



MONTANA RESOURCES LLP

DATA REPORT FOR TSP AND PM₁₀ MONITORING STATION AT GREELEY SCHOOL IN BUTTE, MONTANA QUARTER 4, 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)* and *Volume IV: Meteorological Measurements*.

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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:

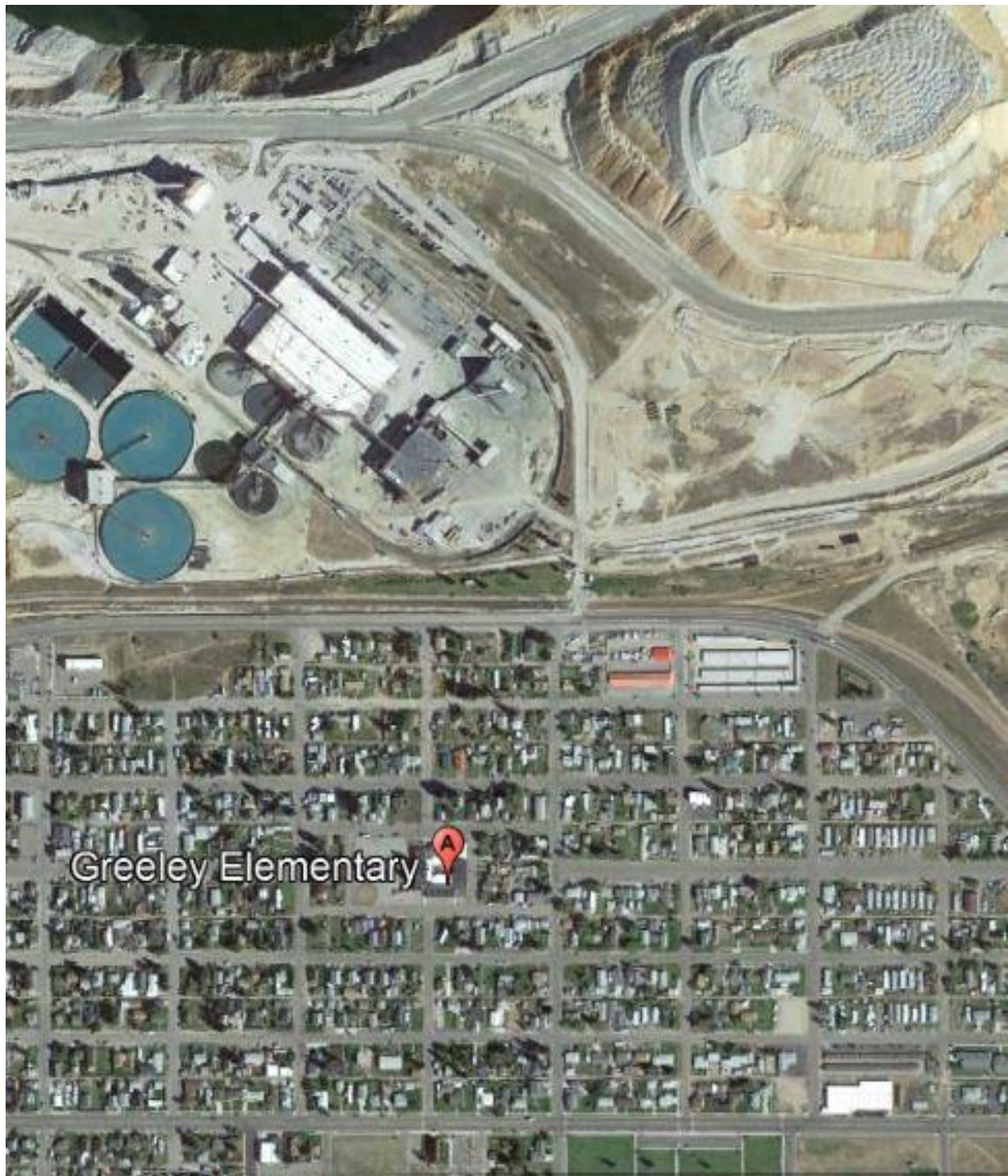
- Continuous monitoring for PM₁₀ using a Met One Model 1020 Beta Attenuation Monitor (BAM-1020).
- Continuous monitoring for PM_{2.5} using a second Met One BAM-1020.
- Episodic monitoring for PM_{2.5} using a BGI Model PQ-200 sampler. This sampler collects particulate matter on a filter over a 24-hour 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 PM₁₀ 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,
- PM₁₀ Particulate Sampler: A BGI Model PQ-200 sampler that collects 24-hour inhalable particulate (PM₁₀) 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 PM₁₀ hourly monitoring does not produce a filter suitable for chemical analysis.

This report presents and analyzes the data collected from the instrumentation noted above during the fourth quarter of 2024. In addition, a description of the monitoring system operations is presented, together with summaries of quality assurance activities including calibrations and performance audits. Tabular summaries of data completeness and periods of missing and/or invalid data also are presented.

Figure 1: Greeley School / Montana Resources LLP Vicinity



2.0 MONITORING SYSTEM OPERATIONS

At MR's request, Bison currently operates two particulate monitors at the Greeley School site:¹

- PM₁₀ sampling is accomplished with a BGI PQ-2000 sampler using filters that collect particulate matter for a 24-hour period based on the EPA national one-in-six-day schedule. Those filters are analyzed gravimetrically, and for selected trace elements. The 24-hour PM₁₀ averages from the filters also will be compared against concurrent hourly data from the MDEQ/BSB BAM-1020 monitor, to provide a check on data comparability.
- TSP measurements are accomplished with a Met One AC-powered E-Sampler. It includes an external relative humidity sensor, as well as ambient temperature and pressure sensors housed within the sampler. The TSP sampler is not an EPA Reference or Equivalent Method² sampler, and this monitoring does not attempt to determine compliance with the historic TSP standard that was superseded by a PM₁₀ standard in 1987. However, the E-Sampler provides hourly estimated TSP measurements that may be compared with on-site wind data to indicate primary TSP source areas. Additionally, it includes a particulate filter suitable for gravimetric and chemical analysis. Because the E-Sampler operates at a flowrate of only 2.0 liters per minute, sampling filters were exposed for periods ranging from 5-8 days so that sufficient particulate mass was collected for chemical analysis. Additionally, the E-Sampler includes a cellular modem to enable remote data downloading. Bison downloads and reviews hourly data collected by the E-Sampler at least once per week.

In addition to the monitoring described above, MDEQ/BSB operates a meteorological station at the Greeley site. That information is also summarized in this report. This meteorological data may prove useful for interpretation of the particulate data. More specifically:

- Wind speed and wind direction data collected by MDEQ/BSB at the Greeley School site may, from time to time, be compared to hourly TSP readings to aid in the identification of TSP (which includes the smaller PM₁₀ and PM_{2.5} fractions) source areas. Additionally, the ambient temperature data collected by MDEQ/BSB may also be used for data interpretation and analysis. In particular, the temperature data is used to identify relative humidity thresholds that indicate the presence of fog.

The MR samplers are visited approximately every five to eight days by BSB personnel. They remove the exposed particulate filters from both samplers and install pre-weighed clean filters for the next sampling episode. The primary operational difference between the two samplers is that the E-Sampler (TSP) filter is exposed continuously from the time of

¹ In July 2023 additional monitoring was initiated at two new locations in the Greeley area. Those monitoring results, along with dustfall data at Greeley, are being reported separately.

² Reference and Equivalent Methods are defined in 40 CFR 50.1.

installation until the time of removal, while the BGI PM₁₀ sampler filter is exposed for only a single 24-hour episode. The difference in filter exposure periods is necessary because the BGI unit operates at approximately 16.7 liters per minute (lpm) while the E-Sampler operates at 2.0 lpm. This operating scheme results in comparable air sample volumes between the two instruments: approximately 24 cubic meters (m³) for the BGI sampler versus roughly 14 m³ to 22 m³ for the E-Sampler (based on five to eight days between filter exchanges). After retrieval, BSB mails the exposed filters to Bison's Billings office for gravimetric analysis. Following particulate mass determination, Bison submits the weighed filters to Energy Laboratories, Inc. (ELI) in Billings for chemical analysis.

Once per month, Bison conducts calibration checks on both samplers; results of the calibrations are presented in Section 6.0. Once in each calendar quarter, Bison conducts a performance audit of both samplers. The audits are performed by a different person than the monthly calibration checks, using separate NIST-traceable flow standards. The audit performed in November 2024 is documented in this report.

Appendix A presents hourly data for all relevant monitoring parameters, including:

- Hourly TSP data collected by Bison Engineering;
- Hourly relative humidity data collected by Bison Engineering;³
- Hourly temperature and wind data collected by BSB/MDEQ; these data are integral to the reporting and analysis of the hourly TSP data being collected by Bison.

The hourly PM₁₀ and PM_{2.5} and meteorological data collected by BSB/MDEQ were provided to Bison by MDEQ.

³ The E-Sampler also collects hourly values of temperature and barometric pressure, but those values are typically not reported herein. The barometric pressure data are not relevant to the analyses in this report, and the ambient temperature data collected by the MDEQ/BSB monitor are generally superior to those collected by the E-Sampler. However, temperature data from the E-Sampler are reported during periods of missing or invalid MDEQ temperature data.

3.0 PM₁₀ SAMPLING DATA

The National Ambient Air Quality Standards (NAAQS) for PM₁₀ were first promulgated in 1987 and have been modified several times since (1997, 2000 and 2006). The current form of the standard is found at 40 CFR 50.6. The form of the standard is ambient concentration measured and reported at local temperature and pressure (LTP). Although Bison employs typical PM₁₀ monitoring procedures and instrumentation, this monitoring is not being performed as a formal demonstration of compliance with the PM₁₀ NAAQS; rather, the monitoring aims to provide PM₁₀ samples suitable for chemical analysis. Such samples are not necessarily being collected under the existing monitoring program.

Table 1 briefly summarizes the PM₁₀ data collected during the fourth quarter of 2024. For comparison it also shows concurrent 24-hour PM₁₀ and PM_{2.5} averages calculated from the hourly values reported by the MDEQ/BSB BAM-1020 monitor. These results show reasonable consistency between the two PM₁₀ measurement methods.

Although not the focus of this study, these results show that the maximum 24-hour PM₁₀ concentrations (55 µg/m³ for the BGI sampler and 51 µg/m³ for the BAM-1020 monitor, both on October 9) were well below the 24-hour standard of 150 µg/m³.⁴ The quarterly PM₁₀ averages from both samplers (22 µg/m³ and 21 µg/m³) were well below the Montana Annual PM₁₀ standard of 50 µg/m³.⁵ During the early part of October– including on October 9 – southwestern Montana was impacted by persistent regional wildfire smoke.

Data used to calculate average PM₁₀ concentrations from gravimetric analysis are presented in Appendix B. Chemical analysis results for Bison’s PM₁₀ filters are presented in Section 5.0 of this report.

⁴ 40 CFR 50.6.

⁵ The NAAQS annual PM₁₀ standard was repealed October 17, 2006. Montana, however, has retained an annual PM₁₀ standard of 50 µg/m³. (*ARM17.8.223*)

Table 1: Summary of PM₁₀ Monitoring Data for Quarter 4, 2024

Sample Collection Date (2024)	BGI PM10 ¹ (µg/m ³)	BAM-1020 ¹ PM10 (µg/m ³)	Arithmetic Difference (µg/m ³)	Relative Difference (%)		BAM-1020 ¹ PM2.5 (µg/m ³)
Oct 03	20.4	19.3	1.1	5		8.3
Oct 09	54.5	50.9	3.6	7		28.6
Oct 15 ²	43.6	44.4	-0.8	2		17.4
Oct 21	11.9	10.2	1.7	15		2.4
Oct 27	10.1	13.2	-3.1	27		3.3
Nov 02	10.5	10.1	0.4	4		3.9
Nov 08	19.7	16.3	3.4	19		7.6
Nov 14	15.7	13.3	2.4	16		5.6
Nov 20	25.9	24.6	1.3	5		8.1
Nov 26	13.7	10.5	3.2	26		5.3
Dec 02	44.0	41.0	3.0	7		16.6
Dec 08	5.6	5.8	-0.2	4		2.9
Dec 14	7.4	9.5	-2.1	24		5.0
Dec 20	41.7	35.0	6.7	17		14.0
Dec 26	3.4	4.5	-1.1	29		2.5
Average	21.9	20.6	1.3	6³		8.8

¹All values at local temperature and pressure (LTP).

²PM₁₀ sampler ran for approximately 37 hours (Oct 15 @ 0000 to Oct 16 @ 1306). Comparative results for BAM-1020 monitors on this date are averaged over the same period. Analytical results are valid.

³Denotes relative percent difference of the quarterly averages.

4.0 TSP SAMPLING DATA

Hourly TSP data were collected by the Bison E-Sampler beginning on March 1, 2019, at 1500 MST. Data were also collected continuously throughout the fourth quarter of 2024.

As noted previously, the E-Sampler does not make a direct TSP measurement. It measures the visual light scattering (90° to the light beam) of the sampled air, and then calculates hourly TSP averages based on a user-entered calibration multiplier. The appropriate multiplier varies by location depending on the nature of the airborne particulate and can also vary seasonally. For this project, the multiplier is determined approximately once per week using the gravimetrically obtained data from the TSP filter (used for metals analysis) as a means of calibration. The sample filter used during monitoring is analyzed gravimetrically to determine an *empirical* correction factor; those results then are used to appropriately calibrate (correct) all collected TSP data prior to reporting.

As noted previously, the purpose of this monitoring is not to obtain rigorous TSP measurements to ascertain compliance with published (or historical) standards. While the E-Sampler is not a Reference Method monitor, it provides unique dual capabilities to satisfy important objectives of this project:

- Obtain hourly TSP values that can be compared to other particulate data (PM₁₀ and PM_{2.5}). It may also be used to investigate diurnal patterns along with specific episodic conditions. The hourly data may also prove useful in source contribution investigations by comparing the results with on-site wind speed and direction data to identify potential sources of airborne particulate, and
- Collect TSP material on filters that may be analyzed gravimetrically, and for selected trace elements. The material collected on the TSP filters includes all airborne particle sizes, in contrast to the PM₁₀ sampler filters which exclude all material of greater than 10-micron diameter.

