mg/L		4		A2320 B	11/21/23 15:13 / dpw		PHSC_101-H_231121A : 90		R190255
Carbonate as CO3	ND	mg/L		4		A2320 B	11/21/23 15:13 / dpw		PHSC_101-H_231121A : 90		R190255
Chloride	93	mg/L		1		E300.0	12/12/23 13:43 / SR		IC METROHM_231212A : 10		R190812
Sulfate	795	mg/L		1		E300.0	12/12/23 13:43 / SR		IC METROHM_231212A : 10		R190812
Bromide	ND	mg/L		0.5		E300.0	11/21/23 01:47 / SR		IC METROHM_231120A : 50		R190257
Fluoride	ND	mg/L		0.1		E300.0	11/21/23 01:47 / SR		IC METROHM_231120A : 50		R190257
Hardness as CaCO3	664	mg/L		1		A2340 B	12/15/23 22:20 / SR		CALC_231221A : 36		R191074
<b>AGGREGATE ORGANICS</b>											
Organic Carbon, Dissolved (DOC)	1.2	mg/L		0.5		A5310 C	11/29/23 07:23 / eli-c		SUB-C301420 : 54		C_R301420
Organic Carbon, Total (TOC)	1.3	mg/L		0.5		A5310 C	11/28/23 22:13 / eli-c		SUB-C301420 : 27		C_R301420
<b>NUTRIENTS</b>											
Nitrogen, Nitrate+Nitrite as N	ND	mg/L		0.01		E353.2	11/29/23 18:17 / JAR		SEAL AA500_231129A : 147		R190433
<b>METALS, DISSOLVED</b>											
Aluminum	0.052	mg/L		0.009		E200.8	12/19/23 13:53 / dck		ICPMS206-H_231219A : 29		R191058
Antimony	ND	mg/L		0.0005		E200.8	12/01/23 13:53 / dck		ICPMS206-H_231201B : 68		R190518
Arsenic	ND	mg/L		0.001		E200.8	12/01/23 13:53 / dck		ICPMS206-H_231201B : 68		R190518
Barium	0.015	mg/L		0.003		E200.8	12/01/23 13:53 / dck		ICPMS206-H_231201B : 68		R190518
Beryllium	ND	mg/L		0.0008		E200.8	12/01/23 13:53 / dck		ICPMS206-H_231201B : 68		R190518
Boron	0.09	mg/L		0.05		E200.7	12/08/23 17:58 / slj		ICP2-HE_231208B : 87		R190705
Cadmium	0.108	mg/L		0.00003		E200.8	12/01/23 13:53 / dck		ICPMS206-H_231201B : 68		R190518
Cesium	ND	mg/L		0.01		E200.8	11/30/23 15:32 / dck		ICPMS206-H_231130A : 122		R190453

**Report** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

**Definitions:** H - Analysis performed past the method holding time



### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-04B  
**Lab ID:** H23110659-019  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/16/23 15:42 **Date Received:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>METALS, DISSOLVED</b>											
Calcium	177	mg/L		1		E200.8	12/15/23 22:20 / dck		ICPMS206-H_231215A : 143		R190901
Chromium	ND	mg/L		0.005		E200.8	12/01/23 13:53 / dck		ICPMS206-H_231201B : 68		R190518
Cobalt	0.458	mg/L		0.005		E200.8	12/01/23 13:53 / dck		ICPMS206-H_231201B : 68		R190518
Copper	0.470	mg/L		0.002		E200.8	12/01/23 13:53 / dck		ICPMS206-H_231201B : 68		R190518
Gallium	ND	mg/L		0.01		E200.8	11/30/23 15:32 / dck		ICPMS206-H_231130A : 122		R190453
Iron	32.3	mg/L		0.02		E200.8	12/01/23 13:53 / dck		ICPMS206-H_231201B : 68		R190518
Lead	0.0032	mg/L		0.0003		E200.8	12/01/23 13:53 / dck		ICPMS206-H_231201B : 68		R190518
Lanthanum	ND	mg/L		0.01		E200.8	11/30/23 15:32 / dck		ICPMS206-H_231130A : 122		R190453
Lithium	0.3	mg/L		0.1		E200.8	12/19/23 13:53 / dck		ICPMS206-H_231219A : 29		R191058
Magnesium	54	mg/L		1		E200.7	12/08/23 17:58 / slj		ICP2-HE_231208B : 87		R190705
Neodymium	ND	mg/L		0.005		E200.8	11/30/23 15:32 / dck		ICPMS206-H_231130A : 122		R190453
Niobium	ND	mg/L		0.01		E200.8	11/30/23 15:32 / dck		ICPMS206-H_231130A : 122		R190453
Manganese	36.9	mg/L		0.001		E200.7	12/11/23 10:34 / slj		ICP2-HE_231211B : 20		R190737
Molybdenum	ND	mg/L		0.001		E200.8	12/01/23 13:53 / dck		ICPMS206-H_231201B : 68		R190518
Nickel	0.122	mg/L		0.002		E200.8	12/01/23 13:53 / dck		ICPMS206-H_231201B : 68		R190518
Palladium	ND	mg/L		0.01		E200.8	11/30/23 15:32 / dck		ICPMS206-H_231130A : 122		R190453
Praseodymium	ND	mg/L		0.01		E200.8	11/30/23 15:32 / dck		ICPMS206-H_231130A : 122		R190453
Rubidium	ND	mg/L		0.01		E200.8	11/30/23 15:32 / dck		ICPMS206-H_231130A : 122		R190453
Potassium	11	mg/L		1		E200.7	12/11/23 10:34 / slj		ICP2-HE_231211B : 20		R190737
Selenium	ND	mg/L		0.001		E200.8	12/01/23 13:53 / dck		ICPMS206-H_231201B : 68		R190518
Silver	ND	mg/L		0.0002		E200.8	12/01/23 13:53 / dck		ICPMS206-H_231201B : 68		R190518
Sodium	41	mg/L		1		E200.7	12/11/23 10:34 / slj		ICP2-HE_231211B : 20		R190737
Strontium	1.19	mg/L		0.01		E200.8	12/01/23 13:53 / dck		ICPMS206-H_231201B : 68		R190518
Thallium	ND	mg/L		0.0002		E200.8	12/01/23 13:53 / dck		ICPMS206-H_231201B : 68		R190518
Thorium	ND	mg/L		0.005		E200.8	12/01/23 13:53 / dck		ICPMS206-H_231201B : 68		R190518
Tin	ND	mg/L		0.05		E200.8	12/01/23 13:53 / dck		ICPMS206-H_231201B : 68		R190518
Titanium	ND	mg/L		0.005		E200.8	12/01/23 13:53 / dck		ICPMS206-H_231201B : 68		R190518
Tungsten	ND	mg/L		0.1		E200.8	11/30/23 15:32 / dck		ICPMS206-H_231130A : 122		R190453
Uranium	0.0006	mg/L		0.0002		E200.8	12/15/23 22:20 / dck		ICPMS206-H_231215A : 143		R190901
Vanadium	ND	mg/L		0.01		E200.8	12/01/23 13:53 / dck		ICPMS206-H_231201B : 68		R190518
Zinc	30.1	mg/L		0.008		E200.7	12/11/23 10:34 / slj		ICP2-HE_231211B : 20		R190737
Zirconium	ND	mg/L		0.005		E200.8	11/30/23 15:32 / dck		ICPMS206-H_231130A : 122		R190453

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)





### LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

**Client:** MT Dept of Justice  
**Client Sample ID:** PMP-04B  
**Lab ID:** H23110659-019  
**Matrix:** Groundwater

**Project:** NRDPM16 TO2\_Task 001  
**Collection Date:** 11/16/23 15:42      **DateReceived:** 11/17/23  
**Report Date:** 12/28/23

Analyses	Result	Units	Qualifiers	RL	MDL	Method	Analysis Date / By	Prep Date	RunID	Run Order	BatchID
<b>DATA QUALITY</b>											
A/C Balance Cation/Anion Balance includes selected metals	-3.02	%				A1030 E	12/21/23 12:18 / SR		CALC_231221A : 34		R191074

**Report Definitions:** RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: C\_R301420

Date: 28-Dec-23

Run ID :Run Order: <b>SUB-C301420: 1</b>	SampType: <b>Method Blank</b>				Lab ID: <b>MBLK</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/28/23 13:47</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	ND	0.1									
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Associated samples: H23110659-001D, H23110659-001E, H23110659-002D, H23110659-002E, H23110659-003D, H23110659-003E, H23110659-004D, H23110659-004E, H23110659-005D, H23110659-005E, H23110659-006D, H23110659-006E, H23110659-007D, H23110659-007E, H23110659-008D, H23110659-008E, H23110659-009D, H23110659-009E, H23110659-010D, H23110659-010E, H23110659-011D, H23110659-011E, H23110659-012D, H23110659-012E, H23110659-013D, H23110659-013E, H23110659-014D, H23110659-014E, H23110659-015D, H23110659-015E, H23110659-016D, H23110659-016E, H23110659-017D, H23110659-017E, H23110659-018D, H23110659-018E, H23110659-019D, H23110659-019E

Run ID :Run Order: <b>SUB-C301420: 2</b>	SampType: <b>Laboratory Control Sample</b>				Lab ID: <b>LCS</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/28/23 14:08</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	4.84	0.50	5	0	97	90	111	0			
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Associated samples: H23110659-001D, H23110659-001E, H23110659-002D, H23110659-002E, H23110659-003D, H23110659-003E, H23110659-004D, H23110659-004E, H23110659-005D, H23110659-005E, H23110659-006D, H23110659-006E, H23110659-007D, H23110659-007E, H23110659-008D, H23110659-008E, H23110659-009D, H23110659-009E, H23110659-010D, H23110659-010E, H23110659-011D, H23110659-011E, H23110659-012D, H23110659-012E, H23110659-013D, H23110659-013E, H23110659-014D, H23110659-014E, H23110659-015D, H23110659-015E, H23110659-016D, H23110659-016E, H23110659-017D, H23110659-017E, H23110659-018D, H23110659-018E, H23110659-019D, H23110659-019E

Run ID :Run Order: <b>SUB-C301420: 3</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/28/23 14:23</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	4.85	0.50	5	0	97	90	110	0			
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Associated samples: H23110659-001D, H23110659-001E, H23110659-002D, H23110659-002E, H23110659-003D, H23110659-003E, H23110659-004D, H23110659-004E, H23110659-005D, H23110659-005E, H23110659-006D, H23110659-006E, H23110659-007D, H23110659-007E, H23110659-008D, H23110659-008E, H23110659-009D, H23110659-009E, H23110659-010D, H23110659-010E, H23110659-011D, H23110659-011E, H23110659-012D, H23110659-012E, H23110659-013D, H23110659-013E, H23110659-014D, H23110659-014E, H23110659-015D, H23110659-015E, H23110659-016D, H23110659-016E, H23110659-017D, H23110659-017E, H23110659-018D, H23110659-018E, H23110659-019D, H23110659-019E

Run ID :Run Order: <b>SUB-C301420: 5</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23110659-001E</b>				Method: <b>A5310 C</b>		
Analysis Date: <b>11/28/23 15:06</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Organic Carbon, Total (TOC)	7.78	0.50	5	2.921	97	90	111	0			
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**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: C\_R301420

Date: 28-Dec-23

Run ID :Run Order: SUB-C301420: 5	SampType: Sample Matrix Spike	Lab ID: H23110659-001E	Method: A5310 C								
Analysis Date: 11/28/23 15:06	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Associated samples: H23110659-001D, H23110659-001E, H23110659-002D, H23110659-002E, H23110659-003D, H23110659-003E, H23110659-004D, H23110659-004E, H23110659-005D, H23110659-005E, H23110659-006D, H23110659-006E, H23110659-007D, H23110659-007E, H23110659-008D, H23110659-008E, H23110659-009D, H23110659-009E, H23110659-010D, H23110659-010E, H23110659-011D, H23110659-011E, H23110659-012D, H23110659-012E, H23110659-013D, H23110659-013E, H23110659-014D, H23110659-014E, H23110659-015D, H23110659-015E, H23110659-016D, H23110659-016E, H23110659-017D, H23110659-017E, H23110659-018D, H23110659-018E, H23110659-019D, H23110659-019E											

Run ID :Run Order: SUB-C301420: 6	SampType: Sample Matrix Spike Duplicate	Lab ID: H23110659-001E	Method: A5310 C								
Analysis Date: 11/28/23 15:28	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	7.79	0.50	5	2.921	97	90	111	7.782	0.1	20	
Associated samples: H23110659-001D, H23110659-001E, H23110659-002D, H23110659-002E, H23110659-003D, H23110659-003E, H23110659-004D, H23110659-004E, H23110659-005D, H23110659-005E, H23110659-006D, H23110659-006E, H23110659-007D, H23110659-007E, H23110659-008D, H23110659-008E, H23110659-009D, H23110659-009E, H23110659-010D, H23110659-010E, H23110659-011D, H23110659-011E, H23110659-012D, H23110659-012E, H23110659-013D, H23110659-013E, H23110659-014D, H23110659-014E, H23110659-015D, H23110659-015E, H23110659-016D, H23110659-016E, H23110659-017D, H23110659-017E, H23110659-018D, H23110659-018E, H23110659-019D, H23110659-019E											

Run ID :Run Order: SUB-C301420: 16	SampType: Continuing Calibration Verification Standar	Lab ID: CCV-11940	Method: A5310 C								
Analysis Date: 11/28/23 18:24	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	4.89	0.50	5	0	98	90	110	0			
Associated samples: H23110659-001D, H23110659-001E, H23110659-002D, H23110659-002E, H23110659-003D, H23110659-003E, H23110659-004D, H23110659-004E, H23110659-005D, H23110659-005E, H23110659-006D, H23110659-006E, H23110659-007D, H23110659-007E, H23110659-008D, H23110659-008E, H23110659-009D, H23110659-009E, H23110659-010D, H23110659-010E, H23110659-011D, H23110659-011E, H23110659-012D, H23110659-012E, H23110659-013D, H23110659-013E, H23110659-014D, H23110659-014E, H23110659-015D, H23110659-015E, H23110659-016D, H23110659-016E, H23110659-017D, H23110659-017E, H23110659-018D, H23110659-018E, H23110659-019D, H23110659-019E											

Run ID :Run Order: SUB-C301420: 18	SampType: Sample Matrix Spike	Lab ID: H23110659-011E	Method: A5310 C								
Analysis Date: 11/28/23 19:23	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	10.1	0.50	5.025	5.258	97	90	111	0			

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: C\_R301420

Date: 28-Dec-23

Run ID :Run Order: <b>SUB-C301420: 18</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23110659-011E</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>11/28/23 19:23</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Associated samples: <b>H23110659-001D, H23110659-001E, H23110659-002D, H23110659-002E, H23110659-003D, H23110659-003E, H23110659-004D, H23110659-004E, H23110659-005D, H23110659-005E, H23110659-006D, H23110659-006E, H23110659-007D, H23110659-007E, H23110659-008D, H23110659-008E, H23110659-009D, H23110659-009E, H23110659-010D, H23110659-010E, H23110659-011D, H23110659-011E, H23110659-012D, H23110659-012E, H23110659-013D, H23110659-013E, H23110659-014D, H23110659-014E, H23110659-015D, H23110659-015E, H23110659-016D, H23110659-016E, H23110659-017D, H23110659-017E, H23110659-018D, H23110659-018E, H23110659-019D, H23110659-019E</b>											

Run ID :Run Order: <b>SUB-C301420: 19</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23110659-011E</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>11/28/23 19:44</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Total (TOC)	10.2	0.50	5.025	5.258	<b>98</b>	90	111	10.11	<b>0.5</b>	20	
Associated samples: <b>H23110659-001D, H23110659-001E, H23110659-002D, H23110659-002E, H23110659-003D, H23110659-003E, H23110659-004D, H23110659-004E, H23110659-005D, H23110659-005E, H23110659-006D, H23110659-006E, H23110659-007D, H23110659-007E, H23110659-008D, H23110659-008E, H23110659-009D, H23110659-009E, H23110659-010D, H23110659-010E, H23110659-011D, H23110659-011E, H23110659-012D, H23110659-012E, H23110659-013D, H23110659-013E, H23110659-014D, H23110659-014E, H23110659-015D, H23110659-015E, H23110659-016D, H23110659-016E, H23110659-017D, H23110659-017E, H23110659-018D, H23110659-018E, H23110659-019D, H23110659-019E</b>											

Run ID :Run Order: <b>SUB-C301420: 28</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS-11923</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>11/28/23 23:00</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.80	0.50	5	0	<b>96</b>	88	112	0			
Associated samples: <b>H23110659-001D, H23110659-001E, H23110659-002D, H23110659-002E, H23110659-003D, H23110659-003E, H23110659-004D, H23110659-004E, H23110659-005D, H23110659-005E, H23110659-006D, H23110659-006E, H23110659-007D, H23110659-007E, H23110659-008D, H23110659-008E, H23110659-009D, H23110659-009E, H23110659-010D, H23110659-010E, H23110659-011D, H23110659-011E, H23110659-012D, H23110659-012E, H23110659-013D, H23110659-013E, H23110659-014D, H23110659-014E, H23110659-015D, H23110659-015E, H23110659-016D, H23110659-016E, H23110659-017D, H23110659-017E, H23110659-018D, H23110659-018E, H23110659-019D, H23110659-019E</b>											

Run ID :Run Order: <b>SUB-C301420: 29</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MBLK</b>	Method: <b>A5310 C</b>								
Analysis Date: <b>11/28/23 23:14</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	ND	0.1									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: C\_R301420

