MONTANA RESOURCES LLP

DATA REPORT FOR TSP AND DUSTFALL MONITORING STATIONS IN BUTTE, MONTANA

QUARTER 3, 2024

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CERTIFICATION OF DATA INTEGRITY

Bison Engineering, Inc. certifies the data in this report is an accurate summary of the air quality and meteorological conditions measured at the Greeley School ambient monitoring site. Every reasonable effort was made to obtain accurate and representative data and to comply with the procedures set forth in the project-specific *Quality Assurance Project Plan (QAPP)*, *State of Montana Ambient Air Monitoring Program Quality Assurance Project Plan (April 2013)*, and the Environmental Protection Agency's *Volume II: Ambient Air Quality Program (January 2017)*

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1.0 INTRODUCTION

Particulate monitoring has been conducted in the Greeley School area for many years, since the days of the Anaconda Company operation during the 1970s. Montana Department of Environmental Quality (MDEQ) and Butte-Silver Bow (BSB) County are currently performing the following monitoring:

- Continuous monitoring for PM_{10} using a Met One Model 1020 Beta Attenuation Monitor (BAM-1020).

- Continuous monitoring for $PM_{2.5}$ using a second Met One BAM-1020.

- Episodic monitoring for $PM_{2.5}$ using a BGI Model PQ-200 sampler. This sampler collects particulate matter on a filter over a 24-hour period, which is subsequently analyzed gravimetrically to determine the average airborne $PM_{2.5}$ concentration during the sampling period. The filter is then analyzed by an EPA laboratory for trace elements and mineralized compounds. This episodic sampling is performed every six days, concurrent with EPA's national one-in-six-day sampling schedule.

- The Greeley School site includes meteorological instruments that measure wind speed, wind direction and temperature.

MDEQ/BSB's monitoring provides continuous, real-time hourly $PM_{2.5}$ and PM_{10} concentrations, as well as $PM_{2.5}$ chemical composition data. In March 2019 and at Montana Resources' (MR) request, Bison Engineering Inc. (Bison) installed additional collocated monitoring equipment at the Greeley School:

- Total Suspended Particulate Sampler: A Met One E-Sampler that continuously measures hourly total suspended particulate (TSP) concentrations using a nephelometric technique that relates light scattering to ambient particulate concentration. Additionally, the sampler includes a filter that is analyzed for total particulate mass and trace elements. Prior to this study, no ongoing TSP monitoring was being performed,

- PM_{10} Particulate Sampler: A BGI Model PQ-200 sampler that collects 24-hour inhalable particulate (PM_{10}) samples on a filter, concurrent with the EPA one-in-six-day sampling schedule. The filter is analyzed for particulate mass and for selected trace elements. The MDEQ BAM-1020 that is used for PM_{10} hourly monitoring does not produce a filter suitable for chemical analysis.

The Bison data have been presented in quarterly reports since the first quarter of 2019. With few exceptions, the trace element data have shown airborne concentrations below the Guideline values shown in Section 4.0 of this report. However, citizens in the area between the Greeley school and MTR have expressed concerns about airborne particulate and the

associated trace element concentrations, as well as the composition of settled dust that residents have observed.

In response, MTR contracted Bison to perform additional monitoring as described below:

- BGI Model PQ-200 samplers are being used to collect 24-hour TSP samples on filters, concurrent with the EPA one-in-six-day sampling schedule. The filters are analyzed for particulate mass and for selected trace elements. These samplers were deployed at 2616 Pine Street and 1910 Walnut Street, with the first samples collected on July 11, 2023.

- Monthly Dustfall sampling was initiated on August 4, 2023, at the Pine Street and Walnut Street sites, and also at the existing Greeley School site. This sampling involves exposing a 15 cm diameter bucket to ambient conditions for a period of approximately 30 days, and then analyzing the collected particulate for total mass and trace elements. From these results, monthly particulate and trace element deposition rates are calculated.

- All sample collection duties are performed by Bison. Gravimetric analysis of TSP filters is also performed by Bison, while chemical analysis of those filters is performed by the Energy Laboratory Billings, MT facility. Both gravimetric and chemical analyses of the Dustfall samples are performed by the Energy Laboratory Helena facility.

Monitoring locations are depicted in Figure 1.

Figure 1: Butte Ambient Monitoring Locations

2.0 TSP SAMPLING DATA

The National Ambient Air Quality Standards (NAAQS) for TSP were first promulgated in 1971. The TSP standards were superseded by PM_{10} standards in 1987, and additional particulate standards have been enacted since. Although no longer a criteria pollutant, TSP monitoring is appropriate for the objectives of the expanded monitoring since residents' concerns arose from visual observations of ***total*** particulate, rather than a particular size fraction.

Normally, TSP samples are collected for a period of 24 hours on the National EPA 6th-day sampling schedule. However, starting in December 2023 it was discovered that snow easily blows into the BGI PQ-200 TSP sampling heads and accumulates on the sampling filters – to the extent that it compromises the integrity of the sample. Additionally, in early January it was discovered that sufficient windblown snow accumulation on the filter could cause a sampling failure due to an overpressure error. Starting in January 2024, samples were scheduled for dates when snow was not expected. They were scheduled as close to the National 6th-day schedule as possible but constrained by expected weather conditions. Similarly, sample retrieval was often expedited to minimize the possibility of windblown snow accumulating following exposure. During the third quarter of 2024, no sampling events were affected by these considerations due to the absence of snow. All TSP samples were collected on the 6th-day sampling schedule.

Table 1 summarizes the TSP data collected during the third quarter of 2024. The Butte area was frequently impacted by wildfire smoke, which increased airborne particulate levels.

The arithmetic average quarterly TSP concentrations were 52 µg/m^3 at the Pine St site and 50 µg/m^3 at the Walnut St site. These values represent 69 percent and 67 percent of the historical geometric mean annual standard (75 µg/m^3)[1], respectively. The maximum TSP concentration of 93 µg/m^3 at Pine St occurred on July 29, while the maximum of 94 µg/m^3 at Walnut St occurred on August 4. Those maximum daily values were 36 percent of the historical 24-hour standard (260 µg/m^3)[2].

Data used to calculate average TSP concentrations from gravimetric analysis are presented in Appendix A. Chemical analysis results for the TSP filters are presented in Section 4.0 of this report.

[1] Both the annual and 24-hour TSP standards were revoked in 1987. The annual standard was calculated as a geometric mean of all daily values in a single year. The 24-hour standard was determined as the 2nd highest recorded value per year (on an assumed one-day-in-six schedule)
[2] *Ibid.*

Table 1: Summary of TSP Monitoring Data for Quarter 3, 2024

Pine Street		Walnut Street	
Sample Collection Date (2024)[2]	**TSP[1] (µg/m³)**	**Sample Collection Date (2024)[2]**	**TSP[1] (µg/m³)**
Jul 05	47	Jul 05	45
Jul 11	62	Jul 11	62
Jul 17	57	Jul 17	53
Jul 23	62	Jul 23	47
Jul 29	93	Jul 29	83
Aug 04	71	Aug 04	94
Aug 10	43	Aug 10	42
Aug 16	48	Aug 16	52
Aug 22	45	Aug 22	35
Aug 28	23	Aug 28	21
Sep 03	38	Sep 03	34
Sep 09	90	Sep 09	90
Sep 15	39	Sep 15	30
Sep 21	25	Sep 21	30
Sep 27	35	Sep 27	27
Arithmetic Average	**52**	**Arithmetic Average**	**50**
Single Day Maximum	**93**	**Single Day Maximum**	**94**
Historical 24-Hour Standard [3]	**260**		
Historical Geometric Mean Annual Standard [4]	**75**		

[1]All values at local temperature and pressure (LTP).
[2]Samples were collected from midnight to midnight (± 10 minutes) on a single calendar day unless noted otherwise.

[3] *Ibid.*
[4] *Ibid.*

3.0 DUSTFALL SAMPLING DATA

Dustfall monitoring was initiated at the Walnut, Pine and Greeley sites on August 4, 2023. Samples were collected over the following time periods at each site during the third quarter of 2024:

- July 2 – July 30
- July 30 – August 29
- August 29 – September 30

Samples were collected using ASTM Method D1739-98R17. Each sampling event was started by placing clean, dry dustfall buckets at each site. They were then exposed to ambient conditions for approximately 30 days. No water was added to the buckets prior to deployment, although they collected any rain or snow that fell during the sampling period. Following collection, they were submitted to the Energy Lab Helena facility. Samples were visually inspected for insects or other non-dustfall detritus. Wet masses of each sample were collected, as received. Samples with insects present were passed through a No. 10 (2mm) sieve, removing the insects but allowing the dust and liquid to pass through. Sieves were rinsed with laboratory reagent water to ensure no dust was lost on the sieve. Samples were then air dried on a clean non-porous plastic to remove moisture. The dry weight of each sample was then recorded using the plastic as a tared mass. Collected dust was transferred to a digestion vessel using digestion reagents to ensure all dust was removed from the plastic; and digested for total metals analysis.

Table 2 summarizes the dustfall monitoring results for the third quarter of 2024. It is likely that the samples were impacted by persistent regional wildfire smoke during the third quarter. All but one of the monthly dustfall results were below the Montana Dustfall standard of 10 $g/m^2/30$ days. The Pine St dustfall sample result for July 2 – July 30 was at 11.2 $g/m^2/30$ days. The quarterly averages for all three sites were below that standard.

Table 2: Summary of Dustfall Monitoring Data for Quarter 3, 2024

Sample Collection Date (2024)	Greeley School DF ($g/m^2/30$ days)	Pine Street DF ($g/m^2/30$ days)	Walnut Street DF ($g/m^2/30$ days)
Jul 2 – Jul 30	7.3	7.6	11.2
Jul 30 – Aug 29	4.6	6.6	7.0
Aug 29 – Sep 30	6.1	5.8	5.6
Average	**6.0**	**6.7**	**7.9**
Maximum	**7.3**	**7.6**	**11.2**
Montana Standard [5]	**10**		

Chemical analysis results for the Dustfall samples are presented in Section 5.0.

[5] ARM 17.8.220

4.0 CHEMICAL ANALYSIS DATA – TSP SAMPLES

Following gravimetric analysis, the particulate samples were submitted to Energy Laboratories, Inc. (ELI) in Billings, Montana, for elemental analysis including arsenic, cadmium, copper, lead, manganese, molybdenum and zinc. This analyte list may be subject to modification as results from this monitoring are obtained, and as other information becomes available.

All TSP samples were digested and then analyzed by ICP-MS using EPA Method E200.8. Laboratory results are presented in Appendix B and are reported in units of micrograms (µg) per filter. Sixteen TSP samples collected from both the Walnut Street and Pine Street sites during the third quarter were analyzed for trace elements, as well as four Field Blanks and four filter lot blanks (Lab Blanks).

Tables 3a and 3b summarize the total particulate mass and ELI analytical results for samples collected during the third quarter. Detectable results were usually obtained for copper, lead, manganese, molybdenum, lead and zinc. Results for arsenic and cadmium were usually non-detectable. Table 3c shows the Field Blank and Lab Blank results associated with the third quarter samples. The bottom row of Table 3c shows the range of laboratory Method Blank (MB) Method Detection Limits (MDL) during the quarter. Field Blank, Lab (filter) Blank and MB concentrations for the third quarter were non-detectable, with the following exceptions:

- Low levels of copper and molybdenum were detected in one field blank.
- Low levels of molybdenum and zinc were detected in one analytical blank (each).

All of these blank detections were minor compared to their respective concentrations in the sample filters, and do not warrant any blank adjustments to the analytical results.

Tables 4a and 4b show the calculated airborne concentration of each trace element over the indicated sampling periods. To facilitate data interpretation, the number of leading zeroes in the results has been minimized by expressing results in units of ***nanograms*** (ng) per cubic meter rather than micrograms. As discussed in Section 2.0, it is suspected that the samples collected on May 18 were impacted by windblown dust outside of the sampling period. Those results are reported in Tables 4a and 4b but are not included in the statistical analyses.

All quarterly average trace element concentrations at Pine Street were below the respective lifetime exposure Guideline values. The closest approach was for manganese, with the average of 23 ng/m^3 representing 46 percent of the Guideline value. Individual trace element concentrations for the Pine Street site were also below suggested Guideline values. The closest approach was for manganese on July 29; the concentration of 46 ng/m^3 represented 92 percent of the lifetime exposure Guideline value of 15 ng/m^3. This sample was impacted by regional wildfire smoke.

All quarterly average trace element concentrations at Walnut Street were also below the respective Guideline values. The closest approach was for manganese, with the average of

21 ng/m^3 representing 42 percent of the Guideline value. Individual trace element concentrations for the Walnut Street site were generally below suggested Guideline values with the following exception:

- The manganese result of 55 ng/m^3 on August 4 represented 110% of the lifetime exposure Guideline. This sample was also impacted by regional wildfire smoke.

Table 5 shows the sources of the "Guideline" values used for these analyses, and their derivations.[6] Additionally, Table 5 shows the approximate airborne concentration corresponding to each MDL range listed in Table 4c.

Laboratory results are included in Appendix B. A detailed table showing commonly accepted values from regulatory agencies and reputable private organizations is provided in Appendix D.

[6] The guideline values were updated (starting with the Greeley School 4th quarter report 2020) to be consistent with those from the Montana Department of Public Health and Human Services (MDPHHS). Guidelines for copper and molybdenum are lower than those used in previous quarterly reports. Although MDPHHS suggested a higher guideline for manganese, the lower previously reported value was retained. Guidelines for arsenic, cadmium, lead and zinc are unchanged.

Table 3a: Summary of Analytical Results – TSP Pine Street

DATE	PART MASS (µg)	As (µg)	Cd (µg)	Cu (µg)	Mn (µg)	Mo (µg)	Pb (µg)	Zn (µg)
07/05	1142	ND	ND	4.3	0.34	1.4	0.15	1.2
07/11	1490	ND	0.0077	6.6	0.64	0.31	0.33	1.8
07/17	1359	ND	ND	4.6	0.51	0.26	0.25	1.3
07/23	1483	ND	0.0076	6.8	0.55	0.39	0.36	1.9
07/29	2233	ND	ND	3.0	1.1	0.23	0.25	1.2
08/04	1715	ND	ND	3.8	0.94	0.13	0.16	1.1
08/10	1042	ND	ND	1.5	0.50	0.24	0.11	0.74
08/16	1144	ND	ND	1.9	0.58	0.14	0.15	0.93
08/22	1082	0.068	ND	1.4	0.47	0.094	0.10	0.79
08/28	555	0.065	ND	3.1	0.27	0.23	0.15	0.98
09/03	925	0.073	ND	2.6	0.32	0.15	0.098	0.64
09/09	2165	0.088	0.013	2.1	1.1	0.27	0.13	1.3
09/15	939	ND	ND	1.4	0.36	0.15	0.062	0.69
09/21	603	ND	ND	0.80	0.26	0.13	0.046	0.46
09/27	832	ND	ND	1.9	0.42	0.39	0.12	0.74

All values expressed as micrograms per filter. ND denotes not detected.

Table 3b: Summary of Analytical Results – TSP Walnut Street

DATE	PART MASS (µg)	As (µg)	Cd (µg)	Cu (µg)	Mn (µg)	Mo (µg)	Pb (µg)	Zn (µg)
07/05	1067	ND	ND	1.7	0.41	0.055	0.11	0.53
07/11	1461	ND	0.0048	1.7	0.59	0.098	0.17	ND
07/17	1252	ND	ND	1.2	0.51	0.057	0.13	0.64
07/23	1125	ND	ND	0.73	0.33	0.058	0.13	0.51
07/29	1962	ND	ND	1.8	0.88	0.10	0.16	1.0
08/04	2234	ND	ND	2.3	1.3	0.083	0.18	1.4
08/10	988	ND	ND	1.3	0.39	0.056	0.087	0.63
08/16	1230	ND	ND	0.79	0.38	0.015	0.085	0.61
08/22	821	0.064	ND	0.60	0.35	0.055	0.069	0.48
08/28	501	0.062	ND	0.33	0.26	0.045	0.23	0.32
09/03	812	0.078	ND	0.81	0.35	0.11	0.088	0.75
09/09	2141	0.078	0.0069	0.70	0.65	0.026	0.063	0.63
09/15	719	ND	ND	0.93	0.34	0.054	0.061	0.49
09/21	703	ND	ND	0.30	0.26	0.020	ND	0.35
09/27	651	ND	ND	0.80	0.41	0.40	0.12	0.75

All values expressed as micrograms per filter. ND denotes not detected.

Table 3c: Summary of Analytical Results – Blanks

DATE	PART MASS (µg)	As (µg)	Cd (µg)	Cu (µg)	Mn (µg)	Mo (µg)	Pb (µg)	Zn (µg)
08/20-LB	2	ND	ND	ND	ND	ND	ND	ND
07/12-FFB	87	ND	ND	0.18	ND	0.070	ND	ND
10/02-LB	3	ND	ND	ND	ND	ND	ND	0.31
08/20-FFB	14	ND	ND	ND	ND	ND	ND	ND
10/04-LB	2	ND	ND	ND	ND	ND	ND	ND
09/09-LB	60	ND	ND	ND	ND	0.016	ND	ND
09/25-FFB	INV	INV	INV	INV	INV	INV	INV	INV
11/11-LB	0	ND	ND	ND	ND	ND	ND	ND
Lab Method Blank MDL Range		0.06	0.004-0.006	0.2	0.2	0.005-0.006	0.04	0.3

All values expressed as micrograms per filter. ND denotes not detected.
LB denotes laboratory filter blank. FFB denotes field filter blank.
INV denotes invalid results, filter was torn attempting to pass leak test.

Table 4a: Summary of Airborne Trace Element Concentrations – TSP Pine Street

DATE	Sample Volume (m^3)	As (ng/m^3)	Cd (ng/m^3)	Cu (ng/m^3)	Mn (ng/m^3)	Mo (ng/m^3)	Pb (ng/m^3)	Zn (ng/m^3)
07/05	24.05	ND	ND	180	14	58	6.2	50
07/11	24.05	ND	0.32	270	27	13	14	75
07/17	24.05	ND	ND	190	21	11	10	54
07/23	24.05	ND	0.32	280	23	16	15	79
07/29	24.05	ND	ND	120	46	9.6	10	50
08/04	24.05	ND	ND	160	39	5.4	6.7	46
08/10	24.05	ND	ND	62	21	10	4.6	31
08/16	24.05	ND	ND	79	24	5.8	6.2	39
08/22	24.05	2.8	ND	58	20	3.9	4.2	33
08/28	24.05	2.7	ND	130	11	10	6.2	41
09/03	24.05	3.0	ND	110	13	6.2	4.1	27
09/09	24.05	3.7	0.54	87	46	11	5.4	54
09/15	24.05	ND	ND	58	15	6.2	2.6	29
09/21	24.05	ND	ND	33	11	5.4	1.9	19
09/27	24.05	ND	ND	79	17	16	5.0	31
Mean (ng/m^3) *		1.7	0.17	126	23	13	6.8	44
Guideline (ng/m^3) **		15	10	2,000	50	400	150	47,619

*Rather than treat non detectable (ND) data as zero, the mean was calculated using ½ of the detectable value (Table 5) for the parameter and date in question.

**The guideline values, except lead (Pb), are applicable to a lifetime or chronic exposure. The lead (Pb) guideline is an ambient air quality standard applicable to a 3-month average. The quarterly average lead concentration of 6.8 ng/m^3 was 5 percent of the guideline value; non-detect lead concentrations were set at ½ of the lead detection limit for the sample group in question.

Table 4b: Summary of Airborne Trace Element Concentrations – TSP Walnut Street

DATE	Sample Volume (m^3)	As (ng/m^3)	Cd (ng/m^3)	Cu (ng/m^3)	Mn (ng/m^3)	Mo (ng/m^3)	Pb (ng/m^3)	Zn (ng/m^3)
07/05	23.71	ND	ND	72	17	2.3	4.6	22
07/11	23.71	ND	0.20	72	25	4.1	7.2	ND
07/17	23.71	ND	ND	51	22	2.4	5.5	27
07/23	23.71	ND	ND	31	14	2.4	5.5	22
07/29	23.71	ND	ND	76	37	4.2	6.7	42
08/04	23.71	ND	ND	97	55	3.5	7.6	59
08/10	23.71	ND	ND	55	16	2.4	3.7	27
08/16	23.71	ND	ND	33	16	0.63	3.6	26
08/22	23.71	2.7	ND	25	15	2.3	2.9	20
08/28	23.71	2.6	ND	14	11	1.9	9.7	13
09/03	23.71	3.3	ND	34	15	4.6	3.7	32
09/09	23.71	3.3	0.29	30	27	1.1	2.7	27
09/15	23.71	ND	ND	39	14	2.3	2.6	21
09/21	23.71	ND	ND	13	11	0.84	ND	15
09/27	23.71	ND	ND	34	17	17	5.1	32
Mean (ng/m^3) *		1.7	0.13	45	21	3.5	4.8	26
Guideline (ng/m^3) **		15	10	2,000	50	400	150	47,619

*Rather than treat non detectable (ND) data as zero, the mean was calculated using ½ of the detectable value (Table 5) for the parameter and date in question.

**The guideline values, except lead (Pb), are applicable to a lifetime or chronic exposure. The lead (Pb) guideline is an ambient air quality standard applicable to a 3-month average. The quarterly average lead concentration of 4.8 ng/m^3 was 3 percent of the guideline value; non-detect lead concentrations were set at ½ of the lead detection limit for the sample group in question.

Table 5: Summary of Airborne Trace Element Concentration Guidelines (ng/m³)

Analyte	Dose/ Risk[A]	Source	Description	Time Period	Detectable TSP[D]
Arsenic (inorganic)	15	EPA / DPHHS[F]	RfC[B]	Lifetime	2.50
Cadmium	10	ATSDR / DPHHS[F]	Non-cancer / CV[F]	Chronic	0.17-0.25
	200	IRIS	Cancer	Chronic	
Copper	2,000	DPHHS[F] / Michigan DEQ	RfC[B]	Chronic	8.33
Lead	150	EPA / ATSDR / DPHHS[F]	National Ambient Air Quality Standard [C]	3-month	1.67
Manganese	50	EPA	RfC[B]	Lifetime	8.33
Molybdenum	11,905 (=500,000/42) [E]	CAL/OSHA, ACGIH	CAL/OSHA, ACGIH	Chronic [E]	0.21-0.25
	400	DPHHS[F] / Michigan DEQ	CV	Chronic	
Zinc	47,619 (=2,000,000/42)[E]	ACGIH TLV	ACGIH TLV	Chronic [E]	12.5

[A] See Appendix D for definitions and listing of dose and risk assessment values reviewed to produce this summary table.
[B] RfC = Reference Concentration (EPA) is an estimate (with uncertainty added) of a continuous inhalation exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime.
[C] This standard is based on a three-month average.
[D] Based on 24-hour sampling period and total sample volume of 24 m³. Range reflects maximum and minimum laboratory MDLs during Q3 2024.
[E] This value derived by dividing the OSHA/NIOSH exposure limit by 42. This was done to include a factor of 10 to account for a general population, not just healthy adults and then including another factor of 4.2 to include a year-long exposure as opposed to 8 hours per day, 5 days a week and 52 weeks per year.
[F] Reference information from letter and analysis by DPHHS (regarding Greeley School ambient data) to Butte-Silver Bow Health Department dated October 28,2020.

EPA = Environmental Protection Agency
ATSDR = Agency for Toxic Substances & Disease Registry
CV = "Comparison Value" – a term used by DPHHS (10/28/20 letter) to indicate an ATSDR (or other) guideline or reference value
DPHHS = Montana Department of Health and Human Services
RfC = Reference Concentration (see above)
RSL = EPA Regional Screening Levels (https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables)
OSHA = Occupational Safety and Health Administration
ACGIH = American Congress of Governmental Industrial Hygienists
NIOSH= National Institute of Occupational Safety and Health
TLV = Threshold limit value

5.0 CHEMICAL ANALYSIS DATA – DUSTFALL SAMPLES

After each Dustfall sample was prepared as described in Section 3.0, the remaining particulate mass was transferred to a digestion vessel using digestion reagents to ensure that all dust was removed from the plastic and digested for total metals analysis. The digestate was analyzed using EPA Method SW6020 "Inductively Coupled Plasma - Mass Spectrometry."

Laboratory results are presented in Appendix C and are reported in units of milligrams per kilogram (mg/kg) in the captured particulate, along with the total dried particulate mass. Six Dustfall samples collected from the Walnut Street, Pine Street and Greeley School sites during the third quarter of 2024 were analyzed for trace elements. Three Field Blanks also were analyzed.

Tables 6a through 6c present the Dustfall analysis data for the third quarter. Each Table shows the sample collection information, amount of particulate captured from each sample, and the concentrations of seven parameters in the particulate mass on a mg/kg basis. Finally, each table shows a calculated deposition rate for each parameter in units of milligrams per square meter per 30-days (g/m^2/30-days).

With one exception, the 30-day total particulate deposition rates were below the MAAQS of 10 g/m^2/30-days.[7] The highest observed deposition rate of 11.6 g/m^2/30-days occurred at the Pine Street site between July 2 and July 30, 2024. Quarterly average deposition rates were below the MAAQS at all three sites.

[7] It should be noted that the sampling procedure and analysis were conducted with quality in mind, they were not necessarily conducted in strict accordance with the specific methods outlined in the Montana standard (ARM17.8.220).