One limitation of this nephelometric method is that false high TSP readings can occur during periods of fog. For this reason, all hourly data collected during periods with an ambient relative humidity above 90 percent of the possible value⁶ have been excluded from the reported data. A total of 84 hours of E-Sampler data were excluded from analysis during the fourth quarter for that reason.

⁶ The maximum possible reading from an ambient relative humidity sensor varies with temperature. At temperatures of 0°C or greater it is 100 percent. At subfreezing temperatures, it decreases by 0.8 percent relative humidity for every 1°C drop in temperature. For example, at a temperature of -20°C the maximum possible reported relative humidity is 84%. At that temperature, all TSP data associated with a reported relative humidity of 75.6 % (calculated as 0.9 x 84%) or higher would be excluded from analysis due to possible fog effects.

4.1 TSP Data Summary

Monthly and quarterly average TSP data for the fourth quarter are summarized in Table 2 and are compared with concurrent PM₁₀ and PM_{2.5} data from the MDEQ/BSB monitors. Daily average concentrations for each parameter are presented in Tables 2a through 2c.⁷ To facilitate direct comparability with the TSP data, hourly PM₁₀ and PM_{2.5} values during suspected fog periods (and whenever TSP data were missing for other reasons) have been excluded from the calculations below, although the PM₁₀ and PM_{2.5} monitors in use at the Greeley School are generally unaffected by fog.

In general, the daily TSP averages from the E-Sampler TSP monitor were similar to the PM₁₀ values from the BAM-1020 PM₁₀ monitor, although the PM₁₀ fraction decreased slightly as the quarter progressed. This indicates that most of the airborne particulate was smaller than 10 microns. It should be noted that the TSP measurements are made using a nephelometric technique while the hourly PM₁₀ measurements are made using beta attenuation. The monthly fraction of PM_{2.5} decreased from 46 percent in October to 33 percent in December. It has been noted that the PM_{2.5} fraction tends to increase during wildfire smoke episodes, which were prevalent in early October. On October 9, when the maximum average PM₁₀ concentration of 55 µg/m³ was observed, the PM_{2.5} fraction increased to approximately 50 percent of the total particulate.

Average temperatures were well above normal in both October and December, and slightly above normal in November. Precipitation was well below normal in all three months. The fall of 2024 was preceded by an unusually dry spring and summer, which contributed to the persistent wildfire season.

Table 2: TSP, PM₁₀ and PM_{2.5} Averages for Quarter 4, 2024

Period 2024	TSP (µg/m³)	PM₁₀ (µg/m³)	PM_{2.5} (µg/m³)
October	24	25	11.0
November	15	13	5.8
December	28	23	9.1
Quarter 4	22	20	8.7

⁷ Monthly and quarterly average values shown in Tables 2, 2a, 2b and 2c are calculated using all hourly values for time periods shown. Any apparent inconsistencies among monthly and quarterly averages reflect differences in data recovery among the three months, as shown in Section 8.0.

Table 2a: TSP, PM₁₀ and PM_{2.5} Daily Averages for October 2024

Date 2024	TSP (µg/m³)	PM₁₀ (µg/m³)	PM_{2.5} (µg/m³)
Oct 1	28	22	8.8
Oct 2	9	20	5.4
Oct 3	12	19	8.2
Oct 4	54	93	31.2
Oct 5	8	16	6.7
Oct 6	65	41	30.5
Oct 7	63	45	28.5
Oct 8	52	47	26.4
Oct 9	56	51	28.6
Oct 10	29	35	14.8
Oct 11	32	35	14.8
Oct 12	31	31	16.1
Oct 13	24	29	11.4
Oct 14	33	42	14.2
Oct 15	46	48	21.7
Oct 16	22	34	10.9
Oct 17	2	7	2.2
Oct 18	7	7	4.2
Oct 19	8	8	3.4
Oct 20	9	10	3.0
Oct 21	8	10	2.5
Oct 22	7	8	3.2
Oct 23	22	17	8.0
Oct 24	9	9	4.4
Oct 25	19	12	5.7
Oct 26	14	14	5.4
Oct 27	8	13	3.3
Oct 28	4	6	1.8
Oct 29	15	7	5.3
Oct 30	23	11	5.5
Oct 31	20	13	3.8
Average	24	25	11.0

Table 2b: TSP, PM₁₀ and PM_{2.5} Daily Averages for November 2024

Date 2024	TSP (µg/m³)	PM₁₀ (µg/m³)	PM_{2.5} (µg/m³)
Nov 1	16	10	3.9
Nov 2	17	10	3.9
Nov 3	15	6	3.2
Nov 4	8	6	3.0
Nov 5	12	9	2.9
Nov 6	14	9	6.5
Nov 7	19	20	8.3
Nov 8	27	17	7.8
Nov 9	20	19	7.8
Nov 10	18	16	6.6
Nov 11	12	17	5.5
Nov 12	4	7	3.2
Nov 13	11	12	4.0
Nov 14	19	13	5.6
Nov 15	16	11	4.9
Nov 16	17	10	6.7
Nov 17	7	6	3.4
Nov 18	8	9	4.0
Nov 19	18	13	8.0
Nov 20	17	25	8.1
Nov 21	11	21	6.3
Nov 22	9	12	5.5
Nov 23	9	8	5.6
Nov 24	11	8	6.1
Nov 25	16	14	5.7
Nov 26	15	10	5.3
Nov 27	9	9	4.7
Nov 28	11	11	5.2
Nov 29	27	27	9.6
Nov 30	33	37	12.1
Average	15	13	5.8

Table 2c: TSP, PM₁₀ and PM_{2.5} Daily Averages for December 2024

Date 2024	TSP (µg/m³)	PM₁₀ (µg/m³)	PM_{2.5} (µg/m³)
Dec 1	36	39	11.8
Dec 2	53	41	16.6
Dec 3	51	51	21.3
Dec 4	67	56	21.9
Dec 5	71	57	19.4
Dec 6	54	39	15.4
Dec 7	32	35	9.1
Dec 8	6	6	2.9
Dec 9	4	5	2.6
Dec 10	26	18	10.5
Dec 11	40	35	12.4
Dec 12	No Data	-----	-----
Dec 13	No Data	-----	-----
Dec 14	No Data	-----	-----
Dec 15	No Data	-----	-----
Dec 16	No Data	-----	-----
Dec 17	No Data	-----	-----
Dec 18	4	9	1.9
Dec 19	35	30	11.7
Dec 20	45	35	14.0
Dec 21	46	36	16.3
Dec 22	8	7	4.0
Dec 23	34	15	9.3
Dec 24	40	26	10.5
Dec 25	11	10	3.2
Dec 26	8	5	2.5
Dec 27	23	19	5.6
Dec 28	7	5	3.0
Dec 29	13	9	4.8
Dec 30	4	4	1.9
Dec 31	9	13	7.4
Average	28	23	9.1

It is also instructive to examine variations in TSP concentration with wind speed and direction:

- Figure 2 presents a wind rose for all hours in the fourth quarter.
- Figure 3 presents a wind rose for only those periods when the reported hourly TSP concentration was above $41 \mu\text{g}/\text{m}^3$; this represents the upper 15 percent of valid TSP values.
- Figure 4 presents a wind rose for only those periods when the hourly TSP concentration was below $7 \mu\text{g}/\text{m}^3$; this represents the lower 31 percent of valid TSP values.
- Appendix C presents the corresponding tables for these wind roses, which show exact numerical frequencies and averages. The discussions below rely on data from those tables.

Figure 2 shows a strong emphasis for southwest through southeast winds, with roughly 45 percent of all winds blowing from those directions. Winds from other directions were fairly equally distributed. The average wind speed was only 1.0 m/s (2.2 mph). This is noticeably lower than in many previous quarters and reflects the frequently stable meteorological conditions during the fourth quarter.

Figure 3 shows a wind rose for high⁸ ($>41 \mu\text{g}/\text{m}^3$) TSP concentrations. Wind directions during these periods show a pronounced south through southeast emphasis. Wind speeds were even lower, averaging only 0.7 m/s (1.6 mph).

Figure 4 shows a wind rose for low ($<7 \mu\text{g}/\text{m}^3$) TSP concentrations. Winds were frequently from the southwest through northwest. Wind speeds during low-TSP periods were noticeably higher than for the quarter overall, averaging 1.6 m/s (3.6 mph).

In general, TSP levels tended to increase during southeasterly winds and decrease during westerly winds. Wind speeds were lowest during high TSP concentrations, and highest during low TSP concentrations.

4.2 TSP vs PM₁₀

A comparison was made between the gravimetrically-determined TSP data and the concurrent hourly data for PM₁₀. Unlike the data presented in Section 4.1, the TSP gravimetric data was collected over periods typically ranging from 5–8 days. The reason for the long sampling period was explained in Section 2.0 and relates to the volumetric collection needs for a valid mass sample. For interest, the gravimetric TSP sample results were

⁸ The descriptor “high” is used only in a relative sense, as all the TSP data presented in this analysis indicate concentrations far below any historical standards.

compared against the hourly PM₁₀ data obtained from beta attenuation over concurrent periods. Table 3 provides this comparison.

The table shows that overall, the gravimetrically determined TSP concentrations from the E-Sampler were similar to the concurrent PM₁₀ concentrations from the BAM-1020 monitor. This comparison indicates that most of the airborne particulate was smaller than 10 microns; this is consistent with the analysis presented in Section 4.1.

Table 3: Summary of Gravimetric TSP vs Hourly PM₁₀ for Quarter 4, 2024

Sampling Period (2024)	Average Gravimetric TSP (µg/m³)	Average BAM-1020 PM₁₀ (µg/m³)
09/23-10/01	23.4	20.0
10/01-10/07	34.6	38.5
10/07-10/14	36.2	37.2
10/14-10/18	22.6	28.3
10/18-10/24	10.0	9.8
10/24-10/28	12.7	11.8
10/28-11/06	15.0	8.8
11/06-11/12	16.6	15.5
11/12-11/18	12.7	9.9
11/18-11/25	12.4	14.2
11/25-11/27	15.2	10.8
11/27-12/03	30.1	30.7
12/03-12/11	35.3	30.2
12/11-12/18	No Data	No Data
12/18-12/23	29.4	23.5
12/23-12/30	17.8	11.7
Average	21.6	20.1

Figure 2. Quarterly Wind Rose, Greeley School (All Hours)

Fourth Quarter 2024 (direction wind was from)

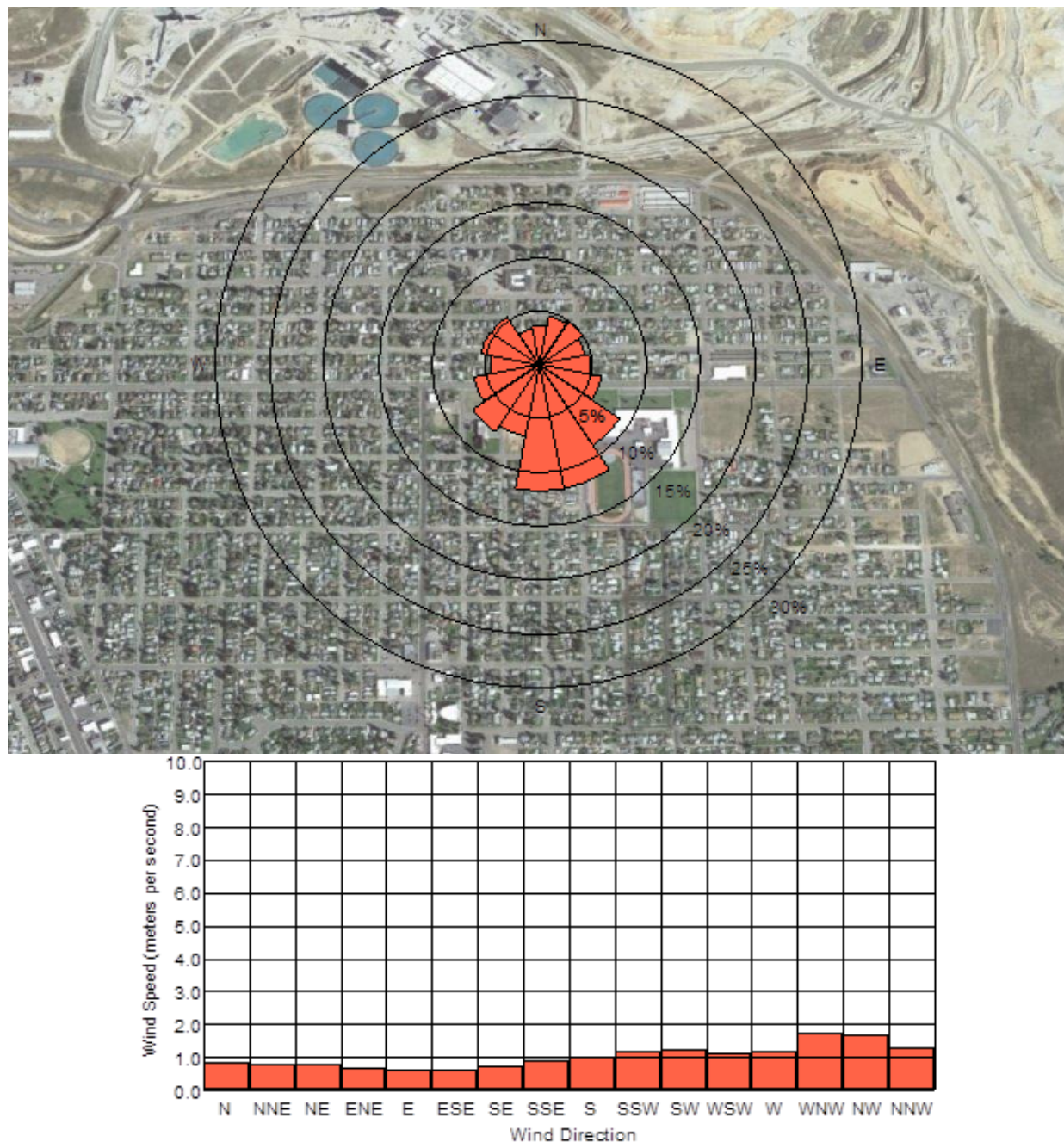


Figure 3. Quarterly Wind Rose, Greeley School (TSP >41 $\mu\text{g}/\text{m}^3$)