Date: 28-Dec-23

Run ID :Run Order: SUB-C301420: 29	SampType: Method Blank	Lab ID: MBLK	Method: A5310 C								
Analysis Date: 11/28/23 23:14	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Associated samples: H23110659-001D, H23110659-001E, H23110659-002D, H23110659-002E, H23110659-003D, H23110659-003E, H23110659-004D, H23110659-004E, H23110659-005D, H23110659-005E, H23110659-006D, H23110659-006E, H23110659-007D, H23110659-007E, H23110659-008D, H23110659-008E, H23110659-009D, H23110659-009E, H23110659-010D, H23110659-010E, H23110659-011D, H23110659-011E, H23110659-012D, H23110659-012E, H23110659-013D, H23110659-013E, H23110659-014D, H23110659-014E, H23110659-015D, H23110659-015E, H23110659-016D, H23110659-016E, H23110659-017D, H23110659-017E, H23110659-018D, H23110659-018E, H23110659-019D, H23110659-019E											

Run ID :Run Order: SUB-C301420: 30	SampType: Continuing Calibration Verification Standar	Lab ID: CCV-11940	Method: A5310 C								
Analysis Date: 11/28/23 23:30	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.84	0.50	5	0	97	90	110	0			
Associated samples: H23110659-001D, H23110659-001E, H23110659-002D, H23110659-002E, H23110659-003D, H23110659-003E, H23110659-004D, H23110659-004E, H23110659-005D, H23110659-005E, H23110659-006D, H23110659-006E, H23110659-007D, H23110659-007E, H23110659-008D, H23110659-008E, H23110659-009D, H23110659-009E, H23110659-010D, H23110659-010E, H23110659-011D, H23110659-011E, H23110659-012D, H23110659-012E, H23110659-013D, H23110659-013E, H23110659-014D, H23110659-014E, H23110659-015D, H23110659-015E, H23110659-016D, H23110659-016E, H23110659-017D, H23110659-017E, H23110659-018D, H23110659-018E, H23110659-019D, H23110659-019E											

Run ID :Run Order: SUB-C301420: 32	SampType: Sample Matrix Spike	Lab ID: H23110659-001D	Method: A5310 C								
Analysis Date: 11/29/23 00:16	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	7.62	0.50	5.025	2.738	97	88	112	0			
Associated samples: H23110659-001D, H23110659-001E, H23110659-002D, H23110659-002E, H23110659-003D, H23110659-003E, H23110659-004D, H23110659-004E, H23110659-005D, H23110659-005E, H23110659-006D, H23110659-006E, H23110659-007D, H23110659-007E, H23110659-008D, H23110659-008E, H23110659-009D, H23110659-009E, H23110659-010D, H23110659-010E, H23110659-011D, H23110659-011E, H23110659-012D, H23110659-012E, H23110659-013D, H23110659-013E, H23110659-014D, H23110659-014E, H23110659-015D, H23110659-015E, H23110659-016D, H23110659-016E, H23110659-017D, H23110659-017E, H23110659-018D, H23110659-018E, H23110659-019D, H23110659-019E											

Run ID :Run Order: SUB-C301420: 33	SampType: Sample Matrix Spike Duplicate	Lab ID: H23110659-001D	Method: A5310 C								
Analysis Date: 11/29/23 00:38	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	7.62	0.50	5.025	2.738	97	88	112	7.621	0	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: C\_R301420

Date: 28-Dec-23

Run ID :Run Order: SUB-C301420: 33	SampType: Sample Matrix Spike Duplicate	Lab ID: H23110659-001D	Method: A5310 C								
Analysis Date: 11/29/23 00:38	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Associated samples: H23110659-001D, H23110659-001E, H23110659-002D, H23110659-002E, H23110659-003D, H23110659-003E, H23110659-004D, H23110659-004E, H23110659-005D, H23110659-005E, H23110659-006D, H23110659-006E, H23110659-007D, H23110659-007E, H23110659-008D, H23110659-008E, H23110659-009D, H23110659-009E, H23110659-010D, H23110659-010E, H23110659-011D, H23110659-011E, H23110659-012D, H23110659-012E, H23110659-013D, H23110659-013E, H23110659-014D, H23110659-014E, H23110659-015D, H23110659-015E, H23110659-016D, H23110659-016E, H23110659-017D, H23110659-017E, H23110659-018D, H23110659-018E, H23110659-019D, H23110659-019E											

Run ID :Run Order: SUB-C301420: 43	SampType: Continuing Calibration Verification Standar	Lab ID: CCV-11940	Method: A5310 C								
Analysis Date: 11/29/23 03:34	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	4.84	0.50	5	0	97	90	110	0			
Associated samples: H23110659-001D, H23110659-001E, H23110659-002D, H23110659-002E, H23110659-003D, H23110659-003E, H23110659-004D, H23110659-004E, H23110659-005D, H23110659-005E, H23110659-006D, H23110659-006E, H23110659-007D, H23110659-007E, H23110659-008D, H23110659-008E, H23110659-009D, H23110659-009E, H23110659-010D, H23110659-010E, H23110659-011D, H23110659-011E, H23110659-012D, H23110659-012E, H23110659-013D, H23110659-013E, H23110659-014D, H23110659-014E, H23110659-015D, H23110659-015E, H23110659-016D, H23110659-016E, H23110659-017D, H23110659-017E, H23110659-018D, H23110659-018E, H23110659-019D, H23110659-019E											

Run ID :Run Order: SUB-C301420: 45	SampType: Sample Matrix Spike	Lab ID: H23110659-011D	Method: A5310 C								
Analysis Date: 11/29/23 04:32	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	9.84	0.50	5.025	5.132	94	88	112	0			
Associated samples: H23110659-001D, H23110659-001E, H23110659-002D, H23110659-002E, H23110659-003D, H23110659-003E, H23110659-004D, H23110659-004E, H23110659-005D, H23110659-005E, H23110659-006D, H23110659-006E, H23110659-007D, H23110659-007E, H23110659-008D, H23110659-008E, H23110659-009D, H23110659-009E, H23110659-010D, H23110659-010E, H23110659-011D, H23110659-011E, H23110659-012D, H23110659-012E, H23110659-013D, H23110659-013E, H23110659-014D, H23110659-014E, H23110659-015D, H23110659-015E, H23110659-016D, H23110659-016E, H23110659-017D, H23110659-017E, H23110659-018D, H23110659-018E, H23110659-019D, H23110659-019E											

Run ID :Run Order: SUB-C301420: 46	SampType: Sample Matrix Spike Duplicate	Lab ID: H23110659-011D	Method: A5310 C								
Analysis Date: 11/29/23 04:54	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Organic Carbon, Dissolved (DOC)	9.84	0.50	5.025	5.132	94	88	112	9.843	0.0	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110659

**BatchID:** C\_R301420

**Date:** 28-Dec-23

Run ID :Run Order: **SUB-C301420: 46**

SampType: **Sample Matrix Spike Duplicate**

Lab ID: **H23110659-011D**

Method: **A5310 C**

Analysis Date: **11/29/23 04:54**

Units: **mg/L**

Prep Info: Prep Date:

Prep Method:

Analytes **1**

Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
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Associated samples: H23110659-001D, H23110659-001E, H23110659-002D, H23110659-002E, H23110659-003D, H23110659-003E, H23110659-004D, H23110659-004E, H23110659-005D, H23110659-005E, H23110659-006D, H23110659-006E, H23110659-007D, H23110659-007E, H23110659-008D, H23110659-008E, H23110659-009D, H23110659-009E, H23110659-010D, H23110659-010E, H23110659-011D, H23110659-011E, H23110659-012D, H23110659-012E, H23110659-013D, H23110659-013E, H23110659-014D, H23110659-014E, H23110659-015D, H23110659-015E, H23110659-016D, H23110659-016E, H23110659-017D, H23110659-017E, H23110659-018D, H23110659-018E, H23110659-019D, H23110659-019E

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190164

Date: 28-Dec-23

Run ID :Run Order: PHSC_101-H_231117A: 2	SampType: Initial Calibration Verification Standard				Lab ID: SC 150			Method: A2510 B			
Analysis Date: 11/17/23 08:32	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	154	5.0	150	0	102	90	110				

Associated samples: H23110659-001A, H23110659-002A, H23110659-003A, H23110659-004A, H23110659-005A, H23110659-006A, H23110659-007A, H23110659-008A, H23110659-009A, H23110659-010A, H23110659-011A, H23110659-012A, H23110659-013A, H23110659-014A, H23110659-015A, H23110659-016A, H23110659-017A, H23110659-018A, H23110659-019A

Run ID :Run Order: PHSC_101-H_231117A: 3	SampType: Initial Calibration Verification Standard				Lab ID: SC 20000			Method: A2510 B			
Analysis Date: 11/17/23 08:33	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	20000	5.0	20000	0	100	90	110				

Associated samples: H23110659-001A, H23110659-002A, H23110659-003A, H23110659-004A, H23110659-005A, H23110659-006A, H23110659-007A, H23110659-008A, H23110659-009A, H23110659-010A, H23110659-011A, H23110659-012A, H23110659-013A, H23110659-014A, H23110659-015A, H23110659-016A, H23110659-017A, H23110659-018A, H23110659-019A

Run ID :Run Order: PHSC_101-H_231117A: 4	SampType: Initial Calibration Verification Standard				Lab ID: SC 5000			Method: A2510 B			
Analysis Date: 11/17/23 08:35	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	4980	5.0	5000	0	100	90	110				

Associated samples: H23110659-001A, H23110659-002A, H23110659-003A, H23110659-004A, H23110659-005A, H23110659-006A, H23110659-007A, H23110659-008A, H23110659-009A, H23110659-010A, H23110659-011A, H23110659-012A, H23110659-013A, H23110659-014A, H23110659-015A, H23110659-016A, H23110659-017A, H23110659-018A, H23110659-019A

Run ID :Run Order: PHSC_101-H_231117A: 5	SampType: Laboratory Control Sample				Lab ID: SC 1000			Method: A2510 B			
Analysis Date: 11/17/23 08:37	Units: umhos/cm				Prep Info: Prep Date:			Prep Method:			
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1000	5.0	1000	0	100	90	110				

Associated samples: H23110659-001A, H23110659-002A, H23110659-003A, H23110659-004A, H23110659-005A, H23110659-006A, H23110659-007A, H23110659-008A, H23110659-009A, H23110659-010A, H23110659-011A, H23110659-012A, H23110659-013A, H23110659-014A, H23110659-015A, H23110659-016A, H23110659-017A, H23110659-018A, H23110659-019A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190164

Date: 28-Dec-23

Run ID :Run Order: PHSC_101-H_231117A: 6	SampType: Method Blank	Lab ID: MBLK	Method: A2510 B								
Analysis Date: 11/17/23 09:11	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	ND	5									

Associated samples: H23110659-001A, H23110659-002A, H23110659-003A, H23110659-004A, H23110659-005A, H23110659-006A, H23110659-007A, H23110659-008A, H23110659-009A, H23110659-010A, H23110659-011A, H23110659-012A, H23110659-013A, H23110659-014A, H23110659-015A, H23110659-016A, H23110659-017A, H23110659-018A, H23110659-019A

Run ID :Run Order: PHSC_101-H_231117A: 138	SampType: Continuing Calibration Verification Standar	Lab ID: CCV - SC 1413	Method: A2510 B								
Analysis Date: 11/17/23 15:38	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	1420	5.0	1413	0	100	90	110				

Associated samples: H23110659-001A, H23110659-002A, H23110659-003A, H23110659-004A, H23110659-005A, H23110659-006A, H23110659-007A, H23110659-008A, H23110659-009A, H23110659-010A, H23110659-011A, H23110659-012A, H23110659-013A, H23110659-014A, H23110659-015A, H23110659-016A, H23110659-017A, H23110659-018A, H23110659-019A

Run ID :Run Order: PHSC_101-H_231117A: 143	SampType: Sample Duplicate	Lab ID: H23110659-001ADUP	Method: A2510 B								
Analysis Date: 11/17/23 16:12	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	3850	5.0		0				3838	0.2	10	

Associated samples: H23110659-001A, H23110659-002A, H23110659-003A, H23110659-004A, H23110659-005A, H23110659-006A, H23110659-007A, H23110659-008A, H23110659-009A, H23110659-010A, H23110659-011A, H23110659-012A, H23110659-013A, H23110659-014A, H23110659-015A, H23110659-016A, H23110659-017A, H23110659-018A, H23110659-019A

Run ID :Run Order: PHSC_101-H_231117A: 181	SampType: Sample Duplicate	Lab ID: H23110659-002ADUP	Method: A2510 B								
Analysis Date: 11/17/23 16:48	Units: umhos/cm	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Conductivity @ 25 C	2380	5.0		0				2379	0	10	

Associated samples: H23110659-001A, H23110659-002A, H23110659-003A, H23110659-004A, H23110659-005A, H23110659-006A, H23110659-007A, H23110659-008A, H23110659-009A, H23110659-010A, H23110659-011A, H23110659-012A, H23110659-013A, H23110659-014A, H23110659-015A, H23110659-016A, H23110659-017A, H23110659-018A, H23110659-019A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190164

Date: 28-Dec-23

Run ID :Run Order: PHSC_101-H_231117A: 1	SampType: Initial Calibration Verification Standard				Lab ID: pH 7			Method: A4500-H B			
Analysis Date: 11/17/23 08:26	Units: s.u.				Prep Info: Prep Date:			Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	99	98	102				
pH Measurement Temp	20.2			0		0	0				

Associated samples: H23110659-001A, H23110659-002A, H23110659-003A, H23110659-004A, H23110659-005A, H23110659-006A, H23110659-007A, H23110659-008A, H23110659-009A, H23110659-010A, H23110659-011A, H23110659-012A, H23110659-013A, H23110659-014A, H23110659-015A, H23110659-016A, H23110659-017A, H23110659-018A, H23110659-019A

Run ID :Run Order: PHSC_101-H_231117A: 137	SampType: Continuing Calibration Verification Standar				Lab ID: CCV - pH 7			Method: A4500-H B			
Analysis Date: 11/17/23 15:35	Units: s.u.				Prep Info: Prep Date:			Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.0	0.1	7	0	101	98	102				
pH Measurement Temp	20.0			0		0	0				

Associated samples: H23110659-001A, H23110659-002A, H23110659-003A, H23110659-004A, H23110659-005A, H23110659-006A, H23110659-007A, H23110659-008A, H23110659-009A, H23110659-010A, H23110659-011A, H23110659-012A, H23110659-013A, H23110659-014A, H23110659-015A, H23110659-016A, H23110659-017A, H23110659-018A, H23110659-019A

Run ID :Run Order: PHSC_101-H_231117A: 142	SampType: Sample Duplicate				Lab ID: H23110659-001ADUP			Method: A4500-H B			
Analysis Date: 11/17/23 16:12	Units: s.u.				Prep Info: Prep Date:			Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	4.8	0.1		0				4.75	0.0	3	H
pH Measurement Temp	15.5			0				15.9			

Associated samples: H23110659-001A, H23110659-002A, H23110659-003A, H23110659-004A, H23110659-005A, H23110659-006A, H23110659-007A, H23110659-008A, H23110659-009A, H23110659-010A, H23110659-011A, H23110659-012A, H23110659-013A, H23110659-014A, H23110659-015A, H23110659-016A, H23110659-017A, H23110659-018A, H23110659-019A

Run ID :Run Order: PHSC_101-H_231117A: 180	SampType: Sample Duplicate				Lab ID: H23110659-002ADUP			Method: A4500-H B			
Analysis Date: 11/17/23 16:48	Units: s.u.				Prep Info: Prep Date:			Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	4.9	0.1		0				4.95	0.2	3	H
pH Measurement Temp	16.9			0				16.7			

Associated samples: H23110659-001A, H23110659-002A, H23110659-003A, H23110659-004A, H23110659-005A, H23110659-006A, H23110659-007A, H23110659-008A, H23110659-009A, H23110659-010A, H23110659-011A, H23110659-012A, H23110659-013A, H23110659-014A, H23110659-015A, H23110659-016A, H23110659-017A, H23110659-018A, H23110659-019A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190187

Date: 28-Dec-23

Run ID :Run Order: IC METROHM_231116A: 2		SampType: Method Blank			Lab ID: ICB				Method: E300.0		
Analysis Date: 11/16/23 11:45		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.02									
Sulfate	ND	0.03									
Bromide	ND	0.001									
Fluoride	ND	0.01									

Associated samples: H23110659-001A

Run ID :Run Order: IC METROHM_231116A: 3		SampType: Initial Calibration Verification Standard			Lab ID: ICV				Method: E300.0		
Analysis Date: 11/16/23 12:00		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	102	1.0	100	0	102	90	110				
Sulfate	399	1.0	400	0	100	90	110				
Bromide	4.99	0.50	5	0	100	90	110				
Fluoride	5.41	0.10	5	0	108	90	110				

Associated samples: H23110659-001A

Run ID :Run Order: IC METROHM_231116A: 4		SampType: Laboratory Fortified Blank			Lab ID: LFB				Method: E300.0		
Analysis Date: 11/16/23 12:14		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	24.5	1.0	25	0	98	90	110				
Sulfate	101	1.0	100	0	101	90	110				
Bromide	1.19	0.50	1.25	0	95	90	110				
Fluoride	1.15	0.10	1.25	0	92	90	110				

Associated samples: H23110659-001A

Run ID :Run Order: IC METROHM_231116A: 189		SampType: Continuing Calibration Verification Standar			Lab ID: CCV				Method: E300.0		
Analysis Date: 11/18/23 08:38		Units: mg/L			Prep Info: Prep Date:				Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	50.5	1.0	50	0	101	90	110				
Sulfate	202	1.0	200	0	101	90	110				
Bromide	2.38	0.50	2.5	0	95	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190187