Table 6a: Dustfall Results for July 2 – July 30, 2024

Sample Collection Information

	Greeley School	Pine Street	Walnut Street	Field Blank
Start Date	07/02/24	07/02/24	07/02/24	
End Date	07/30/24	07/30/24	07/30/24	
Days of Exposure	28	28	28	
Dry Particulate Weight (g)	0.1202	0.1254	0.1846	0.0000
Dustfall (g/m²/30-days)	**7.3**	**7.6**	**11.2**	**0.0**

Trace Element Concentration in Particulate (mg/kg)

Analyte	Greeley School	Pine Street	Walnut Street	Field Blank
As	31	34	27	ND
Cd	2	3	2	ND
Cu	2,380	4,000	1,420	0.5
Pb	129	132	90	ND
Mn	581	569	511	0.4
Mo	2,990	3,900	722	0.2
Zn	543	724	413	ND

Trace Element Deposition Rate (mg/m²/30-days)

Analyte	Greeley School	Pine Street	Walnut Street	Field Blank
As	0.23	0.26	0.30	ND
Cd	0.01	0.02	0.02	ND
Cu	17.35	30.41	15.89	0.00
Pb	0.94	1.00	1.01	ND
Mn	4.23	4.33	5.72	0.00
Mo	21.79	29.65	8.08	0.00
Zn	3.96	5.50	4.62	ND

Table 6b: Dustfall Results for July 30 – August 29, 2024

Sample Collection Information

	Greeley School	Pine Street	Walnut Street	Field Blank
Start Date	07/30/24	07/30/24	07/30/24	
End Date	08/29/24	08/29/24	08/29/24	
Days of Exposure	30	30	30	
Dry Particulate Weight (g)	0.0817	0.1161	0.1235	-0.0160
Dustfall (g/m²/30-days)	**4.6**	**6.6**	**7.0**	**-0.9**

Trace Element Concentration in Particulate (mg/kg)

Analyte	Greeley School	Pine Street	Walnut Street	Field Blank
As	66	59	41	ND
Cd	8	7	5	ND
Cu	6,000	6,420	3,870	0.6
Pb	297	284	240	ND
Mn	2,160	1,700	1,630	ND
Mo	8,010	5,600	2,400	ND
Zn	1,630	1,610	1,290	ND

Trace Element Deposition Rate (mg/m²/30-days)

Analyte	Greeley School	Pine Street	Walnut Street	Field Blank
As	0.31	0.39	0.29	ND
Cd	0.04	0.05	0.03	ND
Cu	27.74	42.18	27.05	0.00
Pb	1.37	1.87	1.68	ND
Mn	9.99	11.17	11.39	ND
Mo	37.03	36.79	16.77	ND
Zn	7.54	10.58	9.02	ND

Table 6c: Dustfall Results for August 29 – September 30, 2024

Sample Collection Information

	Greeley School	Pine Street	Walnut Street	Field Blank
Start Date	08/29/24	08/29/24	08/29/24	
End Date	09/30/24	09/30/24	09/30/24	
Days of Exposure	32	32	32	
Dry Particulate Weight (g)	0.1154	0.1094	0.1054	0.0032
Dustfall (g/m²/30-days)	**6.1**	**5.8**	**5.6**	**0.2**

Trace Element Concentration in Particulate (mg/kg)

Analyte	Greeley School	Pine Street	Walnut Street	Field Blank
As	21	27	16	ND
Cd	2	3	1	ND
Cu	1,460	3,330	1,200	ND
Pb	88	110	71	ND
Mn	684	656	613	ND
Mo	3,460	4,780	959	ND
Zn	435	606	402	ND

Trace Element Deposition Rate (mg/m²/30-days)

Analyte	Greeley School	Pine Street	Walnut Street	Field Blank
As	0.13	0.16	0.09	ND
Cd	0.01	0.02	0.01	ND
Cu	8.94	19.33	6.71	ND
Pb	0.54	0.64	0.40	ND
Mn	4.19	3.81	3.43	ND
Mo	21.18	27.74	5.36	ND
Zn	2.66	3.52	2.25	ND

6.0 CALIBRATION DATA

Calibration checks of the BGI TSP samplers are performed in at least two months of each quarter. In the third month, an audit is performed by a different person using different calibration standards. Routine monthly verification checks were performed on the TSP samplers on July 18, August 20 and September 30.[8]

Table 7 summarizes the verification checks performed each month and the applicable acceptance criteria. In the event of unsatisfactory results, corrective actions are performed as specified in the rightmost column. Table 8 summarizes the results of the calibration checks performed during the third quarter, as well as any corrective actions. Detailed verification check results are shown in Appendix E. Appendix F presents certifications for flow calibration standards used during the quarter.

Table 7: Summary of Montana Resources – Pine St and Walnut St Sites Calibration/ Audit Activities and Acceptance Criteria

Activity	**Acceptance Criteria / Actions**	
TSP Sampler Calibration Checks		
Flow Verification	±4%	Multipoint recalibration if flow error exceeds ±4%
Leak Check	Investigate / correct if vacuum drop exceeds 4 cm of water in 2 minutes	
Temperature Verification	±2.0°C	Multipoint recalibration if error exceeds ±2.0°C
Pressure	±10 mmHg	Adjust calibration if error exceeds ±10 mmHg
Other		
TSP Inlet Head	Disassemble and clean	

[8] The calibration checks performed on October 11, 2024, also are shown to demonstrate data validity through the end of the quarter.

Table 8: Summary of Quarter 3, 2024 Calibration Verification Results

Date	Calibration Check	Results	Limits	Actions
07/18/2024	BGI TSP Flow Verification (A)	-1.0%	±4%	
Pine Street	BGI TSP Flow Verification (B)	+1.0%	±4%	
	BGI Ambient Temperature	-0.8°C	±2.0°C	
	BGI Filter Temperature	+0.7°C	±2.0°C	
	BGI Ambient Pressure	+0.1 mm Hg	±10 mmHg	
	BGI Leak Test (pressure drop)	0 cm H_2O	≤4 cm H_20	
07/18/2024	BGI TSP Flow Verification (A)	-1.2%	±4%	
Walnut Street	BGI TSP Flow Verification (B)	+1.3%	±4%	
	BGI Ambient Temperature	-1.2°C	±2.0°C	
	BGI Filter Temperature	+0.4°C	±2.0°C	
	BGI Ambient Pressure	+1.1 mm Hg	±10 mmHg	
	BGI Leak Test (pressure drop)	1 cm H_2O	≤4 cm H_20	
08/20/2024	BGI TSP Flow Verification (A)	-0.7%	±4%	
Pine Street	BGI TSP Flow Verification (B)	+0.7%	±4%	
	BGI Ambient Temperature	-0.6°C	±2.0°C	
	BGI Filter Temperature	+0.5°C	±2.0°C	
	BGI Ambient Pressure	+0.1 mm Hg	±10 mmHg	
	BGI Leak Test (pressure drop)	1 cm H_2O	≤4 cm H_20	
08/20/2024	BGI TSP Flow Verification (A)	-0.5%	±4%	
Walnut Street	BGI TSP Flow Verification (B)	+0.5%	±4%	
	BGI Ambient Temperature	-1.3°C	±2.0°C	
	BGI Filter Temperature	-0.6°C	±2.0°C	
	BGI Ambient Pressure	+1.1 mm Hg	±10 mmHg	
	BGI Leak Test (pressure drop)	1 cm H_2O	≤4 cm H_20	
09/30/2024	BGI TSP Flow Verification (A)	+2.5%	±4%	C
Pine Street	BGI TSP Flow Verification (B)	-2.4%	±4%	C
	BGI Ambient Temperature	-0.1°C	±2.0°C	
	BGI Filter Temperature	-1.0°C	±2.0°C	
	BGI Ambient Pressure	+0.6 mm Hg	±10 mmHg	
	BGI Leak Test (pressure drop)	0 cm H_2O	≤4 cm H_20	
09/30/2024	BGI TSP Flow Verification (A)	+0.9%	±4%	
Walnut Street	BGI TSP Flow Verification (B)	-0.9%	±4%	
	BGI Ambient Temperature	-0.4°C	±2.0°C	
	BGI Filter Temperature	+0.3°C	±2.0°C	
	BGI Ambient Pressure	+0.6 mm Hg	±10 mmHg	
	BGI Leak Test (pressure drop)	1 cm H_2O	≤4 cm H_20	
10/11/2024	BGI TSP Flow Verification (A)	-1.7%	±4%	
Pine Street	BGI TSP Flow Verification (B)	+1.7%	±4%	
	BGI Ambient Temperature	-0.6°C	±2.0°C	
	BGI Filter Temperature	+0.8°C	±2.0°C	
	BGI Ambient Pressure	+0.1 mm Hg	±10 mmHg	
	BGI Leak Test (pressure drop)	0 cm H_2O	≤4 cm H_20	

Date	Calibration Check	Results	Limits	Actions
10/11/2024	BGI TSP Flow Verification (A)	+0.3%	±4%	
Walnut Street	BGI TSP Flow Verification (B)	-0.3%	±4%	
	BGI Ambient Temperature	-0.6°C	±2.0°C	
	BGI Filter Temperature	+0.4°C	±2.0°C	
	BGI Ambient Pressure	+1.6 mm Hg	±10 mmHg	
	BGI Leak Test (pressure drop)	2 cm H_2O	≤4 cm H_20	

Codes:
A = Difference of reported flow from reference standard flow.
B = Difference of reference standard flow from design flow of 16.7 LPM.
C = Performed multipoint flow calibration following performance audit. New operating flow at 16.67 LPM.

7.0 QUARTERLY AUDIT/CALIBRATION RESULTS

An audit is performed once in each full calendar quarter. The checks and acceptance criteria are identical to those for monthly calibrations (see Table 7). The primary difference is that the audits are performed by a different person, using different calibration standards. Calibration adjustments then are made as necessary, based on the as-found audit results. The third quarter audit was performed on September 30, 2024, at both sites. Results for both samplers were satisfactory as shown in Table 9. However, a multipoint flow calibration was performed on the Pine Street sampler following the audit.

Table 9: Quarter 3, 2024 Audit Results

BGI PQ200 ~~PM10 /~~ TSP Sampler – Performance Audit			
Date: 09/30/2024	Time: 1516-1528	Sampler Serial Number: 90133 (Pine)	
Performed By: Daniel Bitz		Observer: Steve Heck	
Ref Standard: Swift 25.0 SN D16202		Certification Date: 07/15/2024	
Barometric Pressure Sensor Verification			
Reading (mm Hg)	Sampler (a)	Audit (b)	Difference (a - b) (must be ≤ ± 10)
Ambient Pressure	630	839.9 mb = 630.0 mm	0.0
Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Audit (b)	Difference (a - b) (must be ≤ ± 2ºC)
Ambient Temperature	13.9 C	14.1 C	-0.2
Filter Temperature	17.0 C	16.7 C	+0.3
Leak Check			
Vacuum Readings (cm H2O)	Start 140	End 140	Pass ~~Fail~~
Flow Rate Verification			
Reading (liters per minute)	Sampler (a)	Audit (b)	% Difference 100*(a – b)/b (must be ≤ ± 4%)
Operating flow rate check	16.7	16.12	+3.6%
Reading (liters per minute)	Audit (b)	Design Flow Rate Standard (c)	% Difference 100*(b–16.7)/16.7 (must be ≤ ± 5%)
Design flow rate calculation	16.12	16.7	-3.5%
Comments: Performed multipoint flow calibration after audit. Swift 25.0 flow read 13.90 SLPM – converted to 16.12 ALPM			

BGI PQ200 ~~PM10 /~~ TSP Sampler – Performance Audit			
Date: 09/30/2024	Time: 1610-1625	Sampler Serial Number: 90129 Walnut	
Performed By: Daniel Bitz		Observer: Steve Heck	
Ref Std: Swift 25.0 SN D16202		Certification Date: 07/15/2024	
Barometric Pressure Sensor Verification			
Reading (mm Hg)	Sampler (a)	Audit (b)	Difference (a - b) (must be ≤ ± 10)
Ambient Pressure	631	841.0 mb = 630.8 mm	+0.2
Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Audit (b)	Difference (a - b) (must be ≤ ± 2ºC)
Ambient Temperature	13.9 C	14.3 C	-0.4
Filter Temperature	15.9 C	15.2 C	+0.7
Leak Check			
Vacuum Readings (cm H20)	Start 138	End 137	Pass ~~Fail~~
Flow Rate Verification			
Reading (liters per minute)	Sampler (a)	Audit (b)	% Difference 100*(a – b)/b (must be ≤ ± 4%)
Operating flow rate check	16.7	16.37	+2.0%
Reading (liters per minute)	Audit (b)	Design Flow Rate Standard (c)	% Difference 100*(b–16.7)/16.7 (must be ≤ ± 5%)
Design flow rate calculation	16.37	16.7	-2.0%
Swift flow read 14.12 SLPM – converted to 16.37 SLPM			

8.0 DATA COMPLETENESS

Data recovery statistics for the particulate filter samples are presented in Table 10. The typical quarterly data recovery goal for TSP filter samples is ≥80 percent for both the gravimetric and trace element analyses. The actual data recovery was 100 percent for the TSP gravimetric and trace element analyses at both the Pine St and Walnut St sites.

Dustfall sampling involves no active instrumentation; it merely requires exposure of a 15-cm diameter open container for a period of approximately 30-days. It would therefore be highly unusual for any scheduled sample to not be collected and analyzed. Three rounds of ~30-day sampling at the Greeley School, Pine Street and Walnut Street sites were possible during the third quarter of 2024 – for a total of nine possible samples. All nine samples were collected as scheduled, giving a data recovery of 100 percent.

Table 10: Quarterly Data Completeness Summary – Filter Analysis Data

Montana Resources LLP			
Parameter	Readings Possible	Valid Results	Percent Recovery
July 2024			
TSP – Pine St / Gravimetric	5	5	100.0
TSP – Pine St / Trace Elements	35	35	100.0
TSP – Walnut St / Gravimetric	5	5	100.0
TSP – Walnut St / Trace Elements	35	35	100.0
Total	80	80	100.0
August 2024			
TSP – Pine St / Gravimetric	5	5	100.0
TSP – Pine St / Trace Elements	35	35	100.0
TSP – Walnut St / Gravimetric	5	5	100.0
TSP – Walnut St / Trace Elements	35	35	100.0
Total	80	80	100.0
September 2024			
TSP – Pine St / Gravimetric	5	5	100.0
TSP – Pine St / Trace Elements	35	35	100.0
TSP – Walnut St / Gravimetric	5	5	100.0
TSP – Walnut St / Trace Elements	35	35	100.0
Total	80	80	100.0
Quarter 3, 2024			
TSP – Pine St / Gravimetric	15	15	100.0
TSP – Pine St / Trace Elements	105	105	100.0
TSP – Walnut St / Gravimetric	15	15	100.0
TSP – Walnut St / Trace Elements	105	105	100.0
Total	240	240	100.0

9.0 COMPARISON TO AMBIENT AIR QUALITY STANDARDS

This study is not intended to determine compliance with the NAAQS[9] or the Montana ambient air quality standards[10] (MAAQS). Nonetheless, a generalized comparison is possible. The filter-based TSP data collected indicate ambient TSP concentrations well below the historical 24-hour standard of 260 μg/m^3 and the historical annual geometric average standard of 75 μg/m^3. ***Note that all TSP standards were superseded by PM_{10} standards in 1987.***[11]

Similarly, the lead concentrations analyzed from the exposed TSP filters indicate quarterly average airborne concentrations well below the 0.15 μg/m^3 ambient NAAQS based on a 3-month average of the 24-hour samples. The MAAQS is 1.5 μg/m^3 and is based on a 90-day rolling average of 24-hour samples. The TSP samples presented herein were collected for 24-hour periods, at a much lower sampling rate (16.7 liters per minute) compared to the standard method (≥40 standard cubic feet per minute). Nonetheless, the results indicate quarterly average ambient lead concentrations below the MAAQS and NAAQS. Table 11 summarizes these comparisons through the third quarter of 2024.

Additionally, the analyses presented in Section 4.0 indicate that average airborne concentrations of the other six trace elements were below the suggested guidelines presented in Table 5.

Finally, the MAAQS for Dustfall specifies a particulate deposition rate not to exceed 10 g/m^2/30-days. One Dustfall sample collected during the third quarter slightly exceeded this value; the quarterly averages at all three sites were well below that value. There is no NAAQS for Dustfall.

[9] 40 CFR 50 *et seq.*
[10] ARM 17.8.201 *et. seq.*
[11] 52 FR 24634, July 1, 1987

Table 11: Summary of Airborne Concentration vs. NAAQS

Analyte	Location	Observed Concentration (µg/m³)	Averaging Period	Ambient Standard (µg/m³)	Authority
TSP	Pine St	93[1]	24-hour (max)	260[3]	NAAQS
	Walnut St	94[1]			
TSP	Pine St	52	Annual Average	75[3]	NAAQS
	Walnut St	50			
Pb	Pine St	0.007[2]	90-day	1.50	MAAQS
	Walnut St	0.005[2]	3-month	0.15	NAAQS
Analyte	**Location**	**Max. Observed Deposition Rate (g/m²/30-days)**	**Averaging Period**	**Ambient Standard (g/m²/30-days)**	**Authority**
Dustfall	Greeley Sch.	7.3	30-days	10	MAAQS
	Pine St	7.6			
	Walnut St	11.2			

[1] This value was the maximum 24-hour value from the filter-based TSP sampler.

[2] This value was the quarterly average from the filter-based TSP sampler. Non-detect results were set to ½ of the applicable detection limit when calculating the average.

[3] The historical TSP standard shown for comparison purposes is no longer in effect. NAAQS standard for TSP was based on geometric mean and MAAQS on arithmetic average. Values shown represent arithmetic averages for monitoring period of Quarter 3, 2024, based on gravimetric filter analysis.

APPENDIX A: GRAVIMETRIC ANALYSIS DATA

Quarter 3, 2024 Filter Analysis Results - TSP - Pine St

FILTER	TYPE	DATE	AVG FLOW LPM	HOURS	SAMPLE VOLUME (M3)	PRE WEIGHT (MG)	PRE-WEIGHT DATE	POST WEIGHT (MG)	POST-WEIGHT DATE	PART MASS (MG)	CONC (UG/M3)
C1812156	TSP	07/05	16.70	24:00	24.05	119.464	27-Jun	120.606	14-Aug	1.142	47.5
C1812159	TSP	07/11	16.70	24:00	24.05	118.601	27-Jun	120.091	14-Aug	1.490	62.0
C1812161	TSP	07/17	16.70	24:00	24.05	118.075	27-Jun	119.434	14-Aug	1.359	56.5
C1812164	TSP	07/23	16.70	24:00	24.05	121.516	27-Jun	122.999	14-Aug	1.483	61.7
C1812167	TSP	07/29	16.70	24:00	24.05	118.995	24-Jul	121.228	13-Sep	2.233	92.8
C1812169	TSP	08/04	16.70	24:00	24.05	120.335	24-Jul	122.050	13-Sep	1.715	71.3
C1812171	TSP	08/10	16.70	24:00	24.05	120.305	24-Jul	121.347	13-Sep	1.042	43.3
C1812173	TSP	08/16	16.70	24:00	24.05	119.582	24-Jul	120.726	13-Sep	1.144	47.6
C1812186	TSP	08/22	16.70	24:00	24.05	121.075	14-Aug	122.157	24-Sep	1.082	45.0
C1812188	TSP	08/28	16.70	24:00	24.05	115.850	14-Aug	116.405	24-Sep	0.555	23.1
C1812190	TSP	09/03	16.70	24:00	24.05	116.823	14-Aug	117.748	24-Sep	0.925	38.5
C1812193	TSP	09/09	16.70	24:00	24.05	116.250	14-Aug	118.415	24-Sep	2.165	90.0
C1103507	TSP	09/15	16.70	24:00	24.05	118.905	9-Sep	119.844	28-Oct	0.939	39.0
C1103506	TSP	09/21	16.70	24:00	24.05	118.426	9-Sep	119.029	28-Oct	0.603	25.1
C1103511	TSP	09/27	16.70	24:00	24.05	120.486	9-Sep	121.318	28-Oct	0.832	34.6

Quarter 3, 2024 Filter Analysis Results - TSP - Walnut St

FILTER	TYPE	DATE	AVG FLOW LPM	HOURS	SAMPLE VOLUME (M3)	PRE WEIGHT (MG)	PRE-WEIGHT DATE	POST WEIGHT (MG)	POST-WEIGHT DATE	PART MASS (MG)	CONC (UG/M3)
C1812158	TSP	07/05	16.70	23:40	23.71	118.002	27-Jun	119.069	14-Aug	1.067	45.0
C1812160	TSP	07/11	16.70	23:40	23.71	117.143	27-Jun	118.604	14-Aug	1.461	61.6
C1812163	TSP	07/17	16.70	23:40	23.71	120.287	27-Jun	121.539	14-Aug	1.252	52.8
C1812165	TSP	07/23	16.70	23:40	23.71	118.916	27-Jun	120.041	14-Aug	1.125	47.4
C1812168	TSP	07/29	16.70	23:40	23.71	120.645	24-Jul	122.607	13-Sep	1.962	82.7
C1812170	TSP	08/04	16.70	23:40	23.71	121.634	24-Jul	123.868	13-Sep	2.234	94.2
C1812172	TSP	08/10	16.70	23:40	23.71	121.732	24-Jul	122.720	13-Sep	0.988	41.7
C1812174	TSP	08/16	16.70	23:40	23.71	120.267	24-Jul	121.497	13-Sep	1.230	51.9
C1812187	TSP	08/22	16.70	23:40	23.71	114.011	14-Aug	114.832	24-Sep	0.821	34.6
C1812189	TSP	08/28	16.70	23:40	23.71	117.725	14-Aug	118.226	24-Sep	0.501	21.1
C1812191	TSP	09/03	16.70	23:40	23.71	113.807	14-Aug	114.619	24-Sep	0.812	34.2
C1812194	TSP	09/09	16.70	23:40	23.71	117.499	14-Aug	119.640	24-Sep	2.141	90.3
C1103508	TSP	09/15	16.70	23:40	23.71	119.328	9-Sep	120.047	28-Oct	0.719	30.3
C1103509	TSP	09/21	16.70	23:40	23.71	120.891	9-Sep	121.594	28-Oct	0.703	29.6
C1103513	TSP	09/27	16.70	23:40	23.71	121.470	9-Sep	122.121	28-Oct	0.651	27.5

Quarter 3, 2024 Filter Analysis Results - Pine & Walnut - Blanks

FILTER	TYPE	DATE*	PRE WEIGHT (MG)	PRE-WEIGHT DATE	POST WEIGHT (MG)	POST-WEIGHT DATE	PART MASS (MG)
C1812157	Lab	20-Aug	116.739	27-Jun	116.741	14-Aug	0.002
C1812162	Field	12-Jul	119.613	27-Jun	119.700	14-Aug	0.087
C1812166	Lab	2-Oct	121.195	24-Jul	121.198	13-Sep	0.003
C1812175	Field	20-Aug	122.560	24-Jul	122.574	13-Sep	0.014
C1812192	Lab	4-Oct	116.711	14-Aug	116.713	24-Sep	0.002
C1812195	Field	9-Sep	116.585	14-Aug	116.645	24-Sep	0.060
C1103510	Field	25-Sep	121.408	9-Sep	121.533	28-Oct	0.125
C1103512	Lab	11-Nov	121.172	9-Sep	121.172	28-Oct	0.000

*Denotes collection date for Field Blank, analysis date for Laboratory Blanks

Results invalid - filter severely damaged adjusting cartridge to pass leak test

APPENDIX B: LABORATORY ANALYSIS REPORTS - TSP

ANALYTICAL SUMMARY REPORT

August 27, 2024

Bison Engineering
3143 E Lyndale Ave
Helena, MT 59601-6401

Work Order: B24081657 Quote ID: B4795

Project Name: Montana Resources/Greely School PW

Energy Laboratories Inc Billings MT received the following 10 samples for Bison Engineering on 8/15/2024 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B24081657-001	Particulate Filter C1812156 TSP Pine St Composite	07/05/24 0:00	08/15/24	Air	Metals on air filter by ICP/ICPMS Nitric acid-extraction by 40CFR50G
B24081657-002	Particulate Filter C1812157 Lab Blank	06/27/24 15:10	08/15/24	Air	Same As Above
B24081657-003	Particulate Filter C1812158 TSP Walnut St Composite	07/05/24 0:00	08/15/24	Air	Same As Above
B24081657-004	Particulate Filter C1812159 TSP Pine St Composite	07/11/24 0:00	08/15/24	Air	Same As Above
B24081657-005	Particulate Filter C1812160 TSP Walnut St Composite	07/11/24 0:00	08/15/24	Air	Same As Above
B24081657-006	Particulate Filter C1812161 TSP Pine St	07/17/24 10:36	08/15/24	Air	Same As Above
B24081657-007	Particulate Filter C1812162 Field Blank Composite	07/12/24 0:00	08/15/24	Air	Same As Above
B24081657-008	Particulate Filter C1812163 TSP Walnut St Composite	07/17/24 0:00	08/15/24	Air	Same As Above
B24081657-009	Particulate Filter C1812164 TSP Pine St Composite	07/23/24 0:00	08/15/24	Air	Same As Above
B24081657-010	Particulate Filter C1812165 TSP Walnut St Composite	07/23/24 0:00	08/15/24	Air	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 So. 27th Street, Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

Energy Laboratories, Inc. verifies the reported results for the analysis has been technically reviewed and approved for release.

If you have any questions regarding these test results, please contact your Project Manager.

CLIENT: Bison Engineering
Project: Montana Resources/Greely School PW
Work Order: B24081657

Report Date: 08/27/24

CASE NARRATIVE

Per client request, results are based on the final concentration using 25 mL of extraction solution per filter.

All "J" qualified analyte concentrations are below the laboratory minimum recommended Reporting Limit (RL) and above the lowest method detection limit (MDL)/Limit of Detection (LOD). Inorganic analytes reported with "J" qualifiers should be verified against the corresponding method blank and continuing calibration blanks. Inorganic "J" quantitations near the MDL/LOD may be suspect due to possible method background levels, sample matrix effects, and/or daily variability in instrument signal-to-noise levels.