Fourth Quarter 2024 (direction wind was from)

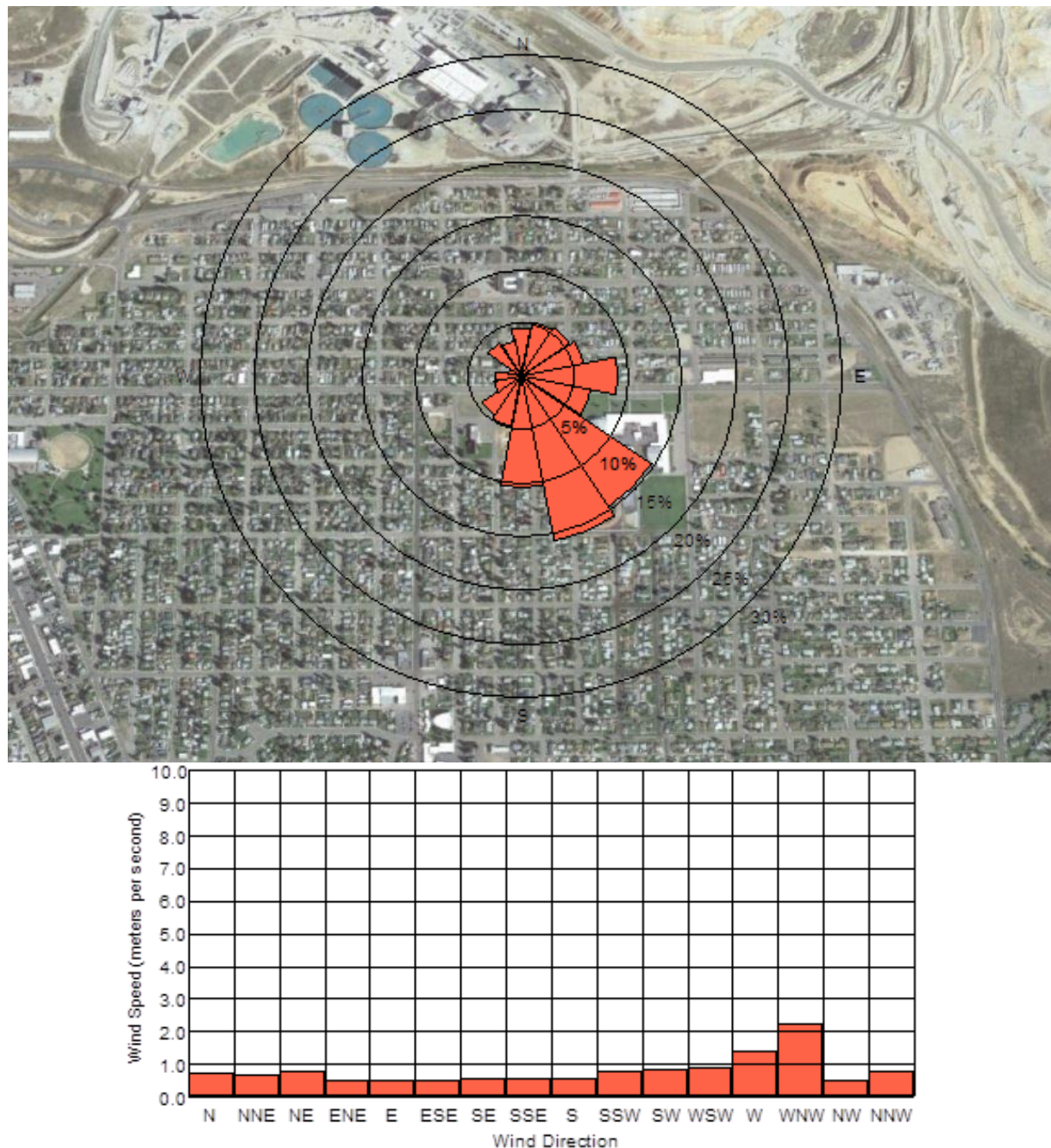
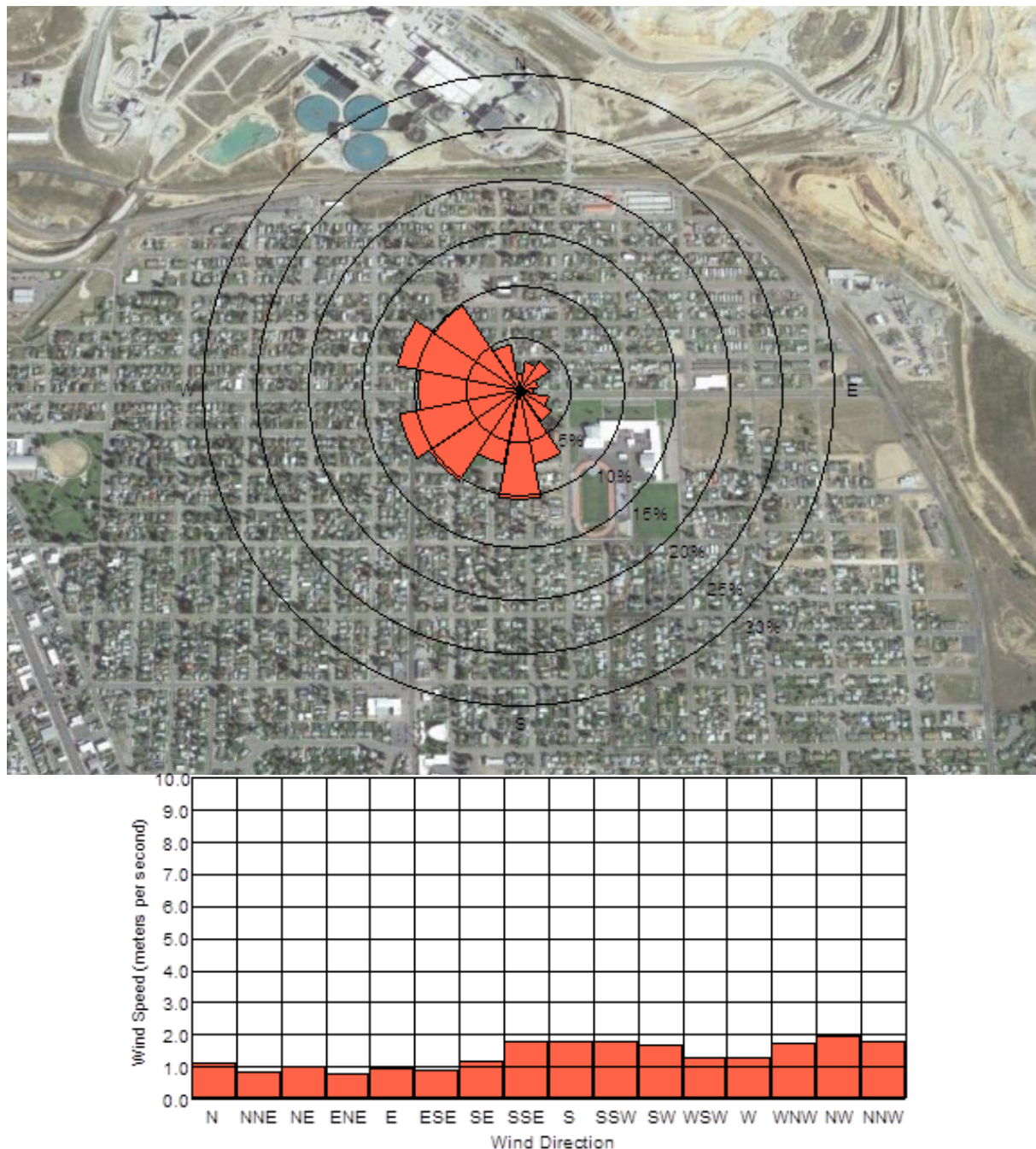


Figure 4. Quarterly Wind Rose, Greeley School (TSP <7 $\mu\text{g}/\text{m}^3$)

Fourth Quarter 2024 (direction wind was from)



5.0 CHEMICAL ANALYSIS DATA

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 is subject to modification as results from this monitoring are obtained, and as other information becomes available.

All samples were digested and then analyzed by ICP-MS using EPA Method E200.8. Laboratory results are presented in Appendix D and are reported in units of micrograms (μg) per filter. Fourteen TSP samples and fifteen PM_{10} samples collected during the fourth quarter were analyzed for trace elements, as well as five Field Blanks and five filter lot blanks (Lab Blanks). All samples were successfully collected in the normal manner, with two exceptions:

- The PM_{10} sample event for October 15 did not end when scheduled but continued until October 16 at 1306 MST. This resulted in a sample duration of just over 37 hours. However, the trace element results for the sample are considered valid, and were incorporated into the quarterly averages.
- The TSP sample for December 11-18 was invalidated, as the sample pump never turned on and no sample was collected.

Tables 4a and 4b summarize the total particulate mass and ELI analytical results for samples collected during the fourth quarter. Detectable concentrations of copper, molybdenum and zinc were found in most samples, while arsenic was only detected in two samples, and cadmium in five samples. Manganese and lead were detected in roughly half of the samples. Table 4c shows the Field Blank and Lab Blank results associated with the fourth quarter samples. The bottom row of Table 4c shows the laboratory's range of Method Blank (MB) Method Detection Limit (MDL) during the quarter, which represents the minimum detectable amount of each trace element per filter. Field Blank, Lab (filter) Blank and MB concentrations for the fourth quarter were non-detectable, with the following exceptions:

- Minimal levels of molybdenum (just above the laboratory MDL) were detected in three lab blanks and in one field blank.

Tables 5a and 5b 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.

- All trace element concentrations in the individual TSP samples were well below the applicable Guideline values. The closest approach to a Guideline was for manganese in the samples collected from October 1-7 and October 7-14, with a concentration of $28 \text{ ng}/\text{m}^3$, or 56% of the lifetime exposure Guideline value of $50 \text{ ng}/\text{m}^3$. All quarterly averages were far below the applicable Guideline values.

- All trace element concentrations in the individual PM₁₀ samples were also below the applicable Guideline values. The closest approach to a Guideline was for manganese in the sample collected on October 15, with a concentration of 32 ng/m³, or 64% of the lifetime exposure Guideline value of 50 ng/m³. All quarterly averages were far below the applicable Guideline values.

Table 6 shows the sources of the “Guideline” values used for these analyses, and their derivations.⁹ Additionally, Table 6 shows the approximate airborne concentration corresponding to each MDL range listed in Table 4c. The detectable airborne concentrations are different for TSP and PM₁₀ due to differences in typical sample volumes. A detailed table showing commonly accepted values from regulatory agencies and reputable private organizations is provided in Appendix E.

⁹ The guideline values were updated (starting with the 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 4a: Summary of Analytical Results – TSP

DATE	PART MASS (µg)	As (µg)	Cd (µg)	Cu (µg)	Mn (µg)	Mo (µg)	Pb (µg)	Zn (µg)
10/01–10/07	566	ND	ND	0.69	0.46	0.072	0.073	0.49
10/07–10/14	700	ND	ND	1.5	0.55	0.22	0.093	0.85
10/14–10/18	248	ND	ND	0.48	0.22	0.027	0.048	0.30
10/18–10/24	165	ND	ND	0.34	ND	0.11	ND	ND
10/24–10/28	140	ND	ND	0.26	ND	0.085	ND	ND
10/28–11/06	370	ND	ND	0.57	0.19	0.037	0.051	0.46
11/06–11/12	276	ND	ND	0.66	ND	0.066	0.049	0.38
11/12–11/18	207	ND	ND	0.25	ND	0.025	ND	ND
11/18–11/25	236	ND	ND	0.33	ND	0.030	ND	0.35
11/25–11/27	80	ND	ND	0.17	ND	0.013	ND	ND
11/27–12/03	513	ND	ND	1.0	0.24	0.022	0.051	0.53
12/03–12/11	775	ND	0.0090	1.2	0.38	0.074	0.086	0.89
12/11–12/18	37	No Data	No Data	No Data	No Data	No Data	No Data	No Data
12/18–12/23	410	ND	ND	0.67	ND	0.027	ND	0.45
12/23–12/30	345	ND	ND	0.56	ND	0.029	ND	0.32

All values are micrograms per filter. ND denotes not detected.

Table 4b: Summary of Analytical Results – PM₁₀

DATE	PART MASS (µg)	As (µg)	Cd (µg)	Cu (µg)	Mn (µg)	Mo (µg)	Pb (µg)	Zn (µg)
10/03	490	ND	ND	0.54	0.21	0.012	0.050	0.34
10/09	1310	ND	ND	1.5	0.75	0.033	0.11	0.76
10/15 ¹	1620	0.072	0.011	3.6	1.2	0.16	0.26	1.7
10/21	286	ND	ND	0.78	0.23	0.30	0.050	0.62
10/27	242	ND	ND	0.61	ND	0.33	0.044	0.32
11/02	253	ND	ND	0.54	ND	0.043	ND	0.38
11/08	473	ND	0.0084	0.62	0.20	0.034	0.064	0.47
11/14	377	ND	ND	0.47	0.31	0.017	0.051	0.53
11/20	622	ND	ND	0.91	0.31	0.12	0.061	0.62
11/26	329	ND	ND	0.65	ND	0.022	ND	0.47
12/02	1057	ND	0.011	2.3	0.43	0.082	0.12	1.2
12/08	134	ND	ND	0.31	ND	0.0072	ND	ND
12/14	179	ND	ND	ND	ND	0.010	ND	ND
12/20	1001	0.066	0.0087	1.80	0.53	0.053	0.098	1.2
12/26	81	ND	ND	ND	ND	0.0078	ND	ND

All values are micrograms per filter. ND denotes not detected.