Date: 28-Dec-23

Run ID :Run Order: <b>IC METROHM_231116A: 189</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E300.0</b>								
Analysis Date: <b>11/18/23 08:38</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	2.38	0.10	2.5	0	<b>95</b>	90	110				

Associated samples: **H23110659-001A**

Run ID :Run Order: <b>IC METROHM_231116A: 200</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23110658-007AMS</b>	Method: <b>E300.0</b>								
Analysis Date: <b>11/18/23 11:16</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	37.7	1.0	25	12.33	<b>101</b>	90	110				
Sulfate	163	1.0	100	64.1	<b>99</b>	90	110				
Bromide	1.16	0.50	1.25	0.048	<b>89</b>	90	110				S
Fluoride	1.67	0.10	1.25	0.402	<b>101</b>	90	110				

Associated samples: **H23110659-001A**

Run ID :Run Order: <b>IC METROHM_231116A: 201</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23110658-007AMSD</b>	Method: <b>E300.0</b>								
Analysis Date: <b>11/18/23 11:31</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	37.8	1.0	25	12.33	<b>102</b>	90	110	37.7	<b>0.2</b>	20	
Sulfate	165	1.0	100	64.1	<b>100</b>	90	110	163.2	<b>0.9</b>	20	
Bromide	1.16	0.50	1.25	0.048	<b>89</b>	90	110	1.159	<b>0.4</b>	20	S
Fluoride	1.67	0.10	1.25	0.402	<b>101</b>	90	110	1.67	<b>0.1</b>	20	

Associated samples: **H23110659-001A**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190255

Date: 28-Dec-23

Run ID :Run Order: PHSC_101-H_231121A: 6	SampType: Method Blank	Lab ID: MBLK	Method: A2320 B								
Analysis Date: 11/21/23 09:01	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	ND	2									

Associated samples: H23110659-001A, H23110659-002A, H23110659-003A, H23110659-004A, H23110659-005A, H23110659-006A, H23110659-007A, H23110659-008A, H23110659-009A, H23110659-010A, H23110659-011A, H23110659-012A, H23110659-013A, H23110659-014A, H23110659-015A, H23110659-016A, H23110659-017A, H23110659-018A, H23110659-019A

Run ID :Run Order: PHSC_101-H_231121A: 7	SampType: Laboratory Control Sample	Lab ID: LCS	Method: A2320 B								
Analysis Date: 11/21/23 09:06	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	580	4.0	600	0	96	90	110				

Associated samples: H23110659-001A, H23110659-002A, H23110659-003A, H23110659-004A, H23110659-005A, H23110659-006A, H23110659-007A, H23110659-008A, H23110659-009A, H23110659-010A, H23110659-011A, H23110659-012A, H23110659-013A, H23110659-014A, H23110659-015A, H23110659-016A, H23110659-017A, H23110659-018A, H23110659-019A

Run ID :Run Order: PHSC_101-H_231121A: 48	SampType: Sample Duplicate	Lab ID: H23110659-011ADUP	Method: A2320 B								
Analysis Date: 11/21/23 11:10	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 3	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total as CaCO3	60	4.0		0				59.45	0.9	10	
Bicarbonate as HCO3	73	4.0		0				71.92	0.9	10	
Carbonate as CO3	ND	4.0		0				0		10	

Associated samples: H23110659-001A, H23110659-002A, H23110659-003A, H23110659-004A, H23110659-005A, H23110659-006A, H23110659-007A, H23110659-008A, H23110659-009A, H23110659-010A, H23110659-011A, H23110659-012A, H23110659-013A, H23110659-014A, H23110659-015A, H23110659-016A, H23110659-017A, H23110659-018A, H23110659-019A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190257

Date: 28-Dec-23

Run ID :Run Order: <b>IC METROHM_231120A: 2</b>	SampType: <b>Method Blank</b>				Lab ID: <b>ICB</b>				Method: <b>E300.0</b>		
Analysis Date: <b>11/20/23 14:16</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.02									
Sulfate	ND	0.03									
Bromide	ND	0.001									
Fluoride	ND	0.01									

Associated samples: H23110659-002A, H23110659-003A, H23110659-004A, H23110659-005A, H23110659-006A, H23110659-007A, H23110659-008A, H23110659-009A, H23110659-010A, H23110659-011A, H23110659-012A, H23110659-013A, H23110659-014A, H23110659-015A, H23110659-016A, H23110659-017A, H23110659-018A, H23110659-019A

Run ID :Run Order: <b>IC METROHM_231120A: 3</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>				Method: <b>E300.0</b>		
Analysis Date: <b>11/20/23 14:30</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	102	1.0	100	0	<b>102</b>	90	110				
Sulfate	401	1.0	400	0	<b>100</b>	90	110				
Bromide	4.98	0.50	5	0	<b>100</b>	90	110				
Fluoride	5.42	0.10	5	0	<b>108</b>	90	110				

Associated samples: H23110659-002A, H23110659-003A, H23110659-004A, H23110659-005A, H23110659-006A, H23110659-007A, H23110659-008A, H23110659-009A, H23110659-010A, H23110659-011A, H23110659-012A, H23110659-013A, H23110659-014A, H23110659-015A, H23110659-016A, H23110659-017A, H23110659-018A, H23110659-019A

Run ID :Run Order: <b>IC METROHM_231120A: 4</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>				Method: <b>E300.0</b>		
Analysis Date: <b>11/20/23 14:45</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	24.9	1.0	25	0	<b>100</b>	90	110				
Sulfate	102	1.0	100	0	<b>102</b>	90	110				
Bromide	1.20	0.50	1.25	0	<b>96</b>	90	110				
Fluoride	1.17	0.10	1.25	0	<b>93</b>	90	110				

Associated samples: H23110659-002A, H23110659-003A, H23110659-004A, H23110659-005A, H23110659-006A, H23110659-007A, H23110659-008A, H23110659-009A, H23110659-010A, H23110659-011A, H23110659-012A, H23110659-013A, H23110659-014A, H23110659-015A, H23110659-016A, H23110659-017A, H23110659-018A, H23110659-019A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190257

Date: 28-Dec-23

Run ID :Run Order: <b>IC METROHM_231120A: 19</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>				Method: <b>E300.0</b>		
Analysis Date: <b>11/20/23 18:20</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	49.5	1.0	50	0	99	90	110				
Sulfate	199	1.0	200	0	99	90	110				
Bromide	2.32	0.50	2.5	0	93	90	110				
Fluoride	2.42	0.10	2.5	0	97	90	110				

Associated samples: H23110659-002A, H23110659-003A, H23110659-004A, H23110659-005A, H23110659-006A, H23110659-007A, H23110659-008A, H23110659-009A, H23110659-010A, H23110659-011A, H23110659-012A, H23110659-013A, H23110659-014A, H23110659-015A, H23110659-016A, H23110659-017A, H23110659-018A, H23110659-019A

Run ID :Run Order: <b>IC METROHM_231120A: 30</b>	SampType: <b>Sample Duplicate</b>				Lab ID: <b>H23110659-007ADUP</b>				Method: <b>E300.0</b>		
Analysis Date: <b>11/20/23 20:59</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	12.4	1.0		0				12.46	0.3	20	
Sulfate	0.533	1.0		0				0.416		20	
Bromide	ND	0.50		0				0		20	
Fluoride	0.209	0.10		0				0.181	14	20	

Associated samples: H23110659-002A, H23110659-003A, H23110659-004A, H23110659-005A, H23110659-006A, H23110659-007A, H23110659-008A, H23110659-009A, H23110659-010A, H23110659-011A, H23110659-012A, H23110659-013A, H23110659-014A, H23110659-015A, H23110659-016A, H23110659-017A, H23110659-018A, H23110659-019A

Run ID :Run Order: <b>IC METROHM_231120A: 32</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23110659-008AMS</b>				Method: <b>E300.0</b>		
Analysis Date: <b>11/20/23 21:28</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>4</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	122	1.0	50	73.06	98	90	110				
Sulfate	759	1.0	200	560.8	99	90	110				
Bromide	2.33	0.50	2.5	0.15	87	90	110				S
Fluoride	3.19	0.10	2.5	0.74	98	90	110				

Associated samples: H23110659-002A, H23110659-003A, H23110659-004A, H23110659-005A, H23110659-006A, H23110659-007A, H23110659-008A, H23110659-009A, H23110659-010A, H23110659-011A, H23110659-012A, H23110659-013A, H23110659-014A, H23110659-015A, H23110659-016A, H23110659-017A, H23110659-018A, H23110659-019A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190257

Date: 28-Dec-23

Run ID :Run Order: IC METROHM_231120A: 33		SampType: Sample Matrix Spike Duplicate			Lab ID: H23110659-008AMSD				Method: E300.0		
Analysis Date: 11/20/23 21:42		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	122	1.0	50	73.06	98	90	110	122.3	0.3	20	
Sulfate	759	1.0	200	560.8	99	90	110	759.2	0	20	
Bromide	2.33	0.50	2.5	0.15	87	90	110	2.333	0.0	20	S
Fluoride	3.08	0.10	2.5	0.74	94	90	110	3.189	3.4	20	

Associated samples: H23110659-002A, H23110659-003A, H23110659-004A, H23110659-005A, H23110659-006A, H23110659-007A, H23110659-008A, H23110659-009A, H23110659-010A, H23110659-011A, H23110659-012A, H23110659-013A, H23110659-014A, H23110659-015A, H23110659-016A, H23110659-017A, H23110659-018A, H23110659-019A

Run ID :Run Order: IC METROHM_231120A: 34		SampType: Continuing Calibration Verification Standar			Lab ID: CCV				Method: E300.0		
Analysis Date: 11/20/23 21:57		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	49.6	1.0	50	0	99	90	110				
Sulfate	200	1.0	200	0	100	90	110				
Bromide	2.33	0.50	2.5	0	93	90	110				
Fluoride	2.37	0.10	2.5	0	95	90	110				

Associated samples: H23110659-002A, H23110659-003A, H23110659-004A, H23110659-005A, H23110659-006A, H23110659-007A, H23110659-008A, H23110659-009A, H23110659-010A, H23110659-011A, H23110659-012A, H23110659-013A, H23110659-014A, H23110659-015A, H23110659-016A, H23110659-017A, H23110659-018A, H23110659-019A

Run ID :Run Order: IC METROHM_231120A: 46		SampType: Sample Matrix Spike			Lab ID: H23110659-018AMS				Method: E300.0		
Analysis Date: 11/21/23 00:50		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	219	1.0	50	169.4	100	90	110				
Sulfate	677	1.0	200	479	99	90	110				
Bromide	2.75	0.50	2.5	0.476	91	90	110				
Fluoride	3.93	0.10	2.5	1.596	93	90	110				

Associated samples: H23110659-002A, H23110659-003A, H23110659-004A, H23110659-005A, H23110659-006A, H23110659-007A, H23110659-008A, H23110659-009A, H23110659-010A, H23110659-011A, H23110659-012A, H23110659-013A, H23110659-014A, H23110659-015A, H23110659-016A, H23110659-017A, H23110659-018A, H23110659-019A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190257

Date: 28-Dec-23

Run ID :Run Order: IC METROHM_231120A: 47	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110659-018AMSD				Method: E300.0		
Analysis Date: 11/21/23 01:04	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	219	1.0	50	169.4	99	90	110	219.3	0.1	20	
Sulfate	678	1.0	200	479	100	90	110	677.3	0.1	20	
Bromide	2.75	0.50	2.5	0.476	91	90	110	2.748	0.1	20	
Fluoride	3.94	0.10	2.5	1.596	94	90	110	3.927	0.3	20	

Associated samples: H23110659-002A, H23110659-003A, H23110659-004A, H23110659-005A, H23110659-006A, H23110659-007A, H23110659-008A, H23110659-009A, H23110659-010A, H23110659-011A, H23110659-012A, H23110659-013A, H23110659-014A, H23110659-015A, H23110659-016A, H23110659-017A, H23110659-018A, H23110659-019A

Run ID :Run Order: IC METROHM_231120A: 48	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E300.0		
Analysis Date: 11/21/23 01:18	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 4	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	50.0	1.0	50	0	100	90	110				
Sulfate	200	1.0	200	0	100	90	110				
Bromide	2.34	0.50	2.5	0	94	90	110				
Fluoride	2.42	0.10	2.5	0	97	90	110				

Associated samples: H23110659-002A, H23110659-003A, H23110659-004A, H23110659-005A, H23110659-006A, H23110659-007A, H23110659-008A, H23110659-009A, H23110659-010A, H23110659-011A, H23110659-012A, H23110659-013A, H23110659-014A, H23110659-015A, H23110659-016A, H23110659-017A, H23110659-018A, H23110659-019A

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190361

Date: 28-Dec-23

Run ID :Run Order: ICP2-HE_231127A: 6	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.7		
Analysis Date: 11/27/23 10:36	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.02	0.10	4	0	100	95	105				
Boron	0.781	0.10	0.8	0	98	95	105				
Calcium	40.5	1.0	40	0	101	95	105				
Copper	0.800	0.012	0.8	0	100	95	105				
Iron	3.99	0.020	4	0	100	95	105				
Magnesium	40.4	1.0	40	0	101	95	105				
Manganese	3.89	0.010	4	0	97	95	105				
Strontium	0.808	0.10	0.8	0	101	95	105				

Associated samples: H23110659-001B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B

Run ID :Run Order: ICP2-HE_231127A: 8	SampType: Continuing Calibration Verification Standar				Lab ID: CCV-1				Method: E200.7		
Analysis Date: 11/27/23 10:46	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.50	0.10	2.5	0	100	95	105				
Boron	2.46	0.10	2.5	0	99	95	105				
Calcium	25.7	1.0	25	0	103	95	105				
Copper	2.51	0.012	2.5	0	100	95	105				
Iron	2.50	0.020	2.5	0	100	95	105				
Magnesium	25.3	1.0	25	0	101	95	105				
Manganese	2.57	0.010	2.5	0	103	95	105				
Strontium	2.52	0.10	2.5	0	101	95	105				

Associated samples: H23110659-001B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B

Run ID :Run Order: ICP2-HE_231127A: 14	SampType: Method Blank				Lab ID: MB				Method: E200.7		
Analysis Date: 11/27/23 11:09	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.03									
Boron	ND	0.004									
Calcium	ND	0.2									
Copper	ND	0.01									
Iron	ND	0.008									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190361

Date: 28-Dec-23

Run ID :Run Order: ICP2-HE_231127A: 14	SampType: Method Blank				Lab ID: MB				Method: E200.7		
Analysis Date: 11/27/23 11:09	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	ND	0.05									
Manganese	ND	0.001									
Strontium	ND	0.0003									

Associated samples: H23110659-001B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B

Run ID :Run Order: ICP2-HE_231127A: 15	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.7		
Analysis Date: 11/27/23 11:13	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.11	0.10	5	0	102	85	115				
Boron	0.904	0.10	1	0	90	85	115				
Calcium	51.4	1.0	50	0	103	85	115				
Copper	1.06	0.012	1	0	106	85	115				
Iron	5.31	0.020	5	0	106	85	115				
Magnesium	50.4	1.0	50	0	101	85	115				
Manganese	4.91	0.010	5	0	98	85	115				
Strontium	1.01	0.10	1	0	101	85	115				

Associated samples: H23110659-001B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B

Run ID :Run Order: ICP2-HE_231127A: 157	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 11/27/23 20:32	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes Z	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.47	0.10	2.5	0	99	90	110				
Boron	2.56	0.10	2.5	0	102	90	110				
Calcium	25.8	1.0	25	0	103	90	110				
Copper	2.58	0.012	2.5	0	103	90	110				
Iron	2.54	0.020	2.5	0	102	90	110				
Magnesium	25.8	1.0	25	0	103	90	110				
Strontium	2.59	0.10	2.5	0	103	90	110				

Associated samples: H23110659-001B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice  
**Work Order:** H23110659

Prepared by Helena, MT Branch  
**BatchID:** R190361

**Date:** 28-Dec-23

Run ID :Run Order: ICP2-HE_231127A: 169	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 11/27/23 21:17	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>Z</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.40	0.10	2.5	0	96	90	110				
Boron	2.53	0.10	2.5	0	101	90	110				
Calcium	25.6	1.0	25	0	102	90	110				
Copper	2.51	0.012	2.5	0	100	90	110				
Iron	2.55	0.020	2.5	0	102	90	110				
Magnesium	25.1	1.0	25	0	100	90	110				
Strontium	2.52	0.10	2.5	0	101	90	110				

Associated samples: H23110659-001B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B

Run ID :Run Order: ICP2-HE_231127A: 188	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 11/27/23 22:38	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>8</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.33	0.10	2.5	0	93	90	110				
Boron	2.56	0.10	2.5	0	102	90	110				
Calcium	23.9	1.0	25	0	96	90	110				
Copper	2.50	0.012	2.5	0	100	90	110				
Iron	2.48	0.020	2.5	0	99	90	110				
Magnesium	23.3	1.0	25	0	93	90	110				
Manganese	2.67	0.010	2.5	0	107	90	110				
Strontium	2.39	0.10	2.5	0	95	90	110				

Associated samples: H23110659-001B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B

Run ID :Run Order: ICP2-HE_231127A: 194	SampType: Sample Matrix Spike				Lab ID: H23110659-006BMS2				Method: E200.7		
Analysis Date: 11/27/23 23:02	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>8</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	8.38	0.030	5	3.632	95	70	130				
Boron	1.01	0.050	1	0.1388	87	70	130				
Calcium	171	1.0	50	140.9	60	70	130				S
Copper	9.99	0.012	1	9.175		70	130				A
Iron	4.62	0.020	5	0.06229	91	70	130				
Magnesium	76.1	1.0	50	33.62	85	70	130				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice  
**Work Order:** H23110659