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate Filter C1812156 TSP Pine St Composite
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B24081657-001
Collection Date: 07/05/24
DateReceived: 08/15/24
Report Date: 08/27/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	08/20/24 21:27 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A : 49		192352
Cadmium	ND	ug/filter		1.0	0.0044	E200.8	08/21/24 23:37 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A : 312		192352
Copper	4.3	ug/filter		1.0	0.16	E200.8	08/20/24 21:27 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A : 49		192352
Lead	0.15	ug/filter	J	1.0	0.042	E200.8	08/21/24 23:37 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A : 312		192352
Manganese	0.34	ug/filter	J	1.0	0.18	E200.8	08/21/24 23:37 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A : 312		192352
Molybdenum	1.4	ug/filter		1.0	0.0059	E200.8	08/20/24 21:27 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A : 49		192352
Zinc	1.2	ug/filter		1.0	0.30	E200.8	08/20/24 21:27 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A : 49		192352

Report Definitions:
RL - Analyte Reporting Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
J - Estimated value - analyte was present but less than the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate Filter C1812157 Lab Blank
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B24081657-002
Collection Date: 06/27/24 15:10
DateReceived: 08/15/24
Report Date: 08/27/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	08/20/24 21:33 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	50	192352
Cadmium	ND	ug/filter		1.0	0.0044	E200.8	08/20/24 21:33 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	50	192352
Copper	ND	ug/filter		1.0	0.16	E200.8	08/20/24 21:33 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	50	192352
Lead	ND	ug/filter		1.0	0.042	E200.8	08/20/24 21:33 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	50	192352
Manganese	ND	ug/filter		1.0	0.18	E200.8	08/20/24 21:33 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	50	192352
Molybdenum	ND	ug/filter		1.0	0.0059	E200.8	08/21/24 23:43 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	313	192352
Zinc	ND	ug/filter		1.0	0.30	E200.8	08/20/24 21:33 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	50	192352

Report Definitions: RL - Analyte Reporting Limit MCL - Maximum Contaminant Level ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate Filter C1812158 TSP Walnut St Composite
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B24081657-003
Collection Date: 07/05/24
DateReceived: 08/15/24
Report Date: 08/27/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	08/20/24 21:39 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A : 51		192352
Cadmium	ND	ug/filter		1.0	0.0044	E200.8	08/20/24 21:39 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A : 51		192352
Copper	1.7	ug/filter		1.0	0.16	E200.8	08/20/24 21:39 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A : 51		192352
Lead	0.11	ug/filter	J	1.0	0.042	E200.8	08/21/24 23:49 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A : 314		192352
Manganese	0.41	ug/filter	J	1.0	0.18	E200.8	08/21/24 23:49 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A : 314		192352
Molybdenum	0.055	ug/filter	J	1.0	0.0059	E200.8	08/21/24 23:49 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A : 314		192352
Zinc	0.53	ug/filter	J	1.0	0.30	E200.8	08/21/24 23:49 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A : 314		192352

Report Definitions:
RL - Analyte Reporting Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
J - Estimated value - analyte was present but less than the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate Filter C1812159 TSP Pine St Composite
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B24081657-004
Collection Date: 07/11/24
DateReceived: 08/15/24
Report Date: 08/27/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	08/21/24 23:55 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	315	192352
Cadmium	0.0077	ug/filter	J	1.0	0.0044	E200.8	08/21/24 23:55 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	315	192352
Copper	6.6	ug/filter		1.0	0.16	E200.8	08/20/24 21:45 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	52	192352
Lead	0.33	ug/filter	J	1.0	0.042	E200.8	08/21/24 23:55 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	315	192352
Manganese	0.64	ug/filter	J	1.0	0.18	E200.8	08/21/24 23:55 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	315	192352
Molybdenum	0.31	ug/filter	J	1.0	0.0059	E200.8	08/21/24 23:55 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	315	192352
Zinc	1.8	ug/filter		1.0	0.30	E200.8	08/20/24 21:45 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	52	192352

Report Definitions:
RL - Analyte Reporting Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
J - Estimated value - analyte was present but less than the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate Filter C1812160 TSP Walnut St Composite
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B24081657-005
Collection Date: 07/11/24
DateReceived: 08/15/24
Report Date: 08/27/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	08/20/24 21:51 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	53	192352
Cadmium	0.0048	ug/filter	J	1.0	0.0044	E200.8	08/22/24 00:01 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	316	192352
Copper	1.7	ug/filter		1.0	0.16	E200.8	08/20/24 21:51 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	53	192352
Lead	0.17	ug/filter	J	1.0	0.042	E200.8	08/22/24 00:01 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	316	192352
Manganese	0.59	ug/filter	J	1.0	0.25	E200.8	08/22/24 00:01 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	316	192352
Molybdenum	0.098	ug/filter	J	1.0	0.0059	E200.8	08/22/24 00:01 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	316	192352
Zinc	ND	ug/filter		1.0	0.79	E200.8	08/22/24 00:01 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	316	192352

Report Definitions:
RL - Analyte Reporting Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
J - Estimated value - analyte was present but less than the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate Filter C1812161 TSP Pine St
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B24081657-006
Collection Date: 07/17/24 10:36
DateReceived: 08/15/24
Report Date: 08/27/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	08/20/24 21:57 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A : 54		192352
Cadmium	ND	ug/filter		1.0	0.0044	E200.8	08/22/24 00:07 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A : 317		192352
Copper	4.6	ug/filter		1.0	0.16	E200.8	08/20/24 21:57 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A : 54		192352
Lead	0.25	ug/filter	J	1.0	0.042	E200.8	08/22/24 00:07 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A : 317		192352
Manganese	0.51	ug/filter	J	1.0	0.18	E200.8	08/22/24 00:07 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A : 317		192352
Molybdenum	0.26	ug/filter	J	1.0	0.0059	E200.8	08/22/24 00:07 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A : 317		192352
Zinc	1.3	ug/filter		1.0	0.30	E200.8	08/20/24 21:57 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A : 54		192352

Report Definitions:
RL - Analyte Reporting Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
J - Estimated value - analyte was present but less than the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate Filter C1812162 Field Blank Composite
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B24081657-007
Collection Date: 07/12/24
DateReceived: 08/15/24
Report Date: 08/27/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	08/20/24 22:03 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	55	192352
Cadmium	ND	ug/filter		1.0	0.0044	E200.8	08/20/24 22:03 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	55	192352
Copper	0.18	ug/filter	J	1.0	0.16	E200.8	08/22/24 00:13 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	318	192352
Lead	ND	ug/filter		1.0	0.042	E200.8	08/20/24 22:03 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	55	192352
Manganese	ND	ug/filter		1.0	0.18	E200.8	08/20/24 22:03 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	55	192352
Molybdenum	0.070	ug/filter	J	1.0	0.0059	E200.8	08/22/24 00:13 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	318	192352
Zinc	ND	ug/filter		1.0	0.30	E200.8	08/20/24 22:03 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	55	192352

Report Definitions:
RL - Analyte Reporting Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
J - Estimated value - analyte was present but less than the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate Filter C1812163 TSP Walnut St Composite
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B24081657-008
Collection Date: 07/17/24
DateReceived: 08/15/24
Report Date: 08/27/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	08/20/24 22:21 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	58	192352
Cadmium	ND	ug/filter		1.0	0.0044	E200.8	08/20/24 22:21 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	58	192352
Copper	1.2	ug/filter		1.0	0.16	E200.8	08/20/24 22:21 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	58	192352
Lead	0.13	ug/filter	J	1.0	0.042	E200.8	08/22/24 00:31 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	321	192352
Manganese	0.51	ug/filter	J	1.0	0.18	E200.8	08/22/24 00:31 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	321	192352
Molybdenum	0.057	ug/filter	J	1.0	0.0059	E200.8	08/22/24 00:31 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	321	192352
Zinc	0.64	ug/filter	J	1.0	0.30	E200.8	08/22/24 00:31 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	321	192352

Report Definitions:
RL - Analyte Reporting Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
J - Estimated value - analyte was present but less than the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate Filter C1812164 TSP Pine St Composite
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B24081657-009
Collection Date: 07/23/24
DateReceived: 08/15/24
Report Date: 08/27/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	08/22/24 00:37 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	322	192352
Cadmium	0.0076	ug/filter	J	1.0	0.0044	E200.8	08/22/24 00:37 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	322	192352
Copper	6.8	ug/filter		1.0	0.16	E200.8	08/20/24 22:27 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	59	192352
Lead	0.36	ug/filter	J	1.0	0.042	E200.8	08/22/24 00:37 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	322	192352
Manganese	0.55	ug/filter	J	1.0	0.18	E200.8	08/22/24 00:37 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	322	192352
Molybdenum	0.39	ug/filter	J	1.0	0.0059	E200.8	08/22/24 00:37 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	322	192352
Zinc	1.9	ug/filter		1.0	0.30	E200.8	08/20/24 22:27 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	59	192352

Report Definitions:
RL - Analyte Reporting Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
J - Estimated value - analyte was present but less than the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate Filter C1812165 TSP Walnut St Composite
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B24081657-010
Collection Date: 07/23/24
DateReceived: 08/15/24
Report Date: 08/27/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	08/20/24 22:33 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	60	192352
Cadmium	ND	ug/filter		1.0	0.0044	E200.8	08/20/24 22:33 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	60	192352
Copper	0.73	ug/filter	J	1.0	0.16	E200.8	08/22/24 00:43 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	323	192352
Lead	0.13	ug/filter	J	1.0	0.042	E200.8	08/22/24 00:43 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	323	192352
Manganese	0.33	ug/filter	J	1.0	0.18	E200.8	08/22/24 00:43 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	323	192352
Molybdenum	0.058	ug/filter	J	1.0	0.0059	E200.8	08/22/24 00:43 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	323	192352
Zinc	0.51	ug/filter	J	1.0	0.30	E200.8	08/22/24 00:43 / jks	08/19/24 11:10	40CFR50	ICPMS208-B_240820A	323	192352

Report Definitions:
RL - Analyte Reporting Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
J - Estimated value - analyte was present but less than the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Bison Engineering **Work Order:** B24081657 **Report Date:** 08/27/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **E200.8**									Analytical Run: ICPMS208-B_240820A	
Lab ID: **QCS**	7	Initial Calibration Verification Standard								08/20/24 18:04
Arsenic		0.0503	mg/L	0.0050	101	90	110			
Cadmium		0.0250	mg/L	0.0010	100	90	110			
Copper		0.0512	mg/L	0.010	102	90	110			
Lead		0.0489	mg/L	0.0010	98	90	110			
Manganese		0.254	mg/L	0.0050	101	90	110			
Molybdenum		0.0482	mg/L	0.0050	96	90	110			
Zinc		0.0520	mg/L	0.0050	104	90	110			
Lab ID: **CCV**	7	Continuing Calibration Verification Standard								08/20/24 20:57
Arsenic		0.0495	mg/L	0.0050	99	90	110			
Cadmium		0.0499	mg/L	0.0010	100	90	110			
Copper		0.0505	mg/L	0.010	101	90	110			
Lead		0.0492	mg/L	0.0010	98	90	110			
Manganese		0.0492	mg/L	0.0050	98	90	110			
Molybdenum		0.0490	mg/L	0.0050	98	90	110			
Zinc		0.0511	mg/L	0.0050	102	90	110			
Lab ID: **CCV**	7	Continuing Calibration Verification Standard								08/20/24 22:09
Arsenic		0.0499	mg/L	0.0050	100	90	110			
Cadmium		0.0473	mg/L	0.0010	95	90	110			
Copper		0.0510	mg/L	0.010	102	90	110			
Lead		0.0474	mg/L	0.0010	95	90	110			
Manganese		0.0491	mg/L	0.0050	98	90	110			
Molybdenum		0.0465	mg/L	0.0050	93	90	110			
Zinc		0.0502	mg/L	0.0050	100	90	110			
Lab ID: **QCS**	7	Initial Calibration Verification Standard								08/21/24 16:21
Arsenic		0.0510	mg/L	0.0050	102	90	110			
Cadmium		0.0253	mg/L	0.0010	101	90	110			
Copper		0.0520	mg/L	0.010	104	90	110			
Lead		0.0507	mg/L	0.0010	101	90	110			
Manganese		0.256	mg/L	0.0050	102	90	110			
Molybdenum		0.0493	mg/L	0.0050	99	90	110			
Zinc		0.0530	mg/L	0.0050	106	90	110			
Lab ID: **CCV**	7	Continuing Calibration Verification Standard								08/21/24 23:07
Arsenic		0.0474	mg/L	0.0050	95	90	110			
Cadmium		0.0485	mg/L	0.0010	97	90	110			
Copper		0.0487	mg/L	0.010	97	90	110			
Lead		0.0488	mg/L	0.0010	98	90	110			
Manganese		0.0468	mg/L	0.0050	94	90	110			
Molybdenum		0.0480	mg/L	0.0050	96	90	110			
Zinc		0.0493	mg/L	0.0050	99	90	110			
Lab ID: **CCV**	7	Continuing Calibration Verification Standard								08/22/24 00:19
Arsenic		0.0470	mg/L	0.0050	94	90	110			
Cadmium		0.0484	mg/L	0.0010	97	90	110			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Bison Engineering **Work Order:** B24081657 **Report Date:** 08/27/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Analytical Run: ICPMS208-B_240820A
Lab ID: CCV	7	Continuing Calibration Verification Standard								08/22/24 00:19
Copper		0.0483	mg/L	0.010	97	90	110			
Lead		0.0492	mg/L	0.0010	98	90	110			
Manganese		0.0459	mg/L	0.0050	92	90	110			
Molybdenum		0.0470	mg/L	0.0050	94	90	110			
Zinc		0.0492	mg/L	0.0050	98	90	110			
Method: E200.8										Batch: 192352
Lab ID: MB-192352	7	Method Blank				Run: ICPMS208-B_240820A				08/20/24 19:51
Arsenic		ND	ug/filter	0.06						
Cadmium		ND	ug/filter	0.004						
Copper		ND	ug/filter	0.2						
Lead		ND	ug/filter	0.04						
Manganese		ND	ug/filter	0.2						
Molybdenum		ND	ug/filter	0.006						
Zinc		ND	ug/filter	0.3						
Lab ID: LCS-192352	7	Laboratory Control Sample				Run: ICPMS208-B_240820A				08/20/24 19:57
Arsenic		101	ug/filter	1.0	101	85	115			
Cadmium		50.2	ug/filter	1.0	100	85	115			
Copper		106	ug/filter	5.0	106	85	115			
Lead		97.8	ug/filter	1.0	98	85	115			
Manganese		506	ug/filter	5.0	101	85	115			
Molybdenum		98.1	ug/filter	1.0	98	85	115			
Zinc		111	ug/filter	5.0	111	85	115			
Lab ID: LCSD-192352	7	Laboratory Control Sample Duplicate				Run: ICPMS208-B_240820A				08/20/24 20:03
Arsenic		105	ug/filter	1.0	105	85	115			
Cadmium		52.1	ug/filter	1.0	104	85	115			
Copper		108	ug/filter	5.0	108	85	115			
Lead		103	ug/filter	1.0	103	85	115			
Manganese		526	ug/filter	5.0	105	85	115			
Molybdenum		101	ug/filter	1.0	101	85	115			
Zinc		111	ug/filter	5.0	111	85	115			
Lab ID: MB-192352	7	Method Blank				Run: ICPMS208-B_240820A				08/21/24 22:19
Arsenic		ND	ug/filter	0.06						
Cadmium		ND	ug/filter	0.004						
Copper		ND	ug/filter	0.2						
Lead		ND	ug/filter	0.04						
Manganese		ND	ug/filter	0.2						
Molybdenum		ND	ug/filter	0.006						
Zinc		ND	ug/filter	0.3						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

Work Order Receipt Checklist

Bison Engineering

B24081657

Login completed by:	Gina McCartney	Date Received:	8/15/2024
Reviewed by:	cindy	Received by:	KLP
Reviewed Date:	8/22/2024	Carrier name:	Hand Deliver

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	2.9°C Blue Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

Trip Blanks and/or Blind Duplicate samples are assigned the earliest collection time for the associated requested analysis in order to evaluate the holding time unless specifically indicated.

Contact and Corrective Action Comments:

None

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Trust our People. Trust our Data.

Chain of Custody & Analytical Request Record

www.energylab.com

(2)

Account Information *(Billing information)*

Company/Name	Bison Engineering, Inc.
Contact	Shelley Argott-Brown
Phone	(406) 442-5768
Mailing Address	3143 E Lyndale Avenue
City, State, Zip	Helena MT, 59601
Email	sbrown-argott@bison-eng.com
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☐Email
Purchase Order	MTR223018
Quote	
Bottle Order	

Report Information *(if different than Account Information)*

Company/Name	Bison Engineering, Inc.
Contact	Don Milmine
Phone	(406) 208-4833
Mailing Address	2751 Enterprise Avenue Suite 2
City, State, Zip	Billings, MT 59102
Email	dmilmine@bison-eng.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats:
☐ LEVEL IV ☐ NELAC ☐ EDD/EDT *(contact laboratory)* ☐ Other_____

Comments

Analyze per history

Project Information

Project Name, PWSID, Permit, etc.	Momtana Resources/Greely School PW
Sampler Name	Sampler Phone
Sample Origin State	Montana
EPA/State Compliance	☒ Yes ☐ No

URANIUM MINING CLIENTS MUST indicate sample type.
☐ NOT Source or Byproduct Material
☐ Source/Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☐ 11e.(2) Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Other
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

	Sample Identification *(Name, Location, Interval, etc.)*	Collection Date	Collection Time	Number of Containers	Matrix *(See Codes Above)*	Arsenic	Cadmium	Copper	Lead	Manganese	Molybdenum	Zinc			See Attached	RUSH TAT	ELI LAB ID *Laboratory Use Only*
1	Particulate filter C1812156 TSP Pine St	7/5/24	24 hr composite	1	on Teflon filter	X	X	X	X	X	X	X					B2408165-7
2	Particulate filter C1812157 Lab Blank	6/27/24	1510	1	on Teflon filter	X	X	X	X	X	X	X					
3	Particulate filter C1812158 TSP Walnut St	7/5/24	24 hr composite	1	on teflon filter	X	X	X	X	X	X	X					
4	Particulate filter C1812159 TSP Pine St	7/11/24	24 hr composite	1	on Teflon filter	X	X	X	X	X	X	X					
5	Particulate filter C1812160 TSP Walnut St	7/11/24	24 hr composite	1	on Teflon filter	X	X	X	X	X	X	X					
6	Particulate filter C1812161 TSP Pine St	7/17/24	1036	1	on Teflon filter	X	X	X	X	X	X	X					
7	Particulate filter C1812162 Field Blank	7/12/24	24 hr composite	1	on Teflon filter	X	X	X	X	X	X	X					
8	Particulate filter C1812163 TSP Walnut St	7/17/24	24 hr composite	1	on teflon filter	X	X	X	X	X	X	X					
9	Particulate filter C1812164 TSP Pine ST	7/23/24	24 hr composite	1	on teflon filter	X	X	X	X	X	X	X					
10	Particulate filter C1812165 TSP Walnut ST	7/23/24	24 hr composite	1	on Teflon filter	X	X	X	X	X	X	X					

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Don Milmine	7/15/24 13:12	Don V. Milmine			
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print) Kylie Block	Date/Time 7-15-24 13:12	Signature

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals Y N C B	Intact Y N	Receipt Temp °C	Temp Blank Y N	On Ice Y N	Payment Type CC Cash Check_____	Amount $	Receipt Number *(cash/check only)*

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested.
This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

ELI-COC-10/18 v.3

ANALYTICAL SUMMARY REPORT

October 03, 2024

Bison Engineering
3143 E Lyndale Ave
Helena, MT 59601-6401

Work Order: B24091702 Quote ID: B4795

Project Name: Montana Resources/Greely School PW

Energy Laboratories Inc Billings MT received the following 10 samples for Bison Engineering on 9/18/2024 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B24091702-001	Particulate filter C1812166 Lab Blank	07/24/24 12:20	09/18/24	Air	Metals on air filter by ICP/ICPMS Nitric acid-extraction by 40CFR50G
B24091702-002	Particulate filter C1812167 TSP Pine St	07/29/24 0:00	09/18/24	Air	Same As Above
B24091702-003	Particulate filter C1812168 TSP Walnut St	07/29/24 0:00	09/18/24	Air	Same As Above
B24091702-004	Particulate filter C1812169 TSP Pine St	08/04/24 0:00	09/18/24	Air	Same As Above
B24091702-005	Particulate filter C1812170 TSP Walnut St	08/04/24 0:00	09/18/24	Air	Same As Above
B24091702-006	Particulate filter C1812171 TSP Pine St	08/10/24 0:00	09/18/24	Air	Same As Above
B24091702-007	Particulate filter C1812172 TSP Walnut St	08/10/24 0:00	09/18/24	Air	Same As Above
B24091702-008	Particulate filter C1812173 TSP Pine St	08/16/24 0:00	09/18/24	Air	Same As Above
B24091702-009	Particulate filter C1812174 TSP Walnut ST	08/16/24 0:00	09/18/24	Air	Same As Above
B24091702-010	Particulate filter C1812175 Field Blank	08/20/24 10:11	09/18/24	Air	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 So. 27th Street, Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

Energy Laboratories, Inc. verifies the reported results for the analysis has been technically reviewed and approved for release.

If you have any questions regarding these test results, please contact your Project Manager.

CLIENT: Bison Engineering
Project: Montana Resources/Greely School PW
Work Order: B24091702

Report Date: 10/03/24

CASE NARRATIVE

Per client request, results are based on the final concentration using 25 mL of extraction solution per filter.

All "J" qualified analyte concentrations are below the laboratory minimum recommended Reporting Limit (RL) and above the lowest method detection limit (MDL)/Limit of Detection (LOD). Inorganic analytes reported with "J" qualifiers should be verified against the corresponding method blank and continuing calibration blanks. Inorganic "J" quantitations near the MDL/LOD may be suspect due to possible method background levels, sample matrix effects, and/or daily variability in instrument signal-to-noise levels.

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1812166 Lab Blank
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B24091702-001
Collection Date: 07/24/24 12:20
DateReceived: 09/18/24
Report Date: 10/03/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	10/02/24 14:13 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	44	193655
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	10/02/24 14:13 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	44	193655
Copper	ND	ug/filter		1.0	0.16	E200.8	10/02/24 14:13 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	44	193655
Lead	ND	ug/filter		1.0	0.042	E200.8	10/02/24 14:13 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	44	193655
Manganese	ND	ug/filter		1.0	0.18	E200.8	10/02/24 14:13 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	44	193655
Molybdenum	ND	ug/filter		1.0	0.0050	E200.8	10/02/24 14:13 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	44	193655
Zinc	0.31	ug/filter	J	1.0	0.30	E200.8	10/02/24 18:07 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	87	193655

Report Definitions:
RL - Analyte Reporting Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
J - Estimated value - analyte was present but less than the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1812167 TSP Pine St
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B24091702-002
Collection Date: 07/29/24
DateReceived: 09/18/24
Report Date: 10/03/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	10/02/24 14:19 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	45	193655
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	10/02/24 18:13 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	88	193655
Copper	3.0	ug/filter		1.0	0.16	E200.8	10/02/24 14:19 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	45	193655
Lead	0.25	ug/filter	J	1.0	0.042	E200.8	10/02/24 14:19 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	45	193655
Manganese	1.1	ug/filter		1.0	0.18	E200.8	10/02/24 14:19 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	45	193655
Molybdenum	0.23	ug/filter	J	1.0	0.0050	E200.8	10/02/24 14:19 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	45	193655
Zinc	1.2	ug/filter		1.0	0.30	E200.8	10/02/24 14:19 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	45	193655

Report Definitions:
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MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
J - Estimated value - analyte was present but less than the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1812168 TSP Walnut St
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B24091702-003
Collection Date: 07/29/24
DateReceived: 09/18/24
Report Date: 10/03/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	10/02/24 14:24 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	46	193655
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	10/02/24 14:24 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	46	193655
Copper	1.8	ug/filter		1.0	0.16	E200.8	10/02/24 14:24 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	46	193655
Lead	0.16	ug/filter	J	1.0	0.042	E200.8	10/02/24 18:19 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	89	193655
Manganese	0.88	ug/filter	J	1.0	0.18	E200.8	10/02/24 14:24 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	46	193655
Molybdenum	0.10	ug/filter	J	1.0	0.0050	E200.8	10/02/24 14:24 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	46	193655
Zinc	1.0	ug/filter		1.0	0.30	E200.8	10/02/24 14:24 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	46	193655

Report Definitions:
RL - Analyte Reporting Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
J - Estimated value - analyte was present but less than the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1812169 TSP Pine St
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B24091702-004
Collection Date: 08/04/24
DateReceived: 09/18/24
Report Date: 10/03/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	10/02/24 14:30 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	47	193655
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	10/02/24 14:30 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	47	193655
Copper	3.8	ug/filter		1.0	0.16	E200.8	10/02/24 14:30 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	47	193655
Lead	0.16	ug/filter	J	1.0	0.042	E200.8	10/02/24 18:25 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	90	193655
Manganese	0.94	ug/filter	J	1.0	0.18	E200.8	10/02/24 14:30 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	47	193655
Molybdenum	0.13	ug/filter	J	1.0	0.0050	E200.8	10/02/24 14:30 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	47	193655
Zinc	1.1	ug/filter		1.0	0.30	E200.8	10/02/24 14:30 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	47	193655

Report Definitions:
RL - Analyte Reporting Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
J - Estimated value - analyte was present but less than the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1812170 TSP Walnut St
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B24091702-005
Collection Date: 08/04/24
DateReceived: 09/18/24
Report Date: 10/03/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	10/02/24 14:36 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	48	193655
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	10/02/24 14:36 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	48	193655
Copper	2.3	ug/filter		1.0	0.16	E200.8	10/02/24 14:36 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	48	193655
Lead	0.18	ug/filter	J	1.0	0.042	E200.8	10/02/24 18:30 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	91	193655
Manganese	1.3	ug/filter		1.0	0.18	E200.8	10/02/24 14:36 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	48	193655
Molybdenum	0.083	ug/filter	J	1.0	0.0050	E200.8	10/02/24 14:36 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	48	193655
Zinc	1.4	ug/filter		1.0	0.30	E200.8	10/02/24 14:36 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	48	193655

Report Definitions:
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ND - Not detected at the Reporting Limit (RL)
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LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1812171 TSP Pine St
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B24091702-006
Collection Date: 08/10/24
DateReceived: 09/18/24
Report Date: 10/03/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	10/02/24 14:42 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	49	193655
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	10/02/24 14:42 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	49	193655
Copper	1.5	ug/filter		1.0	0.16	E200.8	10/02/24 14:42 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	49	193655
Lead	0.11	ug/filter	J	1.0	0.042	E200.8	10/02/24 18:36 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	92	193655
Manganese	0.50	ug/filter	J	1.0	0.18	E200.8	10/02/24 14:42 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	49	193655
Molybdenum	0.24	ug/filter	J	1.0	0.0050	E200.8	10/02/24 14:42 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	49	193655
Zinc	0.74	ug/filter	J	1.0	0.30	E200.8	10/02/24 14:42 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	49	193655

Report Definitions:
RL - Analyte Reporting Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
J - Estimated value - analyte was present but less than the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1812172 TSP Walnut St
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B24091702-007
Collection Date: 08/10/24
DateReceived: 09/18/24
Report Date: 10/03/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	10/02/24 14:48 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	50	193655
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	10/02/24 14:48 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	50	193655
Copper	1.3	ug/filter		1.0	0.16	E200.8	10/02/24 14:48 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	50	193655
Lead	0.087	ug/filter	J	1.0	0.042	E200.8	10/02/24 18:42 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	93	193655
Manganese	0.39	ug/filter	J	1.0	0.18	E200.8	10/02/24 14:48 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	50	193655
Molybdenum	0.056	ug/filter	J	1.0	0.0050	E200.8	10/02/24 14:48 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	50	193655
Zinc	0.63	ug/filter	J	1.0	0.30	E200.8	10/02/24 14:48 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	50	193655

Report Definitions:
RL - Analyte Reporting Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
J - Estimated value - analyte was present but less than the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1812173 TSP Pine St
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B24091702-008
Collection Date: 08/16/24
DateReceived: 09/18/24
Report Date: 10/03/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	10/02/24 15:05 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	53	193655
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	10/02/24 15:05 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	53	193655
Copper	1.9	ug/filter		1.0	0.16	E200.8	10/02/24 15:05 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	53	193655
Lead	0.15	ug/filter	J	1.0	0.042	E200.8	10/02/24 18:48 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	94	193655
Manganese	0.58	ug/filter	J	1.0	0.18	E200.8	10/02/24 15:05 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	53	193655
Molybdenum	0.14	ug/filter	J	1.0	0.0050	E200.8	10/02/24 15:05 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	53	193655
Zinc	0.93	ug/filter	J	1.0	0.30	E200.8	10/02/24 15:05 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	53	193655