¹Sample duration was 37:06

Table 4c: Summary of Analytical Results – Blanks

DATE	PART MASS (µg)	As (µg)	Cd (µg)	Cu (µg)	Mn (µg)	Mo (µg)	Pb (µg)	Zn (µg)
11/11-LB	4	ND	ND	ND	ND	0.0073	ND	ND
10/07-FB	11	ND	ND	ND	ND	ND	ND	ND
11/23-LB	2	ND	ND	ND	ND	0.011	ND	ND
10/30-FB	16	ND	ND	ND	ND	0.0093	ND	ND
01/18-LB	8	ND	ND	ND	ND	ND	ND	ND
11/18-FB	18	ND	ND	ND	ND	ND	ND	ND
12/11-FB	18	ND	ND	ND	ND	ND	ND	ND
01/18-LB	5	ND	ND	ND	ND	ND	ND	ND
02/20-LB	3	ND	ND	ND	ND	0.0093	ND	ND
01/06-FB	14	ND	ND	ND	ND	ND	ND	ND
Lab Method Blank MDL		0.06	0.006	0.2	0.2	0.005	0.04	0.3

All values are micrograms per filter. ND denotes not detected.
LB denotes laboratory filter blank. FFB denotes field filter blank.

Table 5a: Summary of Airborne Trace Element Concentrations – TSP

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)
10/01–10/07	16.36	ND	ND	42	28	4.4	4.5	30
10/07–10/14	19.33	ND	ND	78	28	11	4.8	44
10/14–10/18	10.98	ND	ND	44	20	2.5	4.4	27
10/18–10/24	16.47	ND	ND	21	ND	6.7	ND	ND
10/24–10/28	10.98	ND	ND	24	ND	7.7	ND	ND
10/28–11/06	24.71	ND	ND	23	7.7	1.5	2.1	19
11/06–11/12	16.59	ND	ND	40	ND	4.0	3.0	23
11/12–11/18	16.36	ND	ND	15	ND	1.5	ND	ND
11/18–11/25	18.99	ND	ND	17	ND	1.6	ND	18
11/25–11/27	5.26	ND	ND	32	ND	2.5	ND	ND
11/27–12/03	17.05	ND	ND	59	14	1.3	3.0	31
12/03–12/11	21.96	ND	0.41	55	17	3.4	3.9	41
12/11–12/18	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data
12/18–12/23	13.96	ND	ND	48	ND	1.9	ND	32
12/23–12/30	19.33	ND	ND	29	ND	1.5	ND	17
Average (ng/m ³) *		1.8	0.20	38	12	3.7	2.4	23
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 6) for the parameter and sample group 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 2.4 ng/m³ was 2 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 5b: Summary of Airborne Trace Element Concentrations – PM₁₀

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)
10/03	24.03	ND	ND	22	8.7	0.50	2.1	14
10/09	24.03	ND	ND	62	31	1.4	4.6	32
10/15	37.16	1.9	0.30	97	32	4.3	7.0	46
10/21	24.03	ND	ND	32	10	12	2.1	26
10/27	24.03	ND	ND	25	ND	14	1.8	13
11/02	24.03	ND	ND	22	ND	1.8	ND	16
11/08	24.03	ND	0.35	26	8.3	1.4	2.7	20
11/14	24.03	ND	ND	20	13	0.71	2.1	22
11/20	24.03	ND	ND	38	13	5.0	2.5	26
11/26	24.03	ND	ND	27	ND	0.92	ND	20
12/02	24.03	ND	0.46	96	18	3.4	5.0	50
12/08	24.03	ND	ND	13	ND	0.30	ND	ND
12/14	24.03	ND	ND	ND	ND	0.42	ND	ND
12/20	24.03	2.7	0.36	75	22	2.2	4.1	50
12/26	24.03	ND	ND	ND	ND	0.32	ND	ND
Average (ng/m ³) *		1.4	0.19	38	12	3.2	2.5	24
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 6) 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.

Table 6: Summary of Airborne Trace Element Concentration Guidelines (ng/m³)

Analyte	Dose/ Risk ^A	Source	Description	Time Period	Detectable TSP ^D	Detectable PM ₁₀ ^E
Arsenic (inorganic)	15	EPA / DPHHS ^G	RfC ^B	Lifetime	3.64	2.50
Cadmium	10	ATSDR / DPHHS ^G	Non-cancer / CV ^G	Chronic	0.36	0.25
	200	IRIS	Cancer	Chronic		
Copper	2,000	DPHHS ^G / Michigan DEQ	RfC ^B	Chronic	12.1	8.33
Lead	150	EPA / ATSDR / DPHHS ^G	National Ambient Air Quality Standard ^C	3-month	2.43	1.67
Manganese	50	EPA	RfC ^B	Lifetime	12.1	8.33
Molybdenum	11,905 (=500,000/42) ^F	CAL/OSHA, ACGIH	CAL/OSHA, ACGIH	Chronic ^F	0.30	0.21
	400	DPHHS ^G / Michigan DEQ	CV	Chronic		
Zinc	47,619 (=2,000,000/42) ^F	ACGIH TLV	ACGIH TLV	Chronic ^F	18.2	12.5

^A See Appendix E 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 average 6-day sampling period and total sample volume of 16.47 m³. Range reflects maximum and minimum laboratory MDLs during Q4 2024.

^E Based on 24-hour sampling period and total sample volume of 24 m³. Range reflects maximum and minimum laboratory MDLs during Q4 2024.

^F 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.

^G 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.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

6.0 CALIBRATION DATA

Calibration checks of the BGI PM₁₀ sampler and the Met One E-Sampler 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. Monthly verification checks were performed on both samplers on October 11, November 13 and December 3.¹⁰

Table 7 summarizes the verification checks performed each month and the applicable acceptance criteria. In the event of unsatisfactory results, corrective actions were performed as specified in the rightmost column of Table 7. Note that the E-Sampler flow rate, temperature, pressure and relative humidity sensors can only be checked and adjusted at a single point.

Table 8 summarizes the results of the calibration checks performed during the fourth quarter, as well as any corrective actions. Detailed verification check results are shown in Appendix F. Appendix G presents certifications for flow calibration standards used during the quarter.

Table 7: Summary of Montana Resources – Greeley School Site Calibration/ Audit Activities and Acceptance Criteria

Activity	Acceptance Criteria / Actions	
<i>PM₁₀ Sampler Calibration Checks</i>		
Flow Verification	±4%	Multipoint recalibration if flow error exceeds ±2%
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
<i>E-Sampler Calibration Checks</i>		
Flow Verification	±5%	Adjust calibration if error exceeds ±4%
Leak Check	≤0.3 LPM	Investigate / correct leak problem
Temperature Verification	±2.0°C	Adjust calibration if error exceeds ±2.0°C
Pressure	±10 mmHg	Adjust calibration if error exceeds ±10 mmHg
Relative Humidity	≤7% RH	Adjust calibration if error exceeds ±7% RH
<i>Other</i>		
PM ₁₀ Inlet Head	Disassemble and clean	
TSP Inlet Head	Disassemble and clean	

¹⁰ The calibration checks performed on January 15, 2025, also are shown to demonstrate data validity through the end of the quarter.

Table 8: Summary of Quarter 4, 2024 Calibration Verification Results

Date	Calibration Check	Results	Limits	Actions
10/11/2024	BGI PM ₁₀ Flow Verification (A)	+1.5%	±4%	
	BGI PM ₁₀ Flow Verification (B)	-1.6%	±4%	
	BGI Ambient Temperature	+0.4°C	±2.0°C	
	BGI Filter Temperature	-0.3°C	±2.0°C	
	BGI Ambient Pressure	-3.4 mm Hg	±10 mmHg	
	BGI Leak Test (pressure drop)	1 cm H ₂ O	≤4 cm H ₂ O	
	E-Sampler Flow Verification (A)	+1.0%	±5%	
	E-Sampler Flow Verification (B)	-1.0%	±5%	
	E-Sampler Ambient Temperature	+0.4°C	±2.0°C	
	E-Sampler Ambient Pressure	-89 Pa	±1333 Pa	
	E-Sampler Leak Test	0.0 LPM	≤0.3 LPM	
	E-Sampler Relative Humidity	+0.7% RH	±7% RH	
11/13/2024	BGI PM ₁₀ Flow Verification (A)	+0.4%	±4%	
	BGI PM ₁₀ Flow Verification (B)	-0.4%	±4%	
	BGI Ambient Temperature	+0.2°C	±2.0°C	
	BGI Filter Temperature	+0.2°C	±2.0°C	
	BGI Ambient Pressure	-3.8 mm Hg	±10 mmHg	
	BGI Leak Test (pressure drop)	1 cm H ₂ O	≤4 cm H ₂ O	
	E-Sampler Flow Verification (A)	-1.0%	±5%	
	E-Sampler Flow Verification (B)	+1.0%	±5%	
	E-Sampler Ambient Temperature	+0.1°C	±2.0°C	
	E-Sampler Ambient Pressure	-166 Pa	±1333 Pa	
	E-Sampler Leak Test	0.0 LPM	≤0.3 LPM	
	E-Sampler Relative Humidity	-2.4% RH	±7% RH	
12/03/2024	BGI PM ₁₀ Flow Verification (A)	+0.5%	±4%	
	BGI PM ₁₀ Flow Verification (B)	-0.5%	±4%	
	BGI Ambient Temperature	+0.2°C	±2.0°C	
	BGI Filter Temperature	-0.4°C	±2.0°C	
	BGI Ambient Pressure	-4.2 mm Hg	±10 mmHg	
	BGI Leak Test (pressure drop)	1 cm H ₂ O	≤4 cm H ₂ O	
	E-Sampler Flow Verification (A)	-1.0%	±5%	
	E-Sampler Flow Verification (B)	+1.0%	±5%	
	E-Sampler Ambient Temperature	0.0°C	±2.0°C	
	E-Sampler Ambient Pressure	-110 Pa	±1333 Pa	
	E-Sampler Leak Test	0.0 LPM	≤0.3 LPM	
	E-Sampler Relative Humidity	-2.3% RH	±7% RH	

Date	Calibration Check	Results	Limits	Actions
01/15/2025	BGI PM ₁₀ Flow Verification (A)	-1.5%	±4%	
	BGI PM ₁₀ Flow Verification (B)	+1.6%	±4%	
	BGI Ambient Temperature	+1.0°C	±2.0°C	
	BGI Filter Temperature	-1.0°C	±2.0°C	
	BGI Ambient Pressure	-2.1 mm Hg	±10 mmHg	
	BGI Leak Test (pressure drop)	1 cm H ₂ O	≤4 cm H ₂ O	
	E-Sampler Flow Verification (A)	+1.5%	±5%	
	E-Sampler Flow Verification (B)	-1.5%	±5%	
	E-Sampler Ambient Temperature	+2.1°C	±2.0°C	C
	E-Sampler Ambient Pressure	-167 Pa	±1333 Pa	
	E-Sampler Leak Test	0.0 LPM	≤0.3 LPM	
	E-Sampler Relative Humidity	-5.6% RH	±7% RH	
Codes: A = Difference of reported flow from reference standard flow. B = Difference of reference standard flow from design flow (16.7 LPM for BGI, 2.0 LPM for E-Sampler). C = Intense sun and calm conditions. Adjusted temp to read 9.2C at reference temp of 8.3C.				

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 fourth quarter audit was performed on November 13, 2024. All audit results were satisfactory.

Table 9: Quarter 4, 2024 Audit Results

BGI PQ200 PM10 Sampler – Performance Audit			
Date: 11/13/2024	Time: 1203-1220 MST	Sampler Serial Number: 1622 (Greeley)	
Performed By: Daniel Bitz		Observer: Steve Heck	
1) Tetra Cal SN 149645		Certification Date: 1) 12/04/2023	
Barometric Pressure Sensor Verification			
Reading (mm Hg)	Sampler (a)	Audit (b)	Difference (a - b) (must be $\leq \pm 10$)
Ambient Pressure	616.0	619.7 mm	-3.7
Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Audit (b)	Difference (a - b) (must be $\leq \pm 2^{\circ}\text{C}$)
Ambient Temperature	5.0	5.1	-0.1
Filter Temperature	5.9	5.0	-0.9
Leak Check			
Vacuum Readings (cm H2O)	Start 102	End 101	Pass Fail
Flow Rate Verification			
Reading (liters per minute)	Sampler (a)	Audit (b)	% Difference $100 \cdot (a - b) / b$ (must be $\leq \pm 4\%$)
Operating flow rate check	16.70	16.87	-1.0%
Reading (liters per minute)	Audit (b)	Design Flow Rate Standard (c)	% Difference $100 \cdot (b - 16.7) / 16.7$ (must be $\leq \pm 5\%$)
Design flow rate calculation	16.87	16.70	+1.0%
Comments:			

Met One E-Sampler – Monthly Calibration Check / Quarterly Audit			
Date: 11/13/2024	Time: 1120-1136 MST	Sampler Serial Number: X24429	
Performed By: Daniel Bitz		Location (field or lab): Greeley School	
Ref Standard & S/N: 1) Tetra Cal S/N 149645		Certification Date: 1) 12-04-2023	
Barometric Pressure Sensor Verification			
Reading (Pascals)	Sampler (a)	Reference Standard (b)	Difference (a - b) (limit $\leq \pm 1333$ Pa)
Ambient Pressure	82,728 Pa	620.2 mmHg =82,687 Pa	+41 Pa
Pascals = mmHg * 133.322		Limit of ± 1333 Pascals = ± 10 mmHg	
Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 2^{\circ}\text{C}$)
Ambient Temperature	5.8 C	5.9 C	-0.1 C
Leak Check			
Leak Check Flow Rate	0.0 LPM	(must be < 0.4 LPM)	Pass Fail
Flow Rate Verification			
Reading (liters per minute)	Sampler (a)	Reference Standard (b)	% Difference $100 \cdot (a - b) / b$ (must be $\leq \pm 5\%$)
Audit standard flow rate check	2.0	1.995	+0.3%
Reading (liters per minute)	Reference Standard (b)	Design Flow Rate Standard (c)	% Difference $100 \cdot (b - 2.0) / 2.0$ (must be $\leq \pm 5\%$)
Design flow rate check	1.995	2.0	-0.3%
Relative Humidity Verification (checked with Assmann Psychrometer)			
Dry Bulb Temp. $^{\circ}\text{C}$	N/A	Calculated RH (a)	N/A
Wet Bulb Temp. $^{\circ}\text{C}$	N/A	Sampler RH (b)	N/A
BP Inches Hg	N/A	Difference = a - b (must be $\leq 7\%$ RH)	N/A

Relative humidity checked just prior to audit. Sensor Read 46% vs known of 48.3%

8.0 DATA COMPLETENESS

The percentages of data recovery for each Greeley School monitoring parameter reported by MR during the fourth quarter of 2024 are given in Table 10. The quarterly data recovery goal for hourly TSP is ≥ 80 percent,¹¹ and for relative humidity is ≥ 90 percent. The net data recovery was 92.2 percent for TSP and 100.0 percent for relative humidity. TSP data loss was caused by invalidation of the December 11-18 sample; the E-Sampler did not run, as reflected by a consistent flow rate of zero. This is consistent with the reported net particulate mass of 0.037 milligrams.