Prepared by Helena, MT Branch  
**BatchID:** R190361

**Date:** 28-Dec-23

Run ID :Run Order: ICP2-HE_231127A: 194		SampType: Sample Matrix Spike			Lab ID: H23110659-006BMS2				Method: E200.7		
Analysis Date: 11/27/23 23:02		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	25.7	0.0014	5	23.52		70	130				A
Strontium	1.67	0.010	1	0.816	85	70	130				

Associated samples: H23110659-001B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B

Run ID :Run Order: ICP2-HE_231127A: 195		SampType: Sample Matrix Spike Duplicate			Lab ID: H23110659-006BMSD2				Method: E200.7		
Analysis Date: 11/27/23 23:05		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	8.80	0.030	5	3.632	103	70	130	8.38	4.9	20	
Boron	1.04	0.050	1	0.1388	90	70	130	1.005	3.3	20	
Calcium	179	1.0	50	140.9	76	70	130	170.7	4.6	20	
Copper	10.2	0.012	1	9.175		70	130	9.993	2.0	20	A
Iron	4.68	0.020	5	0.06229	92	70	130	4.622	1.2	20	
Magnesium	80.2	1.0	50	33.62	93	70	130	76.13	5.2	20	
Manganese	27.0	0.0014	5	23.52		70	130	25.7	5.0	20	A
Strontium	1.76	0.010	1	0.816	95	70	130	1.671	5.4	20	

Associated samples: H23110659-001B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B

Run ID :Run Order: ICP2-HE_231127A: 200		SampType: Continuing Calibration Verification Standar			Lab ID: CCV				Method: E200.7		
Analysis Date: 11/27/23 23:24		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.54	0.10	2.5	0	102	90	110				
Boron	2.56	0.10	2.5	0	102	90	110				
Calcium	23.8	1.0	25	0	95	90	110				
Copper	2.59	0.012	2.5	0	104	90	110				
Iron	2.44	0.020	2.5	0	97	90	110				
Magnesium	25.0	1.0	25	0	100	90	110				
Manganese	2.63	0.010	2.5	0	105	90	110				
Strontium	2.58	0.10	2.5	0	103	90	110				

Associated samples: H23110659-001B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110659

**BatchID:** R190361

**Date:** 28-Dec-23

Run ID :Run Order: ICP2-HE_231127A: 210	SampType: Sample Matrix Spike				Lab ID: H23110659-017BMS2				Method: E200.7		
Analysis Date: 11/28/23 00:01	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	8.60	0.061	10	0	86	70	130				
Boron	2.00	0.050	2	0.06991	96	70	130				
Calcium	515	1.0	100	452.8		70	130				A
Copper	2.11	0.024	2	0	105	70	130				
Iron	9.67	0.020	10	0.08983	96	70	130				
Magnesium	214	1.0	100	126.6	87	70	130				
Manganese	26.1	0.0027	10	18.02	81	70	130				
Strontium	4.69	0.010	2	2.902	89	70	130				

Associated samples: H23110659-001B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B

Run ID :Run Order: ICP2-HE_231127A: 211	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110659-017BMSD2				Method: E200.7		
Analysis Date: 11/28/23 00:04	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9.83	0.061	10	0	98	70	130	8.604	13	20	
Boron	2.24	0.050	2	0.06991	109	70	130	1.997	12	20	
Calcium	536	1.0	100	452.8		70	130	515.3	4.0	20	A
Copper	2.08	0.024	2	0	104	70	130	2.11	1.5	20	
Iron	9.60	0.020	10	0.08983	95	70	130	9.673	0.8	20	
Magnesium	221	1.0	100	126.6	94	70	130	213.5	3.4	20	
Manganese	27.0	0.0027	10	18.02	90	70	130	26.1	3.5	20	
Strontium	4.85	0.010	2	2.902	97	70	130	4.687	3.3	20	

Associated samples: H23110659-001B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B

Run ID :Run Order: ICP2-HE_231127A: 224	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 11/28/23 00:53	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.34	0.10	2.5	0	94	90	110				
Boron	2.41	0.10	2.5	0	96	90	110				
Calcium	22.6	1.0	25	0	90	90	110				
Copper	2.55	0.012	2.5	0	102	90	110				
Iron	2.43	0.020	2.5	0	97	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110659

**BatchID:** R190361

**Date:** 28-Dec-23

Run ID :Run Order: <b>ICP2-HE_231127A: 224</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>			Method: <b>E200.7</b>			
Analysis Date: <b>11/28/23 00:53</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:			Prep Method:			
Analytes <b>8</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Magnesium	23.4	1.0	25	0	<b>94</b>	90	110				
Manganese	2.68	0.010	2.5	0	<b>107</b>	90	110				
Strontium	2.42	0.10	2.5	0	<b>97</b>	90	110				

Associated samples: **H23110659-001B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B**

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190433

Date: 28-Dec-23

Run ID :Run Order: <b>SEAL AA500_231129A: 12</b>	SampType: <b>Method Blank</b>				Lab ID: <b>ICB</b>				Method: <b>E353.2</b>		
Analysis Date: <b>11/29/23 15:56</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.01									

Associated samples: H23110659-001C, H23110659-002C, H23110659-003C, H23110659-004C, H23110659-005C, H23110659-006C, H23110659-007C, H23110659-008C, H23110659-009C, H23110659-010C, H23110659-011C, H23110659-012C, H23110659-013C, H23110659-014C, H23110659-015C, H23110659-016C, H23110659-017C, H23110659-019C

Run ID :Run Order: <b>SEAL AA500_231129A: 14</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>				Method: <b>E353.2</b>		
Analysis Date: <b>11/29/23 15:58</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.984	0.010	1	0	98	90	110				

Associated samples: H23110659-001C, H23110659-002C, H23110659-003C, H23110659-004C, H23110659-005C, H23110659-006C, H23110659-007C, H23110659-008C, H23110659-009C, H23110659-010C, H23110659-011C, H23110659-012C, H23110659-013C, H23110659-014C, H23110659-015C, H23110659-016C, H23110659-017C, H23110659-019C

Run ID :Run Order: <b>SEAL AA500_231129A: 15</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>				Method: <b>E353.2</b>		
Analysis Date: <b>11/29/23 15:59</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.984	0.011	1	0	98	90	110				

Associated samples: H23110659-001C, H23110659-002C, H23110659-003C, H23110659-004C, H23110659-005C, H23110659-006C, H23110659-007C, H23110659-008C, H23110659-009C, H23110659-010C, H23110659-011C, H23110659-012C, H23110659-013C, H23110659-014C, H23110659-015C, H23110659-016C, H23110659-017C, H23110659-019C

Run ID :Run Order: <b>SEAL AA500_231129A: 115</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>				Method: <b>E353.2</b>		
Analysis Date: <b>11/29/23 17:43</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.01	0.010	1	0	101	90	110				

Associated samples: H23110659-001C, H23110659-002C, H23110659-003C, H23110659-004C, H23110659-005C, H23110659-006C, H23110659-007C, H23110659-008C, H23110659-009C, H23110659-010C, H23110659-011C, H23110659-012C, H23110659-013C, H23110659-014C, H23110659-015C, H23110659-016C, H23110659-017C, H23110659-019C

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190433

Date: 28-Dec-23

Run ID :Run Order: <b>SEAL AA500_231129A: 129</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E353.2</b>								
Analysis Date: <b>11/29/23 17:57</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.01	0.010	1	0	<b>101</b>	90	110				

Associated samples: H23110659-001C, H23110659-002C, H23110659-003C, H23110659-004C, H23110659-005C, H23110659-006C, H23110659-007C, H23110659-008C, H23110659-009C, H23110659-010C, H23110659-011C, H23110659-012C, H23110659-013C, H23110659-014C, H23110659-015C, H23110659-016C, H23110659-017C, H23110659-019C

Run ID :Run Order: <b>SEAL AA500_231129A: 135</b>	SampType: <b>Sample Matrix Spike</b>	Lab ID: <b>H23110659-010CMS</b>	Method: <b>E353.2</b>								
Analysis Date: <b>11/29/23 18:05</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.786	0.011	1	0	<b>79</b>	90	110				S

Associated samples: H23110659-001C, H23110659-002C, H23110659-003C, H23110659-004C, H23110659-005C, H23110659-006C, H23110659-007C, H23110659-008C, H23110659-009C, H23110659-010C, H23110659-011C, H23110659-012C, H23110659-013C, H23110659-014C, H23110659-015C, H23110659-016C, H23110659-017C, H23110659-019C

Run ID :Run Order: <b>SEAL AA500_231129A: 136</b>	SampType: <b>Sample Matrix Spike Duplicate</b>	Lab ID: <b>H23110659-010CMSD</b>	Method: <b>E353.2</b>								
Analysis Date: <b>11/29/23 18:06</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.782	0.011	1	0	<b>78</b>	90	110	0.7864	<b>0.6</b>	10	S

Associated samples: H23110659-001C, H23110659-002C, H23110659-003C, H23110659-004C, H23110659-005C, H23110659-006C, H23110659-007C, H23110659-008C, H23110659-009C, H23110659-010C, H23110659-011C, H23110659-012C, H23110659-013C, H23110659-014C, H23110659-015C, H23110659-016C, H23110659-017C, H23110659-019C

Run ID :Run Order: <b>SEAL AA500_231129A: 144</b>	SampType: <b>Continuing Calibration Verification Standar</b>	Lab ID: <b>CCV</b>	Method: <b>E353.2</b>								
Analysis Date: <b>11/29/23 18:14</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	0.986	0.010	1	0	<b>99</b>	90	110				

Associated samples: H23110659-001C, H23110659-002C, H23110659-003C, H23110659-004C, H23110659-005C, H23110659-006C, H23110659-007C, H23110659-008C, H23110659-009C, H23110659-010C, H23110659-011C, H23110659-012C, H23110659-013C, H23110659-014C, H23110659-015C, H23110659-016C, H23110659-017C, H23110659-019C

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190453

Date: 28-Dec-23

Run ID :Run Order: ICPMS206-H_231130A: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.8			
Analysis Date: 11/30/23 10:59	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0612	0.010	0.06	0	102	90	110				
Gallium	0.0602	0.010	0.06	0	100	90	110				
Lanthanum	0.0623	0.010	0.06	0	104	90	110				
Neodymium	0.0627	0.0050	0.06	0	105	90	110				
Niobium	0.0549	0.0010	0.06	0	92	90	110				
Palladium	0.0618	0.010	0.06	0	103	90	110				
Praseodymium	0.0615	0.0010	0.06	0	103	90	110				
Rubidium	0.0603	0.010	0.06	0	101	90	110				
Tungsten	0.0570	0.10	0.06	0	95	90	110				
Zirconium	0.0630	0.0050	0.06	0	105	90	110				

Associated samples: H23110659-001B, H23110659-002B, H23110659-003B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Run ID :Run Order: ICPMS206-H_231130A: 22	SampType: Method Blank				Lab ID: LRB			Method: E200.8			
Analysis Date: 11/30/23 11:41	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	ND	0.0003									
Gallium	ND	0.00004									
Lanthanum	ND	0.00004									
Neodymium	ND	0.00004									
Niobium	0.00004	0.00004									
Palladium	ND	0.00004									
Praseodymium	ND	0.00005									
Rubidium	ND	0.00003									
Tungsten	ND	0.00003									
Zirconium	ND	0.00006									

Associated samples: H23110659-001B, H23110659-002B, H23110659-003B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190453

Date: 28-Dec-23

Run ID :Run Order: ICPMS206-H_231130A: 23		SampType: Laboratory Fortified Blank			Lab ID: LFB			Method: E200.8			
Analysis Date: 11/30/23 11:43		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0521	0.010	0.05	0	104	85	115				
Gallium	0.0503	0.010	0.05	0	101	85	115				
Lanthanum	0.0514	0.010	0.05	0	103	85	115				
Neodymium	0.0508	0.0050	0.05	0	101	85	115				
Niobium	0.0524	0.0010	0.05	0	105	85	115				
Palladium	0.0503	0.010	0.05	0	101	85	115				
Praseodymium	0.0506	0.0010	0.05	0	101	85	115				
Rubidium	0.0509	0.010	0.05	0	102	85	115				
Tungsten	0.0512	0.10	0.05	0	102	85	115				
Zirconium	0.0502	0.0050	0.05	0	100	85	115				

Associated samples: H23110659-001B, H23110659-002B, H23110659-003B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Run ID :Run Order: ICPMS206-H_231130A: 88		SampType: Continuing Calibration Verification Standar			Lab ID: CCV			Method: E200.8			
Analysis Date: 11/30/23 14:20		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0518	0.010	0.05	0	104	90	110				
Gallium	0.0503	0.010	0.05	0	101	90	110				
Lanthanum	0.0515	0.010	0.05	0	103	90	110				
Neodymium	0.0515	0.0050	0.05	0	103	90	110				
Niobium	0.0516	0.0010	0.05	0	103	90	110				
Palladium	0.0497	0.010	0.05	0	99	90	110				
Praseodymium	0.0516	0.0010	0.05	0	103	90	110				
Rubidium	0.0533	0.010	0.05	0	107	90	110				
Tungsten	0.0479	0.10	0.05	0	96	90	110				
Zirconium	0.0523	0.0050	0.05	0	105	90	110				

Associated samples: H23110659-001B, H23110659-002B, H23110659-003B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190453

Date: 28-Dec-23

Run ID :Run Order: ICPMS206-H_231130A: 100		SampType: Sample Matrix Spike			Lab ID: H23110659-001BMS				Method: E200.8		
Analysis Date: 11/30/23 14:46		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0500	0.010	0.05	0	100	70	130				
Gallium	0.0468	0.010	0.05	0.0002275	93	70	130				
Lanthanum	0.0579	0.010	0.05	0.007515	101	70	130				
Neodymium	0.0533	0.0050	0.05	0.001682	103	70	130				
Niobium	0.0515	0.0010	0.05	0.00003835	103	70	130				
Palladium	0.0474	0.010	0.05	0.001103	93	70	130				
Praseodymium	0.0526	0.0010	0.05	0.0004562	104	70	130				
Rubidium	0.0546	0.010	0.05	0.005487	98	70	130				
Tungsten	0.0488	0.10	0.05	0	98	70	130				
Zirconium	0.0523	0.0050	0.05	0.0003572	104	70	130				

Associated samples: H23110659-001B, H23110659-002B, H23110659-003B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Run ID :Run Order: ICPMS206-H_231130A: 101		SampType: Sample Matrix Spike Duplicate			Lab ID: H23110659-001BMSD				Method: E200.8		
Analysis Date: 11/30/23 14:48		Units: mg/L			Prep Info: Prep Date:		Prep Method:				
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0516	0.010	0.05	0	103	70	130	0.04995	3.2	20	
Gallium	0.0474	0.010	0.05	0.0002275	94	70	130	0.04684	1.3	20	
Lanthanum	0.0597	0.010	0.05	0.007515	104	70	130	0.0579	3.0	20	
Neodymium	0.0543	0.0050	0.05	0.001682	105	70	130	0.05331	1.8	20	
Niobium	0.0504	0.0010	0.05	0.00003835	101	70	130	0.05153			
Palladium	0.0475	0.010	0.05	0.001103	93	70	130	0.04741	0.1	20	
Praseodymium	0.0524	0.0010	0.05	0.0004562	104	70	130	0.05262			
Rubidium	0.0565	0.010	0.05	0.005487	102	70	130	0.05455	3.5	20	
Tungsten	0.0489	0.10	0.05	0	98	70	130	0.04884		20	
Zirconium	0.0531	0.0050	0.05	0.0003572	105	70	130	0.05234	1.4	20	

Associated samples: H23110659-001B, H23110659-002B, H23110659-003B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190453

Date: 28-Dec-23

Run ID :Run Order: ICPMS206-H_231130A: 103	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 11/30/23 14:52	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0513	0.010	0.05	0	103	90	110				
Gallium	0.0501	0.010	0.05	0	100	90	110				
Lanthanum	0.0533	0.010	0.05	0	107	90	110				
Neodymium	0.0517	0.0050	0.05	0	103	90	110				
Niobium	0.0511	0.0010	0.05	0	102	90	110				
Palladium	0.0501	0.010	0.05	0	100	90	110				
Praseodymium	0.0527	0.0010	0.05	0	105	90	110				
Rubidium	0.0543	0.010	0.05	0	109	90	110				
Tungsten	0.0491	0.10	0.05	0	98	90	110				
Zirconium	0.0508	0.0050	0.05	0	102	90	110				

Associated samples: H23110659-001B, H23110659-002B, H23110659-003B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Run ID :Run Order: ICPMS206-H_231130A: 111	SampType: Sample Matrix Spike				Lab ID: H23110659-011BMS			Method: E200.8			
Analysis Date: 11/30/23 15:09	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>10</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0509	0.010	0.05	0	102	70	130				
Gallium	0.0479	0.010	0.05	0	96	70	130				
Lanthanum	0.0524	0.010	0.05	0.0007148	103	70	130				
Neodymium	0.0518	0.0050	0.05	0.0002901	103	70	130				
Niobium	0.0514	0.0010	0.05	0	103	70	130				
Palladium	0.0454	0.010	0.05	0.0005001	90	70	130				
Praseodymium	0.0538	0.0010	0.05	0.00007271	108	70	130				
Rubidium	0.0541	0.010	0.05	0.00487	98	70	130				
Tungsten	0.0490	0.10	0.05	0.0002195	97	70	130				
Zirconium	0.0525	0.0050	0.05	0	105	70	130				

Associated samples: H23110659-001B, H23110659-002B, H23110659-003B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190453