Report Definitions:
RL - Analyte Reporting Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
J - Estimated value - analyte was present but less than the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1812174 TSP Walnut ST
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B24091702-009
Collection Date: 08/16/24
DateReceived: 09/18/24
Report Date: 10/03/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	10/02/24 15:11 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	54	193655
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	10/02/24 15:11 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	54	193655
Copper	0.79	ug/filter	J	1.0	0.16	E200.8	10/02/24 15:11 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	54	193655
Lead	0.085	ug/filter	J	1.0	0.042	E200.8	10/02/24 19:06 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	97	193655
Manganese	0.38	ug/filter	J	1.0	0.18	E200.8	10/02/24 15:11 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	54	193655
Molybdenum	0.015	ug/filter	J	1.0	0.0050	E200.8	10/02/24 15:11 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	54	193655
Zinc	0.61	ug/filter	J	1.0	0.30	E200.8	10/02/24 15:11 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	54	193655

Report Definitions:
RL - Analyte Reporting Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
J - Estimated value - analyte was present but less than the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1812175 Field Blank
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B24091702-010
Collection Date: 08/20/24 10:11
DateReceived: 09/18/24
Report Date: 10/03/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	10/02/24 15:17 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	55	193655
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	10/02/24 15:17 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	55	193655
Copper	ND	ug/filter		1.0	0.16	E200.8	10/02/24 15:17 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	55	193655
Lead	ND	ug/filter		1.0	0.042	E200.8	10/02/24 15:17 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	55	193655
Manganese	ND	ug/filter		1.0	0.18	E200.8	10/02/24 15:17 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	55	193655
Molybdenum	ND	ug/filter		1.0	0.0050	E200.8	10/02/24 15:17 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	55	193655
Zinc	ND	ug/filter		1.0	0.30	E200.8	10/02/24 15:17 / jks	09/30/24 12:37	40CFR50	ICPMS207-B_241002A	55	193655

Report Definitions: RL - Analyte Reporting Limit MCL - Maximum Contaminant Level ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Bison Engineering **Work Order:** B24091702 **Report Date:** 10/03/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS207-B_241002A	
Lab ID: QCS	7	Initial Calibration Verification Standard								10/02/24 11:28
Arsenic		0.0487	mg/L	0.0050	97	90	110			
Cadmium		0.0245	mg/L	0.0010	98	90	110			
Copper		0.0504	mg/L	0.010	101	90	110			
Lead		0.0486	mg/L	0.0010	97	90	110			
Manganese		0.246	mg/L	0.0050	98	90	110			
Molybdenum		0.0478	mg/L	0.0050	96	90	110			
Zinc		0.0497	mg/L	0.0050	99	90	110			
Lab ID: CCV	7	Continuing Calibration Verification Standard								10/02/24 13:38
Arsenic		0.0484	mg/L	0.0050	97	90	110			
Cadmium		0.0491	mg/L	0.0010	98	90	110			
Copper		0.0501	mg/L	0.010	100	90	110			
Lead		0.0478	mg/L	0.0010	96	90	110			
Manganese		0.0487	mg/L	0.0050	97	90	110			
Molybdenum		0.0483	mg/L	0.0050	97	90	110			
Zinc		0.0488	mg/L	0.0050	98	90	110			
Lab ID: CCV	7	Continuing Calibration Verification Standard								10/02/24 14:54
Arsenic		0.0480	mg/L	0.0050	96	90	110			
Cadmium		0.0490	mg/L	0.0010	98	90	110			
Copper		0.0499	mg/L	0.010	100	90	110			
Lead		0.0471	mg/L	0.0010	94	90	110			
Manganese		0.0482	mg/L	0.0050	96	90	110			
Molybdenum		0.0486	mg/L	0.0050	97	90	110			
Zinc		0.0487	mg/L	0.0050	97	90	110			
Lab ID: CCV	7	Continuing Calibration Verification Standard								10/02/24 17:38
Arsenic		0.0472	mg/L	0.0050	94	90	110			
Cadmium		0.0487	mg/L	0.0010	97	90	110			
Copper		0.0489	mg/L	0.010	98	90	110			
Lead		0.0474	mg/L	0.0010	95	90	110			
Manganese		0.0475	mg/L	0.0050	95	90	110			
Molybdenum		0.0490	mg/L	0.0050	98	90	110			
Zinc		0.0483	mg/L	0.0050	97	90	110			
Lab ID: CCV	7	Continuing Calibration Verification Standard								10/02/24 18:54
Arsenic		0.0477	mg/L	0.0050	95	90	110			
Cadmium		0.0492	mg/L	0.0010	98	90	110			
Copper		0.0494	mg/L	0.010	99	90	110			
Lead		0.0470	mg/L	0.0010	94	90	110			
Manganese		0.0476	mg/L	0.0050	95	90	110			
Molybdenum		0.0488	mg/L	0.0050	98	90	110			
Zinc		0.0491	mg/L	0.0050	98	90	110			
Method: E200.8									Batch: 193655	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Bison Engineering **Work Order:** B24091702 **Report Date:** 10/03/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 193655
Lab ID: MB-193655	7	Method Blank				Run: ICPMS207-B_241002A				10/02/24 13:49
Arsenic		ND	ug/filter	0.06						
Cadmium		ND	ug/filter	0.006						
Copper		ND	ug/filter	0.2						
Lead		ND	ug/filter	0.04						
Manganese		ND	ug/filter	0.2						
Molybdenum		ND	ug/filter	0.005						
Zinc		ND	ug/filter	0.3						
Lab ID: LCS-193655	7	Laboratory Control Sample				Run: ICPMS207-B_241002A				10/02/24 13:55
Arsenic		101	ug/filter	1.0	101	85	115			
Cadmium		51.7	ug/filter	1.0	103	85	115			
Copper		106	ug/filter	5.0	106	85	115			
Lead		98.3	ug/filter	1.0	98	85	115			
Manganese		506	ug/filter	5.0	101	85	115			
Molybdenum		101	ug/filter	1.0	101	85	115			
Zinc		105	ug/filter	5.0	105	85	115			
Lab ID: LCSD-193655	7	Laboratory Control Sample Duplicate				Run: ICPMS207-B_241002A				10/02/24 14:01
Arsenic		99.9	ug/filter	1.0	100	85	115			
Cadmium		51.5	ug/filter	1.0	103	85	115			
Copper		104	ug/filter	5.0	104	85	115			
Lead		98.3	ug/filter	1.0	98	85	115			
Manganese		503	ug/filter	5.0	101	85	115			
Molybdenum		100	ug/filter	1.0	100	85	115			
Zinc		106	ug/filter	5.0	106	85	115			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

Work Order Receipt Checklist

Bison Engineering

B24091702

Login completed by: Lyndsi E. LeProwse
Date Received: 9/18/2024
Reviewed by: jmiller
Received by: CMJ
Reviewed Date: 9/25/2024
Carrier name: Hand Deliver

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	4.1°C Blue Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

Trip Blanks and/or Blind Duplicate samples are assigned the earliest collection time for the associated requested analysis in order to evaluate the holding time unless specifically indicated.

Contact and Corrective Action Comments:

None

Chain of Custody & Analytical Request Record

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www.energylab.com

Account Information (Billing information)

Company/Name	Bison Engineering, Inc.
Contact	Shelley Argott-Brown
Phone	(406) 442-5768
Mailing Address	3143 E Lyndale Avenue
City, State, Zip	Helena MT, 59601
Email	sbrown-argott@bison-eng.com
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	MTR223018
Quote	
Bottle Order	

Report Information (if different than Account Information)

Company/Name	Bison Engineering, Inc.
Contact	Don Milmine
Phone	(406) 208-4833
Mailing Address	2751 Enterprise Avenue Suite 2
City, State, Zip	Billings, MT 59102
Email	dmilmine@bison-eng.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats: ☐ LEVEL IV ☐ NELAC ☐ EDD/EDT (contact laboratory) ☐ Other_____

Comments

Analyze per history

Project Information

Project Name, PWSID, Permit, etc.	Montana Resources/Greely School PW
Sampler Name	Sampler Phone
Sample Origin State	Montana
EPA/State Compliance	☒ Yes ☐ No

URANIUM MINING CLIENTS MUST indicate sample type.
☐ NOT Source or Byproduct Material
☐ Source/Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☐ 11e.(2) Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

Matrix Codes: A - Air; W- Water; S - Soils/Solids; V - Vegetation; B - Bioassay; O - Other; DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	Arsenic	Cadmium	Copper	Lead	Manganese	Molybdenum	Zinc			See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
1	Particulate filter C1812166 Lab Blank	7/24/24	1220	1	on Teflon filter	x	x	x	x	x	x	x					B24091702
2	Particulate filter C1812167 TSP Pine St	7/29/24	24 hr composite	1	on Teflon filter	x	x	x	x	x	x	x					
3	Particulate filter C1812168 TSP Walnut St	7/29/24	24 hr composite	1	on Teflon filter	x	x	x	x	x	x	x					
4	Particulate filter C1812169 TSP Pine St	8/4/24	24 hr composite	1	on Teflon filter	x	x	x	x	x	x	x					
5	Particulate filter C1812170 TSP Walnut St	8/4/24	24 hr composite	1	on Teflon filter	x	x	x	x	x	x	x					
6	Particulate filter C1812171 TSP Pine St	8/10/24	24 hr composite	1	on Teflon filter	x	x	x	x	x	x	x					
7	Particulate filter C1812172 TSP Walnut St	8/10/24	24 hr composite	1	on Teflon filter	x	x	x	x	x	x	x					
8	Particulate filter C1812173 TSP Pine St	8/16/24	24 hr composite	1	on Teflon filter	x	x	x	x	x	x	x					
9	Particulate filter C1812174 TSP Walnut ST	8/16/24	24 hr composite	1	on Teflon filter	x	x	x	x	x	x	x					
10	Particulate filter C1812175 Field Blank	8/20/24	1011	1	on Teflon filter	x	x	x	x	x	x	x					

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Don Milmine	9/18/24 1338	Don V. Milmine			
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
				Crystal Jones	9/18/24 1338	

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals Y N C B	Intact Y N	Receipt Temp °C	Temp Blank Y N	On Ice Y N	Payment Type CC Cash Check_____	Amount $	Receipt Number (cash/check only)

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

ELI-COC-10/18 v.3

ANALYTICAL SUMMARY REPORT

October 09, 2024

Bison Engineering
3143 E Lyndale Ave
Helena, MT 59601-6401

Work Order: B24092107 Quote ID: B4795

Project Name: Montana Resources/Greely School PW

Energy Laboratories Inc Billings MT received the following 10 samples for Bison Engineering on 9/24/2024 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B24092107-001	Particulate Filter C1812186 TSP Pine St	08/22/24 00:00	09/24/24	Filter	Metals on air filter by ICP/ICPMS Nitric acid-extraction by 40CFR50G
B24092107-002	Particulate Filter C1812187 TSP Walnut St	08/22/24 00:00	09/24/24	Filter	Same As Above
B24092107-003	Particulate Filter C1812188 TSP Pine St	08/28/24 00:00	09/24/24	Filter	Same As Above
B24092107-004	Particulate Filter C1812189 TSP Walnut St	08/28/24 00:00	09/24/24	Filter	Same As Above
B24092107-005	Particulate Filter C1812190 TSP Pine St	09/03/24 00:00	09/24/24	Filter	Same As Above
B24092107-006	Particulate Filter C1812191 TSP Walnut St	09/03/24 00:00	09/24/24	Filter	Same As Above
B24092107-007	Particulate Filter C1812192 Lab Blank	08/14/24 12:30	09/24/24	Filter	Same As Above
B24092107-008	Particulate Filter C1812193 TSP Pine St	09/09/24 00:00	09/24/24	Filter	Same As Above
B24092107-009	Particulate Filter C1812194 TSP Walnut St	09/09/24 00:00	09/24/24	Filter	Same As Above
B24092107-010	Particulate Filter C1812195 Field Blank	09/09/24 13:17	09/24/24	Filter	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 So. 27th Street, Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

Energy Laboratories, Inc. verifies the reported results for the analysis has been technically reviewed and approved for release.

If you have any questions regarding these test results, please contact your Project Manager.

CLIENT: Bison Engineering
Project: Montana Resources/Greely School PW
Work Order: B24092107

Report Date: 10/09/24

CASE NARRATIVE

Per client request, results are based on the final concentration using 25 mL of extraction solution per filter.

All "J" qualified analyte concentrations are below the laboratory minimum recommended Reporting Limit (RL) and above the lowest method detection limit (MDL)/Limit of Detection (LOD). Inorganic analytes reported with "J" qualifiers should be verified against the corresponding method blank and continuing calibration blanks. Inorganic "J" quantitations near the MDL/LOD may be suspect due to possible method background levels, sample matrix effects, and/or daily variability in instrument signal-to-noise levels.

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Project: Montana Resources/Greely School PW
Lab ID: B24092107-001
Client Sample ID: Particulate Filter C1812186 TSP Pine St

Report Date: 10/09/24
Collection Date: 08/22/24
DateReceived: 09/24/24
Matrix: Filter

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS IN AIR							
Arsenic	0.068	ug/filter	J	1.0		E200.8	10/07/24 22:58 / aem
Cadmium	ND	ug/filter		1.0		E200.8	10/09/24 14:46 / aem
Copper	1.4	ug/filter		1.0		E200.8	10/04/24 15:04 / aem
Lead	0.10	ug/filter	J	1.0		E200.8	10/04/24 15:04 / aem
Manganese	0.47	ug/filter	J	1.0		E200.8	10/07/24 22:58 / aem
Molybdenum	0.094	ug/filter	J	1.0		E200.8	10/04/24 15:04 / aem
Zinc	0.79	ug/filter	J	1.0		E200.8	10/04/24 15:04 / aem

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
J - Estimated value - analyte was present but less than the Reporting Limit (RL)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Project: Montana Resources/Greely School PW
Lab ID: B24092107-002
Client Sample ID: Particulate Filter C1812187 TSP Walnut St

Report Date: 10/09/24
Collection Date: 08/22/24
DateReceived: 09/24/24
Matrix: Filter

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS IN AIR							
Arsenic	0.064	ug/filter	J	1.0		E200.8	10/07/24 23:04 / aem
Cadmium	ND	ug/filter		1.0		E200.8	10/09/24 14:52 / aem
Copper	0.60	ug/filter	J	1.0		E200.8	10/04/24 15:10 / aem
Lead	0.069	ug/filter	J	1.0		E200.8	10/04/24 15:10 / aem
Manganese	0.35	ug/filter	J	1.0		E200.8	10/07/24 23:04 / aem
Molybdenum	0.055	ug/filter	J	1.0		E200.8	10/04/24 15:10 / aem
Zinc	0.48	ug/filter	J	1.0		E200.8	10/04/24 15:10 / aem

Report Definitions:

RL - Analyte Reporting Limit
QCL - Quality Control Limit
J - Estimated value - analyte was present but less than the Reporting Limit (RL)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Project: Montana Resources/Greely School PW
Lab ID: B24092107-003
Client Sample ID: Particulate Filter C1812188 TSP Pine St

Report Date: 10/09/24
Collection Date: 08/28/24
DateReceived: 09/24/24
Matrix: Filter

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS IN AIR							
Arsenic	0.065	ug/filter	J	1.0		E200.8	10/07/24 23:10 / aem
Cadmium	ND	ug/filter		1.0		E200.8	10/09/24 14:58 / aem
Copper	3.1	ug/filter		1.0		E200.8	10/04/24 15:16 / aem
Lead	0.15	ug/filter	J	1.0		E200.8	10/04/24 15:16 / aem
Manganese	0.27	ug/filter	J	1.0		E200.8	10/07/24 23:10 / aem
Molybdenum	0.23	ug/filter	J	1.0		E200.8	10/04/24 15:16 / aem
Zinc	0.98	ug/filter	J	1.0		E200.8	10/04/24 15:16 / aem

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
J - Estimated value - analyte was present but less than the Reporting Limit (RL)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Project: Montana Resources/Greely School PW
Lab ID: B24092107-004
Client Sample ID: Particulate Filter C1812189 TSP Walnut St

Report Date: 10/09/24
Collection Date: 08/28/24
DateReceived: 09/24/24
Matrix: Filter

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS IN AIR							
Arsenic	0.062	ug/filter	J	1.0		E200.8	10/07/24 23:16 / aem
Cadmium	ND	ug/filter		1.0		E200.8	10/09/24 15:04 / aem
Copper	0.33	ug/filter	J	1.0		E200.8	10/04/24 15:22 / aem
Lead	0.23	ug/filter	J	1.0		E200.8	10/04/24 15:22 / aem
Manganese	0.26	ug/filter	J	1.0		E200.8	10/07/24 23:16 / aem
Molybdenum	0.045	ug/filter	J	1.0		E200.8	10/04/24 15:22 / aem
Zinc	0.32	ug/filter	J	1.0		E200.8	10/04/24 15:22 / aem

Report Definitions:

RL - Analyte Reporting Limit
QCL - Quality Control Limit
J - Estimated value - analyte was present but less than the Reporting Limit (RL)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Project: Montana Resources/Greely School PW
Lab ID: B24092107-005
Client Sample ID: Particulate Filter C1812190 TSP Pine St

Report Date: 10/09/24
Collection Date: 09/03/24
DateReceived: 09/24/24
Matrix: Filter

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS IN AIR							
Arsenic	0.073	ug/filter	J	1.0		E200.8	10/07/24 23:22 / aem
Cadmium	ND	ug/filter		1.0		E200.8	10/09/24 15:10 / aem
Copper	2.6	ug/filter		1.0		E200.8	10/04/24 15:28 / aem
Lead	0.098	ug/filter	J	1.0		E200.8	10/04/24 15:28 / aem
Manganese	0.32	ug/filter	J	1.0		E200.8	10/07/24 23:22 / aem
Molybdenum	0.15	ug/filter	J	1.0		E200.8	10/04/24 15:28 / aem
Zinc	0.64	ug/filter	J	1.0		E200.8	10/04/24 15:28 / aem

Report Definitions:

RL - Analyte Reporting Limit
QCL - Quality Control Limit
J - Estimated value - analyte was present but less than the Reporting Limit (RL)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Project: Montana Resources/Greely School PW
Lab ID: B24092107-006
Client Sample ID: Particulate Filter C1812191 TSP Walnut St

Report Date: 10/09/24
Collection Date: 09/03/24
DateReceived: 09/24/24
Matrix: Filter

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS IN AIR							
Arsenic	0.078	ug/filter	J	1.0		E200.8	10/07/24 23:28 / aem
Cadmium	ND	ug/filter		1.0		E200.8	10/09/24 15:16 / aem
Copper	0.81	ug/filter	J	1.0		E200.8	10/04/24 15:34 / aem
Lead	0.088	ug/filter	J	1.0		E200.8	10/04/24 15:34 / aem
Manganese	0.35	ug/filter	J	1.0		E200.8	10/07/24 23:28 / aem
Molybdenum	0.11	ug/filter	J	1.0		E200.8	10/04/24 15:34 / aem
Zinc	0.75	ug/filter	J	1.0		E200.8	10/04/24 15:34 / aem

Report Definitions:

RL - Analyte Reporting Limit
QCL - Quality Control Limit
J - Estimated value - analyte was present but less than the Reporting Limit (RL)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Project: Montana Resources/Greely School PW
Lab ID: B24092107-007
Client Sample ID: Particulate Filter C1812192 Lab Blank

Report Date: 10/09/24
Collection Date: 08/14/24 12:30
DateReceived: 09/24/24
Matrix: Filter

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS IN AIR							
Arsenic	ND	ug/filter		1.0		E200.8	10/04/24 15:40 / aem
Cadmium	ND	ug/filter		1.0		E200.8	10/04/24 15:40 / aem
Copper	ND	ug/filter		1.0		E200.8	10/04/24 15:40 / aem
Lead	ND	ug/filter		1.0		E200.8	10/04/24 15:40 / aem
Manganese	ND	ug/filter		1.0		E200.8	10/07/24 23:34 / aem
Molybdenum	ND	ug/filter		1.0		E200.8	10/09/24 15:22 / aem
Zinc	ND	ug/filter		1.0		E200.8	10/04/24 15:40 / aem

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Project: Montana Resources/Greely School PW
Lab ID: B24092107-008
Client Sample ID: Particulate Filter C1812193 TSP Pine St

Report Date: 10/09/24
Collection Date: 09/09/24
DateReceived: 09/24/24
Matrix: Filter

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS IN AIR							
Arsenic	0.088	ug/filter	J	1.0		E200.8	10/04/24 15:58 / aem
Cadmium	0.013	ug/filter	J	1.0		E200.8	10/04/24 15:58 / aem
Copper	2.1	ug/filter		1.0		E200.8	10/04/24 15:58 / aem
Lead	0.13	ug/filter	J	1.0		E200.8	10/04/24 15:58 / aem
Manganese	1.1	ug/filter		1.0		E200.8	10/07/24 23:40 / aem
Molybdenum	0.27	ug/filter	J	1.0		E200.8	10/04/24 15:58 / aem
Zinc	1.3	ug/filter		1.0		E200.8	10/04/24 15:58 / aem

Report Definitions:

RL - Analyte Reporting Limit
QCL - Quality Control Limit
J - Estimated value - analyte was present but less than the Reporting Limit (RL)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Project: Montana Resources/Greely School PW
Lab ID: B24092107-009
Client Sample ID: Particulate Filter C1812194 TSP Walnut St

Report Date: 10/09/24
Collection Date: 09/09/24
DateReceived: 09/24/24
Matrix: Filter

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS IN AIR							
Arsenic	0.078	ug/filter	J	1.0		E200.8	10/07/24 23:46 / aem
Cadmium	0.0069	ug/filter	J	1.0		E200.8	10/09/24 15:27 / aem
Copper	0.70	ug/filter	J	1.0		E200.8	10/04/24 16:03 / aem
Lead	0.063	ug/filter	J	1.0		E200.8	10/04/24 16:03 / aem
Manganese	0.65	ug/filter	J	1.0		E200.8	10/07/24 23:46 / aem
Molybdenum	0.026	ug/filter	J	1.0		E200.8	10/04/24 16:03 / aem
Zinc	0.63	ug/filter	J	1.0		E200.8	10/04/24 16:03 / aem

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
J - Estimated value - analyte was present but less than the Reporting Limit (RL)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Project: Montana Resources/Greely School PW
Lab ID: B24092107-010
Client Sample ID: Particulate Filter C1812195 Field Blank

Report Date: 10/09/24
Collection Date: 09/09/24 13:17
DateReceived: 09/24/24
Matrix: Filter

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
METALS IN AIR							
Arsenic	ND	ug/filter		1.0		E200.8	10/04/24 16:09 / aem
Cadmium	ND	ug/filter		1.0		E200.8	10/04/24 16:09 / aem
Copper	ND	ug/filter		1.0		E200.8	10/04/24 16:09 / aem
Lead	ND	ug/filter		1.0		E200.8	10/04/24 16:09 / aem
Manganese	ND	ug/filter		1.0		E200.8	10/07/24 23:52 / aem
Molybdenum	0.016	ug/filter	J	1.0		E200.8	10/04/24 16:09 / aem
Zinc	ND	ug/filter		1.0		E200.8	10/04/24 16:09 / aem

Report Definitions:

RL - Analyte Reporting Limit
QCL - Quality Control Limit
J - Estimated value - analyte was present but less than the Reporting Limit (RL)
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Bison Engineering **Work Order:** B24092107 **Report Date:** 10/09/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Analytical Run: ICPMS207-B_241009A
Lab ID: QCS	2	Initial Calibration Verification Standard								10/09/24 13:01
Cadmium		0.0249	mg/L	0.0010	100	90	110			
Molybdenum		0.0486	mg/L	0.0050	97	90	110			
Lab ID: CCV	2	Continuing Calibration Verification Standard								10/09/24 14:29
Cadmium		0.0506	mg/L	0.0010	101	90	110			
Molybdenum		0.0501	mg/L	0.0050	100	90	110			
Method: E200.8										Batch: 193796
Lab ID: MB-193796	2	Method Blank				Run: ICPMS207-B_241009A				10/09/24 14:41
Cadmium		ND	ug/filter	0.006						
Molybdenum		0.006	ug/filter	0.005						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Bison Engineering **Work Order:** B24092107 **Report Date:** 10/09/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS208-B_241004A	
Lab ID: QCS	6	Initial Calibration Verification Standard								10/04/24 12:53
Arsenic		0.0501	mg/L	0.0050	100	90	110			
Cadmium		0.0243	mg/L	0.0010	97	90	110			
Copper		0.0514	mg/L	0.010	103	90	110			
Lead		0.0479	mg/L	0.0010	96	90	110			
Molybdenum		0.0474	mg/L	0.0050	95	90	110			
Zinc		0.0504	mg/L	0.0050	101	90	110			
Lab ID: CCV	6	Continuing Calibration Verification Standard								10/04/24 14:22
Arsenic		0.0495	mg/L	0.0050	99	90	110			
Cadmium		0.0472	mg/L	0.0010	94	90	110			
Copper		0.0511	mg/L	0.010	102	90	110			
Lead		0.0468	mg/L	0.0010	94	90	110			
Molybdenum		0.0471	mg/L	0.0050	94	90	110			
Zinc		0.0501	mg/L	0.0050	100	90	110			
Lab ID: CCV	6	Continuing Calibration Verification Standard								10/04/24 15:46
Arsenic		0.0485	mg/L	0.0050	97	90	110			
Cadmium		0.0460	mg/L	0.0010	92	90	110			
Copper		0.0504	mg/L	0.010	101	90	110			
Lead		0.0454	mg/L	0.0010	91	90	110			
Molybdenum		0.0459	mg/L	0.0050	92	90	110			
Zinc		0.0483	mg/L	0.0050	97	90	110			
Method: E200.8									Batch: 193796	
Lab ID: MB-193796	7	Method Blank				Run: ICPMS208-B_241004A				10/04/24 14:40
Arsenic		ND	ug/filter	0.06						
Cadmium		ND	ug/filter	0.004						
Copper		ND	ug/filter	0.2						
Lead		ND	ug/filter	0.04						
Manganese		ND	ug/filter	0.2						
Molybdenum		0.03	ug/filter	0.006						
Zinc		ND	ug/filter	0.3						
Lab ID: LCS-193796	7	Laboratory Control Sample				Run: ICPMS208-B_241004A				10/04/24 14:46
Arsenic		105	ug/filter	1.0	105	85	115			
Cadmium		51.7	ug/filter	1.0	103	85	115			
Copper		109	ug/filter	5.0	109	85	115			
Lead		100	ug/filter	1.0	101	85	115			
Manganese		528	ug/filter	5.0	106	85	115			
Molybdenum		99.8	ug/filter	1.0	100	85	115			
Zinc		108	ug/filter	5.0	108	85	115			
Lab ID: LCSD-193796	7	Laboratory Control Sample Duplicate				Run: ICPMS208-B_241004A				10/04/24 14:52
Arsenic		106	ug/filter	1.0	106	85	115			
Cadmium		51.1	ug/filter	1.0	102	85	115			
Copper		109	ug/filter	5.0	109	85	115			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Bison Engineering **Work Order:** B24092107 **Report Date:** 10/09/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 193796
Lab ID: LCSD-193796	7	Laboratory Control Sample Duplicate				Run: ICPMS208-B_241004A				10/04/24 14:52
Lead		99.6	ug/filter	1.0	100	85	115			
Manganese		532	ug/filter	5.0	106	85	115			
Molybdenum		98.5	ug/filter	1.0	98	85	115			
Zinc		107	ug/filter	5.0	107	85	115			
Method: E200.8										Analytical Run: ICPMS208-B_241007A
Lab ID: QCS	2	Initial Calibration Verification Standard								10/07/24 20:12
Arsenic		0.0503	mg/L	0.0050	101	90	110			
Manganese		0.254	mg/L	0.0050	102	90	110			
Lab ID: CCV	2	Continuing Calibration Verification Standard								10/07/24 22:47
Arsenic		0.0499	mg/L	0.0050	100	90	110			
Manganese		0.0490	mg/L	0.0050	98	90	110			
Method: E200.8										Batch: 193796
Lab ID: MB-193796	2	Method Blank				Run: ICPMS208-B_241007A				10/07/24 22:41
Arsenic		ND	ug/filter	0.06						
Manganese		ND	ug/filter	0.2						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

Work Order Receipt Checklist

Bison Engineering

B24092107

Login completed by: Crystal M. Jones
Date Received: 9/24/2024

Reviewed by: gmccartney
Received by: KLP

Reviewed Date: 10/1/2024
Carrier name: Hand Deliver

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☐	No ☑	Not Applicable ☐
Container/Temp Blank temperature:	17.9°C Blue Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

Trip Blanks and/or Blind Duplicate samples are assigned the earliest collection time for the associated requested analysis in order to evaluate the holding time unless specifically indicated.