Data recovery statistics for the particulate filter samples are presented in Table 11. The quarterly data recovery goal for TSP and PM₁₀ filter samples is ≥ 80 percent for both the gravimetric and trace element analyses. The actual recovery was 100.0 percent for PM₁₀ but only 93.3 percent for TSP, due to the invalidation of the December 11-18 sample as discussed above. It is noted that the PM₁₀ sample that was set to run for 24 hours on October 15 failed to shut off until 1306 MST on October 16, resulting in a non-standard sample duration of slightly longer than 37 hours. However, both the gravimetric and trace element analysis results for the sample filter were valid.

¹¹ The number of possible hourly TSP values counts only hours when the ambient relative humidity was less than 90 percent of the possible maximum. This determination is discussed in Section 4.0.

Table 10: Quarterly Data Completeness Summary – Hourly Data

Montana Resources LLP – Greeley School					
Parameter	Readings Possible ^A	Valid Readings	Percent Recovery	QA/QC Hours ^B	Net Percent Recovery
October 2024					
TSP	734	725	98.8	7	99.7
Relative Humidity	744	744	100.0	0	100.0
Total	1478	1469	99.4	7	99.9
November 2024					
TSP	675	668	99.0	7	100.0
Relative Humidity	720	720	100.0	0	100.0
Total	1395	1388	99.5	7	100.0
December 2024					
TSP	715	545	76.2	6	77.1
Relative Humidity	744	744	100.0	0	100.0
Total	1459	1289	88.3	6	88.8
Quarter 4, 2024					
TSP	2124	1938	91.2	20	92.2
Relative Humidity	2208	2208	100.0	0	100.0
Total	4332	4146	95.7	20	96.2
^A Only hours with relative humidity <90 percent of maximum value are counted as <i>possible</i> TSP data hours. See discussion in Section 4.1. ^B Includes hours affected by filter changes, which usually occur every 5 to 7 days.					

Table 11: Quarterly Data Completeness Summary – Filter Analysis Data

Montana Resources LLP – Greeley School			
Parameter	Readings Possible	Valid Readings	Percent Recovery
October 2024			
TSP – Gravimetric	5	5	100.0
TSP – Trace Elements	35	35	100.0
PM ₁₀ – Gravimetric	5	5	100.0
PM ₁₀ – Trace Elements	35	35	100.0
Total	80	80	100.0
November 2024			
TSP – Gravimetric	5	5	100.0
TSP – Trace Elements	35	35	100.0
PM ₁₀ – Gravimetric	5	5	100.0
PM ₁₀ – Trace Elements	35	35	100.0
Total	80	80	100.0
December 2024			
TSP – Gravimetric	5	4	80.0
TSP – Trace Elements	35	28	80.0
PM ₁₀ – Gravimetric	5	5	100.0
PM ₁₀ – Trace Elements	35	35	100.0
Total	80	72	90.0
Quarter 4, 2024			
TSP – Gravimetric	15	14	93.3
TSP – Trace Elements	105	98	93.3
PM ₁₀ – Gravimetric	15	15	100.0
PM ₁₀ – Trace Elements	105	105	100.0
Total	240	232	96.7
(1) One of the five PM ₁₀ samples in October was collected over a non-standard period (~37 hours), as discussed in Section 2.0.			

Note: The TSP sample collected from Sep 23 to Oct 01, 2024, is not included in this tabulation because it was collected primarily in September, and was included in the Quarter 3, 2024 report.

9.0 COMPARISON TO AMBIENT AIR QUALITY STANDARDS

This study is not intended to determine compliance with the NAAQS¹² or the Montana ambient air quality standards¹³ (MAAQS). Nonetheless, a generalized comparison is possible. The filter-based PM₁₀ data collected by MR indicate ambient PM₁₀ concentrations far below the 24-hour standard of 150 µg/m³ that otherwise applies to the NAAQS and MAAQS.

Similarly, the lead concentrations analyzed from the exposed TSP filters indicate quarterly average airborne concentrations well below the 0.15 µg/m³ ambient NAAQS based on a 3-month average of the 24-hour samples. The MAAQS is 1.5 µg/m³ and is based on a 90-day rolling average of 24-hour samples. The TSP samples presented herein were typically collected over 5- to 8-day periods, at a much lower sampling rate (2.0 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 12 summarizes these comparisons through the fourth quarter of 2024.

Additionally, the analyses presented in Section 5.0 indicate that individual (per sample) airborne concentrations of the other six trace elements were each below the Guidelines presented in Table 6. The quarterly average concentrations for all COCs were well below their respective *Lifetime* Guideline values.

Table 12: Summary of Airborne Concentration vs. NAAQS

Analyte	Observed Concentration (µg/m ³)	Averaging Period	Ambient Standard (µg/m ³)	Authority
PM ₁₀	55 ¹	24-hour (max)	150	NAAQS & MAAQS
Pb	0.005 ² 0.002 ³	90-day	1.50	MAAQS
		3-month	0.15	NAAQS
TSP	22 ⁴	Annual	75 ⁴	NAAQS & MAAQS

¹ Denotes maximum value from BGI filter-based PM₁₀ sampler. Maximum value from MDEQ BAM-1020 sampler on sixth-day runs was 51 µg/m³.

² This value was the maximum from the filter-based TSP sampler, collected over a 7-day sampling period. A maximum 24-hour value of 0.007 µg/m³ was reported from the filter-based PM₁₀ sampler.

³ This value was the quarterly average from the filter-based TSP sampler. Non-detect results were set to ½ of the sample group detection limit when calculating the average.

⁴ 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. Value shown represents arithmetic average for monitoring period of Quarter 4, 2024, based on gravimetric filter analysis.

¹² 40 CFR 50 *et seq.*

¹³ ARM 17.8.223

**APPENDIX A: VALIDATED AMBIENT MONITORING DATA BY
MONTH, FOURTH QUARTER 2024**

TABLE A-1: MISSING DATA CODES¹			
Letter Code	Mnemonic Code	Description	Number Code
AF	Sc	Scheduled but Not Collected	9972
AH	Fl	Sample Flow Rate Out of Limits / Flow Fail Alarm	9974
AK	Lk	Filter Leak	9977
AM	Mi	Miscellaneous Void	9979
AN	ND	Machine Malfunction	9980
AO	Wx	Bad Weather ²	9981
AQ	Co	Collection Error	9983
AV	Pw	Power Failure	9988
AZ	Au	QC Audit (internal audit)	9992
BA	Ma	Maintenance ³	9993
BC	Ca	Multipoint Calibration	9995
BF	Pz	Zero / Span / Precision Check (used for single-point calibration checks and leak checks)	9998
¹ The list of codes in this table is not exhaustive but includes those commonly used for this site (and includes all codes applicable to the data collected during the current quarter). ² For this project, denotes that hourly TSP value is considered unreliable due to ambient relative humidity exceeding 90 percent of the maximum value. ³ Includes routine changeout of sampling filters in TSP monitor.			

Montana Resources LLP
Greeley School Air Monitoring Summary
TSP - Met One E-Sampler (micrograms per cubic meter)
October 2024

A-2

Day	<< Hour >>																								Avg	Max	Min
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	18	14	20	16	30	37	38	36	29	50	56	38	30	BA	13	16	22	28	32	33	36	28	20	10	28	56	10
2	9	15	16	15	12	19	21	20	11	7	4	3	5	4	9	5	4	5	5	4	6	4	3	4	9	21	3
3	5	4	4	5	9	13	11	10	12	12	8	7	8	8	11	10	11	14	18	AV	23	22	30	23	12	30	4
4	23	23	23	28	16	17	14	23	27	29	26	16	10	9	21	18	68	135	410	225	79	29	21	17	54	410	9
5	14	12	7	3	3	5	7	8	6	6	5	4	5	4	3	5	7	5	16	16	11	10	11	9	8	16	3
6	11	14	13	15	14	17	19	22	26	38	51	78	62	58	93	123	108	83	126	137	138	117	103	97	65	138	11
7	96	94	96	94	88	97	96	101	94	104	91	44	BA	30	41	58	39	22	29	27	26	26	28	28	63	104	22
8	28	31	38	43	44	56	64	71	79	79	78	58	38	27	24	25	38	48	60	66	68	65	63	63	52	79	24
9	63	62	74	72	61	66	68	67	62	64	60	33	13	13	33	69	70	70	78	52	58	42	43	51	56	78	13
10	51	46	40	44	38	40	34	32	39	41	26	23	22	23	22	16	16	18	18	18	21	20	22	20	29	51	16
11	20	20	23	25	21	21	24	23	32	28	40	47	BF	37	32	30	32	40	44	43	35	34	38	38	32	47	20
12	36	33	31	37	35	31	32	35	32	35	41	33	12	16	16	16	15	31	33	36	37	40	46	38	31	46	12
13	30	29	26	24	24	22	26	23	27	29	31	29	25	24	15	14	16	18	22	23	26	26	27	26	24	31	14
14	26	23	21	20	21	28	31	31	32	32	34	30	35	BA	16	16	27	31	52	58	47	47	53	56	33	58	16
15	56	52	56	50	53	53	58	55	55	58	54	63	50	44	40	34	32	30	39	31	36	36	30	30	46	63	30
16	29	23	21	29	22	25	23	28	29	38	17	7	11	19	27	37	34	28	25	19	6	5	8	8	22	38	5
17	4	2	2	2	2	4	4	4	4	3	2	2	2	1	2	2	2	2	5	2	1	2	1	1	2	5	1
18	1	0	1	1	2	6	AO	29	6	2	2	1	2	BA	3	1	3	6	12	15	6	18	27	20	7	29	0
19	8	7	12	14	10	22	24	13	11	5	4	2	4	3	2	3	4	2	2	3	6	9	15	16	8	24	2
20	10	12	10	8	11	22	15	13	16	19	6	4	3	1	3	2	2	8	9	16	11	9	8	8	9	22	1
21	10	8	8	7	4	7	10	13	18	10	20	10	6	AV	5	5	5	5	4	4	5	5	4	4	8	20	4
22	2	3	2	4	2	8	7	16	5	6	4	3	3	2	3	4	4	5	11	16	13	15	19	18	7	19	2
23	26	66	36	20	22	47	20	47	15	23	29	39	15	9	6	8	8	8	5	7	10	AO	AO	AO	22	66	5
24	2	4	5	4	3	4	3	3	3	3	3	4	4	BA	3	3	4	18	14	23	13	22	32	36	9	36	2
25	54	46	27	17	45	34	36	21	21	11	16	11	8	7	4	2	3	10	22	18	11	14	14	14	19	54	2
26	12	7	11	16	19	26	15	15	8	10	19	4	3	2	2	2	5	9	19	9	12	41	27	40	14	41	2
27	17	10	10	11	17	15	22	15	23	15	6	3	4	4	3	4	3	4	10	2	2	1	0	1	8	23	0
28	2	2	4	3	5	4	4	5	3	2	2	2	2	BA	4	7	7	3	2	3	3	5	12	6	4	12	2
29	11	23	22	27	19	10	21	24	13	11	5	5	5	6	9	13	6	4	18	8	26	18	26	32	15	32	4
30	20	29	93	AO	AO	AO	AO	AO	43	23	31	7	6	3	4	3	6	19	31	14	15	38	19	41	23	93	3
31	21	26	16	18	32	28	27	24	47	47	10	12	8	6	6	8	20	16	9	9	9	6	50	AO	20	50	6
Avg	23	24	25	22	23	26	27	28	27	27	25	20	14	14	15	18	20	23	38	31	26	25	27	26	24	58	8
Max	96	94	96	94	88	97	96	101	94	104	91	78	62	58	93	123	108	135	410	225	138	117	103	97	65	410	30
Min	1	0	1	1	2	4	3	3	3	2	2	1	2	1	2	1	2	2	2	2	1	1	0	1	2	5	0

Montana Resources LLP
Greeley School Air Monitoring Summary
TSP - Met One E-Sampler (micrograms per cubic meter)
November 2024