Date: 28-Dec-23

Run ID :Run Order: ICPMS206-H_231130A: 112	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110659-011BMSD				Method: E200.8		
Analysis Date: 11/30/23 15:11	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0510	0.010	0.05	0	102	70	130	0.05089	0.3	20	
Gallium	0.0485	0.010	0.05	0	97	70	130	0.04786	1.3	20	
Lanthanum	0.0527	0.010	0.05	0.0007148	104	70	130	0.05237	0.6	20	
Neodymium	0.0520	0.0050	0.05	0.0002901	103	70	130	0.05182	0.3	20	
Niobium	0.0535	0.0010	0.05	0	107	70	130	0.05145			
Palladium	0.0455	0.010	0.05	0.0005001	90	70	130	0.04535	0.3	20	
Praseodymium	0.0515	0.0010	0.05	0.00007271	103	70	130	0.05384			
Rubidium	0.0562	0.010	0.05	0.00487	103	70	130	0.05411	3.8	20	
Tungsten	0.0487	0.10	0.05	0.0002195	97	70	130	0.04895		20	
Zirconium	0.0534	0.0050	0.05	0	107	70	130	0.05253	1.5	20	

Associated samples: H23110659-001B, H23110659-002B, H23110659-003B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Run ID :Run Order: ICPMS206-H_231130A: 114	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.8		
Analysis Date: 11/30/23 15:15	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 10	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cesium	0.0520	0.010	0.05	0	104	90	110				
Gallium	0.0502	0.010	0.05	0	100	90	110				
Lanthanum	0.0521	0.010	0.05	0	104	90	110				
Neodymium	0.0514	0.0050	0.05	0	103	90	110				
Niobium	0.0526	0.0010	0.05	0	105	90	110				
Palladium	0.0509	0.010	0.05	0	102	90	110				
Praseodymium	0.0520	0.0010	0.05	0	104	90	110				
Rubidium	0.0535	0.010	0.05	0	107	90	110				
Tungsten	0.0490	0.10	0.05	0	98	90	110				
Zirconium	0.0518	0.0050	0.05	0	104	90	110				

Associated samples: H23110659-001B, H23110659-002B, H23110659-003B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190518

Date: 28-Dec-23

Run ID :Run Order: ICPMS206-H_231201B: 14	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.8			
Analysis Date: 12/01/23 10:42	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>27</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.301	0.10	0.3	0	100	90	110				
Antimony	0.0600	0.050	0.06	0	100	90	110				
Arsenic	0.0604	0.0050	0.06	0	101	90	110				
Barium	0.0610	0.10	0.06	0	102	90	110				
Beryllium	0.0284	0.0010	0.03	0	95	90	110				
Boron	0.0576	0.10	0.06	0	96	90	110				
Cadmium	0.0310	0.0010	0.03	0	103	90	110				
Chromium	0.0617	0.010	0.06	0	103	90	110				
Cobalt	0.0623	0.010	0.06	0	104	90	110				
Copper	0.0628	0.010	0.06	0	105	90	110				
Iron	0.314	0.020	0.3	0	105	90	110				
Lead	0.0599	0.010	0.06	0	100	90	110				
Lithium	0.0603	0.10	0.06	0	100	90	110				
Magnesium	2.94	0.50	3	0	98	90	110				
Molybdenum	0.0578	0.0050	0.06	0	96	90	110				
Nickel	0.0622	0.010	0.06	0	104	90	110				
Potassium	3.18	0.50	3	0	106	90	110				
Selenium	0.0602	0.0050	0.06	0	100	90	110				
Silver	0.0307	0.0050	0.03	0	102	90	110				
Sodium	3.09	0.50	3	0	103	90	110				
Strontium	0.0619	0.10	0.06	0	103	90	110				
Thallium	0.0597	0.10	0.06	0	100	90	110				
Thorium	0.0632	0.0010	0.06	0	105	90	110				
Tin	0.0596	0.10	0.06	0	99	90	110				
Titanium	0.0606	0.010	0.06	0	101	90	110				
Uranium	0.0604	0.00030	0.06	0	101	90	110				
Vanadium	0.0606	0.10	0.06	0	101	90	110				

Associated samples: H23110659-001B, H23110659-002B, H23110659-003B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190518

Date: 28-Dec-23

Run ID :Run Order: ICPMS206-H_231201B: 22	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 12/01/23 11:11	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>27</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0517	0.10	0.05	0	103	90	110				
Antimony	0.0500	0.050	0.05	0	100	90	110				
Arsenic	0.0503	0.0050	0.05	0	101	90	110				
Barium	0.0510	0.10	0.05	0	102	90	110				
Beryllium	0.0478	0.0010	0.05	0	96	90	110				
Boron	0.0483	0.10	0.05	0	97	90	110				
Cadmium	0.0510	0.0010	0.05	0	102	90	110				
Chromium	0.0506	0.010	0.05	0	101	90	110				
Cobalt	0.0507	0.010	0.05	0	101	90	110				
Copper	0.0508	0.010	0.05	0	102	90	110				
Iron	1.29	0.020	1.3	0	99	90	110				
Lead	0.0499	0.010	0.05	0	100	90	110				
Lithium	0.604	0.10	0.625	0	97	90	110				
Magnesium	12.7	0.50	12.5	0	102	90	110				
Molybdenum	0.0494	0.0050	0.05	0	99	90	110				
Nickel	0.0506	0.010	0.05	0	101	90	110				
Potassium	12.5	0.50	12.5	0	100	90	110				
Selenium	0.0498	0.0050	0.05	0	100	90	110				
Silver	0.0204	0.0050	0.02	0	102	90	110				
Sodium	12.7	0.50	12.5	0	101	90	110				
Strontium	0.0502	0.10	0.05	0	100	90	110				
Thallium	0.0496	0.10	0.05	0	99	90	110				
Thorium	0.0472	0.0010	0.05	0	94	90	110				
Tin	0.0500	0.10	0.05	0	100	90	110				
Titanium	0.0494	0.010	0.05	0	99	90	110				
Uranium	0.0482	0.00030	0.05	0	96	90	110				
Vanadium	0.0500	0.10	0.05	0	100	90	110				

Associated samples: H23110659-001B, H23110659-002B, H23110659-003B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110659

**BatchID:** R190518

**Date:** 28-Dec-23

Run ID :Run Order: <b>ICPMS206-H_231201B: 24</b>	SampType: <b>Method Blank</b>				Lab ID: <b>LRB</b>				Method: <b>E200.8</b>		
Analysis Date: <b>12/01/23 11:18</b>	Units: <b>mg/L</b>		Prep Info: Prep Date:				Prep Method:				
Analytes <b>27</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.002									
Antimony	ND	0.00002									
Arsenic	ND	0.00001									
Barium	ND	0.0003									
Beryllium	ND	0.00003									
Boron	ND	0.001									
Cadmium	0.00002	7E-06									
Chromium	ND	0.00001									
Cobalt	ND	0.00001									
Copper	ND	0.00004									
Iron	0.002	0.0007									
Lead	ND	0.00002									
Lithium	ND	0.0001									
Magnesium	0.002	0.0009									
Molybdenum	0.00003	7E-06									
Nickel	ND	0.00003									
Potassium	0.03	0.02									
Selenium	ND	0.00002									
Silver	ND	3E-06									
Sodium	0.01	0.004									
Strontium	ND	0.00007									
Thallium	0.00002	7E-06									
Thorium	0.00001	4E-06									
Tin	ND	0.0003									
Titanium	ND	0.0002									
Uranium	0.00002	3E-06									
Vanadium	ND	0.00001									

Associated samples: **H23110659-001B, H23110659-002B, H23110659-003B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190518

Date: 28-Dec-23

Run ID :Run Order: ICPMS206-H_231201B: 25	SampType: Laboratory Fortified Blank				Lab ID: LFB			Method: E200.8			
Analysis Date: 12/01/23 11:21	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>27</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0547	0.10	0.05	0	109	85	115				
Antimony	0.0514	0.050	0.05	0	103	85	115				
Arsenic	0.0513	0.0050	0.05	0	103	85	115				
Barium	0.0523	0.10	0.05	0	105	85	115				
Beryllium	0.0499	0.0010	0.05	0	100	85	115				
Boron	0.0500	0.10	0.05	0	100	85	115				
Cadmium	0.0533	0.0010	0.05	0	107	85	115				
Chromium	0.0520	0.010	0.05	0	104	85	115				
Cobalt	0.0538	0.010	0.05	0	108	85	115				
Copper	0.0536	0.010	0.05	0	107	85	115				
Iron	0.162	0.020	0.15	0	108	85	115				
Lead	0.0515	0.010	0.05	0	103	85	115				
Lithium	0.0548	0.10	0.05	0	110	85	115				
Magnesium	1.07	0.50	1	0	107	85	115				
Molybdenum	0.0504	0.0050	0.05	0	101	85	115				
Nickel	0.0533	0.010	0.05	0	107	85	115				
Potassium	1.09	0.50	1	0	109	85	115				
Selenium	0.0509	0.0050	0.05	0	102	85	115				
Silver	0.0213	0.0050	0.02	0	107	85	115				
Sodium	1.11	0.50	1	0	111	85	115				
Strontium	0.0520	0.10	0.05	0	104	85	115				
Thallium	0.0518	0.10	0.05	0	104	85	115				
Thorium	0.0450	0.0010	0.05	0	90	85	115				
Tin	0.0523	0.10	0.05	0	105	85	115				
Titanium	0.0521	0.010	0.05	0	104	85	115				
Uranium	0.0496	0.00030	0.05	0	99	85	115				
Vanadium	0.0505	0.10	0.05	0	101	85	115				

Associated samples: H23110659-001B, H23110659-002B, H23110659-003B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190518

Date: 28-Dec-23

Run ID :Run Order: ICPMS206-H_231201B: 38	SampType: Sample Matrix Spike				Lab ID: H23110659-001BMS				Method: E200.8		
Analysis Date: 12/01/23 12:08	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>27</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	1.08	0.030	0.05	1.033		70	130				A
Antimony	0.0524	0.0010	0.05	0.00008061	105	70	130				
Arsenic	0.126	0.0010	0.05	0.07634	98	70	130				
Barium	0.0705	0.050	0.05	0.01783	105	70	130				
Beryllium	0.0564	0.0010	0.05	0.005883	101	70	130				
Boron	0.626	0.050	0.05	0.6004		70	130				A
Cadmium	1.21	0.0010	0.05	1.162		70	130				A
Chromium	0.0518	0.0050	0.05	0.0001675	103	70	130				
Cobalt	0.960	0.0050	0.05	0.9391		70	130				A
Copper	6.96	0.0050	0.05	7.124		70	130				A
Iron	407	0.020	0.15	408.3		70	130				AE
Lead	0.0603	0.0010	0.05	0.009204	102	70	130				
Lithium	0.723	0.10	0.05	0.6917		70	130				A
Magnesium	118	1.0	1	118.3		70	130				A
Molybdenum	0.0522	0.0010	0.05	0.0008851	103	70	130				
Nickel	0.430	0.0050	0.05	0.3879		70	130				A
Potassium	19.3	1.0	1	18.51		70	130				A
Selenium	0.0509	0.0010	0.05	0.0002519	101	70	130				
Silver	0.0208	0.0010	0.02	0.0001545	103	70	130				
Sodium	108	1.0	1	106.2		70	130				A
Strontium	2.56	0.010	0.05	2.529		70	130				A
Thallium	0.0524	0.00050	0.05	0.00002753	105	70	130				
Thorium	0.0539	0.0050	0.05	0.0000168	108	70	130				
Tin	0.0529	0.050	0.05	0	106	70	130				
Titanium	0.0520	0.0050	0.05	0	104	70	130				
Uranium	0.0526	0.00030	0.05	0.001527	102	70	130				
Vanadium	0.0540	0.010	0.05	0.0004597	107	70	130				

Associated samples: H23110659-001B, H23110659-002B, H23110659-003B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190518

Date: 28-Dec-23

Run ID :Run Order: ICPMS206-H_231201B: 39	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110659-001BMSD				Method: E200.8		
Analysis Date: 12/01/23 12:11	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>27</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	1.09	0.030	0.05	1.033		70	130	1.08	0.9	20	A
Antimony	0.0516	0.0010	0.05	0.0008061	103	70	130	0.05237	1.4	20	
Arsenic	0.127	0.0010	0.05	0.07634	101	70	130	0.1255	1.2	20	
Barium	0.0696	0.050	0.05	0.01783	104	70	130	0.07047	1.3	20	
Beryllium	0.0578	0.0010	0.05	0.005883	104	70	130	0.05638	2.5	20	
Boron	0.659	0.050	0.05	0.6004		70	130	0.6259	5.2	20	A
Cadmium	1.17	0.0010	0.05	1.162		70	130	1.211	3.6	20	A
Chromium	0.0533	0.0050	0.05	0.0001675	106	70	130	0.05185	2.7	20	
Cobalt	0.984	0.0050	0.05	0.9391		70	130	0.9597	2.5	20	A
Copper	7.04	0.0050	0.05	7.124		70	130	6.959	1.2	20	A
Iron	406	0.020	0.15	408.3		70	130	407.2	0.3	20	AE
Lead	0.0599	0.0010	0.05	0.009204	101	70	130	0.0603	0.6	20	
Lithium	0.756	0.10	0.05	0.6917		70	130	0.7233	4.4	20	A
Magnesium	120	1.0	1	118.3		70	130	118.4	1.4	20	A
Molybdenum	0.0519	0.0010	0.05	0.0008851	102	70	130	0.05221	0.6	20	
Nickel	0.436	0.0050	0.05	0.3879		70	130	0.4299	1.4	20	A
Potassium	20.0	1.0	1	18.51		70	130	19.28	3.8	20	A
Selenium	0.0513	0.0010	0.05	0.0002519	102	70	130	0.05092	0.8	20	
Silver	0.0206	0.0010	0.02	0.0001545	102	70	130	0.02079	0.9	20	
Sodium	110	1.0	1	106.2		70	130	108.1	1.7	20	A
Strontium	2.61	0.010	0.05	2.529		70	130	2.558	2.1	20	A
Thallium	0.0532	0.00050	0.05	0.00002753	106	70	130	0.05244	1.4	20	
Thorium	0.0527	0.0050	0.05	0.0000168	105	70	130	0.05388	2.3	20	
Tin	0.0530	0.050	0.05	0	106	70	130	0.05292	0.1	20	
Titanium	0.0536	0.0050	0.05	0	107	70	130	0.05195	3.2	20	
Uranium	0.0538	0.00030	0.05	0.001527	105	70	130	0.0526	2.3	20	
Vanadium	0.0557	0.010	0.05	0.0004597	111	70	130	0.05402	3.1	20	

Associated samples: H23110659-001B, H23110659-002B, H23110659-003B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190518

Date: 28-Dec-23

Run ID :Run Order: ICPMS206-H_231201B: 41	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 12/01/23 12:18	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>27</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0516	0.10	0.05	0	103	90	110				
Antimony	0.0504	0.050	0.05	0	101	90	110				
Arsenic	0.0506	0.0050	0.05	0	101	90	110				
Barium	0.0521	0.10	0.05	0	104	90	110				
Beryllium	0.0468	0.0010	0.05	0	94	90	110				
Boron	0.0527	0.10	0.05	0	105	90	110				
Cadmium	0.0515	0.0010	0.05	0	103	90	110				
Chromium	0.0510	0.010	0.05	0	102	90	110				
Cobalt	0.0518	0.010	0.05	0	104	90	110				
Copper	0.0520	0.010	0.05	0	104	90	110				
Iron	1.39	0.020	1.3	0	107	90	110				
Lead	0.0511	0.010	0.05	0	102	90	110				
Lithium	0.607	0.10	0.625	0	97	90	110				
Magnesium	13.5	0.50	12.5	0	108	90	110				
Molybdenum	0.0501	0.0050	0.05	0	100	90	110				
Nickel	0.0524	0.010	0.05	0	105	90	110				
Potassium	12.9	0.50	12.5	0	103	90	110				
Selenium	0.0498	0.0050	0.05	0	100	90	110				
Silver	0.0208	0.0050	0.02	0	104	90	110				
Sodium	13.1	0.50	12.5	0	105	90	110				
Strontium	0.0517	0.10	0.05	0	103	90	110				
Thallium	0.0531	0.10	0.05	0	106	90	110				
Thorium	0.0475	0.0010	0.05	0	95	90	110				
Tin	0.0508	0.10	0.05	0	102	90	110				
Titanium	0.0505	0.010	0.05	0	101	90	110				
Uranium	0.0486	0.00030	0.05	0	97	90	110				
Vanadium	0.0504	0.10	0.05	0	101	90	110				

Associated samples: H23110659-001B, H23110659-002B, H23110659-003B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190518