Contact and Corrective Action Comments:

None

Chain of Custody & Analytical Request Record

ENERGY LABORATORIES — Trust our People. Trust our Data.

www.energylab.com

Account Information *(Billing information)*

Company/Name	Bison Engineering, Inc.
Contact	Shelley Argott-Brown
Phone	(406) 442-5768
Mailing Address	3143 E Lyndale Avenue
City, State, Zip	Helena MT, 59601
Email	sbrown-argott@bison-eng.com
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	MTR224018
Quote	
Bottle Order	

Report Information *(if different than Account Information)*

Company/Name	Bison Engineering, Inc.
Contact	Don Milmine
Phone	(406) 208-4833
Mailing Address	2751 Enterprise Avenue Suite 2
City, State, Zip	Billings, MT 59102
Email	dmilmine@bison-eng.com
Receive Report	☐Hard Copy ☒Email

Special Report/Formats: ☐ LEVEL IV ☐ NELAC ☐ EDD/EDT *(contact laboratory)* ☐ Other_____

Comments

Analyze per history

Project Information

Project Name, PWSID, Permit, etc.	Momtana Resources/Greely School PW
Sampler Name	Sampler Phone
Sample Origin State	Montana
EPA/State Compliance	☒ Yes ☐ No

URANIUM MINING CLIENTS MUST indicate sample type.
☐ NOT Source or Byproduct Material
☐ Source/Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☐ 11e.(2) Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

Matrix Codes: A - Air; W - Water; S - Soils/Solids; V - Vegetation; B - Bioassay; O - Other; DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

	Sample Identification (Name, Location, Interval, etc.)	Collection Date	Collection Time	Number of Containers	Matrix (See Codes Above)	Arsenic	Cadmium	Copper	Lead	Manganese	Molybdenum	Zinc			See Attached	RUSH TAT	ELI LAB ID (Laboratory Use Only)
1	Particulate filter C1812186 TSP Pine St	8/22/24	24 hr composite	1	on Teflon filter	X	X	X	X	X	X	X					B24092107
2	Particulate filter C1812187 TSP Walnut St	8/22/24	24 hr composite	1	on Teflon filter	X	X	X	X	X	X	X					
3	Particulate filter C1812188 TSP Pine St	8/28/24	24 hr composite	1	on Teflon filter	X	X	X	X	X	X	X					
4	Particulate filter C1812189 TSP Walnut St	8/28/24	24 hr composite	1	on Teflon filter	X	X	X	X	X	X	X					
5	Particulate filter C1812190 TSP PineSt	9/3/24	24 hr composite	1	on Teflon filter	X	X	X	X	X	X	X					
6	Particulate filter C1812191 TSP Walnut St	9/3/24	24 hr composite	1	on Teflon filter	X	X	X	X	X	X	X					
7	Particulate filter C1812192 Lab Blank	8/14/24	1230	1	on Teflon filter	X	X	X	X	X	X	X					
8	Particulate filter C1812193 TSP Pine St	9/9/24	24 hr composite	1	on Teflon filter	X	X	X	X	X	X	X					
9	Particulate filter C1812194 TSP Walnut ST	9/9/24	24 hr composite	1	on Teflon filter	X	X	X	X	X	X	X		X			
10	Particulate filter C1812195 Field Blank	9/6/24	1317	1	on Teflon filter	X	X	X	X	X	X	X					

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Don Milmine	9/24/24 1421	Don V. Milmine			
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
				[illegible]	09-24-24 1421	[signature]

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals Y N C B	Intact Y N	Receipt Temp °C	Temp Blank Y N	On Ice Y N	Payment Type CC Cash Check_____	Amount $	Receipt Number *(cash/check only)*

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

ELI-COC-10/18 v.3

ANALYTICAL SUMMARY REPORT

November 12, 2024

Bison Engineering
3143 E Lyndale Ave
Helena, MT 59601-6401

Work Order: B24102437 Quote ID: B4795

Project Name: Montana Resources/Greely School PW

Energy Laboratories Inc Billings MT received the following 10 samples for Bison Engineering on 10/29/2024 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B24102437-001	Particulate filter C1103506 TSP Pine St	09/21/24 00:00	10/29/24	Air	Metals on air filter by ICP/ICPMS Nitric acid-extraction by 40CFR50G
B24102437-002	Particulate filter C1103507 TSP Pine St	09/15/24 00:00	10/29/24	Air	Same As Above
B24102437-003	Particulate filter C1103508 TSP Walnut St	09/15/24 00:00	10/29/24	Air	Same As Above
B24102437-004	Particulate filter C1103509 TSP Walnut St	09/21/24 00:00	10/29/24	Air	Same As Above
B24102437-005	Particulate filter C1103510 Field Blank	09/25/24 10:46	10/29/24	Air	Same As Above
B24102437-006	Particulate filter C1103511 TSP Pine St	09/27/24 00:00	10/29/24	Air	Same As Above
B24102437-007	Particulate filter C1103512 Lab Blank	09/09/24 17:00	10/29/24	Air	Same As Above
B24102437-008	Particulate filter C1103513 TSP Walnut St	09/27/24 00:00	10/29/24	Air	Same As Above
B24102437-009	Particulate filter C1103514 TSP Walnut St	10/03/24 00:00	10/29/24	Air	Same As Above
B24102437-010	Particulate filter C1103515 TSP Pine St	10/03/24 00:00	10/29/24	Air	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 So. 27th Street, Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

Energy Laboratories, Inc. verifies the reported results for the analysis has been technically reviewed and approved for release.

If you have any questions regarding these test results, please contact your Project Manager.

CLIENT: Bison Engineering
Project: Montana Resources/Greely School PW
Work Order: B24102437

Report Date: 11/12/24

CASE NARRATIVE

Per client request, results are based on the final concentration using 25 mL of extraction solution per filter.

All "J" qualified analyte concentrations are below the laboratory minimum recommended Reporting Limit (RL) and above the lowest method detection limit (MDL)/Limit of Detection (LOD). Inorganic analytes reported with "J" qualifiers should be verified against the corresponding method blank and continuing calibration blanks. Inorganic "J" quantitations near the MDL/LOD may be suspect due to possible method background levels, sample matrix effects, and/or daily variability in instrument signal-to-noise levels.

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1103506 TSP Pine St
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B24102437-001
Collection Date: 09/21/24
DateReceived: 10/29/24
Report Date: 11/12/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	11/11/24 17:16 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 70		194924
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/11/24 17:16 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 70		194924
Copper	0.80	ug/filter	J	1.0	0.16	E200.8	11/12/24 11:49 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 271		194924
Lead	0.046	ug/filter	J	1.0	0.042	E200.8	11/12/24 11:49 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 271		194924
Manganese	0.26	ug/filter	J	1.0	0.18	E200.8	11/12/24 11:49 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 271		194924
Molybdenum	0.13	ug/filter	J	1.0	0.0050	E200.8	11/12/24 11:49 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 271		194924
Zinc	0.46	ug/filter	J	1.0	0.30	E200.8	11/12/24 11:49 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 271		194924

Report Definitions:
RL - Analyte Reporting Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
J - Estimated value - analyte was present but less than the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1103507 TSP Pine St
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B24102437-002
Collection Date: 09/15/24
DateReceived: 10/29/24
Report Date: 11/12/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	11/11/24 17:22 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 71		194924
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/11/24 17:22 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 71		194924
Copper	1.4	ug/filter		1.0	0.16	E200.8	11/11/24 17:22 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 71		194924
Lead	0.062	ug/filter	J	1.0	0.042	E200.8	11/12/24 11:55 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 272		194924
Manganese	0.36	ug/filter	J	1.0	0.18	E200.8	11/12/24 11:55 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 272		194924
Molybdenum	0.15	ug/filter	J	1.0	0.0050	E200.8	11/12/24 11:55 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 272		194924
Zinc	0.69	ug/filter	J	1.0	0.30	E200.8	11/12/24 11:55 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 272		194924

Report Definitions:
RL - Analyte Reporting Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
J - Estimated value - analyte was present but less than the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1103508 TSP Walnut St
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B24102437-003
Collection Date: 09/15/24
DateReceived: 10/29/24
Report Date: 11/12/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	11/11/24 17:28 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 72		194924
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/11/24 17:28 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 72		194924
Copper	0.93	ug/filter	J	1.0	0.16	E200.8	11/12/24 12:01 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 273		194924
Lead	0.061	ug/filter	J	1.0	0.042	E200.8	11/12/24 12:01 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 273		194924
Manganese	0.34	ug/filter	J	1.0	0.18	E200.8	11/12/24 12:01 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 273		194924
Molybdenum	0.054	ug/filter	J	1.0	0.0050	E200.8	11/12/24 12:01 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 273		194924
Zinc	0.49	ug/filter	J	1.0	0.30	E200.8	11/12/24 12:01 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 273		194924

Report Definitions:
RL - Analyte Reporting Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
J - Estimated value - analyte was present but less than the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1103509 TSP Walnut St
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B24102437-004
Collection Date: 09/21/24
DateReceived: 10/29/24
Report Date: 11/12/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	11/11/24 17:34 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 73		194924
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/11/24 17:34 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 73		194924
Copper	0.30	ug/filter	J	1.0	0.16	E200.8	11/12/24 12:06 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 274		194924
Lead	ND	ug/filter		1.0	0.042	E200.8	11/11/24 17:34 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 73		194924
Manganese	0.26	ug/filter	J	1.0	0.18	E200.8	11/12/24 12:06 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 274		194924
Molybdenum	0.020	ug/filter	J	1.0	0.0050	E200.8	11/12/24 12:06 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 274		194924
Zinc	0.35	ug/filter	J	1.0	0.30	E200.8	11/12/24 12:06 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 274		194924

Report Definitions:
RL - Analyte Reporting Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
J - Estimated value - analyte was present but less than the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1103510 Field Blank
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B24102437-005
Collection Date: 09/25/24 10:46
DateReceived: 10/29/24
Report Date: 11/12/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	11/11/24 17:40 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 74		194924
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/11/24 17:40 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 74		194924
Copper	0.21	ug/filter	J	1.0	0.16	E200.8	11/12/24 12:12 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 275		194924
Lead	ND	ug/filter		1.0	0.042	E200.8	11/11/24 17:40 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 74		194924
Manganese	ND	ug/filter		1.0	0.18	E200.8	11/11/24 17:40 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 74		194924
Molybdenum	0.0078	ug/filter	J	1.0	0.0050	E200.8	11/12/24 12:12 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 275		194924
Zinc	ND	ug/filter		1.0	0.30	E200.8	11/11/24 17:40 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 74		194924

Report Definitions:
RL - Analyte Reporting Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
J - Estimated value - analyte was present but less than the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1103511 TSP Pine St
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B24102437-006
Collection Date: 09/27/24
DateReceived: 10/29/24
Report Date: 11/12/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	11/11/24 17:46 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 75		194924
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/11/24 17:46 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 75		194924
Copper	1.9	ug/filter		1.0	0.16	E200.8	11/11/24 17:46 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 75		194924
Lead	0.12	ug/filter	J	1.0	0.042	E200.8	11/12/24 12:18 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 276		194924
Manganese	0.42	ug/filter	J	1.0	0.18	E200.8	11/12/24 12:18 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 276		194924
Molybdenum	0.39	ug/filter	J	1.0	0.0050	E200.8	11/12/24 12:18 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 276		194924
Zinc	0.74	ug/filter	J	1.0	0.30	E200.8	11/12/24 12:18 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 276		194924

Report Definitions:
RL - Analyte Reporting Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
J - Estimated value - analyte was present but less than the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1103512 Lab Blank
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B24102437-007
Collection Date: 09/09/24 17:00
DateReceived: 10/29/24
Report Date: 11/12/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	11/11/24 17:51 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 76		194924
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/11/24 17:51 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 76		194924
Copper	ND	ug/filter		1.0	0.16	E200.8	11/11/24 17:51 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 76		194924
Lead	ND	ug/filter		1.0	0.042	E200.8	11/11/24 17:51 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 76		194924
Manganese	ND	ug/filter		1.0	0.18	E200.8	11/11/24 17:51 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 76		194924
Molybdenum	ND	ug/filter		1.0	0.0050	E200.8	11/11/24 17:51 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 76		194924
Zinc	ND	ug/filter		1.0	0.30	E200.8	11/11/24 17:51 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 76		194924

Report Definitions: RL - Analyte Reporting Limit MCL - Maximum Contaminant Level ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1103513 TSP Walnut St
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B24102437-008
Collection Date: 09/27/24
DateReceived: 10/29/24
Report Date: 11/12/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	11/11/24 18:09 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 79		194924
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/11/24 18:09 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 79		194924
Copper	0.80	ug/filter	J	1.0	0.16	E200.8	11/12/24 12:36 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 279		194924
Lead	0.12	ug/filter	J	1.0	0.042	E200.8	11/12/24 12:36 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 279		194924
Manganese	0.41	ug/filter	J	1.0	0.18	E200.8	11/12/24 12:36 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 279		194924
Molybdenum	0.40	ug/filter	J	1.0	0.0050	E200.8	11/12/24 12:36 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 279		194924
Zinc	0.75	ug/filter	J	1.0	0.30	E200.8	11/12/24 12:36 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 279		194924

Report Definitions:
RL - Analyte Reporting Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
J - Estimated value - analyte was present but less than the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1103514 TSP Walnut St
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B24102437-009
Collection Date: 10/03/24
DateReceived: 10/29/24
Report Date: 11/12/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	11/12/24 16:09 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 315		194924
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/12/24 16:09 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 315		194924
Copper	1.5	ug/filter		1.0	0.16	E200.8	11/11/24 18:15 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 80		194924
Lead	0.11	ug/filter	J	1.0	0.042	E200.8	11/12/24 12:42 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 280		194924
Manganese	4.1	ug/filter		1.0	0.18	E200.8	11/11/24 18:15 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 80		194924
Molybdenum	0.034	ug/filter	J	1.0	0.0050	E200.8	11/12/24 12:42 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 280		194924
Zinc	1.3	ug/filter		1.0	0.30	E200.8	11/11/24 18:15 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 80		194924

Report Definitions:
RL - Analyte Reporting Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
J - Estimated value - analyte was present but less than the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1103515 TSP Pine St
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B24102437-010
Collection Date: 10/03/24
DateReceived: 10/29/24
Report Date: 11/12/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	11/11/24 18:21 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 81		194924
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/11/24 18:21 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 81		194924
Copper	1.7	ug/filter		1.0	0.16	E200.8	11/11/24 18:21 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 81		194924
Lead	0.12	ug/filter	J	1.0	0.042	E200.8	11/12/24 12:47 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 281		194924
Manganese	0.65	ug/filter	J	1.0	0.18	E200.8	11/12/24 12:47 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 281		194924
Molybdenum	0.078	ug/filter	J	1.0	0.0050	E200.8	11/12/24 12:47 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 281		194924
Zinc	1.0	ug/filter	J	1.0	0.30	E200.8	11/12/24 12:47 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 281		194924

Report Definitions:
RL - Analyte Reporting Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
J - Estimated value - analyte was present but less than the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Work Order: B24102437 **Report Date:** 11/12/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS207-B_241111A	
Lab ID: QCS	7	Initial Calibration Verification Standard								11/11/24 12:46
Arsenic		0.0482	mg/L	0.0050	96	90	110			
Cadmium		0.0240	mg/L	0.0010	96	90	110			
Copper		0.0503	mg/L	0.010	101	90	110			
Lead		0.0521	mg/L	0.0010	104	90	110			
Manganese		0.243	mg/L	0.0050	97	90	110			
Molybdenum		0.0468	mg/L	0.0050	94	90	110			
Zinc		0.0498	mg/L	0.0050	100	90	110			
Lab ID: CCV	7	Continuing Calibration Verification Standard								11/11/24 16:35
Arsenic		0.0480	mg/L	0.0050	96	90	110			
Cadmium		0.0471	mg/L	0.0010	94	90	110			
Copper		0.0495	mg/L	0.010	99	90	110			
Lead		0.0486	mg/L	0.0010	97	90	110			
Manganese		0.0483	mg/L	0.0050	97	90	110			
Molybdenum		0.0466	mg/L	0.0050	93	90	110			
Zinc		0.0495	mg/L	0.0050	99	90	110			
Lab ID: CCV	7	Continuing Calibration Verification Standard								11/11/24 17:57
Arsenic		0.0477	mg/L	0.0050	95	90	110			
Cadmium		0.0470	mg/L	0.0010	94	90	110			
Copper		0.0495	mg/L	0.010	99	90	110			
Lead		0.0487	mg/L	0.0010	97	90	110			
Manganese		0.0485	mg/L	0.0050	97	90	110			
Molybdenum		0.0464	mg/L	0.0050	93	90	110			
Zinc		0.0486	mg/L	0.0050	97	90	110			
Lab ID: QCS	7	Initial Calibration Verification Standard								11/12/24 04:52
Arsenic		0.0494	mg/L	0.0050	99	90	110			
Cadmium		0.0254	mg/L	0.0010	102	90	110			
Copper		0.0512	mg/L	0.010	102	90	110			
Lead		0.0490	mg/L	0.0010	98	90	110			
Manganese		0.248	mg/L	0.0050	99	90	110			
Molybdenum		0.0498	mg/L	0.0050	100	90	110			
Zinc		0.0510	mg/L	0.0050	102	90	110			
Lab ID: CCV	7	Continuing Calibration Verification Standard								11/12/24 11:08
Arsenic		0.0486	mg/L	0.0050	97	90	110			
Cadmium		0.0488	mg/L	0.0010	98	90	110			
Copper		0.0501	mg/L	0.010	100	90	110			
Lead		0.0483	mg/L	0.0010	97	90	110			
Manganese		0.0487	mg/L	0.0050	97	90	110			
Molybdenum		0.0489	mg/L	0.0050	98	90	110			
Zinc		0.0500	mg/L	0.0050	100	90	110			
Lab ID: CCV	7	Continuing Calibration Verification Standard								11/12/24 12:24
Arsenic		0.0491	mg/L	0.0050	98	90	110			
Cadmium		0.0493	mg/L	0.0010	99	90	110			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Work Order: B24102437 **Report Date:** 11/12/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8									Analytical Run: ICPMS207-B_241111A	
Lab ID: CCV	7	Continuing Calibration Verification Standard							11/12/24 12:24	
Copper		0.0511	mg/L	0.010	102	90	110			
Lead		0.0487	mg/L	0.0010	97	90	110			
Manganese		0.0492	mg/L	0.0050	98	90	110			
Molybdenum		0.0488	mg/L	0.0050	98	90	110			
Zinc		0.0509	mg/L	0.0050	102	90	110			
Lab ID: QCS	7	Initial Calibration Verification Standard							11/12/24 15:28	
Arsenic		0.0513	mg/L	0.0050	103	90	110			
Cadmium		0.0262	mg/L	0.0010	105	90	110			
Copper		0.0537	mg/L	0.010	107	90	110			
Lead		0.0488	mg/L	0.0010	98	90	110			
Manganese		0.264	mg/L	0.0050	106	90	110			
Molybdenum		0.0503	mg/L	0.0050	101	90	110			
Zinc		0.0530	mg/L	0.0050	106	90	110			
Lab ID: CCV	7	Continuing Calibration Verification Standard							11/12/24 15:39	
Arsenic		0.0510	mg/L	0.0050	102	90	110			
Cadmium		0.0507	mg/L	0.0010	101	90	110			
Copper		0.0518	mg/L	0.010	104	90	110			
Lead		0.0478	mg/L	0.0010	96	90	110			
Manganese		0.0513	mg/L	0.0050	103	90	110			
Molybdenum		0.0507	mg/L	0.0050	101	90	110			
Zinc		0.0510	mg/L	0.0050	102	90	110			
Method: E200.8									Batch: 194924	
Lab ID: MB-194924	7	Method Blank				Run: ICPMS207-B_241111A			11/11/24 16:53	
Arsenic		ND	ug/filter	0.06						
Cadmium		ND	ug/filter	0.006						
Copper		ND	ug/filter	0.2						
Lead		ND	ug/filter	0.04						
Manganese		ND	ug/filter	0.2						
Molybdenum		0.007	ug/filter	0.005						
Zinc		ND	ug/filter	0.3						
Lab ID: LCS-194924	7	Laboratory Control Sample				Run: ICPMS207-B_241111A			11/11/24 16:59	
Arsenic		99.1	ug/filter	1.0	99	85	115			
Cadmium		48.9	ug/filter	1.0	98	85	115			
Copper		104	ug/filter	5.0	104	85	115			
Lead		101	ug/filter	1.0	101	85	115			
Manganese		520	ug/filter	5.0	104	85	115			
Molybdenum		96.8	ug/filter	1.0	97	85	115			
Zinc		103	ug/filter	5.0	103	85	115			
Lab ID: LCSD-194924	7	Laboratory Control Sample Duplicate				Run: ICPMS207-B_241111A			11/11/24 17:05	
Arsenic		102	ug/filter	1.0	102	85	115			
Cadmium		50.2	ug/filter	1.0	100	85	115			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Work Order: B24102437 **Report Date:** 11/12/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 194924
Lab ID: LCSD-194924	7	Laboratory Control Sample Duplicate				Run: ICPMS207-B_241111A				11/11/24 17:05
Copper		106	ug/filter	5.0	106	85	115			
Lead		100	ug/filter	1.0	100	85	115			
Manganese		537	ug/filter	5.0	107	85	115			
Molybdenum		97.3	ug/filter	1.0	97	85	115			
Zinc		107	ug/filter	5.0	107	85	115			
Lab ID: MB-194924	7	Method Blank				Run: ICPMS207-B_241111A				11/12/24 11:43
Arsenic		ND	ug/filter	0.06						
Cadmium		ND	ug/filter	0.006						
Copper		ND	ug/filter	0.2						
Lead		ND	ug/filter	0.04						
Manganese		ND	ug/filter	0.2						
Molybdenum		ND	ug/filter	0.005						
Zinc		ND	ug/filter	0.3						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

Work Order Receipt Checklist

Bison Engineering

B24102437

Login completed by: Danielle N. Harris
Date Received: 10/29/2024

Reviewed by: tjones
Received by: CMJ

Reviewed Date: 10/30/2024
Carrier name: Hand Deliver

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☑	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	2.1°C Blue Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

Trip Blanks and/or Blind Duplicate samples are assigned the earliest collection time for the associated requested analysis in order to evaluate the holding time unless specifically indicated.

Contact and Corrective Action Comments:

None

Laboratory Certifications and Accreditations

Current certificates are available at www.energylab.com website:

	Agency	Number
Billings, MT	Alaska	17-023
	California	3087
	Colorado	MT00005
	Department of Defense (DoD)/ISO17025	ADE-2588
	Florida (Primary NELAP)	E87668
	Idaho	MT00005
	Louisiana	05079
	Montana	CERT0044
	Nebraska	NE-OS-13-04
	Nevada	NV-C24-00250
	North Dakota	R-007
	National Radon Proficiency	109383-RMP
	Oregon	4184
	South Dakota	ARSD 74:04:07
	Texas	TX-C24-00302
	US EPA Region VIII	Reciprocal
	USDA Soil Permit	P330-20-00170
	Washington	C1039
Casper, WY	Alaska	20-006
	California	3021
	Colorado	WY00002
	Florida (Primary NELAP)	E87641
	Idaho	WY00002
	Louisiana	05083
	Montana	CERT0002
	Nebraska	NE-OS-08-04
	Nevada	NV-C24-00245
	North Dakota	R-125
	Oregon	WY200001
	South Dakota	WY00002
	Texas	T104704181-23-21
	US EPA Region VIII	WY00002
	USNRC License	49-26846-01
	Washington	C1012
Gillette, WY	US EPA Region VIII	WY00006
Helena, MT	Colorado	MT00945
	Montana	CERT0079
	Nevada	NV-C24-00119
	US EPA Region VIII	Reciprocal
	USDA Soil Permit	P330-20-00090

Chain of Custody & Analytical Request Record

ENERGY LABORATORIES — Trust our People. Trust our Data.

www.energylab.com

Account Information *(Billing information)*

Company/Name	Bison Engineering, Inc.
Contact	Shelley Argott-Brown
Phone	(406) 442-5768
Mailing Address	3143 E Lyndale Avenue
City, State, Zip	Helena MT, 59601
Email	sbrown-argott@bison-eng.com
Receive Invoice	☐Hard Copy ■Email
Receive Report	☐Hard Copy ☐Email
Purchase Order	MTR224018
Quote	
Bottle Order	

Report Information *(if different than Account Information)*

Company/Name	Bison Engineering, Inc.
Contact	Don Milmine
Phone	(406) 208-4833
Mailing Address	2751 Enterprise Avenue Suite 2
City, State, Zip	Billings, MT 59102
Email	dmilmine@bison-eng.com
Receive Report	☐Hard Copy ■Email
Special Report/Formats:	☐ LEVEL IV ☐ NELAC ☐ EDD/EDT *(contact laboratory)* ☐ Other_____

Comments

Analyze per history

Project Information

Project Name, PWSID, Permit, etc.	Momtana Resources/Greely School PW
Sampler Name	Sampler Phone
Sample Origin State	Montana
EPA/State Compliance	■ Yes ☐ No

URANIUM MINING CLIENTS MUST indicate sample type.
☐ NOT Source or Byproduct Material
☐ Source/Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☐ 11e.(2) Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Other
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

	Sample Identification *(Name, Location, Interval, etc.)*	Collection Date	Collection Time	Number of Containers	Matrix *(See Codes Above)*	Arsenic	Cadmium	Copper	Lead	Manganese	Molybdenum	Zinc			See Attached	RUSH TAT	ELI LAB ID *Laboratory Use Only*
1	Particulate filter C1103506 TSP Pine St	9/21/24	24 hr composite	1	on Teflon filter	x	x	x	x	x	x	x					B24102437
2	Particulate filter C1103507 TSP Pine St	9/15/24	24 hr composite	1	on Teflon filter	x	x	x	x	x	x	x					
3	Particulate filter C1103508 TSP Walnut St	9/15/24	24 hr composite	1	on Teflon filter	x	x	x	x	x	x	x					
4	Particulate filter C1103509 TSP Walnut St	9/21/24	24 hr composite	1	on Teflon filter	x	x	x	x	x	x	x					
5	Particulate filter C1103510 Field Blank	9/25/24	1046	1	on Teflon filter	x	x	x	x	x	x	x					
6	Particulate filter C1103511 TSP Pine St	9/27/24	24 hr composite	1	on Teflon filter	x	x	x	x	x	x	x					
7	Particulate filter C1103512 Lab Blank	9/9/24	1700	1	on Teflon filter	x	x	x	x	x	x	x					
8	Particulate filter C1103513 TSP Walnut St	9/27/24	24 hr composite	1	on Teflon filter	x	x	x	x	x	x	x					
9	Particulate filter C1103514 TSP Walnut ST	10/3/24	24 hr composite	1	on Teflon filter	x	x	x	x	x	x	x					
10	Particulate filter C1103515 TSP Pine ST	10/3/24	24 hr composite	1	on Teflon filter	x	x	x	x	x	x	x					

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Don Milmine	10/29/24 1054	Don V. Milmine			
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
				Crystal Jones	10/29/24 1054	

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals Y N C B	Intact Y N	Receipt Temp °C	Temp Blank Y N	On Ice Y N	Payment Type CC Cash Check_____	Amount $	Receipt Number *(cash/check only)*

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

ELI-COC-10/18 v.3

APPENDIX C: LABORATORY ANALYSIS REPORTS - DUSTFALL

ANALYTICAL SUMMARY REPORT

August 21, 2024

Bison Engineering
3143 E Lyndale Ave
Helena, MT 59601-6401

Work Order: H24080038 Quote ID: H16951

Project Name: Montana Resources Dustfall

Energy Laboratories Inc Helena MT received the following 4 samples for Bison Engineering on 8/1/2024 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H24080038-001	DF-GREELEY-012	07/30/24 10:08	08/01/24	Solid	Metals by ICP/ICPMS, Total Total Metals Digestion by SW3050B Soil Preparation USDA1 Soil Parameters
H24080038-002	DF-PINE-012	07/30/24 10:20	08/01/24	Solid	Metals by ICP/ICPMS, Total Total Metals Digestion by SW3050B Soil Parameters
H24080038-003	DF-WALNUT-012	07/30/24 10:47	08/01/24	Solid	Same As Above
H24080038-004	DF-FB-012	07/30/24 10:49	08/01/24	Solid	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

Energy Laboratories, Inc. verifies the reported results for the analysis has been technically reviewed and approved for release.