Day	<< Hour >>																								Avg	Max	Min
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	AO	AO	AO	AO	AO	AO	AO	AO	35	19	26	28	16	7	5	3	4	4	13	13	25	22	22	16	16	35	3
2	15	12	10	9	9	17	12	28	49	20	24	20	12	7	4	5	7	5	25	65	17	6	24	9	17	65	4
3	17	AO	AO	AO	AO	AO	AO	28	19	19	16	5	4	4	3	4	4	10	14	22	22	20	25	25	15	28	3
4	6	4	5	2	5	2	9	11	13	8	5	6	10	5	5	5	4	5	9	6	26	7	19	8	8	26	2
5	3	12	4	4	6	8	13	3	6	6	10	10	9	22	41	10	20	9	9	15	16	14	33	5	12	41	3
6	17	19	18	10	10	16	15	26	40	20	18	6	8	BA	2	4	5	6	7	15	15	11	25	20	14	40	2
7	15	11	18	30	AO	AO	AO	AO	15	17	14	16	18	16	8	8	5	8	23	42	28	32	29	32	19	42	5
8	23	36	39	AO	33	22	AO	AO	36	30	14	17	13	8	7	4	4	7	13	54	69	45	55	36	27	69	4
9	22	17	AO	AO	AO	AO	AO	AO	25	10	16	15	11	8	8	3	6	14	11	19	57	52	32	30	20	57	3
10	30	33	28	17	22	20	33	25	17	16	16	12	8	7	6	9	15	23	10	5	18	8	27	19	18	33	5
11	16	9	11	12	9	13	16	14	16	17	6	5	4	5	9	10	7	13	13	10	22	29	18	9	12	29	4
12	3	3	1	2	1	2	1	1	8	2	2	2	2	2	BA	3	3	3	7	9	7	5	20	6	4	20	1
13	12	40	12	25	17	12	26	28	33	9	5	AZ	5	4	4	4	4	3	3	4	6	3	2	3	11	40	2
14	18	11	9	3	1	1	1	2	3	4	3	4	3	2	3	4	5	17	51	52	65	37	62	94	19	94	1
15	23	22	24	17	39	33	24	18	37	23	11	8	12	9	8	8	7	6	7	13	12	6	6	5	16	39	5
16	2	2	2	3	5	6	9	6	19	12	4	4	7	5	6	4	4	9	17	73	78	46	52	30	17	78	2
17	60	8	7	8	3	2	7	6	2	6	5	3	3	5	6	6	4	7	3	2	3	2	4	3	7	60	2
18	4	4	6	2	19	2	7	11	1	2	3	4	3	BA	2	5	2	19	7	4	7	8	28	29	8	29	1
19	32	22	18	29	25	32	41	24	17	11	2	1	1	1	0	3	2	3	15	28	35	23	35	35	18	41	0
20	17	27	14	15	12	16	14	20	14	24	24	10	10	6	5	3	13	20	9	21	21	35	35	22	17	35	3
21	16	10	10	11	14	22	19	27	16	22	9	4	3	4	5	4	9	8	8	18	12	6	2	4	11	27	2
22	4	4	4	2	4	11	13	8	10	13	7	7	2	2	4	2	4	8	27	17	19	10	16	22	9	27	2
23	17	20	7	6	3	4	3	5	12	8	3	2	3	1	2	1	4	10	10	11	11	21	24	19	9	24	1
24	3	AO	AO	AO	AO	AO	AO	AO	AO	15	9	8	7	2	2	1	8	8	25	32	17	20	AO	AO	11	32	1
25	AO	AO	AO	AO	AO	AO	AO	AO	8	15	9	BA	BA	2	3	1	5	10	8	21	29	44	32	40	16	44	1
26	37	68	20	23	12	7	17	20	46	28	17	3	2	3	4	2	3	5	11	11	6	5	9	10	15	68	2
27	31	2	2	3	4	4	5	9	37	BA	5	2	2	2	2	4	9	3	6	5	4	4	15	52	9	52	2
28	13	3	7	9	13	5	5	5	4	3	2	2	2	1	2	3	9	13	20	26	30	28	34	25	11	34	1
29	23	43	50	29	24	17	15	17	21	27	16	21	25	17	4	2	9	18	28	47	44	38	48	66	27	66	2
30	44	47	39	33	27	22	23	41	17	17	18	28	31	15	4	4	12	13	30	38	52	58	110	78	33	110	4
Avg	19	19	15	13	13	12	14	16	20	15	11	9	8	6	6	4	7	10	15	23	26	22	29	26	15	46	2
Max	60	68	50	33	39	33	41	41	49	30	26	28	31	22	41	10	20	23	51	73	78	58	110	94	33	110	5
Min	2	2	1	2	1	1	1	1	1	2	2	1	1	1	0	1	2	3	3	2	3	2	2	3	4	20	0

Montana Resources LLP
Greeley School Air Monitoring Summary
TSP - Met One E-Sampler (micrograms per cubic meter)
December 2024

Day	<< Hour >>																								Avg	Max	Min
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	43	57	39	24	26	21	20	29	23	8	25	25	28	32	28	26	24	23	41	79	65	67	50	54	36	79	8
2	61	81	53	40	22	25	28	55	204	43	21	16	14	16	24	28	26	28	65	99	82	73	99	77	53	204	14
3	41	AO	AO	AO	AO	AO	AO	AO	AO	48	38	44	41	BF	BA	14	33	39	65	94	85	69	AO	AO	51	94	14
4	AO	AO	AO	AO	AO	AO	AO	AO	AO	78	58	53	52	47	47	44	49	58	48	83	50	66	143	124	67	143	44
5	117	104	70	81	AO	AO	AO	AO	AO	67	54	47	44	45	56	46	53	54	68	64	109	99	79	94	71	117	44
6	93	85	76	90	91	AO	AO	AO	AO	65	36	35	42	26	12	19	60	24	37	21	53	63	71	77	54	93	12
7	62	55	39	47	48	38	38	32	31	38	45	55	62	49	34	13	21	3	7	15	14	8	3	2	32	62	2
8	2	2	1	1	1	1	2	4	23	2	3	1	2	1	1	1	2	2	10	4	2	22	36	13	6	36	1
9	4	3	3	3	3	4	5	AO	5	6	8	7	5	1	1	1	1	3	4	5	6	5	7	3	4	8	1
10	7	4	2	3	3	5	13	21	10	7	5	2	2	9	9	5	6	15	38	97	106	117	74	74	26	117	2
11	87	53	51	40	21	22	38	42	42	49	44	45	18	8	BA	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	40	87	8
12	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ			
13	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ			
14	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ			
15	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ			
16	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ			
17	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ			
18	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	BA	2	3	2	3	3	6	6	1	1	2	6	9	4	9	1
19	13	4	8	19	9	11	12	8	31	31	37	35	19	14	19	23	38	40	65	97	47	95	81	79	35	97	4
20	70	50	45	26	23	19	30	34	35	36	25	27	26	42	38	32	42	92	82	39	84	71	78	43	45	92	19
21	47	35	50	50	38	41	35	29	41	58	79	50	47	58	51	53	68	47	44	42	49	47	33	4	46	79	4
22	4	6	3	7	5	22	4	4	4	3	4	1	1	1	1	3	4	6	10	15	34	13	15	32	8	34	1
23	52	33	11	11	8	8	43	20	56	26	10	12	8	BA	12	11	13	16	20	16	66	97	117	107	34	117	8
24	71	68	41	35	30	23	34	36	39	30	38	48	34	36	34	18	42	89	87	26	44	43	20	5	40	89	5
25	5	4	2	4	6	2	2	3	4	6	5	4	1	1	2	5	8	9	36	20	35	41	30	20	11	41	1
26	17	7	4	7	1	23	5	4	15	13	4	10	3	2	2	4	1	1	30	23	11	3	4	2	8	30	1
27	6	8	1	1	7	17	12	18	74	51	37	29	4	4	4	4	6	16	12	23	65	84	58	11	23	84	1
28	44	2	6	16	6	2	6	2	3	3	4	4	3	4	1	2	11	13	4	11	2	7	2	5	7	44	1
29	10	18	18	18	8	10	6	3	2	6	6	42	21	20	12	34	35	19	6	1	13	4	7	4	13	42	1
30	6	2	16	5	3	5	2	3	2	4	10	6	2	1	BA	1	1	1	2	5	5	4	2	4	4	16	1
31	10	6	13	12	18	6	9	6	3	6	5	8	3	3	1	1	1	2	3	15	25	23	19	16	9	25	1
Avg	38	31	25	25	18	15	17	19	32	29	25	25	19	18	18	16	23	25	33	37	44	47	45	37	28	74	8
Max	117	104	76	90	91	41	43	55	204	78	79	55	62	58	56	53	68	92	87	99	109	117	143	124	71	204	44
Min	2	2	1	1	1	1	2	2	2	2	3	1	1	1	1	1	1	1	2	1	1	2	2	2	4	8	1

Montana Resources LLP
Greeley School Air Monitoring Summary
Relative Humidity (% RH)
October 2024

Day	<< Hour >>																								Avg	Max	Min
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	46	47	52	52	55	56	58	51	34	32	24	15	12	11	10	10	11	13	17	21	24	24	24	19	30	58	10
2	24	26	26	22	22	29	35	36	31	29	26	23	20	20	14	12	16	18	20	25	36	37	36	41	26	41	12
3	50	58	61	64	67	71	71	64	48	40	37	27	24	20	19	18	18	21	27	33	41	45	52	56	43	71	18
4	61	63	64	66	67	67	66	62	41	30	26	19	13	12	10	10	12	13	12	18	32	49	45	42	38	67	10
5	45	46	45	46	49	54	61	58	41	35	31	25	19	17	15	14	17	21	23	30	34	38	43	46	36	61	14
6	50	55	57	58	60	62	63	59	42	32	29	16	13	10	9	10	14	21	26	30	38	45	50	55	38	63	9
7	55	60	64	66	68	69	69	65	49	37	29	21	18	16	16	16	16	20	27	35	40	48	52	56	42	69	16
8	59	61	63	66	68	70	70	67	45	35	30	21	15	11	12	12	13	15	20	27	34	38	45	50	39	70	11
9	53	57	61	61	63	67	70	64	44	33	26	19	12	10	11	13	15	17	23	28	36	40	48	52	38	70	10
10	52	57	61	62	64	65	67	65	58	50	46	44	41	39	36	38	39	44	54	63	69	68	69	70	55	70	36
11	74	78	81	82	81	82	84	82	76	63	47	34	26	23	21	23	24	28	34	37	38	40	46	53	52	84	21
12	59	61	62	64	65	69	74	72	53	42	37	30	23	20	20	18	18	26	31	40	46	53	59	64	46	74	18
13	67	70	72	75	77	78	79	77	53	41	37	33	28	24	16	14	17	23	30	37	45	52	55	59	48	79	14
14	62	64	66	69	71	70	72	69	51	39	29	23	16	11	9	9	11	16	25	29	33	37	41	45	40	72	9
15	48	52	56	59	62	64	67	65	46	38	31	27	15	14	13	13	14	18	27	29	36	40	45	49	39	67	13
16	51	55	57	60	63	65	66	63	42	33	23	16	16	23	29	28	38	47	53	58	64	78	83	80	50	83	16
17	71	70	72	72	66	73	79	80	78	84	81	82	73	57	60	76	80	77	76	64	66	64	64	66	72	84	57
18	66	63	63	62	80	88	89	88	72	57	48	45	41	38	29	23	25	30	41	52	58	63	67	69	57	89	23
19	72	64	59	71	71	66	71	66	52	44	43	40	36	35	35	34	38	48	55	60	66	71	77	73	56	77	34
20	66	72	74	77	80	80	79	78	58	46	39	40	35	33	30	28	31	36	43	52	62	68	71	74	56	80	28
21	76	78	80	83	83	82	83	83	73	64	60	40	32	34	36	38	49	52	51	45	46	52	67	69	61	83	32
22	62	64	72	70	70	74	76	79	66	52	41	34	30	27	27	24	19	32	40	48	55	60	65	67	52	79	19
23	72	75	76	78	79	78	79	76	67	61	46	44	35	32	35	39	57	74	86	87	88	91	92	90	68	92	32
24	76	83	88	83	74	71	68	68	61	53	46	45	41	36	35	31	34	42	55	63	65	71	75	77	60	88	31
25	78	77	74	76	81	83	83	80	69	58	48	46	36	32	27	28	31	42	46	50	52	50	49	56	56	83	27
26	60	64	64	73	79	80	72	78	55	38	35	24	23	23	22	22	23	30	41	46	52	63	69	71	50	80	22
27	73	75	75	75	76	75	77	77	55	37	24	18	14	10	11	14	16	23	44	56	62	67	75	73	50	77	10
28	80	81	81	80	81	84	82	82	76	56	42	46	42	39	40	40	42	53	55	55	58	61	68	72	62	84	39
29	76	79	82	83	83	81	80	78	68	59	45	44	41	48	47	42	44	49	52	51	54	64	70	75	62	83	41
30	78	79	83	85	86	85	85	85	73	58	52	40	34	29	28	25	27	32	39	41	50	48	55	60	57	86	25
31	64	65	68	71	72	71	67	65	62	55	52	51	50	47	47	47	51	56	69	87	83	86	87	89	65	89	47
Avg	62	64	66	68	70	71	72	70	56	46	39	33	28	26	25	25	28	33	40	45	50	55	59	62	50	76	23
Max	80	83	88	85	86	88	89	88	78	84	81	82	73	57	60	76	80	77	86	87	88	91	92	90	72	92	57
Min	24	26	26	22	22	29	35	36	31	29	23	15	12	10	9	9	11	13	12	18	24	24	24	19	26	41	9

Montana Resources LLP
Greeley School Air Monitoring Summary
Relative Humidity (% RH)
November 2024