Date: 28-Dec-23

Run ID :Run Order: ICPMS206-H_231201B: 53	SampType: Sample Matrix Spike				Lab ID: H23110659-011BMS				Method: E200.8		
Analysis Date: 12/01/23 13:00	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes <b>27</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.370	0.030	0.05	0.3216		70	130				A
Antimony	0.0546	0.0010	0.05	0.0009487	107	70	130				
Arsenic	0.0572	0.0010	0.05	0.005566	103	70	130				
Barium	0.169	0.050	0.05	0.1153	108	70	130				
Beryllium	0.0527	0.0010	0.05	0.0002481	105	70	130				
Boron	1.29	0.050	0.05	1.215		70	130				A
Cadmium	0.269	0.0010	0.05	0.2175		70	130				A
Chromium	0.0526	0.0050	0.05	0.0004222	104	70	130				
Cobalt	0.0762	0.0050	0.05	0.025	102	70	130				
Copper	0.617	0.0050	0.05	0.5797		70	130				A
Iron	1.55	0.020	0.15	1.427		70	130				A
Lead	0.0539	0.0010	0.05	0.002155	104	70	130				
Lithium	0.632	0.10	0.05	0.5582		70	130				A
Magnesium	101	1.0	1	96.61		70	130				A
Molybdenum	0.0552	0.0010	0.05	0.001963	106	70	130				
Nickel	0.125	0.0050	0.05	0.0749	100	70	130				
Potassium	16.7	1.0	1	15.24		70	130				A
Selenium	0.0504	0.0010	0.05	0.0001703	100	70	130				
Silver	0.0210	0.0010	0.02	0.00000467	105	70	130				
Sodium	172	1.0	1	172.6		70	130				A
Strontium	1.71	0.010	0.05	1.686		70	130				A
Thallium	0.0548	0.00050	0.05	0.00002087	110	70	130				
Thorium	0.0523	0.0050	0.05	0	105	70	130				
Tin	0.0542	0.050	0.05	0	108	70	130				
Titanium	0.0524	0.0050	0.05	0	105	70	130				
Uranium	0.0526	0.00030	0.05	0.0006414	104	70	130				
Vanadium	0.0536	0.010	0.05	0	107	70	130				

Associated samples: H23110659-001B, H23110659-002B, H23110659-003B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190518

Date: 28-Dec-23

Run ID :Run Order: ICPMS206-H_231201B: 54	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110659-011BMSD				Method: E200.8		
Analysis Date: 12/01/23 13:04	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>27</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.376	0.030	0.05	0.3216		70	130	0.3702	1.6	20	A
Antimony	0.0547	0.0010	0.05	0.0009487	107	70	130	0.05462	0.1	20	
Arsenic	0.0574	0.0010	0.05	0.005566	104	70	130	0.05718	0.5	20	
Barium	0.169	0.050	0.05	0.1153	108	70	130	0.1693	0.1	20	
Beryllium	0.0515	0.0010	0.05	0.0002481	103	70	130	0.0527	2.2	20	
Boron	1.31	0.050	0.05	1.215		70	130	1.291	1.5	20	A
Cadmium	0.272	0.0010	0.05	0.2175		70	130	0.2691	0.9	20	A
Chromium	0.0528	0.0050	0.05	0.0004222	105	70	130	0.05265	0.4	20	
Cobalt	0.0760	0.0050	0.05	0.025	102	70	130	0.07623	0.4	20	
Copper	0.615	0.0050	0.05	0.5797		70	130	0.6172	0.4	20	A
Iron	1.55	0.020	0.15	1.427		70	130	1.554	0.5	20	A
Lead	0.0542	0.0010	0.05	0.002155	104	70	130	0.05394	0.5	20	
Lithium	0.638	0.10	0.05	0.5582		70	130	0.6324	0.9	20	A
Magnesium	99.4	1.0	1	96.61		70	130	100.8	1.3	20	A
Molybdenum	0.0557	0.0010	0.05	0.001963	107	70	130	0.05515	1.0	20	
Nickel	0.125	0.0050	0.05	0.0749	100	70	130	0.1249	0.0	20	
Potassium	16.8	1.0	1	15.24		70	130	16.68	0.4	20	A
Selenium	0.0506	0.0010	0.05	0.0001703	101	70	130	0.05038	0.5	20	
Silver	0.0210	0.0010	0.02	0.00000467	105	70	130	0.02096	0.1	20	
Sodium	174	1.0	1	172.6		70	130	171.7	1.2	20	A
Strontium	1.73	0.010	0.05	1.686		70	130	1.706	1.4	20	A
Thallium	0.0543	0.00050	0.05	0.00002087	109	70	130	0.05483	1.0	20	
Thorium	0.0538	0.0050	0.05	0	107	70	130	0.05228	2.8	20	
Tin	0.0549	0.050	0.05	0	110	70	130	0.05416	1.3	20	
Titanium	0.0531	0.0050	0.05	0	106	70	130	0.05237	1.4	20	
Uranium	0.0525	0.00030	0.05	0.0006414	104	70	130	0.05256	0.2	20	
Vanadium	0.0536	0.010	0.05	0	107	70	130	0.05361	0.1	20	

Associated samples: H23110659-001B, H23110659-002B, H23110659-003B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190518

Date: 28-Dec-23

Run ID :Run Order: ICPMS206-H_231201B: 56	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 12/01/23 13:11	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes 25	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0535	0.10	0.05	0	107	90	110				
Antimony	0.0506	0.050	0.05	0	101	90	110				
Arsenic	0.0506	0.0050	0.05	0	101	90	110				
Barium	0.0521	0.10	0.05	0	104	90	110				
Beryllium	0.0479	0.0010	0.05	0	96	90	110				
Cadmium	0.0517	0.0010	0.05	0	103	90	110				
Chromium	0.0521	0.010	0.05	0	104	90	110				
Cobalt	0.0518	0.010	0.05	0	104	90	110				
Copper	0.0524	0.010	0.05	0	105	90	110				
Iron	1.37	0.020	1.3	0	106	90	110				
Lead	0.0502	0.010	0.05	0	100	90	110				
Lithium	0.637	0.10	0.625	0	102	90	110				
Magnesium	13.4	0.50	12.5	0	107	90	110				
Molybdenum	0.0510	0.0050	0.05	0	102	90	110				
Nickel	0.0519	0.010	0.05	0	104	90	110				
Potassium	13.1	0.50	12.5	0	105	90	110				
Selenium	0.0499	0.0050	0.05	0	100	90	110				
Silver	0.0209	0.0050	0.02	0	104	90	110				
Strontium	0.0518	0.10	0.05	0	104	90	110				
Thallium	0.0524	0.10	0.05	0	105	90	110				
Thorium	0.0475	0.0010	0.05	0	95	90	110				
Tin	0.0508	0.10	0.05	0	102	90	110				
Titanium	0.0518	0.010	0.05	0	104	90	110				
Uranium	0.0477	0.00030	0.05	0	95	90	110				
Vanadium	0.0519	0.10	0.05	0	104	90	110				

Associated samples: H23110659-001B, H23110659-002B, H23110659-003B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190705

Date: 28-Dec-23

Run ID :Run Order: ICP2-HE_231208B: 6	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.7			
Analysis Date: 12/08/23 08:22	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	4.00	0.10	4	0	100	95	105				
Boron	0.779	0.10	0.8	0	97	95	105				
Calcium	39.4	1.0	40	0	99	95	105				
Copper	0.802	0.012	0.8	0	100	95	105				
Iron	3.99	0.020	4	0	100	95	105				
Magnesium	39.7	1.0	40	0	99	95	105				
Potassium	41.6	1.0	40	0	104	95	105				
Sodium	41.6	1.0	40	0	104	95	105				

Associated samples: H23110659-002B, H23110659-003B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Run ID :Run Order: ICP2-HE_231208B: 8	SampType: Continuing Calibration Verification Standar				Lab ID: CCV-1			Method: E200.7			
Analysis Date: 12/08/23 08:34	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.43	0.10	2.5	0	97	95	105				
Boron	2.45	0.10	2.5	0	98	95	105				
Calcium	25.0	1.0	25	0	100	95	105				
Copper	2.46	0.012	2.5	0	99	95	105				
Iron	2.50	0.020	2.5	0	100	95	105				
Magnesium	24.9	1.0	25	0	100	95	105				
Potassium	26.3	1.0	25	0	105	95	105				
Sodium	25.9	1.0	25	0	104	95	105				

Associated samples: H23110659-002B, H23110659-003B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Run ID :Run Order: ICP2-HE_231208B: 14	SampType: Method Blank				Lab ID: MB			Method: E200.7			
Analysis Date: 12/08/23 08:59	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.03									
Boron	ND	0.004									

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110659

**BatchID:** R190705

**Date:** 28-Dec-23

Run ID :Run Order: ICP2-HE_231208B: 14	SampType: Method Blank				Lab ID: MB				Method: E200.7		
Analysis Date: 12/08/23 08:59	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	0.2									
Copper	ND	0.01									
Iron	ND	0.008									
Magnesium	ND	0.05									
Potassium	ND	0.3									
Sodium	0.05	0.03									

Associated samples: H23110659-002B, H23110659-003B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Run ID :Run Order: ICP2-HE_231208B: 15	SampType: Laboratory Fortified Blank				Lab ID: LFB				Method: E200.7		
Analysis Date: 12/08/23 09:03	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.00	0.10	5	0	100	85	115				
Boron	0.949	0.10	1	0	95	85	115				
Calcium	51.8	1.0	50	0	104	85	115				
Copper	1.00	0.012	1	0	100	85	115				
Iron	5.08	0.020	5	0	102	85	115				
Magnesium	50.9	1.0	50	0	102	85	115				
Potassium	51.3	1.0	50	0	103	85	115				
Sodium	51.1	1.0	50	0	102	85	115				

Associated samples: H23110659-002B, H23110659-003B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Run ID :Run Order: ICP2-HE_231208B: 49	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 12/08/23 15:20	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 7	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.46	0.10	2.5	0	99	90	110				
Boron	2.46	0.10	2.5	0	99	90	110				
Calcium	26.1	1.0	25	0	104	90	110				
Copper	2.56	0.012	2.5	0	103	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice  
Work Order: H23110659

Prepared by Helena, MT Branch  
BatchID: R190705

Date: 28-Dec-23

Run ID :Run Order: ICP2-HE_231208B: 49	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 12/08/23 15:20	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>Z</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	2.61	0.020	2.5	0	105	90	110				
Magnesium	25.2	1.0	25	0	101	90	110				
Sodium	27.5	1.0	25	0	110	90	110				

Associated samples: H23110659-002B, H23110659-003B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Run ID :Run Order: ICP2-HE_231208B: 58	SampType: Sample Matrix Spike				Lab ID: H23110659-002BMS2				Method: E200.7		
Analysis Date: 12/08/23 15:54	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>8</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	9.83	0.058	10	0.3691	95	70	130				
Boron	1.94	0.050	2	0.07749	93	70	130				
Calcium	418	1.0	100	313.5	104	70	130				
Copper	2.10	0.024	2	0.1958	95	70	130				
Iron	101	0.020	10	90.94		70	130				A
Magnesium	166	1.0	100	69.52	96	70	130				
Potassium	123	1.0	100	17.7	105	70	130				
Sodium	139	1.0	100	35.38	104	70	130				

Associated samples: H23110659-002B, H23110659-003B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Run ID :Run Order: ICP2-HE_231208B: 59	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110659-002BMSD2				Method: E200.7		
Analysis Date: 12/08/23 15:57	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes <b>8</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	10.3	0.058	10	0.3691	99	70	130	9.83	4.8	20	
Boron	2.01	0.050	2	0.07749	97	70	130	1.936	4.0	20	
Calcium	435	1.0	100	313.5	121	70	130	417.8	4.0	20	
Copper	2.28	0.024	2	0.1958	104	70	130	2.102	8.2	20	
Iron	106	0.020	10	90.94		70	130	101.3	4.3	20	A
Magnesium	172	1.0	100	69.52	103	70	130	165.9	3.9	20	
Potassium	130	1.0	100	17.7	113	70	130	122.9	5.9	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190705

Date: 28-Dec-23

Run ID :Run Order: ICP2-HE_231208B: 59	SampType: Sample Matrix Spike Duplicate	Lab ID: H23110659-002BMSD2	Method: E200.7								
Analysis Date: 12/08/23 15:57	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>8</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium	148	1.0	100	35.38	113	70	130	139.4	6.3	20	

Associated samples: H23110659-002B, H23110659-003B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Run ID :Run Order: ICP2-HE_231208B: 61	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.7								
Analysis Date: 12/08/23 16:05	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>Z</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.51	0.10	2.5	0	100	90	110				
Boron	2.51	0.10	2.5	0	100	90	110				
Calcium	26.8	1.0	25	0	107	90	110				
Copper	2.65	0.012	2.5	0	106	90	110				
Magnesium	25.5	1.0	25	0	102	90	110				
Potassium	27.1	1.0	25	0	108	90	110				
Sodium	25.8	1.0	25	0	103	90	110				

Associated samples: H23110659-002B, H23110659-003B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Run ID :Run Order: ICP2-HE_231208B: 72	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.7								
Analysis Date: 12/08/23 16:50	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>8</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.37	0.10	2.5	0	95	90	110				
Boron	2.47	0.10	2.5	0	99	90	110				
Calcium	27.6	1.0	25	0	110	90	110				
Copper	2.45	0.012	2.5	0	98	90	110				
Iron	2.61	0.020	2.5	0	104	90	110				
Magnesium	25.4	1.0	25	0	102	90	110				
Potassium	25.0	1.0	25	0	100	90	110				
Sodium	24.0	1.0	25	0	96	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190705

Date: 28-Dec-23

Run ID :Run Order: ICP2-HE_231208B: 72	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.7								
Analysis Date: 12/08/23 16:50	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110659-002B, H23110659-003B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Run ID :Run Order: ICP2-HE_231208B: 77	SampType: Sample Matrix Spike	Lab ID: H23110659-012BMS2	Method: E200.7								
Analysis Date: 12/08/23 17:21	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.51	0.030	5	0.3991	102	70	130				
Boron	1.32	0.050	1	0.3484	97	70	130				
Calcium	148	1.0	50	102.7	90	70	130				
Copper	1.36	0.012	1	0.2993	106	70	130				
Iron	5.32	0.020	5	0.03827	106	70	130				
Magnesium	75.6	1.0	50	22.5	106	70	130				
Potassium	64.7	1.0	50	6.839	116	70	130				
Sodium	94.3	1.0	50	33.3	122	70	130				

Associated samples: H23110659-002B, H23110659-003B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Run ID :Run Order: ICP2-HE_231208B: 78	SampType: Sample Matrix Spike Duplicate	Lab ID: H23110659-012BMSD2	Method: E200.7								
Analysis Date: 12/08/23 17:24	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	5.26	0.030	5	0.3991	97	70	130	5.509	4.6	20	
Boron	1.23	0.050	1	0.3484	88	70	130	1.316	6.9	20	
Calcium	137	1.0	50	102.7	69	70	130	147.7	7.3	20	S
Copper	1.34	0.012	1	0.2993	104	70	130	1.36	1.5	20	
Iron	5.23	0.020	5	0.03827	104	70	130	5.318	1.7	20	
Magnesium	71.0	1.0	50	22.5	97	70	130	75.56	6.3	20	
Potassium	65.9	1.0	50	6.839	118	70	130	64.75	1.8	20	
Sodium	96.4	1.0	50	33.3	126	70	130	94.29	2.2	20	

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190705

Date: 28-Dec-23

Run ID :Run Order: ICP2-HE_231208B: 78	SampType: Sample Matrix Spike Duplicate	Lab ID: H23110659-012BMSD2	Method: E200.7								
Analysis Date: 12/08/23 17:24	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>g</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Associated samples: H23110659-002B, H23110659-003B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Run ID :Run Order: ICP2-HE_231208B: 85	SampType: Continuing Calibration Verification Standar	Lab ID: CCV	Method: E200.7								
Analysis Date: 12/08/23 17:50	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes <b>g</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	2.52	0.10	2.5	0	101	90	110				
Boron	2.56	0.10	2.5	0	102	90	110				
Calcium	27.2	1.0	25	0	109	90	110				
Copper	2.60	0.012	2.5	0	104	90	110				
Iron	2.67	0.020	2.5	0	107	90	110				
Magnesium	26.3	1.0	25	0	105	90	110				
Potassium	26.0	1.0	25	0	104	90	110				
Sodium	25.3	1.0	25	0	101	90	110				

Associated samples: H23110659-002B, H23110659-003B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190737

Date: 28-Dec-23

Run ID :Run Order: ICP2-HE_231211B: 6	SampType: Initial Calibration Verification Standard				Lab ID: ICV				Method: E200.7		
Analysis Date: 12/11/23 08:52	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	3.96	0.020	4	0	99	95	105				
Lithium	0.801	0.10	0.8	0	100	95	105				
Manganese	3.99	0.010	4	0	100	95	105				
Potassium	39.7	1.0	40	0	99	95	105				
Sodium	39.7	1.0	40	0	99	95	105				
Zinc	0.824	0.010	0.8	0	103	95	105				

Associated samples: H23110659-001B, H23110659-002B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Run ID :Run Order: ICP2-HE_231211B: 7	SampType: Continuing Calibration Verification Standar				Lab ID: CCV-1				Method: E200.7		
Analysis Date: 12/11/23 08:56	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	2.52	0.020	2.5	0	101	95	105				
Lithium	1.24	0.10	1.25	0	99	95	105				
Manganese	2.56	0.010	2.5	0	102	95	105				
Potassium	24.7	1.0	25	0	99	95	105				
Sodium	24.6	1.0	25	0	98	95	105				
Zinc	2.61	0.010	2.5	0	104	95	105				

Associated samples: H23110659-001B, H23110659-002B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Run ID :Run Order: ICP2-HE_231211B: 13	SampType: Method Blank				Lab ID: MB				Method: E200.7		
Analysis Date: 12/11/23 09:19	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	0.008									
Lithium	ND	0.002									
Manganese	ND	0.001									
Potassium	ND	0.06									
Sodium	0.04	0.03									
Zinc	ND	0.003									

Associated samples: H23110659-001B, H23110659-002B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190737

Date: 28-Dec-23

Run ID :Run Order: ICP2-HE_231211B: 17	SampType: Laboratory Fortified Blank				Lab ID: LFB			Method: E200.7			
Analysis Date: 12/11/23 09:37	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	4.98	0.020	5	0	100	85	115				
Lithium	1.02	0.10	1	0	102	85	115				
Manganese	4.97	0.010	5	0	99	85	115				
Potassium	50.2	1.0	50	0	100	85	115				
Sodium	50.1	1.0	50	0	100	85	115				
Zinc	0.970	0.010	1	0	97	85	115				