If you have any questions regarding these test results, please contact your Project Manager.

CLIENT: Bison Engineering
Project: Montana Resources Dustfall
Work Order: H24080038

Report Date: 08/21/24

CASE NARRATIVE

All "J" qualified analyte concentrations are below the laboratory minimum recommended Reporting Limit (RL) and above the calculated method detection limit (MDL). Inorganic analytes reported with "J" qualifiers should be verified against the corresponding method blank and continuing calibration blanks. Inorganic "J" quantitations near the MDL may be suspect due to possible method background levels, sample matrix effects, and/or daily variability in instrument signal-to-noise levels.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Bison Engineering
Project: Montana Resources Dustfall
Lab ID: H24080038-001
Client Sample ID: DF-GREELEY-012

Report Date: 08/21/24
Collection Date: 07/30/24 10:08
DateReceived: 08/01/24
Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Dry Wt, g	0.1202	g		0.00010		USDA1	08/06/24 13:53 / kjb
Wet Wt, g	410.52	g		0.00010		USDA1	08/06/24 13:53 / kjb
METALS, TOTAL - EPA SW846							
Arsenic	31	mg/kg		3		SW6020	08/15/24 18:23 / dck
Cadmium	2	mg/kg		1		SW6020	08/15/24 18:23 / dck
Copper	2380	mg/kg		2		SW6020	08/15/24 18:23 / dck
Lead	129	mg/kg		2		SW6020	08/15/24 18:23 / dck
Manganese	581	mg/kg		2		SW6020	08/15/24 18:23 / dck
Molybdenum	2990	mg/kg		1		SW6020	08/15/24 18:23 / dck
Zinc	543	mg/kg		8		SW6020	08/15/24 18:23 / dck

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Bison Engineering
Project: Montana Resources Dustfall
Lab ID: H24080038-002
Client Sample ID: DF-PINE-012

Report Date: 08/21/24
Collection Date: 07/30/24 10:20
DateReceived: 08/01/24
Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Dry Wt, g	0.1254	g		0.00010		USDA1	08/06/24 13:53 / kjb
Wet Wt, g	429.12	g		0.00010		USDA1	08/06/24 13:53 / kjb
METALS, TOTAL - EPA SW846							
Arsenic	34	mg/kg		2		SW6020	08/15/24 18:30 / dck
Cadmium	3	mg/kg		1		SW6020	08/15/24 18:30 / dck
Copper	4000	mg/kg		2		SW6020	08/15/24 18:30 / dck
Lead	132	mg/kg		2		SW6020	08/15/24 18:30 / dck
Manganese	569	mg/kg		2		SW6020	08/15/24 18:30 / dck
Molybdenum	3900	mg/kg		1		SW6020	08/15/24 18:30 / dck
Zinc	724	mg/kg		7		SW6020	08/15/24 18:30 / dck

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Bison Engineering
Project: Montana Resources Dustfall
Lab ID: H24080038-003
Client Sample ID: DF-WALNUT-012

Report Date: 08/21/24
Collection Date: 07/30/24 10:47
DateReceived: 08/01/24
Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Dry Wt, g	0.1846	g		0.00010		USDA1	08/06/24 13:53 / kjb
Wet Wt, g	528.06	g		0.00010		USDA1	08/06/24 13:53 / kjb
METALS, TOTAL - EPA SW846							
Arsenic	27	mg/kg		2		SW6020	08/15/24 18:33 / dck
Cadmium	2	mg/kg		1		SW6020	08/15/24 18:33 / dck
Copper	1420	mg/kg		1		SW6020	08/15/24 18:33 / dck
Lead	90	mg/kg		1		SW6020	08/15/24 18:33 / dck
Manganese	511	mg/kg		1		SW6020	08/15/24 18:33 / dck
Molybdenum	722	mg/kg		1		SW6020	08/15/24 18:33 / dck
Zinc	413	mg/kg		5		SW6020	08/15/24 18:33 / dck

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Bison Engineering
Project: Montana Resources Dustfall
Lab ID: H24080038-004
Client Sample ID: DF-FB-012

Report Date: 08/21/24
Collection Date: 07/30/24 10:49
DateReceived: 08/01/24
Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Dry Wt, g	0.00	g		0.00010		USDA1	08/06/24 13:53 / kjb
Wet Wt, g	356.91	g		0.00010		USDA1	08/06/24 13:53 / kjb
METALS, TOTAL - EPA SW846							
Arsenic	ND	mg/kg		1		SW6020	08/15/24 18:36 / dck
Cadmium	ND	mg/kg		1		SW6020	08/15/24 18:36 / dck
Copper	0.5	mg/kg	J	1		SW6020	08/15/24 18:36 / dck
Lead	ND	mg/kg		1		SW6020	08/15/24 18:36 / dck
Manganese	0.4	mg/kg	J	1		SW6020	08/15/24 18:36 / dck
Molybdenum	0.2	mg/kg	J	1		SW6020	08/15/24 18:36 / dck
Zinc	ND	mg/kg		1		SW6020	08/15/24 18:36 / dck

Report Definitions:
RL - Analyte Reporting Limit
MCL - Maximum Contaminant Level
QCL - Quality Control Limit
ND - Not detected at the Reporting Limit (RL)
J - Estimated value - analyte was present but less than the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Bison Engineering **Work Order:** H24080038 **Report Date:** 08/21/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020									Analytical Run: ICPMS206-H_240815B	
Lab ID: ICV	7	Initial Calibration Verification Standard								08/15/24 11:56
Arsenic		0.0609	mg/L	0.0010	101	90	110			
Cadmium		0.0311	mg/L	0.0010	104	90	110			
Copper		0.0626	mg/L	0.0010	104	90	110			
Lead		0.0600	mg/L	0.0010	100	90	110			
Manganese		0.306	mg/L	0.0010	102	90	110			
Molybdenum		0.0596	mg/L	0.0010	99	90	110			
Zinc		0.0614	mg/L	0.0010	102	90	110			
Lab ID: ICSA	7	Interference Check Sample A								08/15/24 12:06
Arsenic		ND	mg/L	0.0010						
Cadmium		ND	mg/L	0.0010						
Copper		ND	mg/L	0.0010						
Lead		ND	mg/L	0.0010						
Manganese		ND	mg/L	0.0010		0	0			
Molybdenum		0.855	mg/L	0.0010	107	70	130			
Zinc		ND	mg/L	0.0010						
Lab ID: ICSAB	7	Interference Check Sample AB								08/15/24 12:12
Arsenic		0.0105	mg/L	0.0010	105	70	130			
Cadmium		0.0102	mg/L	0.0010	102	70	130			
Copper		0.0199	mg/L	0.0010	99	70	130			
Lead		ND	mg/L	0.0010		0	0			
Manganese		0.0208	mg/L	0.0010	104	70	130			
Molybdenum		0.858	mg/L	0.0010	107	70	130			
Zinc		0.0117	mg/L	0.0010	117	70	130			
Lab ID: CCV	7	Continuing Calibration Verification Standard								08/15/24 18:10
Arsenic		0.0486	mg/L	0.0010	97	90	110			
Cadmium		0.0494	mg/L	0.0010	99	90	110			
Copper		0.0491	mg/L	0.0010	98	90	110			
Lead		0.0466	mg/L	0.0010	93	90	110			
Manganese		0.0488	mg/L	0.0010	98	90	110			
Molybdenum		0.0487	mg/L	0.0010	97	90	110			
Zinc		0.0501	mg/L	0.0010	100	90	110			
Method: SW6020										Batch: 73232
Lab ID: MB-73232	7	Method Blank				Run: ICPMS206-H_240815B				08/15/24 18:17
Arsenic		ND	mg/kg	0.3						
Cadmium		ND	mg/kg	0.01						
Copper		ND	mg/kg	0.3						
Lead		ND	mg/kg	0.2						
Manganese		ND	mg/kg	0.2						
Molybdenum		ND	mg/kg	0.1						
Zinc		ND	mg/kg	0.9						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Bison Engineering **Work Order:** H24080038 **Report Date:** 08/21/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020									Batch: 73232	
Lab ID: LCS-73232	7	Laboratory Control Sample				Run: ICPMS206-H_240815B			08/15/24 18:20	
Arsenic		159	mg/kg	1.0	81	66.4	104			
Cadmium		99.4	mg/kg	1.0	100	79.2	121			
Copper		120	mg/kg	1.0	88	73.9	113			
Lead		98.9	mg/kg	1.0	94	71.6	128			
Manganese		400	mg/kg	1.0	92	74.4	123			
Molybdenum		118	mg/kg	1.0	93	61.3	124			
Zinc		225	mg/kg	1.9	98	83.1	125			
Lab ID: H24080038-001ADIL	7	Serial Dilution				Run: ICPMS206-H_240815B			08/15/24 18:26	
Arsenic		32.9	mg/kg	13		0	0		10	N
Cadmium		2.47	mg/kg	1.0		0	0		10	N
Copper		2360	mg/kg	11		0	0	0.7	10	
Lead		141	mg/kg	8.3		0	0	8.5	10	
Manganese		623	mg/kg	10		0	0	7.1	10	
Molybdenum		2820	mg/kg	4.6		0	0	5.8	10	
Zinc		593	mg/kg	39		0	0	8.7	10	
Lab ID: LFB-73232	7	Laboratory Fortified Blank				Run: ICPMS206-H_240815B			08/15/24 18:39	
Arsenic		24.0	mg/kg	1.0	96	80	120			
Cadmium		13.1	mg/kg	1.0	105	80	120			
Copper		24.2	mg/kg	1.0	97	80	120			
Lead		24.9	mg/kg	1.0	100	80	120			
Manganese		117	mg/kg	1.0	94	80	120			
Molybdenum		25.1	mg/kg	1.0	101	80	120			
Zinc		23.4	mg/kg	1.0	93	80	120			
Lab ID: LFBD-73232	7	Laboratory Fortified Blank Duplicate				Run: ICPMS206-H_240815B			08/15/24 18:43	
Arsenic		23.6	mg/kg	1.0	94	80	120	1.6	20	
Cadmium		13.0	mg/kg	1.0	104	80	120	0.5	20	
Copper		23.7	mg/kg	1.0	95	80	120	1.9	20	
Lead		25.2	mg/kg	1.0	101	80	120	1.0	20	
Manganese		116	mg/kg	1.0	92	80	120	1.6	20	
Molybdenum		24.8	mg/kg	1.0	99	80	120	1.2	20	
Zinc		23.0	mg/kg	1.0	92	80	120	1.6	20	
Lab ID: H24080038-001AMS	7	Sample Matrix Spike				Run: ICPMS206-H_240815B			08/15/24 18:46	
Arsenic		108	mg/kg	2.5	93	75	125			
Cadmium		87.4	mg/kg	1.0	102	75	125			
Copper		2450	mg/kg	2.1		75	125			A
Lead		221	mg/kg	1.7	111	75	125			
Manganese		664	mg/kg	2.0		75	125			A
Molybdenum		3080	mg/kg	1.0		75	125			A
Zinc		629	mg/kg	7.8		75	125			A
Lab ID: H24080038-001AMSD	7	Sample Matrix Spike Duplicate				Run: ICPMS206-H_240815B			08/15/24 18:49	
Arsenic		107	mg/kg	2.5	92	75	125	0.8	20	
Cadmium		86.0	mg/kg	1.0	101	75	125	1.6	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

A - Analyte level was greater than four times the spike level - in accordance with the method, percent recovery is not calculated

N - Analyte concentration was not sufficiently high to calculate a Relative Percent Difference (RPD) for the serial dilution test

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Bison Engineering **Work Order:** H24080038 **Report Date:** 08/21/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **SW6020**										Batch: 73232
Lab ID: **H24080038-001AMSD**	7	Sample Matrix Spike Duplicate				Run: ICPMS206-H_240815B			08/15/24 18:49	
Copper		2420	mg/kg	2.1		75	125	1.2	20	A
Lead		214	mg/kg	1.7	102	75	125	3.4	20	
Manganese		652	mg/kg	2.0		75	125	1.8	20	A
Molybdenum		3030	mg/kg	1.0		75	125	1.4	20	A
Zinc		612	mg/kg	7.8		75	125	2.8	20	A

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

A - Analyte level was greater than four times the spike level - in accordance with the method, percent recovery is not calculated

Work Order Receipt Checklist

Bison Engineering

H24080038

Login completed by: Rebecca A. Tooke
Date Received: 8/1/2024

Reviewed by: wjohnson
Received by: WJJ

Reviewed Date: 8/5/2024
Carrier name: Hand Deliver

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☐	No ☑	Not Applicable ☐
Container/Temp Blank temperature:	33.1°C No Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

Trip Blanks and/or Blind Duplicate samples are assigned the earliest collection time for the associated requested analysis in order to evaluate the holding time unless specifically indicated.

Contact and Corrective Action Comments:

The collection date/time is not indicated on the containers. Proceeded with the collection date/time as indicated on the chain of custody. 8/1/24 rt

ENERGY LABORATORIES
Trust our People. Trust our Data.

Chain of Custody & Analytical Request Record

www.energylab.com

Account Information *(Billing information)*

Company/Name	Bison Engineering Inc.
Contact	Steve Heck
Phone	406-498-4199
Mailing Address	3143 E Lyndale Ave
City, State, Zip	Helena, MT 59601
Email	sheck@bison-eng.com
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	
Quote	H16951
Bottle Order	

Report Information *(if different than Account Information)*

Company/Name	
Contact	
Phone	
Mailing Address	
City, State, Zip	
Email	
Receive Report	☐Hard Copy ☐Email
Special Report/Formats:	☐ LEVEL IV ☐NELAC ☐ EDD/EDT *(contact laboratory)* ☐ Other_____

Comments

These are dustfall samples.
Collected from 07.02.2024 to 07.30.2024

Project Information

Project Name, PWSID, Permit, etc.	Montana Resources Dustfall
Sampler Name	Steve Heck
Sampler Phone	406-498-4199
Sample Origin State	Montana
EPA/State Compliance	☐ Yes ☒ No

URANIUM MINING CLIENTS MUST indicate sample type
☐ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☐ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Oil
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

	Sample Identification *(Name, Location, Interval, etc.)*	Collection Date	Collection Time	Number of Containers	Matrix *(See Codes Above)*	Analysis Requested: Gravimetric - total mass	Analysis Requested: As, Cd, Cu, Pb, Mn, Mo, Zn	See Attached	RUSH TAT	ELI LAB ID *Laboratory Use Only*
1	DF-GREELEY-012	07/30/2024	10:08 am	1	A	✓	✓			H24080038
2	DF-PINE-012	07/30/2024	10:20 am	1	A	✓	✓			
3	DF-WALNUT-012	07/30/2024	10:47 am	1	A	✓	✓			
4	DF-FB-012	07/30/2024	10:49 am	1	A	✓	✓			
5										
6										
7										
8										
9										

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were **NOT** used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Steve Heck	8/1 1337	Steve Heck			
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
				Wanda JO	8-1 24-13 37	

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number *(cash/check only)*
Hand Del	Box	Y (N) C B	Y N	33.1 °C	Y (N)	Y (N)	CC Cash Check_____	$	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

ANALYTICAL SUMMARY REPORT

September 24, 2024

Bison Engineering
3143 E Lyndale Ave
Helena, MT 59601-6401

Work Order: H24090105 Quote ID: H16951

Project Name: Montana Resources Dustfall

Energy Laboratories Inc Helena MT received the following 4 samples for Bison Engineering on 9/4/2024 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H24090105-001	DF-GREELEY-013	08/29/24 11:10	09/04/24	Solid	Metals by ICP/ICPMS, Total Total Metals Digestion by SW3050B Soil Preparation USDA1 Soil Parameters
H24090105-002	DF-PINE-013	08/29/24 11:22	09/04/24	Solid	Metals by ICP/ICPMS, Total Total Metals Digestion by SW3050B Soil Parameters
H24090105-003	DF-WALNUT-013	08/29/24 11:55	09/04/24	Solid	Same As Above
H24090105-004	DF-FB-013	08/29/24 11:57	09/04/24	Solid	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

Energy Laboratories, Inc. verifies the reported results for the analysis has been technically reviewed and approved for release.

If you have any questions regarding these test results, please contact your Project Manager.

CLIENT: Bison Engineering
Project: Montana Resources Dustfall
Work Order: H24090105

Report Date: 09/24/24

CASE NARRATIVE

All "J" qualified analyte concentrations are below the laboratory minimum recommended Reporting Limit (RL) and above the calculated method detection limit (MDL). Inorganic analytes reported with "J" qualifiers should be verified against the corresponding method blank and continuing calibration blanks. Inorganic "J" quantitations near the MDL may be suspect due to possible method background levels, sample matrix effects, and/or daily variability in instrument signal-to-noise levels.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Bison Engineering
Project: Montana Resources Dustfall
Lab ID: H24090105-001
Client Sample ID: DF-GREELEY-013

Report Date: 09/24/24
Collection Date: 08/29/24 11:10
DateReceived: 09/04/24
Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Dry Wt, g	0.0817	g		0.00010		USDA1	09/12/24 08:21 / kjb
Wet Wt, g	525.75	g		0.00010		USDA1	09/12/24 08:21 / kjb
METALS, TOTAL - EPA SW846							
Arsenic	66	mg/kg		9		SW6020	09/13/24 15:54 / dck
Cadmium	8	mg/kg		1		SW6020	09/13/24 15:54 / dck
Copper	6000	mg/kg		8		SW6020	09/13/24 15:54 / dck
Lead	297	mg/kg		6		SW6020	09/13/24 15:54 / dck
Manganese	2160	mg/kg		8		SW6020	09/13/24 15:54 / dck
Molybdenum	8010	mg/kg		3		SW6020	09/13/24 15:54 / dck
Zinc	1630	mg/kg		30		SW6020	09/13/24 15:54 / dck

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Bison Engineering
Project: Montana Resources Dustfall
Lab ID: H24090105-002
Client Sample ID: DF-PINE-013

Report Date: 09/24/24
Collection Date: 08/29/24 11:22
DateReceived: 09/04/24
Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Dry Wt, g	0.1161	g		0.00010		USDA1	09/12/24 08:21 / kjb
Wet Wt, g	504.01	g		0.00010		USDA1	09/12/24 08:21 / kjb
METALS, TOTAL - EPA SW846							
Arsenic	59	mg/kg		6		SW6020	09/13/24 16:15 / dck
Cadmium	7	mg/kg		1		SW6020	09/13/24 16:15 / dck
Copper	6420	mg/kg		6		SW6020	09/13/24 16:15 / dck
Lead	284	mg/kg		4		SW6020	09/13/24 16:15 / dck
Manganese	1700	mg/kg		5		SW6020	09/13/24 16:15 / dck
Molybdenum	5600	mg/kg		2		SW6020	09/13/24 16:15 / dck
Zinc	1610	mg/kg		20		SW6020	09/13/24 16:15 / dck

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Bison Engineering
Project: Montana Resources Dustfall
Lab ID: H24090105-003
Client Sample ID: DF-WALNUT-013

Report Date: 09/24/24
Collection Date: 08/29/24 11:55
DateReceived: 09/04/24
Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Dry Wt, g	0.1235	g		0.00010		USDA1	09/12/24 08:21 / kjb
Wet Wt, g	447.96	g		0.00010		USDA1	09/12/24 08:21 / kjb
METALS, TOTAL - EPA SW846							
Arsenic	41	mg/kg		6		SW6020	09/13/24 16:19 / dck
Cadmium	5	mg/kg		1		SW6020	09/13/24 16:19 / dck
Copper	3870	mg/kg		5		SW6020	09/13/24 16:19 / dck
Lead	240	mg/kg		4		SW6020	09/13/24 16:19 / dck
Manganese	1630	mg/kg		5		SW6020	09/13/24 16:19 / dck
Molybdenum	2400	mg/kg		2		SW6020	09/13/24 16:19 / dck
Zinc	1290	mg/kg		20		SW6020	09/13/24 16:19 / dck

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Bison Engineering
Project: Montana Resources Dustfall
Lab ID: H24090105-004
Client Sample ID: DF-FB-013

Report Date: 09/24/24
Collection Date: 08/29/24 11:57
DateReceived: 09/04/24
Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Dry Wt, g	-0.016	g		0.00010		USDA1	09/12/24 08:21 / kjb
Wet Wt, g	288.24	g		0.00010		USDA1	09/12/24 08:21 / kjb
METALS, TOTAL - EPA SW846							
Arsenic	ND	mg/kg		1		SW6020	09/13/24 16:23 / dck
Cadmium	ND	mg/kg		1		SW6020	09/13/24 16:23 / dck
Copper	0.6	mg/kg	J	1		SW6020	09/13/24 16:23 / dck
Lead	ND	mg/kg		1		SW6020	09/13/24 16:23 / dck
Manganese	ND	mg/kg		1		SW6020	09/13/24 16:23 / dck
Molybdenum	ND	mg/kg		1		SW6020	09/13/24 16:23 / dck
Zinc	ND	mg/kg	D	2		SW6020	09/13/24 16:23 / dck

Report Definitions:

RL - Analyte Reporting Limit
QCL - Quality Control Limit
D - Reporting Limit (RL) increased due to sample matrix
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)
J - Estimated value - analyte was present but less than the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Bison Engineering **Work Order:** H24090105 **Report Date:** 09/24/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **SW6020**									Analytical Run: ICPMS206-H_240913B	
Lab ID: **ICV**	7	Initial Calibration Verification Standard								09/13/24 12:33
Arsenic		0.0605	mg/L	0.0010	101	90	110			
Cadmium		0.0304	mg/L	0.0010	101	90	110			
Copper		0.0619	mg/L	0.0010	103	90	110			
Lead		0.0623	mg/L	0.0010	104	90	110			
Manganese		0.307	mg/L	0.0010	102	90	110			
Molybdenum		0.0598	mg/L	0.0010	100	90	110			
Zinc		0.0620	mg/L	0.0010	103	90	110			
Lab ID: **ICSA**	7	Interference Check Sample A								09/13/24 12:43
Arsenic		ND	mg/L	0.0010						
Cadmium		ND	mg/L	0.0010						
Copper		ND	mg/L	0.0010						
Lead		ND	mg/L	0.0010						
Manganese		ND	mg/L	0.0010		0	0			
Molybdenum		0.902	mg/L	0.0010	113	70	130			
Zinc		ND	mg/L	0.0010						
Lab ID: **ICSAB**	7	Interference Check Sample AB								09/13/24 12:49
Arsenic		0.0107	mg/L	0.0010	107	70	130			
Cadmium		0.0107	mg/L	0.0010	107	70	130			
Copper		0.0207	mg/L	0.0010	103	70	130			
Lead		ND	mg/L	0.0010		0	0			
Manganese		0.0212	mg/L	0.0010	106	70	130			
Molybdenum		0.895	mg/L	0.0010	112	70	130			
Zinc		0.0123	mg/L	0.0010	123	70	130			
Lab ID: **CCV**	7	Continuing Calibration Verification Standard								09/13/24 15:26
Arsenic		0.0490	mg/L	0.0010	98	90	110			
Cadmium		0.0488	mg/L	0.0010	98	90	110			
Copper		0.0488	mg/L	0.0010	98	90	110			
Lead		0.0501	mg/L	0.0010	100	90	110			
Manganese		0.0488	mg/L	0.0010	98	90	110			
Molybdenum		0.0497	mg/L	0.0010	99	90	110			
Zinc		0.0489	mg/L	0.0010	98	90	110			
Lab ID: **CCV**	7	Continuing Calibration Verification Standard								09/13/24 16:27
Arsenic		0.0489	mg/L	0.0010	98	90	110			
Cadmium		0.0495	mg/L	0.0010	99	90	110			
Copper		0.0487	mg/L	0.0010	97	90	110			
Lead		0.0498	mg/L	0.0010	100	90	110			
Manganese		0.0483	mg/L	0.0010	97	90	110			
Molybdenum		0.0506	mg/L	0.0010	101	90	110			
Zinc		0.0483	mg/L	0.0010	97	90	110			
Method: **SW6020**									Batch: 73869	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Bison Engineering **Work Order:** H24090105 **Report Date:** 09/24/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020									Batch: 73869	
Lab ID: MB-73869	7	Method Blank				Run: ICPMS206-H_240913B			09/13/24 15:34	
Arsenic		ND	mg/kg	0.8						
Cadmium		ND	mg/kg	0.04						
Copper		ND	mg/kg	0.6						
Lead		ND	mg/kg	0.5						
Manganese		ND	mg/kg	0.6						
Molybdenum		ND	mg/kg	0.3						
Zinc		ND	mg/kg	2						
Lab ID: LCS-73869	7	Laboratory Control Sample				Run: ICPMS206-H_240913B			09/13/24 15:38	
Arsenic		363	mg/kg	1.5	94	66.4	104			
Cadmium		234	mg/kg	1.0	119	79.2	121			
Copper		263	mg/kg	1.3	97	73.9	113			
Lead		248	mg/kg	1.0	119	71.6	128			
Manganese		888	mg/kg	1.2	103	74.4	123			
Molybdenum		277	mg/kg	1.0	110	61.3	124			
Zinc		516	mg/kg	4.7	113	83.1	125			
Lab ID: LFB-73869	7	Laboratory Fortified Blank				Run: ICPMS206-H_240913B			09/13/24 15:42	
Arsenic		55.0	mg/kg	1.0	88	80	120			
Cadmium		32.3	mg/kg	1.0	103	80	120			
Copper		55.5	mg/kg	1.0	89	80	120			
Lead		63.0	mg/kg	1.0	101	80	120			
Manganese		269	mg/kg	1.0	86	80	120			
Molybdenum		62.8	mg/kg	1.0	100	80	120			
Zinc		54.6	mg/kg	2.4	87	80	120			
Lab ID: LFBD-73869	7	Laboratory Fortified Blank Duplicate				Run: ICPMS206-H_240913B			09/13/24 15:46	
Arsenic		55.4	mg/kg	1.0	89	80	120			
Cadmium		32.2	mg/kg	1.0	103	80	120			
Copper		55.2	mg/kg	1.0	88	80	120			
Lead		62.2	mg/kg	1.0	100	80	120			
Manganese		272	mg/kg	1.0	87	80	120			
Molybdenum		64.2	mg/kg	1.0	103	80	120			
Zinc		54.4	mg/kg	2.4	87	80	120			
Lab ID: H24090105-001ADIL	7	Serial Dilution				Run: ICPMS206-H_240913B			09/13/24 15:58	
Arsenic		72.5	mg/kg	46		0	0		10	N
Cadmium		8.30	mg/kg	2.2		0	0		10	N
Copper		6220	mg/kg	39		0	0	3.6	10	
Lead		302	mg/kg	31		0	0		10	N
Manganese		2350	mg/kg	38		0	0	8.5	10	
Molybdenum		7830	mg/kg	17		0	0	2.2	10	
Zinc		1790	mg/kg	140		0	0	9.1	10	
Lab ID: H24090105-001AMS	7	Sample Matrix Spike				Run: ICPMS206-H_240913B			09/13/24 16:03	
Arsenic		335	mg/kg	9.2	88	75	125			
Cadmium		322	mg/kg	1.0	103	75	125			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

N - Analyte concentration was not sufficiently high to calculate a Relative Percent Difference (RPD) for the serial dilution test

QA/QC Summary Report

Prepared by Helena, MT Branch

Client: Bison Engineering **Work Order:** H24090105 **Report Date:** 09/24/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **SW6020**										Batch: 73869
Lab ID: **H24090105-001AMS**	7	Sample Matrix Spike				Run: ICPMS206-H_240913B			09/13/24 16:03	
Copper		6240	mg/kg	7.8		75	125			A
Lead		585	mg/kg	6.1	94	75	125			
Manganese		2390	mg/kg	7.5		75	125			A
Molybdenum		8440	mg/kg	3.4		75	125			A
Zinc		1870	mg/kg	29		75	125			A
Lab ID: **H24090105-001AMSD**	7	Sample Matrix Spike Duplicate				Run: ICPMS206-H_240913B			09/13/24 16:07	
Arsenic		341	mg/kg	9.2	90	75	125	1.6	20	
Cadmium		321	mg/kg	1.0	103	75	125	0.2	20	
Copper		6240	mg/kg	7.8		75	125	0.1	20	A
Lead		604	mg/kg	6.1	100	75	125	3.2	20	
Manganese		2450	mg/kg	7.5		75	125	2.2	20	A
Molybdenum		8510	mg/kg	3.4		75	125	0.9	20	A
Zinc		1900	mg/kg	29		75	125	1.6	20	A

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

A - Analyte level was greater than four times the spike level - in accordance with the method, percent recovery is not calculated

Work Order Receipt Checklist

Bison Engineering

H24090105

Login completed by:	Rebecca A. Tooke	Date Received:	9/4/2024
Reviewed by:	ahowell	Received by:	RAT
Reviewed Date:	9/11/2024	Carrier name:	Hand Deliver

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☐	No ☑	Not Applicable ☐
Container/Temp Blank temperature:	24.7°C No Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

Trip Blanks and/or Blind Duplicate samples are assigned the earliest collection time for the associated requested analysis in order to evaluate the holding time unless specifically indicated.

Contact and Corrective Action Comments:

The collection date/times indicated are not on all containers. Proceeded with the collection date/time as indicated on the chain of custody. 09/11/24 ALH

ENERGY LABORATORIES
Trust our People. Trust our Data.

Chain of Custody & Analytical Request Record

www.energylab.com

Account Information *(Billing information)*

Company/Name	Bison Engineering Inc.
Contact	Steve Heck
Phone	406-498-4199
Mailing Address	3143 E Lyndale Ave
City, State, Zip	Helena, MT 59601
Email	sheck@bison-eng.com
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	MTR224018
Quote	H16951
Bottle Order	

Report Information *(if different than Account Information)*

Company/Name	
Contact	
Phone	
Mailing Address	
City, State, Zip	
Email	
Receive Report	☐Hard Copy ☐Email
Special Report/Formats:	☐ LEVEL IV ☐NELAC ☐ EDD/EDT *(contact laboratory)* ☐ Other_____

Comments

These are dustfall samples.
Collected from 07.30.2024 to 08.29.2024

Project Information

Project Name, PWSID, Permit, etc.	Montana Resources Dustfall
Sampler Name	Steve Heck
Sampler Phone	406-498-4199
Sample Origin State	Montana
EPA/State Compliance	☐ Yes ☒ No

URANIUM MINING CLIENTS MUST indicate sample type
☐ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☐ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Oil
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

	Sample Identification *(Name, Location, Interval, etc.)*	Collection Date	Collection Time	Number of Containers	Matrix *(See Codes Above)*	Analysis Requested: Gravimetric - total mass	Analysis Requested: As, Cd, Cu, Pb, Mn, Mo, Zn	See Attached	RUSH TAT	ELI LAB ID *Laboratory Use Only*
1	DF-GREELEY-013	08/29/2024	11:10 am	1	A	✓	✓			H240905
2	DF-PINE-013	08/29/2024	11:22 am	1	A	✓	✓			
3	DF-WALNUT-013	08/29/2024	11:55 am	1	A	✓	✓			
4	DF-FB-013	08/29/2024	11:57 am	1	A	✓	✓			
5										
6										
7										
8										
9										

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were **NOT** used, please attach your preservative information with this COC.

Custody Record MUST be signed	Relinquished by (print)	Date/Time	Signature	Received by (print)	Date/Time	Signature
	Steve Heck	9/4/1620	S Heck			
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print)	Date/Time	Signature
				Rebecca Roth	9.4.24 1120	

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number *(cash/check only)*
Courier	Box	Y (N) C B	Y N	24.7 °C	Y (N)	Y (N)	CC Cash Check_____	$	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

ANALYTICAL SUMMARY REPORT

October 23, 2024

Bison Engineering
3143 E Lyndale Ave
Helena, MT 59601-6401

Work Order: H24100074 Quote ID: H16951

Project Name: Montana Resources Dustfall

Energy Laboratories Inc Helena MT received the following 4 samples for Bison Engineering on 10/1/2024 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
H24100074-001	DF-GREELEY-014	09/30/24 13:30	10/01/24	Solid	Metals by ICP/ICPMS, Total Total Metals Digestion by SW3050B Soil Preparation USDA1 Soil Parameters
H24100074-002	DF-PINE-014	09/30/24 14:50	10/01/24	Solid	Metals by ICP/ICPMS, Total Total Metals Digestion by SW3050B Soil Parameters
H24100074-003	DF-WALNUT-014	09/30/24 15:30	10/01/24	Solid	Same As Above
H24100074-004	DF-FB-014	09/30/24 15:35	10/01/24	Solid	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 3161 E. Lyndale Ave., Helena, MT 59604, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

Energy Laboratories, Inc. verifies the reported results for the analysis has been technically reviewed and approved for release.

If you have any questions regarding these test results, please contact your Project Manager.

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Bison Engineering
Project: Montana Resources Dustfall
Lab ID: H24100074-001
Client Sample ID: DF-GREELEY-014

Report Date: 10/23/24
Collection Date: 09/30/24 13:30
DateReceived: 10/01/24
Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Dry Wt, g	0.12	g		0.00010		USDA1	10/11/24 17:31 / kjb
Wet Wt, g	428	g		0.00010		USDA1	10/11/24 17:31 / kjb
METALS, TOTAL - EPA SW846							
Arsenic	21	mg/kg		3		SW6020	10/16/24 15:04 / dck
Cadmium	2	mg/kg		1		SW6020	10/16/24 15:04 / dck
Copper	1460	mg/kg		2		SW6020	10/16/24 15:04 / dck
Lead	88	mg/kg		2		SW6020	10/16/24 15:04 / dck
Manganese	684	mg/kg		2		SW6020	10/16/24 15:04 / dck
Molybdenum	3460	mg/kg		1		SW6020	10/16/24 15:04 / dck
Zinc	435	mg/kg		8		SW6020	10/16/24 15:04 / dck

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Bison Engineering
Project: Montana Resources Dustfall
Lab ID: H24100074-002
Client Sample ID: DF-PINE-014

Report Date: 10/23/24
Collection Date: 09/30/24 14:50
DateReceived: 10/01/24
Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Dry Wt, g	0.11	g		0.00010		USDA1	10/11/24 17:31 / kjb
Wet Wt, g	443	g		0.00010		USDA1	10/11/24 17:31 / kjb
METALS, TOTAL - EPA SW846							
Arsenic	27	mg/kg		3		SW6020	10/16/24 15:20 / dck
Cadmium	3	mg/kg		1		SW6020	10/16/24 15:20 / dck
Copper	3330	mg/kg		2		SW6020	10/16/24 15:20 / dck
Lead	110	mg/kg		2		SW6020	10/16/24 15:20 / dck
Manganese	656	mg/kg		2		SW6020	10/16/24 15:20 / dck
Molybdenum	4780	mg/kg		1		SW6020	10/16/24 15:20 / dck
Zinc	606	mg/kg		9		SW6020	10/16/24 15:20 / dck

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Bison Engineering
Project: Montana Resources Dustfall
Lab ID: H24100074-003
Client Sample ID: DF-WALNUT-014

Report Date: 10/23/24
Collection Date: 09/30/24 15:30
DateReceived: 10/01/24
Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Dry Wt, g	0.11	g		0.00010		USDA1	10/11/24 17:31 / kjb
Wet Wt, g	449	g		0.00010		USDA1	10/11/24 17:31 / kjb
METALS, TOTAL - EPA SW846							
Arsenic	16	mg/kg		3		SW6020	10/16/24 15:24 / dck
Cadmium	1	mg/kg		1		SW6020	10/16/24 15:24 / dck
Copper	1200	mg/kg		2		SW6020	10/16/24 15:24 / dck
Lead	71	mg/kg		2		SW6020	10/16/24 15:24 / dck
Manganese	613	mg/kg		2		SW6020	10/16/24 15:24 / dck
Molybdenum	959	mg/kg		1		SW6020	10/16/24 15:24 / dck
Zinc	402	mg/kg		9		SW6020	10/16/24 15:24 / dck

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

LABORATORY ANALYTICAL REPORT

Prepared by Helena, MT Branch

Client: Bison Engineering
Project: Montana Resources Dustfall
Lab ID: H24100074-004
Client Sample ID: DF-FB-014

Report Date: 10/23/24
Collection Date: 09/30/24 15:35
DateReceived: 10/01/24
Matrix: Solid

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
PHYSICAL CHARACTERISTICS							
Dry Wt, g	0.0032	g		0.00010		USDA1	10/11/24 17:31 / kjb
Wet Wt, g	319	g		0.00010		USDA1	10/11/24 17:31 / kjb
METALS, TOTAL - EPA SW846							
Arsenic	ND	mg/kg		1		SW6020	10/16/24 15:27 / dck
Cadmium	ND	mg/kg		1		SW6020	10/16/24 15:27 / dck
Copper	ND	mg/kg		1		SW6020	10/16/24 15:27 / dck
Lead	ND	mg/kg		1		SW6020	10/16/24 15:27 / dck
Manganese	ND	mg/kg		1		SW6020	10/16/24 15:27 / dck
Molybdenum	ND	mg/kg		1		SW6020	10/16/24 15:27 / dck
Zinc	ND	mg/kg		1		SW6020	10/16/24 15:27 / dck

Report Definitions:
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Helena, MT Branch

Work Order: H24100074 **Report Date:** 10/23/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020									Analytical Run: ICPMS206-H_241016A	
Lab ID: ICV	7	Initial Calibration Verification Standard								10/16/24 13:19
Arsenic		0.0609	mg/L	0.0010	102	90	110			
Cadmium		0.0313	mg/L	0.0010	104	90	110			
Copper		0.0632	mg/L	0.0010	105	90	110			
Lead		0.0597	mg/L	0.0010	99	90	110			
Manganese		0.310	mg/L	0.0010	103	90	110			
Molybdenum		0.0595	mg/L	0.0010	99	90	110			
Zinc		0.0629	mg/L	0.0010	105	90	110			
Lab ID: ICSA	7	Interference Check Sample A								10/16/24 13:29
Arsenic		-0.0000166	mg/L	0.0010						
Cadmium		0.000117	mg/L	0.0010						
Copper		0.0000359	mg/L	0.0010						
Lead		-0.000391	mg/L	0.0010						
Manganese		0.000312	mg/L	0.0010		0	0			
Molybdenum		0.796	mg/L	0.0010	100	70	130			
Zinc		0.000162	mg/L	0.0010						
Lab ID: ICSAB	7	Interference Check Sample AB								10/16/24 13:35
Arsenic		0.00980	mg/L	0.0010	98	70	130			
Cadmium		0.00999	mg/L	0.0010	100	70	130			
Copper		0.0193	mg/L	0.0010	96	70	130			
Lead		-0.000373	mg/L	0.0010		0	0			
Manganese		0.0197	mg/L	0.0010	99	70	130			
Molybdenum		0.824	mg/L	0.0010	103	70	130			
Zinc		0.0111	mg/L	0.0010	111	70	130			
Lab ID: CCV	7	Continuing Calibration Verification Standard								10/16/24 14:40
Arsenic		0.0502	mg/L	0.0010	100	90	110			
Cadmium		0.0507	mg/L	0.0010	101	90	110			
Copper		0.0511	mg/L	0.0010	102	90	110			
Lead		0.0500	mg/L	0.0010	100	90	110			
Manganese		0.0501	mg/L	0.0010	100	90	110			
Molybdenum		0.0497	mg/L	0.0010	99	90	110			
Zinc		0.0505	mg/L	0.0010	101	90	110			
Method: SW6020										Batch: 74514
Lab ID: MB-74514	7	Method Blank				Run: ICPMS206-H_241016A				10/16/24 14:47
Arsenic		ND	mg/kg	0.3						
Cadmium		ND	mg/kg	0.01						
Copper		ND	mg/kg	0.3						
Lead		ND	mg/kg	0.2						
Manganese		ND	mg/kg	0.2						
Molybdenum		ND	mg/kg	0.1						
Zinc		ND	mg/kg	0.9						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Helena, MT Branch

Work Order: H24100074 **Report Date:** 10/23/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW6020										Batch: 74514
Lab ID: LCS-74514	7	Laboratory Control Sample				Run: ICPMS206-H_241016A			10/16/24 14:50	
Arsenic		167	mg/kg	1.0	85	66.4	104			
Cadmium		102	mg/kg	1.0	103	79.2	121			
Copper		125	mg/kg	1.0	91	73.9	113			
Lead		108	mg/kg	1.0	103	71.6	128			
Manganese		410	mg/kg	1.0	95	74.4	123			
Molybdenum		119	mg/kg	1.0	93	61.3	124			
Zinc		247	mg/kg	1.9	107	83.1	125			
Lab ID: LFB-74514	7	Laboratory Fortified Blank				Run: ICPMS206-H_241016A			10/16/24 14:54	
Arsenic		23.9	mg/kg	1.0	96	80	120			
Cadmium		12.9	mg/kg	1.0	104	80	120			
Copper		24.9	mg/kg	1.0	99	80	120			
Lead		24.4	mg/kg	1.0	98	80	120			
Manganese		120	mg/kg	1.0	96	80	120			
Molybdenum		24.5	mg/kg	1.0	98	80	120			
Zinc		24.5	mg/kg	1.0	98	80	120			
Lab ID: LFBD-74514	7	Laboratory Fortified Blank Duplicate				Run: ICPMS206-H_241016A			10/16/24 14:57	
Arsenic		23.7	mg/kg	1.0	95	80	120			
Cadmium		13.0	mg/kg	1.0	104	80	120			
Copper		24.6	mg/kg	1.0	99	80	120			
Lead		24.8	mg/kg	1.0	99	80	120			
Manganese		119	mg/kg	1.0	95	80	120			
Molybdenum		25.0	mg/kg	1.0	100	80	120			
Zinc		24.5	mg/kg	1.0	98	80	120			
Lab ID: H24100074-001ADIL	7	Serial Dilution				Run: ICPMS206-H_241016A			10/16/24 15:07	
Arsenic		21.4	mg/kg	13		0	0		10	N
Cadmium		2.10	mg/kg	1.0		0	0		10	N
Copper		1540	mg/kg	11		0	0	5.8	10	
Lead		87.1	mg/kg	8.6		0	0	1.6	10	
Manganese		713	mg/kg	11		0	0	4.1	10	
Molybdenum		3460	mg/kg	4.7		0	0	0.1	10	
Zinc		463	mg/kg	41		0	0	6.3	10	
Lab ID: H24100074-001AMS	7	Sample Matrix Spike				Run: ICPMS206-H_241016A			10/16/24 15:10	
Arsenic		102	mg/kg	2.6	94	75	125			
Cadmium		92.2	mg/kg	1.0	104	75	125			
Copper		1590	mg/kg	2.2		75	125			A
Lead		166	mg/kg	1.7	89	75	125			
Manganese		748	mg/kg	2.1		75	125			A
Molybdenum		3610	mg/kg	1.0		75	125			A
Zinc		506	mg/kg	8.1		75	125			A
Lab ID: H24100074-001AMSD	7	Sample Matrix Spike Duplicate				Run: ICPMS206-H_241016A			10/16/24 15:14	
Arsenic		100	mg/kg	2.6	92	75	125	1.7	20	
Cadmium		90.8	mg/kg	1.0	103	75	125	1.5	20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

A - Analyte level was greater than four times the spike level - in accordance with the method, percent recovery is not calculated

N - Analyte concentration was not sufficiently high to calculate a Relative Percent Difference (RPD) for the serial dilution test

QA/QC Summary Report

Prepared by Helena, MT Branch

Work Order: H24100074 **Report Date:** 10/23/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: **SW6020**										Batch: 74514
Lab ID: **H24100074-001AMSD**	7	Sample Matrix Spike Duplicate				Run: ICPMS206-H_241016A			10/16/24 15:14	
Copper		1610	mg/kg	2.2		75	125	1.5	20	A
Lead		172	mg/kg	1.7	97	75	125	4.0	20	
Manganese		738	mg/kg	2.1		75	125	1.3	20	A
Molybdenum		3510	mg/kg	1.0		75	125	3.0	20	A
Zinc		496	mg/kg	8.1		75	125	2.1	20	A

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

A - Analyte level was greater than four times the spike level - in accordance with the method, percent recovery is not calculated

Work Order Receipt Checklist

Bison Engineering

H24100074

Login completed by: Taylor K. Jones
Date Received: 10/1/2024

Reviewed by: wjohnson
Received by: TKJ

Reviewed Date: 10/5/2024
Carrier name: Hand Deliver

Shipping container/cooler in good condition?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☐	No ☑	Not Applicable ☐
Container/Temp Blank temperature:	22.0°C No Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

Trip Blanks and/or Blind Duplicate samples are assigned the earliest collection time for the associated requested analysis in order to evaluate the holding time unless specifically indicated.

Contact and Corrective Action Comments:

The collection time and date were not provided on the sample containers. Proceeded with information provided on the chain of custody. TKJ 10/01/24

Laboratory Certifications and Accreditations

Current certificates are available at www.energylab.com website:

	Agency	Number
Billings, MT	Alaska	17-023
	California	3087
	Colorado	MT00005
	Department of Defense (DoD)/ISO17025	ADE-2588
	Florida (Primary NELAP)	E87668
	Idaho	MT00005
	Louisiana	05079
	Montana	CERT0044
	Nebraska	NE-OS-13-04
	Nevada	NV-C24-00250
	North Dakota	R-007
	National Radon Proficiency	109383-RMP
	Oregon	4184
	South Dakota	ARSD 74:04:07
	Texas	TX-C24-00302
	US EPA Region VIII	Reciprocal
	USDA Soil Permit	P330-20-00170
	Washington	C1039
Casper, WY	Alaska	20-006
	California	3021
	Colorado	WY00002
	Florida (Primary NELAP)	E87641
	Idaho	WY00002
	Louisiana	05083
	Montana	CERT0002
	Nebraska	NE-OS-08-04
	Nevada	NV-C24-00245
	North Dakota	R-125
	Oregon	WY200001
	South Dakota	WY00002
	Texas	T104704181-23-21
	US EPA Region VIII	WY00002
	USNRC License	49-26846-01
	Washington	C1012
Gillette, WY	US EPA Region VIII	WY00006
Helena, MT	Colorado	MT00945
	Montana	CERT0079
	Nevada	NV-C24-00119
	US EPA Region VIII	Reciprocal
	USDA Soil Permit	P330-20-00090

ENERGY LABORATORIES
Trust our People. Trust our Data.

Chain of Custody & Analytical Request Record

www.energylab.com

Account Information *(Billing information)*

Company/Name	Bison Engineering Inc.
Contact	Steve Heck
Phone	406-498-4199
Mailing Address	3143 E Lyndale Ave
City, State, Zip	Helena, MT 59601
Email	sheck@bison-eng.com
Receive Invoice	☐Hard Copy ☒Email
Receive Report	☐Hard Copy ☒Email
Purchase Order	MTR224018
Quote	H16951
Bottle Order	

Report Information *(if different than Account Information)*

Company/Name	
Contact	
Phone	
Mailing Address	
City, State, Zip	
Email	
Receive Report	☐Hard Copy ☐Email
Special Report/Formats:	☐ LEVEL IV ☐NELAC ☐ EDD/EDT *(contact laboratory)* ☐ Other_____

Comments

These are dustfall samples.
Collected from 08.29.2024 to 09.30.2024

Project Information

Project Name, PWSID, Permit, etc.	Montana Resources Dustfall
Sampler Name	Steve Heck
Sampler Phone	406-498-4199
Sample Origin State	Montana
EPA/State Compliance	☐ Yes ☒ No

URANIUM MINING CLIENTS MUST indicate sample type
☐ Unprocessed Ore
☐ Processed Ore (Ground or Refined) **CALL BEFORE SENDING
☐ 11(e)2 Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

Matrix Codes
A - Air
W - Water
S - Soils/Solids
V - Vegetation
B - Bioassay
O - Oil
DW - Drinking Water

All turnaround times are standard unless marked as RUSH.
Energy Laboratories MUST be contacted prior to RUSH sample submittal for charges and scheduling – See Instructions Page

	Sample Identification *(Name, Location, Interval, etc.)*	Collection Date	Collection Time	Number of Containers	Matrix *(See Codes Above)*	Analysis Requested: Gravimetric - total mass	Analysis Requested: As, Cd, Cu, Pb, Mn, Mo, Zn	See Attached	RUSH TAT	ELI LAB ID *Laboratory Use Only*
1	DF-GREELEY-014	09/30/2024	1330	1	A	✓	✓			H24100074
2	DF-PINE-014	09/30/2024	1450	1	A	✓	✓			
3	DF-WALNUT-014	09/30/2024	1530	1	A	✓	✓			
4	DF-FB-014	09/30/2024	1535	1	A	✓	✓			
5										
6										
7										
8										
9										

ELI is REQUIRED to provide preservative traceability. If the preservatives supplied with the bottle order were **NOT** used, please attach your preservative information with this COC.