Day	<< Hour >>																								Avg	Max	Min
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	90	89	88	88	87	87	86	86	81	70	66	59	45	41	39	38	41	46	56	55	60	63	65	62	66	90	38
2	60	63	69	72	74	73	73	72	69	64	60	58	56	57	47	45	47	55	59	68	71	88	89	89	66	89	45
3	89	90	90	91	90	88	88	87	84	75	69	58	47	46	45	56	59	63	63	69	68	68	70	67	72	91	45
4	71	84	83	75	66	65	65	63	62	57	48	45	44	39	39	39	42	63	68	69	62	71	58	62	60	84	39
5	58	59	67	63	61	61	52	54	53	50	48	52	56	59	65	72	70	73	78	81	84	85	88	88	66	88	48
6	88	87	85	86	86	86	86	86	78	65	64	56	47	48	39	39	45	49	51	60	64	71	75	76	67	88	39
7	76	78	83	85	86	85	85	85	71	59	50	50	43	42	39	38	42	53	59	67	74	81	83	85	67	86	38
8	84	86	86	87	86	86	87	87	78	66	54	59	50	40	38	37	39	54	66	76	80	83	85	86	70	87	37
9	88	87	88	89	89	90	89	89	85	77	67	55	43	39	34	29	35	48	56	65	72	76	76	77	68	90	29
10	75	76	76	77	78	72	79	81	80	69	62	57	52	50	47	50	53	56	63	66	70	74	75	78	67	81	47
11	81	79	73	80	79	80	82	84	80	61	41	32	31	31	31	32	30	35	36	40	45	48	51	49	55	84	30
12	48	62	66	66	65	64	63	63	65	53	47	43	42	36	37	37	37	42	45	48	51	56	59	59	52	66	36
13	66	71	73	72	71	66	73	75	66	43	34	33	33	36	39	40	40	42	44	47	46	45	45	49	52	75	33
14	53	52	52	51	52	51	49	51	57	48	41	40	39	32	27	30	29	36	44	50	58	64	67	69	48	69	27
15	67	72	75	78	78	78	77	77	76	72	63	63	63	61	63	72	83	87	88	89	88	85	83	82	76	89	61
16	81	77	75	77	74	75	66	70	70	55	48	45	43	49	50	43	44	52	56	63	72	74	73	70	63	81	43
17	67	59	57	53	55	57	56	57	56	55	51	50	51	52	51	51	58	61	60	62	59	55	54	54	56	67	50
18	64	83	89	89	78	66	69	74	70	67	61	59	55	44	45	54	54	64	64	63	69	71	73	77	67	89	44
19	77	81	81	81	82	83	84	82	75	55	41	39	34	33	32	40	48	56	64	68	71	72	76	77	64	84	32
20	78	80	79	78	78	77	74	73	71	65	53	46	41	39	40	42	46	58	56	58	65	67	67	66	62	80	39
21	63	52	52	58	59	67	67	67	66	60	46	43	44	43	43	48	53	57	56	58	60	60	58	61	56	67	43
22	60	62	63	59	68	76	78	77	80	76	73	57	40	39	41	54	62	74	80	83	84	85	85	84	68	85	39
23	85	83	63	68	69	74	74	78	77	52	34	43	65	68	75	78	70	72	80	83	75	79	82	81	71	85	34
24	86	90	91	91	92	92	92	92	90	87	81	73	65	53	43	41	48	59	68	77	77	82	85	86	77	92	41
25	86	86	85	86	86	85	85	84	83	82	63	47	41	36	38	45	51	57	60	66	68	65	65	72	68	86	36
26	74	78	77	79	80	78	79	78	75	72	71	72	66	64	61	69	75	74	79	70	62	60	59	60	71	80	59
27	60	59	60	61	63	62	63	65	66	57	49	48	46	39	44	42	48	53	56	58	58	58	60	59	56	66	39
28	61	59	60	62	64	64	64	64	61	56	44	43	39	38	36	38	48	56	63	65	67	71	72	73	57	73	36
29	76	77	77	78	79	77	77	77	79	68	63	57	56	46	33	29	35	43	55	63	66	67	69	70	63	79	29
30	67	65	68	68	70	69	70	66	60	58	49	49	46	34	30	32	37	46	55	60	63	65	65	71	57	71	30
Avg	73	74	74	75	75	74	74	75	72	63	55	51	47	44	43	45	49	56	61	65	67	70	70	71	64	81	40
Max	90	90	91	91	92	92	92	92	90	87	81	73	66	68	75	78	83	87	88	89	88	88	89	89	77	92	61
Min	48	52	52	51	52	51	49	51	53	43	34	32	31	31	27	29	29	35	36	40	45	45	45	49	48	66	27

Montana Resources LLP
Greeley School Air Monitoring Summary
Relative Humidity (% RH)
December 2024

Day	<< Hour >>																								Avg	Max	Min
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	71	72	72	70	71	72	74	76	72	61	53	47	42	43	39	37	44	54	59	68	74	75	77	79	63	79	37
2	81	83	83	83	83	83	83	84	82	63	51	50	42	39	34	38	46	59	68	76	80	82	84	85	68	85	34
3	86	87	87	87	87	87	87	86	86	74	66	64	60	46	39	48	56	63	70	77	82	84	87	87	74	87	39
4	87	88	87	87	86	86	85	85	85	73	56	51	46	39	34	33	40	49	61	67	73	78	79	81	68	88	33
5	82	82	83	83	84	84	84	84	85	66	58	49	43	36	35	33	41	54	66	71	76	78	79	81	67	85	33
6	83	83	83	83	84	84	85	85	85	66	59	52	49	38	34	37	47	56	61	64	67	68	70	73	67	85	34
7	73	72	73	77	77	78	77	77	76	66	58	48	46	35	29	28	26	28	33	39	32	53	65	68	56	78	26
8	61	57	77	71	59	59	62	64	62	56	49	43	38	38	39	41	45	51	61	78	75	79	78	76	59	79	38
9	78	82	85	86	84	86	87	88	86	84	77	72	69	62	54	52	52	54	59	58	60	63	66	65	71	88	52
10	65	65	61	59	60	63	67	71	67	57	47	44	40	37	34	34	37	42	51	60	67	71	68	67	56	71	34
11	70	69	70	70	68	67	68	72	65	62	58	55	36	30	32	37	44	47	55	60	63	63	69	74	59	74	30
12	78	80	83	83	84	85	84	83	81	74	69	63	59	54	53	52	58	61	63	66	70	75	78	80	72	85	52
13	82	82	80	80	79	79	80	80	78	74	70	65	52	44	46	46	49	51	54	53	58	54	57	63	65	82	44
14	64	61	64	61	60	62	61	60	59	60	58	55	53	51	48	50	54	58	59	65	72	73	75	77	61	77	48
15	89	92	92	92	93	93	84	74	62	59	57	53	47	39	42	41	50	58	67	74	78	81	80	80	70	93	39
16	82	80	81	80	79	79	80	77	76	71	66	63	56	54	59	66	70	77	87	88	88	89	90	90	76	90	54
17	90	88	88	88	88	88	87	87	87	81	66	60	57	52	56	61	61	63	70	69	71	71	75	77	74	90	52
18	77	75	74	68	64	66	67	64	70	57	57	54	50	41	48	68	67	66	57	54	51	50	44	50	60	77	41
19	55	59	64	66	54	54	60	69	76	66	47	47	45	40	36	40	52	59	64	68	68	71	75	75	59	76	36
20	74	70	68	57	59	68	73	75	75	63	44	46	41	42	49	49	53	61	67	70	71	75	78	77	63	78	41
21	77	76	80	80	81	82	84	84	83	79	74	69	61	61	59	56	61	64	61	63	63	59	59	69	70	84	56
22	75	75	71	79	82	85	85	73	68	65	63	54	46	46	45	49	54	57	64	71	75	74	72	76	67	85	45
23	78	77	66	66	69	70	72	72	78	75	70	68	65	67	64	65	65	71	74	79	84	87	86	86	73	87	64
24	86	86	86	85	84	84	84	83	81	81	79	76	62	60	60	56	61	64	69	63	68	66	66	68	73	86	56
25	78	72	67	69	74	67	66	67	67	61	49	44	38	36	34	39	45	53	57	55	56	65	66	59	58	78	34
26	54	51	54	55	56	73	82	78	77	75	68	67	67	60	53	48	54	54	56	56	54	54	57	59	61	82	48
27	61	62	55	54	60	66	66	68	72	69	62	55	45	42	44	54	62	65	67	68	72	77	74	67	62	77	42
28	67	63	65	68	68	65	64	64	64	61	57	71	72	63	69	66	63	59	61	64	61	60	58	58	64	72	57
29	58	59	64	65	63	67	80	86	88	88	83	76	78	83	83	85	88	89	66	58	62	61	56	56	73	89	56
30	62	64	69	81	86	86	74	69	65	63	66	61	53	52	53	56	58	60	62	66	68	70	73	77	66	86	52
31	83	85	85	84	84	83	84	83	81	77	68	64	51	49	49	43	44	52	59	67	74	78	78	77	70	85	43
Avg	74	74	75	75	75	76	77	76	75	69	61	58	52	48	47	49	53	58	62	66	68	70	72	73	66	83	44
Max	90	92	92	92	93	93	87	88	88	88	83	76	78	83	83	85	88	89	87	88	88	89	90	90	76	93	64
Min	54	51	54	54	54	54	60	60	59	56	44	43	36	30	29	28	26	28	33	39	32	50	44	50	56	71	26

Montana Resources LLP
Greeley School Air Monitoring Summary
Temperature - MDEQ monitor (degrees Celsius)
October 2024

Day	<< Hour >>																								Avg	Max	Min
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	0.1	-0.4	-0.8	-1.2	-1.8	-2.0	-2.2	-0.8	4.3	7.4	11.9	17.2	20.3	22.8	24.3	24.2	23.3	21.8	18.6	15.6	13.5	13.0	12.7	15.8	10.7	24.3	-2.2
2	13.0	11.2	11.0	13.2	14.3	11.5	9.1	9.8	14.0	16.6	17.8	18.6	19.2	19.4	19.8	19.5	18.0	15.6	13.4	11.8	9.8	8.8	8.2	6.3	13.7	19.8	6.3
3	3.5	1.5	0.3	-0.6	-1.7	-2.2	-2.7	-1.0	3.7	7.1	8.8	11.6	12.7	14.8	15.4	16.2	16.8	15.5	12.0	9.2	6.3	5.0	3.2	1.9	6.6	16.8	-2.7
4	0.7	0.0	-0.6	-1.1	-1.2	-1.5	-1.5	0.2	6.4	11.9	15.5	19.7	24.7	26.1	26.7	25.9	23.4	21.5	21.3	18.7	11.8	9.6	9.5	8.5	11.5	26.7	-1.5
5	7.6	6.8	6.6	6.1	4.8	3.4	1.6	2.8	7.3	9.3	10.6	12.8	14.6	16.2	17.3	17.6	16.5	15.1	12.8	10.1	8.6	6.7	4.7	3.4	9.3	17.6	1.6
6	2.5	1.5	0.8	0.5	-0.1	-0.4	-0.8	0.5	4.7	9.8	12.2	18.7	20.9	21.9	22.5	22.7	21.3	18.5	14.9	12.1	9.0	7.0	5.2	4.3	9.6	22.7	-0.8
7	3.4	2.3	1.2	0.7	0.0	-0.3	-0.6	0.8	5.3	10.5	15.6	19.0	21.2	22.1	22.6	22.4	21.6	19.7	15.2	11.7	9.5	7.4	5.7	4.5	10.1	22.6	-0.6
8	3.8	2.8	2.2	1.3	0.7	0.1	-0.2	0.9	6.4	11.1	14.7	19.8	21.9	23.9	24.1	24.2	23.2	21.6	18.7	15.8	12.8	10.2	8.2	6.8	11.5	24.2	-0.2
9	5.6	4.6	3.4	3.4	3.1	2.0	1.3	2.5	7.7	13.6	16.3	21.0	24.1	24.8	25.4	24.2	22.4	20.6	16.7	15.0	12.4	10.7	8.7	7.4	12.4	25.4	1.3
10	7.0	5.9	5.0	4.4	4.2	4.0	3.9	5.2	7.9	9.8	11.5	12.7	13.9	14.5	16.1	16.3	15.5	13.4	10.6	8.8	6.9	7.2	7.0	6.7	9.1	16.3	3.9
11	5.6	4.2	3.3	2.9	3.2	2.5	2.1	3.1	4.9	8.2	11.9	15.6	18.8	19.7	20.5	19.9	19.4	18.1	15.5	14.1	13.6	12.7	11.1	9.4	10.8	20.5	2.1
12	7.7	7.2	6.9	6.4	6.1	5.0	3.5	3.8	7.9	12.1	14.5	18.1	19.9	21.0	21.7	22.3	21.2	18.7	15.4	11.8	9.9	8.0	6.3	5.0	11.7	22.3	3.5
13	4.0	3.2	2.3	1.6	1.3	0.8	0.4	1.1	6.5	11.3	13.7	16.5	18.6	19.9	22.0	23.0	22.3	19.4	15.3	11.8	9.5	7.2	5.7	4.7	10.1	23.0	0.4
14	3.6	2.8	2.0	1.3	0.7	0.8	0.2	1.2	6.0	10.9	14.9	19.7	22.4	24.6	24.8	24.6	22.8	19.3	14.1	11.8	10.5	8.9	6.8	5.4	10.8	24.8	0.2
15	4.4	3.6	2.7	2.0	1.3	0.4	0.2	0.5	5.5	10.1	13.1	16.7	21.9	23.3	24.0	24.0	22.8	19.6	14.5	12.3	9.7	7.5	5.9	4.8	10.5	24.0	0.2
16	4.3	3.1	2.2	1.7	1.0	0.5	0.3	1.1	7.1	13.3	17.6	21.7	21.9	19.3	18.0	18.0	15.1	12.6	11.6	10.3	8.2	6.1	5.6	5.7	9.4	21.9	0.3
17	5.8	5.7	5.3	4.6	4.9	4.2	3.4	3.4	3.4	2.6	1.7	0.9	1.9	3.3	3.2	1.9	1.4	1.5	1.4	2.0	1.7	1.8	1.7	1.2	2.9	5.8	0.9
18	1.0	1.0	0.7	0.0	-1.8	-2.9	-3.5	-3.9	-1.1	1.5	2.8	4.3	5.6	6.2	7.3	8.3	7.2	5.8	3.2	1.9	1.5	1.0	0.7	0.4	2.0	8.3	-3.9
19	-0.3	0.8	1.2	-0.6	-0.4	1.3	0.2	0.0	4.8	8.6	10.9	14.1	16.2	16.5	16.7	17.3	15.8	14.4	12.4	11.0	9.2	7.9	6.6	7.5	8.0	17.3	-0.6
20	8.7	7.0	6.4	5.3	4.5	4.3	4.5	4.7	9.2	13.2	15.8	16.1	18.4	18.7	19.6	20.3	18.7	16.8	14.4	11.8	9.5	8.0	7.0	6.1	11.2	20.3	4.3
21	5.7	5.0	4.4	3.6	3.6	4.1	4.0	4.0	6.5	9.6	10.7	14.6	17.1	16.3	15.9	15.3	13.2	12.1	11.0	11.4	10.8	9.0	5.8	4.9	9.1	17.1	3.6
22	5.8	4.8	2.7	2.0	1.8	0.9	1.3	0.2	3.0	5.9	7.3	9.0	9.9	10.5	10.8	10.8	9.8	7.9	4.8	2.2	0.4	-1.0	-2.5	-2.7	4.4	10.8	-2.7
23	-3.7	-4.4	-4.9	-5.6	-6.1	-6.1	-6.0	-5.0	-2.2	0.4	4.5	7.3	11.0	12.0	10.9	10.1	8.1	5.6	4.0	3.9	3.6	3.5	3.1	3.2	2.0	12.0	-6.1
24	3.4	2.3	2.2	2.1	1.8	1.0	0.7	0.2	1.2	2.7	3.8	5.3	6.4	7.7	8.2	9.2	7.7	6.0	3.1	0.8	-0.6	-1.8	-2.9	-3.2	2.8	9.2	-3.2
25	-3.7	-3.5	-3.0	-3.7	-4.6	-5.0	-4.8	-3.7	-1.5	1.5	4.3	7.0	9.5	11.1	13.7	13.9	12.3	9.0	8.0	7.6	7.6	7.8	7.9	6.6	3.9	13.9	-5.0
26	5.8	4.9	3.9	1.6	-0.1	-0.8	0.0	-1.2	3.5	9.0	11.6	15.9	16.8	17.7	18.6	18.6	17.2	13.7	9.6	8.1	6.2	3.6	2.6	1.7	7.9	18.6	-1.2
27	0.8	0.0	-0.3	-0.1	-0.1	0.2	-0.6	-0.8	6.0	10.7	15.1	17.7	18.6	19.4	19.4	18.7	16.6	14.0	9.3	6.2	5.2	4.6	3.5	3.4	7.8	19.4	-0.8
28	3.0	2.9	2.8	2.9	2.6	1.8	1.2	1.4	2.6	5.4	6.3	5.5	6.3	7.3	6.5	6.0	5.5	4.3	3.6	3.6	2.6	1.2	-0.3	-1.2	3.5	7.3	-1.2
29	-2.2	-3.2	-3.7	-4.5	-4.4	-3.5	-3.0	-2.7	-0.6	1.3	2.1	2.2	2.6	2.5	2.7	3.5	3.1	2.4	2.1	1.8	0.1	-2.0	-3.7	-5.3	-0.5	3.5	-5.3
30	-6.4	-6.9	-8.0	-8.8	-9.1	-9.5	-9.8	-10.0	-6.0	-1.3	0.4	3.1	5.6	6.6	7.1	7.2	6.3	4.2	1.2	1.8	-0.6	-0.5	-2.4	-3.7	-1.6	7.2	-10.0
31	-4.9	-5.4	-6.4	-7.3	-7.6	-7.0	-5.5	-4.4	-2.9	0.1	1.6	2.4	3.2	3.7	3.8	4.0	3.5	2.5	1.3	-0.5	-0.3	-1.0	-1.2	-2.7	-1.3	4.0	-7.6
Avg	3.1	2.3	1.7	1.1	0.7	0.2	-0.1	0.4	4.2	7.9	10.3	13.1	15.0	15.9	16.4	16.5	15.2	13.3	10.6	8.9	7.1	5.7	4.5	3.8	7.4	17.0	-0.9
Max	13.0	11.2	11.0	13.2	14.3	11.5	9.1	9.8	14.0	16.6	17.8	21.7	24.7	26.1	26.7	25.9	23.4	21.8	21.3	18.7	13.6	13.0	12.7	15.8	13.7	26.7	6.3
Min	-6.4	-6.9	-8.0	-8.8	-9.1	-9.5	-9.8	-10.0	-6.0	-1.3	0.4	0.9	1.9	2.5	2.7	1.9	1.4	1.5	1.2	-0.5	-0.6	-2.0	-3.7	-5.3	-1.6	3.5	-10.0