Associated samples: H23110659-001B, H23110659-002B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Run ID :Run Order: ICP2-HE_231211B: 18	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.7			
Analysis Date: 12/11/23 10:15	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	2.58	0.020	2.5	0	103	90	110				
Lithium	1.22	0.10	1.25	0	98	90	110				
Manganese	2.59	0.010	2.5	0	103	90	110				
Potassium	24.6	1.0	25	0	98	90	110				
Sodium	23.9	1.0	25	0	96	90	110				
Zinc	2.67	0.010	2.5	0	107	90	110				

Associated samples: H23110659-001B, H23110659-002B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Run ID :Run Order: ICP2-HE_231211B: 25	SampType: Sample Matrix Spike				Lab ID: H23110727-001BMS2			Method: E200.7			
Analysis Date: 12/11/23 10:53	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	5.14	0.020	5	0.04876	102	70	130				
Lithium	1.25	0.10	1	0.0549	120	70	130				
Manganese	4.92	0.0014	5	0.03496	98	70	130				
Potassium	63.2	1.0	50	7.525	111	70	130				
Sodium	488	1.0	50	421.6		70	130				A
Zinc	0.898	0.010	1	0	90	70	130				

Associated samples: H23110659-001B, H23110659-002B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190737

Date: 28-Dec-23

Run ID :Run Order: ICP2-HE_231211B: 26	SampType: Sample Matrix Spike Duplicate				Lab ID: H23110727-001BMSD2				Method: E200.7		
Analysis Date: 12/11/23 10:57	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	4.90	0.020	5	0.04876	97	70	130	5.136	4.6	20	
Lithium	1.18	0.10	1	0.0549	113	70	130	1.25	5.7	20	
Manganese	4.77	0.0014	5	0.03496	95	70	130	4.924	3.2	20	
Potassium	60.7	1.0	50	7.525	106	70	130	63.15	4.0	20	
Sodium	485	1.0	50	421.6		70	130	487.7	0.5	20	A
Zinc	0.941	0.010	1	0	94	70	130	0.898	4.7	20	

Associated samples: H23110659-001B, H23110659-002B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Run ID :Run Order: ICP2-HE_231211B: 66	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 12/11/23 13:34	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	2.60	0.020	2.5	0	104	90	110				
Lithium	1.31	0.10	1.25	0	105	90	110				
Manganese	2.59	0.010	2.5	0	104	90	110				
Potassium	25.3	1.0	25	0	101	90	110				
Sodium	24.7	1.0	25	0	99	90	110				
Zinc	2.66	0.010	2.5	0	106	90	110				

Associated samples: H23110659-001B, H23110659-002B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Run ID :Run Order: ICP2-HE_231211B: 78	SampType: Continuing Calibration Verification Standar				Lab ID: CCV				Method: E200.7		
Analysis Date: 12/11/23 14:19	Units: mg/L				Prep Info: Prep Date:				Prep Method:		
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	2.65	0.020	2.5	0	106	90	110				
Lithium	1.29	0.10	1.25	0	103	90	110				
Manganese	2.61	0.010	2.5	0	104	90	110				
Potassium	25.3	1.0	25	0	101	90	110				
Sodium	24.5	1.0	25	0	98	90	110				
Zinc	2.73	0.010	2.5	0	109	90	110				

Associated samples: H23110659-001B, H23110659-002B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190737

Date: 28-Dec-23

Run ID :Run Order: ICP2-HE_231211B: 83		SampType: Sample Matrix Spike			Lab ID: H23110659-009BMS2			Method: E200.7			
Analysis Date: 12/11/23 14:38		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	325	0.21	125	197.3	102	70	130				
Lithium	27.0	0.10	25	0.8691	105	70	130				
Manganese	564	0.034	125	442.5	98	70	130				
Potassium	1280	1.6	1250	8.128	101	70	130				
Sodium	1340	1.0	1250	88.6	100	70	130				
Zinc	560	0.071	25	532.9		70	130				A

Associated samples: H23110659-001B, H23110659-002B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Run ID :Run Order: ICP2-HE_231211B: 84		SampType: Sample Matrix Spike Duplicate			Lab ID: H23110659-009BMSD2			Method: E200.7			
Analysis Date: 12/11/23 14:42		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	323	0.21	125	197.3	100	70	130	324.8	0.6	20	
Lithium	27.6	0.10	25	0.8691	107	70	130	27.02	2.2	20	
Manganese	560	0.034	125	442.5	94	70	130	564.4	0.8	20	
Potassium	1300	1.6	1250	8.128	104	70	130	1277	2.0	20	
Sodium	1370	1.0	1250	88.6	102	70	130	1343	1.7	20	
Zinc	560	0.071	25	532.9		70	130	559.6	0	20	A

Associated samples: H23110659-001B, H23110659-002B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Run ID :Run Order: ICP2-HE_231211B: 90		SampType: Continuing Calibration Verification Standar			Lab ID: CCV			Method: E200.7			
Analysis Date: 12/11/23 15:05		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 6	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	2.58	0.020	2.5	0	103	90	110				
Lithium	1.28	0.10	1.25	0	102	90	110				
Manganese	2.57	0.010	2.5	0	103	90	110				
Potassium	25.2	1.0	25	0	101	90	110				
Sodium	24.4	1.0	25	0	98	90	110				
Zinc	2.71	0.010	2.5	0	109	90	110				

Associated samples: H23110659-001B, H23110659-002B, H23110659-004B, H23110659-005B, H23110659-006B, H23110659-008B, H23110659-009B, H23110659-010B, H23110659-011B, H23110659-012B, H23110659-013B, H23110659-014B, H23110659-015B, H23110659-016B, H23110659-017B, H23110659-018B, H23110659-019B

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190812

Date: 28-Dec-23

Run ID :Run Order: <b>IC METROHM_231212A: 2</b>	SampType: <b>Method Blank</b>				Lab ID: <b>ICB</b>				Method: <b>E300.0</b>		
Analysis Date: <b>12/12/23 11:48</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	ND	0.02									
Sulfate	ND	0.03									

Associated samples: H23110659-009A, H23110659-014A, H23110659-015A, H23110659-019A

Run ID :Run Order: <b>IC METROHM_231212A: 3</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>				Method: <b>E300.0</b>		
Analysis Date: <b>12/12/23 12:03</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	103	1.0	100	0	<b>103</b>	90	110				
Sulfate	403	1.0	400	0	<b>101</b>	90	110				

Associated samples: H23110659-009A, H23110659-014A, H23110659-015A, H23110659-019A

Run ID :Run Order: <b>IC METROHM_231212A: 4</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>				Method: <b>E300.0</b>		
Analysis Date: <b>12/12/23 12:17</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	24.8	1.0	25	0	<b>99</b>	90	110				
Sulfate	103	1.0	100	0	<b>103</b>	90	110				

Associated samples: H23110659-009A, H23110659-014A, H23110659-015A, H23110659-019A

Run ID :Run Order: <b>IC METROHM_231212A: 5</b>	SampType: <b>Continuing Calibration Verification Standar</b>				Lab ID: <b>CCV</b>				Method: <b>E300.0</b>		
Analysis Date: <b>12/12/23 12:31</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	50.6	1.0	50	0	<b>101</b>	90	110				
Sulfate	203	1.0	200	0	<b>101</b>	90	110				

Associated samples: H23110659-009A, H23110659-014A, H23110659-015A, H23110659-019A

Run ID :Run Order: <b>IC METROHM_231212A: 17</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23120159-009AMS</b>				Method: <b>E300.0</b>		
Analysis Date: <b>12/12/23 15:24</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	62.9	1.0	25	37.18	<b>103</b>	90	110				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110659

**BatchID:** R190812

**Date:** 28-Dec-23

Run ID :Run Order: <b>IC METROHM_231212A: 17</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23120159-009AMS</b>				Method: <b>E300.0</b>		
Analysis Date: <b>12/12/23 15:24</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	401	1.0	100	298.4	<b>102</b>	90	110				

Associated samples: **H23110659-009A, H23110659-014A, H23110659-015A, H23110659-019A**

Run ID :Run Order: <b>IC METROHM_231212A: 18</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23120159-009AMSD</b>				Method: <b>E300.0</b>		
Analysis Date: <b>12/12/23 15:38</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	62.9	1.0	25	37.18	<b>103</b>	90	110	62.9	<b>0</b>	20	
Sulfate	402	1.0	100	298.4	<b>104</b>	90	110	400.8	<b>0.3</b>	20	

Associated samples: **H23110659-009A, H23110659-014A, H23110659-015A, H23110659-019A**



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190901

Date: 28-Dec-23

Run ID :Run Order: ICPMS206-H_231215A: 12		SampType: Initial Calibration Verification Standard			Lab ID: ICV			Method: E200.8			
Analysis Date: 12/15/23 11:04		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0296	0.0010	0.03	0	99	90	110				
Calcium	3.04	0.50	3	0	101	90	110				
Copper	0.0604	0.010	0.06	0	101	90	110				
Iron	0.303	0.020	0.3	0	101	90	110				
Manganese	0.298	0.010	0.3	0	99	90	110				
Thallium	0.0591	0.10	0.06	0	98	90	110				
Uranium	0.0560	0.00030	0.06	0	93	90	110				
Zinc	0.0599	0.010	0.06	0	100	90	110				

Associated samples: H23110659-002B, H23110659-003B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-012B, H23110659-013B, H23110659-017B, H23110659-019B

Run ID :Run Order: ICPMS206-H_231215A: 22		SampType: Method Blank			Lab ID: LRB			Method: E200.8			
Analysis Date: 12/15/23 11:51		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	ND	7E-06									
Calcium	ND	0.07									
Copper	ND	0.00004									
Iron	0.001	0.0007									
Manganese	ND	0.00005									
Thallium	ND	7E-06									
Uranium	3E-06	3E-06									
Zinc	ND	0.0007									

Associated samples: H23110659-002B, H23110659-003B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-012B, H23110659-013B, H23110659-017B, H23110659-019B

Run ID :Run Order: ICPMS206-H_231215A: 23		SampType: Laboratory Fortified Blank			Lab ID: LFB			Method: E200.8			
Analysis Date: 12/15/23 11:55		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0480	0.0010	0.05	0	96	85	115				
Calcium	1.01	0.50	1	0	101	85	115				
Copper	0.0509	0.010	0.05	0	102	85	115				
Iron	0.157	0.020	0.15	0	105	85	115				
Manganese	0.0507	0.010	0.05	0	101	85	115				

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190901

Date: 28-Dec-23

Run ID :Run Order: ICPMS206-H_231215A: 23		SampType: Laboratory Fortified Blank			Lab ID: LFB			Method: E200.8			
Analysis Date: 12/15/23 11:55		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	0.0488	0.10	0.05	0	97	85	115				
Uranium	0.0477	0.00030	0.05	0	95	85	115				
Zinc	0.0519	0.010	0.05	0	104	85	115				

Associated samples: H23110659-002B, H23110659-003B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-012B, H23110659-013B, H23110659-017B, H23110659-019B

Run ID :Run Order: ICPMS206-H_231215A: 96		SampType: Initial Calibration Verification Standard			Lab ID: ICV			Method: E200.8			
Analysis Date: 12/15/23 18:48		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0293	0.0010	0.03	0	98	90	110				
Calcium	2.90	0.50	3	0	97	90	110				
Copper	0.0606	0.010	0.06	0	101	90	110				
Iron	0.306	0.020	0.3	0	102	90	110				
Manganese	0.297	0.010	0.3	0	99	90	110				
Thallium	0.0579	0.10	0.06	0	96	90	110				
Uranium	0.0579	0.00030	0.06	0	96	90	110				
Zinc	0.0602	0.010	0.06	0	100	90	110				

Associated samples: H23110659-002B, H23110659-003B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-012B, H23110659-013B, H23110659-017B, H23110659-019B

Run ID :Run Order: ICPMS206-H_231215A: 122		SampType: Continuing Calibration Verification Standar			Lab ID: CCV			Method: E200.8			
Analysis Date: 12/15/23 21:05		Units: mg/L			Prep Info: Prep Date:			Prep Method:			
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0501	0.0010	0.05	0	100	90	110				
Calcium	13.6	0.50	12.5	0	109	90	110				
Copper	0.0518	0.010	0.05	0	104	90	110				
Iron	1.33	0.020	1.3	0	102	90	110				
Manganese	0.0502	0.010	0.05	0	100	90	110				
Thallium	0.0502	0.10	0.05	0	100	90	110				
Uranium	0.0518	0.00030	0.05	0	104	90	110				
Zinc	0.0517	0.010	0.05	0	103	90	110				

Associated samples: H23110659-002B, H23110659-003B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-012B, H23110659-013B, H23110659-017B, H23110659-019B

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R190901

Date: 28-Dec-23

Run ID :Run Order: ICPMS206-H_231215A: 131		SampType: Sample Matrix Spike			Lab ID: H23110658-007BMS				Method: E200.8		
Analysis Date: 12/15/23 21:37		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0500	0.0010	0.05	0.00002217	100	70	130				
Calcium	39.9	1.0	1	39.55		70	130				A
Copper	0.0524	0.0050	0.05	0.001264	102	70	130				
Iron	0.176	0.020	0.15	0.02161	103	70	130				
Manganese	0.230	0.0010	0.05	0.1854	90	70	130				
Thallium	0.0510	0.00050	0.05	0.00001259	102	70	130				
Uranium	0.0529	0.00030	0.05	0.001927	102	70	130				
Zinc	0.0886	0.010	0.05	0.03618	105	70	130				

Associated samples: H23110659-002B, H23110659-003B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-012B, H23110659-013B, H23110659-017B, H23110659-019B

Run ID :Run Order: ICPMS206-H_231215A: 132		SampType: Sample Matrix Spike Duplicate			Lab ID: H23110658-007BMSD				Method: E200.8		
Analysis Date: 12/15/23 21:41		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0505	0.0010	0.05	0.00002217	101	70	130	0.05001	1.0	20	
Calcium	40.2	1.0	1	39.55		70	130	39.92	0.8	20	A
Copper	0.0535	0.0050	0.05	0.001264	105	70	130	0.05239	2.2	20	
Iron	0.179	0.020	0.15	0.02161	105	70	130	0.1757	1.8	20	
Manganese	0.232	0.0010	0.05	0.1854	94	70	130	0.2304	0.9	20	
Thallium	0.0537	0.00050	0.05	0.00001259	107	70	130	0.05105	5.1	20	
Uranium	0.0539	0.00030	0.05	0.001927	104	70	130	0.0529	1.9	20	
Zinc	0.0902	0.010	0.05	0.03618	108	70	130	0.08864	1.7	20	

Associated samples: H23110659-002B, H23110659-003B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-012B, H23110659-013B, H23110659-017B, H23110659-019B

Run ID :Run Order: ICPMS206-H_231215A: 134		SampType: Continuing Calibration Verification Standar			Lab ID: CCV				Method: E200.8		
Analysis Date: 12/15/23 21:48		Units: mg/L			Prep Info:		Prep Date:		Prep Method:		
Analytes 8	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.0501	0.0010	0.05	0	100	90	110				
Calcium	13.6	0.50	12.5	0	109	90	110				
Copper	0.0512	0.010	0.05	0	102	90	110				
Iron	1.33	0.020	1.3	0	102	90	110				
Manganese	0.0500	0.010	0.05	0	100	90	110				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110659

**BatchID:** R190901

**Date:** 28-Dec-23

Run ID :Run Order: ICPMS206-H_231215A: 134	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 12/15/23 21:48	Units: mg/L		Prep Info:			Prep Date:		Prep Method:			
Analytes <b>g</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Thallium	0.0486	0.10	0.05	0	97	90	110				
Uranium	0.0498	0.00030	0.05	0	100	90	110				
Zinc	0.0515	0.010	0.05	0	103	90	110				

Associated samples: H23110659-002B, H23110659-003B, H23110659-006B, H23110659-007B, H23110659-008B, H23110659-012B, H23110659-013B, H23110659-017B, H23110659-019B

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limit  
R - RPD outside accepted recovery limits

N - Analyte concentration was not sufficiently high to calculate RPD  
A - Analyte concentration greater than four times the spike amount





### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R191058

Date: 28-Dec-23

Run ID :Run Order: ICPMS206-H_231219A: 12	SampType: Initial Calibration Verification Standard				Lab ID: ICV			Method: E200.8			
Analysis Date: 12/19/23 12:51	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.292	0.10	0.3	0	97	90	110				
Lithium	0.0610	0.10	0.06	0	102	90	110				

Associated samples: H23110659-017B, H23110659-019B

Run ID :Run Order: ICPMS206-H_231219A: 20	SampType: Continuing Calibration Verification Standar				Lab ID: CCV			Method: E200.8			
Analysis Date: 12/19/23 13:20	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0505	0.10	0.05	0	101	90	110				
Lithium	0.626	0.10	0.625	0	100	90	110				

Associated samples: H23110659-017B, H23110659-019B

Run ID :Run Order: ICPMS206-H_231219A: 22	SampType: Method Blank				Lab ID: LRB			Method: E200.8			
Analysis Date: 12/19/23 13:28	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	ND	0.002									
Lithium	0.0008	0.0001									

Associated samples: H23110659-017B, H23110659-019B

Run ID :Run Order: ICPMS206-H_231219A: 23	SampType: Laboratory Fortified Blank				Lab ID: LFB			Method: E200.8			
Analysis Date: 12/19/23 13:31	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.0530	0.10	0.05	0	106	85	115				
Lithium	0.0564	0.10	0.05	0	113	85	115				