Custody Record MUST be signed							
Relinquished by (print)	S. Heck	Date/Time	9-30 1550	Signature	S Heck	Received by (print)	Daniel A Bitz
Relinquished by (print)	Daniel A Bitz	Date/Time	10-1 1033	Signature	Daniel A. Bitz	Received by Laboratory (print)	Taylor Jones

Date/Time	Signature
9-30 1550	Daniel A. Bitz
10/1/24 1033	

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice	Payment Type	Amount	Receipt Number *(cash/check only)*
Hand	N	Y (N) C B	Y N	22.0 °C	Y (N)	Y (N)	CC Cash Check_____	$	

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

APPENDIX D: COMMON GUIDELINES FOR AIRBORNE CONTAMINANTS

Dose and Risk Assessment References

Pollutant	Organization	Standard Type	Description	Value	Units	Time Period	Reference
Arsenic							
	WHO	Air Quality Guideline		0.0015	Unit Risk	Life-time	https://www.atsdr.cdc.gov/toxprofiles/tp2-c8.pdf
	NIOSH	REL		2	µg/m^3	15 min	https://www.atsdr.cdc.gov/toxprofiles/tp2-c8.pdf
	ACGIH	TLV (TWA)		10	µg/m^3	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
	OSHA	PEL (TWA)	General - organic As	200	µg/m^3	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
	OSHA	PEL (TWA)	General - inorganic As	10	µg/m^3	8-hour	https://www.atsdr.cdc.gov/toxprofiles/tp2-c8.pdf
	OSHA	PEL (TWA)	Construction - organic	500	µg/m^3	8-hour	https://www.atsdr.cdc.gov/toxprofiles/tp2-c8.pdf
	OSHA	PEL (TWA)	Shipyard - organic	500	µg/m^3	8-hour	https://www.atsdr.cdc.gov/toxprofiles/tp2-c8.pdf
	EPA	EPA- Ca	Noncancer	0.015	µg/m^3		https://www.epa.gov/sites/production/files/2014-05/documents/table1.pdf
	EPA	IRIS	Risk = 10^{-6} (lifetime)	0.043	µg/m^3	Life-time	https://www.epa.gov/sites/production/files/2014-05/documents/table1.pdf
	EPA	REL		0.20	µg/m^3	1-Hour	https://www.epa.gov/sites/production/files/2014-05/documents/table2.pdf
	EPA	RfC	Inorganic As	0.015	µg/m^3	Life-time	https://semspub.epa.gov/work/HQ/401635.pdf - (November, 2021)
	EPA	RSL	Cancer Risk @ 10^{-6}	0.65	ng/m^3	Life-time	https://semspub.epa.gov/work/HQ/401635.pdf - (November, 2021)
	EPA	RSL	HI = 1	0.016	µg/m^3		https://semspub.epa.gov/work/HQ/401635.pdf - (November, 2021)
Cadmium							
	ACGIH	TLV (TWA)	(total)	10	µg/m^3	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
	ACGIH	TLV (TWA)	(respirable)	2	µg/m^3	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
	OSHA	PEL (TWA)		5	µg/m^3		https://www.osha.gov/dsg/annotated-pels/tablez-1.html
	EPA	ATSDR	Noncancer - Cd Compounds	0.01	µg/m^3	Chronic	https://www.epa.gov/sites/production/files/2014-05/documents/table1.pdf
	EPA	IRIS	Cancer - Cd Compounds	2	µg/m^3	Chronic	https://www.epa.gov/sites/production/files/2014-05/documents/table1.pdf
	EPA	MRL	Cd Compounds	0.03	µg/m^3	Acute	
	EPA	AEGL-1 (1-hr)	Cd Compounds	100	µg/m^3	1-Hour	https://www.epa.gov/sites/production/files/2014-05/documents/table2.pdf
	EPA	AEGL-1 (8-hr)	Cd Compounds	41	µg/m^3	8-Hour	https://www.epa.gov/sites/production/files/2014-05/documents/table2.pdf
	EPA	RfC	Cd (water)	0.01	µg/m^3	Life-time	https://semspub.epa.gov/work/HQ/401635.pdf - (November, 2021)
	EPA	RSL: TR @ 10^{-6}	Cd (water) (Cancer Risk)	1.60	ng/m^3	Life-time	https://semspub.epa.gov/work/HQ/401635.pdf - (November, 2021)
	EPA	RSL: HI = 1	Cd (water) (Noncancer Risk)	10	ng/m^3	HI=1	https://semspub.epa.gov/work/HQ/401635.pdf - (November, 2021)
Copper							
	ACGIH	TLV (TWA)	(dust & mist)	1,000	µg/m^3	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
	NIOSH	REL (TWA)		1,000	µg/m^3	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
	OSHA	PEL (TWA)		1,000	µg/m^3	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
Lead (Pb)							
	ACGIH	TLV (TWA)	(inorganic)	50	µg/m^3	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
	NIOSH	REL (TWA)	(inorganic+ organic salts)	50	µg/m^3	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
	OSHA	PEL (TWA)	(inorganic)	50	µg/m^3	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
	EPA	NAAQS		0.150	µg/m^3	3-month mean	40 CFR 50.12 (and Appendix R)
	NIOSH	IGHL/10	Lead compounds	10	mg/m^3		https://www.epa.gov/sites/production/files/2014-05/documents/table2.pdf
	EPA	RSL: HI = 1	Pb (Noncancer Risk)	0.15	µg/m^3	HI=1	https://semspub.epa.gov/work/HQ/401635.pdf - (November, 2021)
Manganese							
	ACGIH	TLV (TWA)	(compounds + fumes)	20	µg/m^3	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
	NIOSH	REL (TWA)	(compounds + fumes)	1,000	µg/m^3	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
	OSHA	PEL (TWA)	(compounds + fumes)	5,000	µg/m^3	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
	ATSDR	Screen for Risk Assessment	Noncancer - Mn Compounds	0.30	µg/m^3	Chronic	https://www.epa.gov/sites/production/files/2014-05/documents/table2.pdf
	NIOSH	IGHL/10	Manganese compounds	50	mg/m^3		https://www.epa.gov/sites/production/files/2014-05/documents/table2.pdf
	USDOE	TEEL-1	MnO, MO_2 & $MnSO_4$	4.7	mg/m^3	1-Hour	https://www.epa.gov/sites/production/files/2014-05/documents/table2.pdf
	EPA	RSL: HI = 1	Mn (non-diet) (Noncancer Risk)	0.052	µg/m^3	HI=1	https://semspub.epa.gov/work/HQ/401635.pdf - (November, 2021)
	EPA	RfC	Mn (non-diet)	0.05	µg/m^3	Life-time	https://semspub.epa.gov/work/HQ/401635.pdf - (November, 2021)
Molybdenum							
	ACGIH	TLV (TWA)	(soluble compounds)*	500	µg/m^3	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
	NIOSH	REL (TWA)	(soluble compounds)*	N/A	µg/m^3	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
	OSHA	PEL (TWA)	(soluble compounds)*	5,000	µg/m^3	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
			* Higher limits for insoluble compounds				

Zinc (Zn)

ACGIH	TLV (TWA)	(zinc oxide - respirable)	2,000	µg/m^3	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
	STEL	(zinc oxide - respirable)	10,000	µg/m^3	15 minutes	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
OSHA	PEL (TWA)	(inorganic)	5,000	µg/m^3	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html

Term	Definition
ACGIH	American Congress of Governmental Industrial Hygienists
AEGL-1	Acute exposure guideline levels for mild effects: 1-hour and 8-hour
ATSDR	Agency for Toxic Substances & Disease Registry
HI (EPA)	Hazardous Index: Aggregate exposures below a HI of 1.0 will likely not result in adverse noncancer health effects over a lifetime of exposure. A respiratory HI greater than 1.0 can be best described as indicating that a potential may exist for adverse irritation to the respiratory system. https://archive.epa.gov/airtoxics/nata/web/html/gloss.html
IDHL/10	One-tenth of levels determined by NIOSH to be imminently dangerous to life and death.
IRIS	Integrated Risk Information System
NAAQS	National Ambient Air Quality Standards: 40 CFR 50.12
NIOSH	National Institute of Occupational Safety and Health (part of CDC)
PEL	Permissible Exposure Limits (expressed as 8-hour time weighted average (TWA)) 29 CFR 1910.1000 Z-1 Table
REL (NIOSH)	Recommended exposure limit: Level at which NIOSH believes protects worker safety and health over a working lifetime.
REL (Ca EPA)	California EPA concentration level at which no adverse health effect are anticipated. Includes most sensitive individuals Levels exceeding REL does not automatically indicate an adverse health impact.
RfC	Reference Concentration (EPA) is an estimate (with uncertainty spanning perhaps an order of magnitude) of a continuous inhalation exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetim https://www.epa.gov/sites/default/files/2015-08/documents/technical_appendix_a_toxicity_v2_3_3.pdf
RSL	Residential Regional Screening Level (EPA Region X) @ 10^{-6} Cancer Risk or (Noncancer) Hazardous Index (HI) = 1 (based on Hazard Quotient (HQ) of 1. https://semspub.epa.gov/work/HQ/401635.pdf Last (EPA) Table Update: November 2021
STEL	Short-Term Exposure Limit (15-minutes)
TEEL-1	Temporary emergency exposure limits for mild transient effects for 1-hour exposure
TLV	Threshold Limit Value
TWA	Time Weighted Average
WHO	World Health Organization

APPENDIX E: CALIBRATIONS

BGI PQ200 TSP Sampler – Monthly Calibration Checks			
Date: 07/18/2024	Time: 1026 - 1044 MST	Sampler Serial Number: 90133	
Performed By: Steve Heck		Location (field or lab): Pine St	
Ref Standard & S/N: 1) Delta Cal S/N 1288		Certification Date: 1) 01-03-2024	
Barometric Pressure Sensor Verification			
Reading (mm Hg)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be ≤ ± 10)
Ambient Pressure	627 mm Hg	626.9 mmHg	+0.1
Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be ≤ ± 2ºC)
Ambient Temperature	27.3 C	28.1 C	-0.8 C
Filter Temperature	29.5 C	28.8 C	+0.7 C
Leak Check			
Vacuum Readings (cm H_2O)	Start 145	End 145	Pass ~~Fail~~
Flow Rate Verification			
Reading (liters per minute)	Sampler (a)	Reference Standard (b)	% Difference 100*(a – b)/b (must be ≤ ± 4%)
Operating flow rate check	16.7	16.87	-1.0%
Reading (liters per minute)	Reference Standard (b)	Design Flow Rate Standard (c)	% Difference 100*(b–16.7)/16.7 (must be ≤ ± 5%)
Design flow rate calculation	16.87	16.7	+1.0%

BGI PQ200 TSP Sampler – Monthly Calibration Checks			
Date: 08/20/2024	Time: 1215 - 1245 MST	Sampler Serial Number: 90133	
Performed By: Steve Heck		Location (field or lab): Pine St	
Ref Standard & S/N: 1) Delta Cal S/N 1288		Certification Date: 1) 01-03-2024	
Barometric Pressure Sensor Verification			
Reading (mm Hg)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be ≤ ± 10)
Ambient Pressure	624 mm Hg	623.9 mmHg	+0.1
Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be ≤ ± 2ºC)
Ambient Temperature	28.2 C	28.8 C	-0.6 C
Filter Temperature	30.8 C	30.3 C	+0.5 C
Leak Check			
Vacuum Readings (cm H_2O)	Start 142	End 141	Pass ~~Fail~~
Flow Rate Verification			
Reading (liters per minute)	Sampler (a)	Reference Standard (b)	% Difference 100*(a – b)/b (must be ≤ ± 4%)
Operating flow rate check	16.7	16.82	-0.7%
Reading (liters per minute)	Reference Standard (b)	Design Flow Rate Standard (c)	% Difference 100*(b–16.7)/16.7 (must be ≤ ± 5%)
Design flow rate calculation	16.82	16.7	+0.7%

No adjustments made

Checked recertified Swift 25.0 Meter. Flow was 13.57 Standard LPM / 16.74 Actual LPM
Assume STP at 760 mmHg and 25.0 deg C

BGI PQ200 TSP Sampler – Monthly Calibration Checks			
Date: 09/30/2024	Time: 1455 - 1515 MST	Sampler Serial Number: 90133	
Performed By: Steve Heck		Location (field or lab): Pine St	
Ref Standard & S/N: 1) Delta Cal S/N 1288		Certification Date: 1) 01-03-2024	
Barometric Pressure Sensor Verification			
Reading (mm Hg)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be ≤ ± 10)
Ambient Pressure	630 mm Hg	629.4 mmHg	+0.6
Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be ≤ ± 2ºC)
Ambient Temperature	12.8 C	12.9 C	-0.1 C
Filter Temperature	15.6 C	16.6 C	-1.0 C
Leak Check			
Vacuum Readings ($cm\ H_2O$)	Start 140	End 140	Pass ~~Fail~~
Flow Rate Verification			
Reading (liters per minute)	Sampler (a)	Reference Standard (b)	% Difference 100*(a – b)/b (must be ≤ ± 4%)
Operating flow rate check	16.7	16.30	+2.5%
Reading (liters per minute)	Reference Standard (b)	Design Flow Rate Standard (c)	% Difference 100*(b–16.7)/16.7 (must be ≤ ± 5%)
Design flow rate calculation	16.30	16.7	-2.4%

Performed multipoint calibration following performance audit on same date

@ 15.0 LPM = 15.02
@ 18.4 LPM = 18 03
@ 16.7 LPM = 16.69 Operating flow rate verification = 16.67 LPM

BGI PQ200 TSP Sampler – Monthly Calibration Checks			
Date: 10/11/2024	Time: 1325 - 1400 MST	Sampler Serial Number: 90133	
Performed By: Steve Heck		Location (field or lab): Pine St	
Ref Standard & S/N: 1) Delta Cal S/N 1288		Certification Date: 1) 01-03-2024	
Barometric Pressure Sensor Verification			
Reading (mm Hg)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be ≤ ± 10)
Ambient Pressure	625 mm Hg	624.9 mmHg	+0.1
Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be ≤ ± 2ºC)
Ambient Temperature	19.7 C	20.3 C	-0.6 C
Filter Temperature	22.7 C	21.9 C	+0.8 C
Leak Check			
Vacuum Readings (cm H_2O)	Start 142	End 142	Pass ~~Fail~~
Flow Rate Verification			
Reading (liters per minute)	Sampler (a)	Reference Standard (b)	% Difference 100*(a – b)/b (must be ≤ ± 4%)
Operating flow rate check	16.7	16.99	-1.7%
Reading (liters per minute)	Reference Standard (b)	Design Flow Rate Standard (c)	% Difference 100*(b–16.7)/16.7 (must be ≤ ± 5%)
Design flow rate calculation	16.99	16.7	+1.7%

BGI PQ200 TSP Sampler – Monthly Calibration Checks			
Date: 07/18/2024	Time: 1143 – 1158 MST	Sampler Serial Number: 90129	
Performed By: Steve Heck		Location (field or lab): Walnut St	
Ref Std: Delta Cal S/N 1288		Certification Date: 01/03/2024	
Barometric Pressure Sensor Verification			
Reading (mm Hg)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be ≤ ± 10)
Ambient Pressure	628	626.9	+1.1
Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be ≤ ± 2ºC)
Ambient Temperature	30.5 C	31.7 C	-1.2
Filter Temperature	32.7 C	32.3 C	+0.4
Leak Check			
Vacuum Readings (cm H_2O)	Start 142	End 141	Pass ~~Fail~~
Flow Rate Verification			
Reading (liters per minute)	Sampler (a)	Reference Standard (b)	% Difference 100*(a – b)/b (must be ≤ ± 4%)
Operating flow rate check	16.7	16.91	-1.2%
Reading (liters per minute)	Reference Standard (b)	Design Flow Rate Standard (c)	% Difference 100*(b–16.7)/16.7 (must be ≤ ± 5%)
Design flow rate calculation	16.91	16.7	+1.3%

BGI PQ200 TSP Sampler – Monthly Calibration Checks			
Date: 08/20/2024	Time: 1337 – 1400 MST	Sampler Serial Number: 90129	
Performed By: Steve Heck		Location (field or lab): Walnut St	
Ref Std: Delta Cal S/N 1288		Certification Date: 01/03/2024	

Barometric Pressure Sensor Verification			
Reading (mm Hg)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be ≤ ± 10)
Ambient Pressure	625	623.9	+1.1

Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be ≤ ± 2ºC)
Ambient Temperature	28.1 C	29.4 C	-1.3
Filter Temperature	30.8 C	31.4 C	-0.6

Leak Check			
Vacuum Readings (cm H_2O)	Start 140	End 139	Pass ~~Fail~~

Flow Rate Verification			
Reading (liters per minute)	Sampler (a)	Reference Standard (b)	% Difference 100*(a – b)/b (must be ≤ ± 4%)
Operating flow rate check	16.7	16.79	-0.5%
Reading (liters per minute)	Reference Standard (b)	Design Flow Rate Standard (c)	% Difference 100*(b–16.7)/16.7 (must be ≤ ± 5%)
Design flow rate calculation	16.79	16.7	+0.5%

No adjustments made

Checked recertified Swift 25.0 Meter. Flow was 13.50 Standard LPM / 16.62 Actual LPM
Assume STP at 760 mmHg and 25.0 deg C

BGI PQ200 TSP Sampler – Monthly Calibration Checks			
Date: 09/30/2024	Time: 1548 - 1610	Sampler Serial Number: 90129	
Performed By: Steve Heck		Location (field or lab): Walnut St	
Ref Std: Delta Cal S/N 1288		Certification Date: 01/03/2024	

Barometric Pressure Sensor Verification			
Reading (mm Hg)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be ≤ ± 10)
Ambient Pressure	631	630.4	+0.6

Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be ≤ ± 2ºC)
Ambient Temperature	13.4 C	13.8 C	-0.4
Filter Temperature	15.0 C	14.7 C	+0.3

Leak Check			
Vacuum Readings (cm H_2O)	Start 138	End 137	Pass ~~Fail~~

Flow Rate Verification			
Reading (liters per minute)	Sampler (a)	Reference Standard (b)	% Difference 100*(a – b)/b (must be ≤ ± 4%)
Operating flow rate check	16.7	16.55	+0.9%
Reading (liters per minute)	Reference Standard (b)	Design Flow Rate Standard (c)	% Difference 100*(b–16.7)/16.7 (must be ≤ ± 5%)
Design flow rate calculation	16.55	16.7	-0.9%

BGI PQ200 TSP Sampler – Monthly Calibration Checks			
Date: 10/11/2024	Time: 1415 – 1445	Sampler Serial Number: 90129	
Performed By: Steve Heck		Location (field or lab): Walnut St	
Ref Std: Delta Cal S/N 1288		Certification Date: 01/03/2024	
Barometric Pressure Sensor Verification			
Reading (mm Hg)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be ≤ ± 10)
Ambient Pressure	627	625.4	+1.6
Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be ≤ ± 2ºC)
Ambient Temperature	20.3 C	20.9 C	-0.6
Filter Temperature	22.0 C	21.6 C	+0.4
Leak Check			
Vacuum Readings (cm H_2O)	Start 141	End 139	Pass ~~Fail~~
Flow Rate Verification			
Reading (liters per minute)	Sampler (a)	Reference Standard (b)	% Difference 100*(a – b)/b (must be ≤ ± 4%)
Operating flow rate check	16.7	16.65	+0.3%
Reading (liters per minute)	Reference Standard (b)	Design Flow Rate Standard (c)	% Difference 100*(b–16.7)/16.7 (must be ≤ ± 5%)
Design flow rate calculation	16.65	16.7	-0.3%

APPENDIX F: CALIBRATION STANDARD CERTIFICATION SHEETS

Mesa Labs 12100 W. 6th Ave
Lakewood, CO 80228
NIST Traceable Calibration Facility

CERTIFICATE OF CALIBRATION - NIST TRACEABILITY

Calibration Report #: 1288-03012024
DeltaCal Serial Number: 1288
Calibration Technician: Elsy Lasky
Date: 3-Jan-2024
Recommended Recal Date: 3-Jan-2025

Critical Venturi Flow Meter

Max Uncertainty = 0.346%

TE20005	6 - 30.00 LPM	Calibration Due:	1-Aug-2024
TE20007	1.40 - 6.0 LPM	Calibration Due:	2-Aug-2024

Room Temperature: +- 0.03°C from -5°C - 70°C **Room Temperature:** 22.90 °C

Brand: Eutechnics
TE Number: TE12348 **Serial Number:** A11146
Std Cal Date: 29-Sep-23 **Std Cal Due Date:** 29-Sep-24

Ambient Temperature (set): 23.0 °C
Aux (filter) Temperature (set): 23.0 °C

Barometric and Absolute Pressure

Vaisala Model PTB330 (50-1100) Digital Accuracy: 0.03371%

TE Number: TE12311 **Serial Number:** H0850001
Std Cal Date: 6-Aug-23 **Std Cal Due Date:** 6-Aug-24

DeltaCal:
Barometric pressure (set): 616.00 mmHg

Results of Venturi Calibration

Flow Rate (Q) vs. Pressure Drop (ΔP). Where: Q=Lpm, ΔP= Cm of H2O

Venturi				
TE20005	Q= 4.02226	ΔP ^	0.51536	Overall Uncertainty: 0.35%
TE20007	Q= 3.95205	ΔP ^	0.52799	Overall Uncertainty: 0.35%

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Mesa Labs 12100 W. 6th Ave Lakewood, CO 80228
NIST Traceable Calibration Facility

As Shipped Calibration Data for DeltaCal

Unit Type:	DC 1
Flow Range:	1.5-19.5 LPM
Serial No. :	1288
Firmware Version:	4.00P

Date	Technician
03Jan2024	Elsy Lasky

Ambient Pressure:	616.2	mmHg
Ambient Temperature:	22.9	°C

Range 1

Venturi	TE20005
Type	1B
Flow range	6 - 30.00 LPM

Test #	Static Pressure mmHg	Barometric Pressure mmHg	Venturi Qa LPM	DUT Qa LPM	% error %
1	134.39	615.4	6.530	6.504	-0.398
2	205.14	615.4	10.048	10.005	-0.428
3	267.02	615.4	13.124	13.040	-0.640
4	326.09	615.4	16.061	15.978	-0.517
5	368.21	615.4	18.155	18.063	-0.507
6	403.83	615.4	19.926	19.806	-0.602
	Maximum allowable error at any flow rate is 0.75%.			Average	-0.515
				Result	PASS

Range 2

Venturi	TE20007
Type	2B
Flow range	1.40 - 6.0 LPM

Test #	Static Pressure mmHg	Barometric Pressure mmHg	Venturi Qa LPM	DUT Qa LPM	% error %
1	139.56	615.9	1.941	1.953	0.618
2	206.07	615.9	2.895	2.908	0.449
3	261.31	615.9	3.687	3.713	0.705
4	322.98	615.9	4.571	4.569	-0.044
5	371.60	615.9	5.268	5.248	-0.380
6	417.85	615.9	5.931	5.904	-0.455
	Maximum allowable error at any flow rate is 0.75%.			Average	0.149
				Result	PASS

Performed By: Elsy Lasky **Date:** 3-Jan-2024

Elsy Lasky

Approved By: TROY THACKER **Date:** 03JAN2024

Troy Thacker

MesaLabs

Mesa Labs 12100 W. 6th Ave Lakewood, CO 80228
NIST Traceable Calibration Facility

As-Found data for DeltaCal

Unit Type:	DC 1
Flow Range:	1.5-19.5 LPM
Serial No. :	1288
Firmware Version:	4.00P

Date	Technician
03Jan2024	Elsy Lasky

Ambient Pressure:	616.2	mmHg
Ambient Temperature:	22.9	°C

	As Received Temp. Press. Calibration				As Shipped Temp. Press. Calibration			
	DUT	**Standard**	**Diff**	**+/- 1 mmHg**	**DUT**	**Standard**	**Diff**	**+/-1 mmHg**
$Pres_{AMB}$ mmHg	618	617.9	0.1	Pass	615.9	616.2	-0.3	Pass
	DUT	**Standard**	**Diff**	**+/- 1 °C**	**DUT**	**Standard**	**Diff**	**+/- 1 °C**
$Temp_{AMB}$ °C	22.5	22.5	0	Pass	23	22.9	0.1	Pass
$Temp_{Filter}$ °C	22.5	22.5	0	Pass	23	22.9	0.1	Pass

	Offset	New Offset
PresAMB	3	2.9
TempAMB	0	0
Temp Filter	0	0

Range 1

Venturi	TE20005
Type	1B
Flow range	6 - 30.00 LPM

Test #	Static Pressure mmHg	Barometric Pressure mmHg	Venturi Qa LPM	DUT Qa LPM	% error %
1	134.61	616.0	6.533	6.499	-0.520
2	204.39	616.0	9.997	9.938	-0.590
3	264.52	616.0	12.983	12.893	-0.693
4	326.16	616.0	16.043	15.927	-0.723
5	369.74	616.0	18.208	18.082	-0.692
6	404.37	616.0	19.927	19.820	-0.537
	Maximum allowable error at any flow rate is 0.75%.			Average	-0.626
				Result	PASS

Range 2

Venturi	TE20007
Type	2B
Flow range	1.40 - 6.0 LPM

Test #	Static Pressure mmHg	Barometric Pressure mmHg	Venturi Qa LPM	DUT Qa LPM	% error %
1	139.22	616.0	1.935	1.952	0.879
2	200.99	616.5	2.818	2.814	-0.142
3	267.78	616.5	3.775	3.782	0.185
4	318.96	616.5	4.507	4.505	-0.044
5	370.03	616.5	5.239	5.244	0.095
6	422.60	616.5	5.992	5.995	0.050
	Maximum allowable error at any flow rate is 0.75%.			Average	0.171
				Result	FAIL

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Certificate of Calibration

Model Swift 25.0

Serial Number : D16202

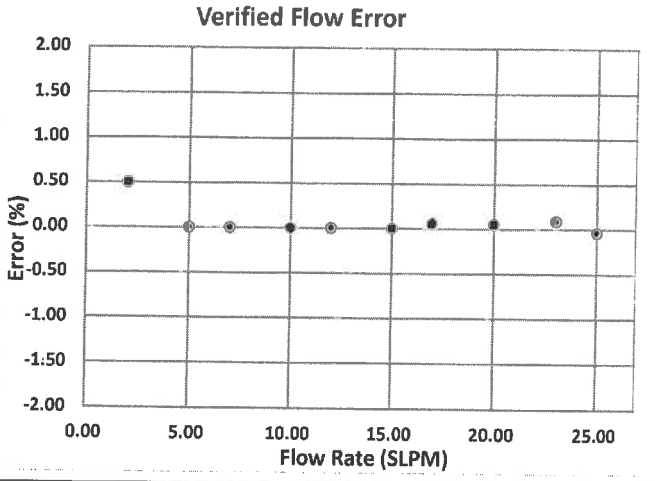
Firmware: R0.2.0.5a

Calibrated Date: 7/15/2024

Calibrated By: A.Schultz

As Left [x] As Found [ ]

Verified Flow Data Points			
Standard (SLPM)	Swift 25.0 (SLPM)	Acceptable Range	In Tolerance
2	2.01	1.98 - 2.02	Pass
5	5.00	4.95 - 5.05	Pass
7	7.00	6.93 - 7.07	Pass
10	10.00	9.90 - 10.10	Pass
12	12.00	11.88 - 12.12	Pass
15	15.00	14.85 - 15.15	Pass
17	17.01	16.83 - 17.17	Pass
20	20.01	19.80 - 20.20	Pass
23	23.02	22.77 - 23.23	Pass
25	24.99	24.75 - 25.75	Pass



Internal Temperature		
Standard (SLPM)	Swift 25.0 (SLPM)	In Tolerance
22.72	22.72	Pass
Temp Accuracy: ± 0.08 °C		

Pressure		
Standard (mbar)	Swift 25.0 (mbar)	In Tolerance
974.2	975.0	Pass
Pressure Accuracy: ± 0.8 mbar		

External Temperature Probe		
Standard (°C)	Swift 25.0 (°C)	In Tolerance
22.84	22.91	Pass
Temp Accuracy: ± 0.19 °C		

RH %		
Standard (RH%)	Swift 25.0 (RH%)	In Tolerance
41	38	Pass
Relative Humidity Accuracy: ± 3 %RH		

Calibration Procedure: Swift 25.0-6100
Recommended Calibration Interval: 12 months from the first day of use

Standards	Model	SN	Cal Due
Air Flow Meter	M-50SLPM-D	432090	2/26/2025
Rotronics	HC2-S3	61082036	9/7/2024
BAROMETRIC PRESSURE	597	Y13061	5/20/2025

This instrument has been tested and calibrated to meet the manufacturer's published specifications at an ISO-9001 certified facility. The standards used for the calibration are on record and traceable to the National Institute of Standards and Technology (NIST) and have accuracies equal to or greater than the instrument being tested. The calibration system complies with MIL-STD-45662A. Complete test records for each unit are maintained by Met One Instruments, Inc. and are available upon request.