Associated samples: H23110659-017B, H23110659-019B

Run ID :Run Order: ICPMS206-H_231219A: 33	SampType: Sample Matrix Spike				Lab ID: H23110743-001BMS			Method: E200.8			
Analysis Date: 12/19/23 14:08	Units: mg/L				Prep Info: Prep Date:			Prep Method:			
Analytes 2	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.267	0.030	0.25	0	107	70	130				

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R191058

Date: 28-Dec-23

Run ID :Run Order: <b>ICPMS206-H_231219A: 33</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23110743-001BMS</b>				Method: <b>E200.8</b>		
Analysis Date: <b>12/19/23 14:08</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lithium	0.318	0.10	0.25	0.05405	<b>106</b>	70	130				

Associated samples: **H23110659-017B, H23110659-019B**

Run ID :Run Order: <b>ICPMS206-H_231219A: 34</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23110743-001BMSD</b>				Method: <b>E200.8</b>		
Analysis Date: <b>12/19/23 14:11</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.272	0.030	0.25	0	<b>109</b>	70	130	0.2669	<b>2.0</b>	20	
Lithium	0.318	0.10	0.25	0.05405	<b>106</b>	70	130	0.3182	<b>0.1</b>	20	

Associated samples: **H23110659-017B, H23110659-019B**

Run ID :Run Order: <b>ICPMS206-H_231219A: 100</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>				Method: <b>E200.8</b>		
Analysis Date: <b>12/19/23 21:11</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>2</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum	0.306	0.10	0.3	0	<b>102</b>	90	110				
Lithium	0.0609	0.10	0.06	0	<b>102</b>	90	110				

Associated samples: **H23110659-017B, H23110659-019B**

Qualifiers: ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: R191181

Date: 28-Dec-23

Run ID :Run Order: <b>SEAL AA500_231227B: 12</b>	SampType: <b>Method Blank</b>				Lab ID: <b>ICB</b>				Method: <b>E353.2</b>		
Analysis Date: <b>12/27/23 15:04</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	ND	0.01									

Associated samples: **H23110659-018C**

Run ID :Run Order: <b>SEAL AA500_231227B: 14</b>	SampType: <b>Initial Calibration Verification Standard</b>				Lab ID: <b>ICV</b>				Method: <b>E353.2</b>		
Analysis Date: <b>12/27/23 15:06</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.03	0.010	1	0	<b>103</b>	90	110				

Associated samples: **H23110659-018C**

Run ID :Run Order: <b>SEAL AA500_231227B: 15</b>	SampType: <b>Laboratory Fortified Blank</b>				Lab ID: <b>LFB</b>				Method: <b>E353.2</b>		
Analysis Date: <b>12/27/23 15:07</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	1.00	0.011	1	0	<b>100</b>	90	110				

Associated samples: **H23110659-018C**

Run ID :Run Order: <b>SEAL AA500_231227B: 22</b>	SampType: <b>Sample Matrix Spike</b>				Lab ID: <b>H23120663-006BMS</b>				Method: <b>E353.2</b>		
Analysis Date: <b>12/27/23 15:14</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	2.82	0.022	2.2	0.864	<b>89</b>	90	110				

Associated samples: **H23110659-018C**

Run ID :Run Order: <b>SEAL AA500_231227B: 23</b>	SampType: <b>Sample Matrix Spike Duplicate</b>				Lab ID: <b>H23120663-006BMSD</b>				Method: <b>E353.2</b>		
Analysis Date: <b>12/27/23 15:15</b>	Units: <b>mg/L</b>				Prep Info: Prep Date:				Prep Method:		
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nitrogen, Nitrate+Nitrite as N	2.77	0.022	2.2	0.864	<b>87</b>	90	110	2.818	<b>1.7</b>	10	

Associated samples: **H23110659-018C**

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

Client: MT Dept of Justice

Prepared by Helena, MT Branch

Work Order: H23110659

BatchID: TDS231120A

Date: 28-Dec-23

Run ID :Run Order: ACCU-124 (14410200)_231120B: 1	SampType: Method Blank	Lab ID: MB-1_231120	Method: A2540 C								
Analysis Date: 11/20/23 12:32	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	ND	6									

Associated samples: H23110659-001A, H23110659-002A, H23110659-003A, H23110659-004A, H23110659-005A, H23110659-006A, H23110659-008A, H23110659-009A, H23110659-010A, H23110659-011A, H23110659-012A, H23110659-013A, H23110659-014A, H23110659-015A, H23110659-016A, H23110659-017A, H23110659-018A, H23110659-019A

Run ID :Run Order: ACCU-124 (14410200)_231120B: 2	SampType: Laboratory Control Sample	Lab ID: LCS-2_231120	Method: A2540 C								
Analysis Date: 11/20/23 12:33	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	1990	50	2000	0	100	90	110				

Associated samples: H23110659-001A, H23110659-002A, H23110659-003A, H23110659-004A, H23110659-005A, H23110659-006A, H23110659-008A, H23110659-009A, H23110659-010A, H23110659-011A, H23110659-012A, H23110659-013A, H23110659-014A, H23110659-015A, H23110659-016A, H23110659-017A, H23110659-018A, H23110659-019A

Run ID :Run Order: ACCU-124 (14410200)_231120B: 3	SampType: Sample Duplicate	Lab ID: H23110659-006A DUP	Method: A2540 C								
Analysis Date: 11/20/23 12:33	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	1090	25		0							

Associated samples: H23110659-001A, H23110659-002A, H23110659-003A, H23110659-004A, H23110659-005A, H23110659-006A, H23110659-008A, H23110659-009A, H23110659-010A, H23110659-011A, H23110659-012A, H23110659-013A, H23110659-014A, H23110659-015A, H23110659-016A, H23110659-017A, H23110659-018A, H23110659-019A

Run ID :Run Order: ACCU-124 (14410200)_231120B: 2	SampType: Sample Duplicate	Lab ID: H23110659-013A DUP	Method: A2540 C								
Analysis Date: 11/20/23 12:51	Units: mg/L	Prep Info: Prep Date:	Prep Method:								
Analytes 1	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	979	25		0				1000	2.1	10	

Associated samples: H23110659-001A, H23110659-002A, H23110659-003A, H23110659-004A, H23110659-005A, H23110659-006A, H23110659-008A, H23110659-009A, H23110659-010A, H23110659-011A, H23110659-012A, H23110659-013A, H23110659-014A, H23110659-015A, H23110659-016A, H23110659-017A, H23110659-018A, H23110659-019A

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limit      N - Analyte concentration was not sufficiently high to calculate RPD  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      A - Analyte concentration greater than four times the spike amount



### ANALYTICAL QC SUMMARY REPORT

**Client:** MT Dept of Justice

Prepared by Helena, MT Branch

**Work Order:** H23110659

**BatchID:** TDS231122A

**Date:** 28-Dec-23

Run ID :Run Order: <b>ACCU-124 (14410200)_231122B: 1</b>	SampType: <b>Method Blank</b>	Lab ID: <b>MB-1_231122</b>	Method: <b>A2540 C</b>								
Analysis Date: <b>11/22/23 11:42</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	ND	6									
Associated samples: <b>H23110659-007A</b>											

Run ID :Run Order: <b>ACCU-124 (14410200)_231122B: 2</b>	SampType: <b>Laboratory Control Sample</b>	Lab ID: <b>LCS-2_231122</b>	Method: <b>A2540 C</b>								
Analysis Date: <b>11/22/23 11:43</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	1970	50	2000	0	<b>99</b>	90	110				
Associated samples: <b>H23110659-007A</b>											

Run ID :Run Order: <b>ACCU-124 (14410200)_231122B: 4</b>	SampType: <b>Sample Duplicate</b>	Lab ID: <b>H23110659-007A DUP</b>	Method: <b>A2540 C</b>								
Analysis Date: <b>11/22/23 11:44</b>	Units: <b>mg/L</b>	Prep Info: Prep Date:	Prep Method:								
Analytes <b>1</b>	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Solids, Total Dissolved TDS @ 180 C	17.0	25		0				18		10	L
Associated samples: <b>H23110659-007A</b>											

- TDS did not obtain the minimum residue requirement of 2.5 mg residue.



# Work Order Receipt Checklist

MT Dept of Justice

H23110659

Login completed by: Taylor K. Jones

Date Received: 11/17/2023

Reviewed by: wjohnson

Received by: TKJ

Reviewed Date: 11/20/2023

Carrier name: Hand Deliver

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	0.3°C On Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input type="checkbox"/>

## Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

## Contact and Corrective Action Comments:

The Temperature Blank temperature for shipping container 1 was 0.0°C, shipping container 2 was -0.2°C, shipping container 3 was 0.3°C, shipping container 4 was -1.6°C and shipping container 5 was 0.2°C.  
tj 11/17/23





Trust our People. Trust our Data.

# Chain of Custody & Analytical Request Record

www.energylab.com

### Account Information (Billing information)

Company/Name	MT DOJ / Natural Resource Damage Program	
Contact	Jim Ford	
Phone	(406) 439-2108	
Mailing Address	1720 9th Avenue	
City, State, Zip	Helena, Montana 59620-1425	
Email	jford@mt.gov	
Receive Invoice	<input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email
Purchase Order	Quote 2187	Bottle Order 45915/6/9

### Report Information (if different than Account Information)

Company/Name	Water & Environmental Technologies	
Contact	Janelle Garza	
Phone	(406) 565-4291	
Mailing Address	480 East Park Street	
City, State, Zip	Butte, Montana 59701	
Email	jgarza@waterenvtech.com	
Receive Report	<input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email	
Special Report/Formats	<input type="checkbox"/> LEVEL IV <input type="checkbox"/> NELAC <input checked="" type="checkbox"/> EDD/EDT (contact laboratory) <input type="checkbox"/> Other	

### Comments

Please do not use any "EB" or "FB" samples for MS/MSD.

C1	0.0°C
C2	-0.2°C
C3	0.3°C
C4	-1.0°C
C5	0.2°C
C6	0.0°C
C7	1.5°C

### Project Information

Project Name, PWSID, Permit, etc.	NRDPM16 TO2 - Task 001	
Sampler Name	Janelle Garza	Sampler Phone (406) 599-6770
Sample Origin State	Montana	EPA/State Compliance <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
URANIUM MINING CLIENTS MUST indicate sample type		
<input type="checkbox"/> Unprocessed Ore		
<input type="checkbox"/> Processed Ore (Ground or Refined) **CALL BEFORE SENDING		
<input type="checkbox"/> 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)		

### Matrix Codes

- A - Air
- W - Water
- S - Soils/Solids
- V - Vegetation
- B - Bioassay
- O - Oil
- DW - Drinking Water

### Analysis Requested

	+	+	+	+	+	+	+	+	+	+	+	+	+	+
pH & pH Meas. Temp	A4500-H B	Conductivity	TDS	CaCO <sub>3</sub> , HCO <sub>3</sub> , CO <sub>3</sub>	Cl(-), SO <sub>4</sub> (2-), Br(-), F(-)	Hardness	DOC & TOC	Nitrate+Nitrite	Dissolved Metals	See Attached				
	A25510 B	A2540 C	A2320 B	E300.0	A2340 B	A5310 C	E353.2	E200.7/8						

All turnaround times are standard unless marked as RUSH.  
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling - See Instructions Page

	Sample Identification (Name, Location, Interval, etc.)	Collection		Number of Containers	Matrix (See Codes Above)	Analysis Requested										See Attached	RUSH TAT	ELI LAB ID Laboratory Use Only
		Date	Time			pH & pH Meas. Temp	Conductivity	TDS	CaCO <sub>3</sub> , HCO <sub>3</sub> , CO <sub>3</sub>	Cl(-), SO <sub>4</sub> (2-), Br(-), F(-)	Hardness	DOC & TOC	Nitrate+Nitrite	Dissolved Metals				
C5	1 PMP-03A	11/15/2023	2:26 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		H23110659	
C5	2 GS-40R	11/15/2023	2:44 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
C5	3 FB-3	11/15/2023	2:45 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
C5	4 PMP-01B	11/15/2023	3:02 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
C3	5 DUP-3	11/15/2023	3:03 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
C3	6 AMW-09	11/15/2023	3:14 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
C3	7 EB-3	11/15/2023	3:15 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
C3	8 PMP-09B	11/15/2023	3:37 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
C1	9 AMW-08	11/15/2023	3:46 pm	5	W	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were NOT used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print) Janelle Garza	Date/Time 11-17-23/1000	Signature <i>Janelle Garza</i>	Received by (print) Jace Rhodes	Date/Time 11-17-23/1000	Signature <i>Jace Rhodes</i>			
	Relinquished by (print) Jace Rhodes	Date/Time 11-17-23/1107	Signature <i>Jace Rhodes</i>	Received by Laboratory (print) Taylor Jones	Date/Time 11/17/23 1107	Signature <i>Taylor Jones</i>			
LABORATORY USE ONLY									
Shipped By <i>Hand</i>	Cooler ID(s) <i>7</i>	Custody Seals Y (N) C B	Intact Y N	Receipt Temp <i>Comments</i>	Temp Blank Y N	On Ice Y N	Payment Type CC Cash Check	Amount \$	Receipt Number (cash/check only)

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.





# Chain of Custody & Analytical Request Record

www.energylab.com

### Account Information (Billing information)

Company/Name	MT DOJ / Natural Resource Damage Program		
Contact	Jim Ford		
Phone	(406) 439-2108		
Mailing Address	1720 9th Avenue		
City, State, Zip	Helena, Montana 59620-1425		
Email	jford@mt.gov		
Receive Invoice	<input type="checkbox"/> Hard Copy	<input checked="" type="checkbox"/> Email	Receive Report <input type="checkbox"/> Hard Copy <input checked="" type="checkbox"/> Email
Purchase Order	Quote 2187	Bottle Order 45915/6/9	

### Report Information (if different than Account Information)

Company/Name	Water & Environmental Technologies		
Contact	Janelle Garza		
Phone	(406) 565-4291		
Mailing Address	480 East Park Street		
City, State, Zip	Butte, Montana 59701		
Email	jgarza@waterenvtech.com		
Receive Report	<input type="checkbox"/> Hard Copy	<input checked="" type="checkbox"/> Email	
Special Report/Formats	<input type="checkbox"/> LEVEL IV <input type="checkbox"/> INELAC <input checked="" type="checkbox"/> EDD/EDT (contact laboratory) <input type="checkbox"/> Other		

### Comments

Please do not use any "EB" or "FB" samples for MS/MSD.

C1 0.0°C  
 C2 -0.2°C  
 C3 0.3°C  
 C4 -1.6°C  
 C5 0.2°C  
 C6 0.0°C  
 C7 1.5°C

### Project Information

Project Name, PWSID, Permit, etc.	NRDPM16 TO2 - Task 001		
Sampler Name	Janelle Garza	Sampler Phone	(406) 599-6770
Sample Origin State	Montana	EPA/State Compliance	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
URANIUM MINING CLIENTS MUST indicate sample type <input type="checkbox"/> Unprocessed Ore <input type="checkbox"/> Processed Ore (Ground or Refined) **CALL BEFORE SENDING <input type="checkbox"/> 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)			

### Matrix Codes

- A - Air
- W- Water
- S - Soils/Solids
- V - Vegetation
- B - Bioassay
- O - Oil
- DW - Drinking Water

### Analysis Requested

+	+	+	+	+	+	+	+	+	+
pH & pH Meas. Temp A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353.2	Dissolved Metals E200.7B	See Attached

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	Sample Identification (Name, Location, Interval, etc.)		Collection		Number of Containers	Matrix (See Codes Above)	Analysis Requested									See Attached	RUSH TAT	ELI LAB ID Laboratory Use Only
	Date	Time	Date	Time			pH & pH Meas. Temp A4500-H B	Conductivity A25510 B	TDS A2540 C	CaCO3, HCO3, CO3 A2320 B	Cl(-), SO4(2-), Br(-), F(-) E300.0	Hardness A2340 B	DOC & TOC A5310 C	Nitrate+Nitrite E353.2	Dissolved Metals E200.7B			
C1	1	PT14-1	11/16/2023	9:38 am	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		H23110659
C1	2	AMW-01A	11/16/2023	9:41 am	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
C1	3	MSD-02A	11/16/2023	10:19 am	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
C2	4	AMC-24B	11/16/2023	10:46 am	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
C2	5	AMW-20	11/16/2023	11:02 am	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
C2	6	PMP-02B	11/16/2023	11:29 am	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
C2	7	PMP-02A	11/16/2023	11:50 am	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
C4	8	PMP-07B	11/16/2023	1:14 pm	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
C4	9	PMP-01A	11/16/2023	1:21 pm	5	W	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		

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Custody Record MUST be signed	Relinquished by (print) Janelle Garza	Date/Time 11-17-23/1000	Signature <i>JG</i>	Received by (print) Jace Rhodes	Date/Time 11-17-23/1000	Signature <i>JR</i>			
	Relinquished by (print) Jace Rhodes	Date/Time 11-17-23/1107	Signature <i>JR</i>	Received by Laboratory (print) Taylor Jones	Date/Time 11/17/23 1107	Signature <i>TJ</i>			
<b>LABORATORY USE ONLY</b>									
Shipped By <i>Hand</i>	Cooler ID(s) <i>Y</i>	Custody Seals Y <input checked="" type="checkbox"/> N <input type="checkbox"/> C <input type="checkbox"/> B <input type="checkbox"/>	Intact Y <input type="checkbox"/> N <input type="checkbox"/>	Receipt Temp <i>comments</i>	Temp Blank Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	On Ice Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	Payment Type CC Cash Check	Amount \$	Receipt Number (cash/check only)

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