Montana Resources LLP
Greeley School Air Monitoring Summary
Temperature - MDEQ monitor (degrees Celsius)
November 2024

Day	<< Hour >>																								Avg	Max	Min
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	-4.0	-5.1	-6.1	-7.3	-8.1	-7.6	-7.6	-7.3	-5.9	-3.2	-1.0	1.5	4.0	4.8	5.8	6.2	5.3	3.5	0.8	0.9	-0.2	-0.5	-0.6	-0.1	-1.3	6.2	-8.1
2	0.4	-0.3	-1.2	-2.0	-2.2	-1.8	-1.7	-1.2	-0.6	0.6	2.3	3.5	4.4	4.9	6.5	6.1	5.3	4.0	2.5	0.8	0.6	0.0	-0.2	-0.6	1.3	6.5	-2.2
3	-1.2	-1.6	-2.5	-3.0	-3.7	-4.0	-4.8	-4.8	-3.9	-1.2	0.3	1.8	2.7	2.7	2.6	1.7	1.4	0.7	0.0	-1.2	-0.6	-0.5	-0.8	-0.6	-0.9	2.7	-4.8
4	-0.6	-1.6	-1.6	-1.2	-1.1	-1.6	-1.6	-1.2	-0.5	1.0	2.3	2.7	3.0	4.4	4.7	5.0	5.2	3.4	2.9	2.2	1.7	0.4	0.5	0.2	1.2	5.2	-1.6
5	-0.2	-0.5	-1.2	-1.2	-0.8	-1.0	-0.2	-0.3	-0.3	0.2	0.6	0.6	0.4	0.2	-0.8	-1.2	-1.5	-1.8	-2.7	-2.7	-3.0	-3.2	-3.5	-3.5	-1.1	0.6	-3.5
6	-3.5	-3.5	-3.4	-3.5	-3.7	-3.7	-4.3	-5.8	-5.3	-2.5	-2.0	0.3	1.5	1.9	3.7	3.1	2.0	1.2	0.3	-1.3	-2.2	-4.0	-4.8	-5.4	-1.9	3.7	-5.8
7	-5.6	-6.5	-7.4	-8.0	-8.6	-9.0	-9.3	-9.5	-7.1	-3.5	0.1	1.8	4.0	5.8	8.7	9.1	6.9	3.6	1.6	-0.4	-1.6	-2.9	-3.7	-4.3	-1.9	9.1	-9.5
8	-4.8	-5.4	-6.0	-6.1	-6.4	-6.9	-7.0	-7.0	-3.7	0.3	3.7	5.6	7.8	10.7	12.2	12.4	11.3	7.5	4.2	1.3	-0.3	-1.6	-2.0	-2.5	0.7	12.4	-7.0
9	-3.2	-3.9	-4.5	-5.0	-5.1	-5.0	-5.4	-5.3	-3.2	-0.6	2.5	6.5	8.6	10.2	12.5	14.1	12.0	7.8	5.1	2.5	1.0	0.1	-0.6	-0.8	1.7	14.1	-5.4
10	-0.3	-0.1	0.0	-0.2	-0.4	0.5	-0.8	-1.7	-1.2	1.3	3.0	4.3	5.5	6.6	7.5	7.2	6.8	6.2	6.0	5.4	4.7	3.9	3.6	3.2	3.0	7.5	-1.7
11	2.1	2.8	3.6	1.2	1.5	1.1	0.5	0.0	0.9	4.5	8.1	9.5	9.7	10.0	10.1	10.1	10.6	8.8	8.1	6.5	5.5	4.9	4.4	4.9	5.4	10.6	0.0
12	6.1	4.1	2.8	2.2	2.3	1.9	1.7	1.5	1.2	2.5	3.3	3.6	3.5	4.1	3.7	3.7	3.2	2.1	1.6	1.1	0.5	-1.2	-2.2	-2.9	2.1	6.1	-2.9
13	-4.0	-5.0	-5.1	-5.3	-5.0	-4.0	-5.9	-6.5	-4.5	0.8	3.6	4.7	5.6	5.4	4.7	4.4	4.4	3.8	3.4	3.0	3.0	2.9	2.8	1.7	0.4	5.6	-6.5
14	0.8	1.2	1.1	3.7	4.1	4.3	4.2	3.6	3.2	4.1	4.9	5.0	5.3	7.0	7.5	6.6	6.4	4.1	1.1	-0.6	-2.2	-3.9	-4.9	-5.0	2.6	7.5	-5.0
15	-4.3	-5.8	-6.9	-7.8	-7.9	-7.6	-7.5	-7.5	-6.5	-5.0	-2.7	-1.5	-1.0	0.2	0.3	-0.6	-1.6	-1.8	-2.0	-1.8	-1.6	-1.3	-1.3	-1.3	-3.5	0.3	-7.9
16	-1.5	-1.2	-1.2	-1.3	-1.2	-1.5	-1.3	-2.2	-2.7	-0.1	0.5	2.0	1.7	0.8	0.4	1.1	0.5	-0.8	-2.4	-4.5	-5.9	-6.4	-6.1	-4.8	-1.6	2.0	-6.4
17	-3.5	-2.7	-2.0	-1.3	-1.1	-1.0	-0.6	-0.1	0.7	1.4	2.9	4.0	4.6	5.0	5.2	5.1	3.6	2.8	2.3	2.3	2.5	2.6	2.1	2.0	1.5	5.2	-3.5
18	1.2	-0.2	-0.8	-1.2	-1.6	-1.7	-2.2	-2.5	-2.2	-2.0	-1.6	-1.3	-0.8	-0.3	-0.6	-1.8	-2.2	-4.5	-6.0	-6.0	-7.4	-7.0	-7.5	-7.9	-2.8	1.2	-7.9
19	-7.4	-9.1	-9.0	-8.6	-8.6	-9.3	-9.3	-8.6	-7.4	-4.3	-3.0	-2.0	-1.7	-1.0	-0.2	-1.8	-3.0	-4.5	-6.3	-7.5	-8.6	-9.6	-10.8	-11.5	-6.4	-0.2	-11.5
20	-12.3	-12.6	-12.6	-12.1	-11.6	-11.1	-9.8	-9.0	-8.1	-6.0	-2.5	-1.0	0.1	1.5	1.9	2.2	0.6	-1.7	-1.1	-1.2	-2.5	-2.2	-1.7	-1.7	-4.8	2.2	-12.6
21	-1.2	-0.3	-0.8	-2.2	-2.2	-3.5	-2.7	-1.7	-1.7	1.3	4.8	6.9	7.8	8.9	9.4	7.9	6.8	5.9	5.9	5.3	4.8	4.3	4.5	4.1	3.0	9.4	-3.5
22	4.1	3.9	3.9	4.9	2.5	1.0	0.8	1.3	1.9	3.3	4.5	7.2	9.9	10.0	9.6	8.7	7.6	6.3	5.3	4.5	3.5	3.0	2.7	2.6	4.7	10.0	0.8
23	2.3	2.6	5.1	4.4	4.1	3.0	2.5	1.4	1.8	5.1	8.0	7.8	5.1	4.1	2.6	2.0	2.3	1.0	-1.0	-2.2	-1.1	-2.2	-3.0	-2.5	2.2	8.0	-3.0
24	-2.4	-2.2	-2.2	-2.2	-2.2	-2.5	-2.7	-3.2	-3.2	-2.7	-1.2	0.3	1.2	1.5	2.0	2.2	0.6	-1.8	-3.7	-5.4	-6.1	-7.0	-8.0	-8.8	-2.5	2.2	-8.8
25	-9.3	-9.6	-9.6	-10.3	-11.0	-11.3	-11.5	-11.3	-10.0	-7.5	-2.4	0.3	0.9	2.9	3.4	2.3	0.7	-0.8	-1.7	-3.0	-3.0	-3.0	-3.4	-4.4	-4.7	3.4	-11.5
26	-4.6	-5.8	-5.9	-6.3	-7.1	-6.8	-6.6	-6.3	-5.1	-3.4	-1.5	-0.8	0.1	0.6	2.3	0.5	-0.6	-0.8	-2.2	-1.7	-1.7	-1.6	-1.7	-2.0	-2.9	2.3	-7.1
27	-2.4	-2.2	-2.4	-2.2	-2.5	-2.7	-3.0	-4.0	-4.0	-2.5	-0.8	-0.3	-0.2	1.1	0.1	0.6	-0.6	-1.6	-2.0	-2.5	-3.2	-3.5	-3.4	-3.2	-2.0	1.1	-4.0
28	-3.5	-3.2	-3.4	-3.7	-3.5	-3.5	-3.5	-3.5	-3.2	-2.4	-0.8	0.2	0.7	1.4	2.8	1.8	-0.5	-2.7	-4.0	-4.3	-5.6	-6.5	-7.0	-7.5	-2.7	2.8	-7.5
29	-8.0	-8.3	-8.6	-9.0	-9.5	-9.1	-9.1	-9.1	-9.6	-7.0	-4.8	-2.7	-1.3	0.0	1.7	2.9	1.4	-1.0	-4.1	-5.8	-6.5	-6.8	-6.8	-7.0	-5.3	2.9	-9.6
30	-6.5	-6.3	-6.5	-7.1	-7.5	-7.0	-6.9	-5.9	-5.0	-3.7	-2.0	-0.6	1.1	2.2	3.4	3.4	1.5	-1.7	-3.2	-4.9	-6.3	-6.6	-7.5	-8.3	-3.8	3.4	-8.3
Avg	-2.6	-2.9	-3.1	-3.4	-3.6	-3.7	-3.9	-3.9	-3.2	-1.0	1.0	2.3	3.1	3.9	4.5	4.2	3.2	1.6	0.3	-0.7	-1.4	-2.0	-2.4	-2.6	-0.7	5.1	-5.9
Max	6.1	4.1	5.1	4.9	4.1	4.3	4.2	3.6	3.2	5.1	8.1	9.5	9.9	10.7	12.5	14.1	12.0	8.8	8.1	6.5	5.5	4.9	4.5	4.9	5.4	14.1	0.8
Min	-12.3	-12.6	-12.6	-12.1	-11.6	-11.3	-11.5	-11.3	-10.0	-7.5	-4.8	-2.7	-1.7	-1.0	-0.8	-1.8	-3.0	-4.5	-6.3	-7.5	-8.6	-9.6	-10.8	-11.5	-6.4	-0.2	-12.6

Montana Resources LLP
Greeley School Air Monitoring Summary
Temperature - MDEQ monitor (degrees Celsius)
December 2024

Day	<< Hour >>																								Avg	Max	Min
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	-8.6	-8.8	-8.6	-7.8	-7.9	-7.9	-8.3	-8.6	-6.8	-4.0	-1.7	0.5	2.5	3.0	4.8	5.4	3.3	0.4	-1.3	-3.4	-4.5	-5.0	-6.0	-7.0	-3.6	5.4	-8.8
2	-7.8	-8.1	-8.6	-8.8	-8.8	-9.1	-9.5	-9.3	-8.8	-4.0	-0.3	2.7	4.3	6.0	9.9	8.8	6.3	2.6	0.2	-1.7	-3.0	-3.9	-4.8	-5.4	-2.5	9.9	-9.5
3	-6.4	-7.0	-7.5	-8.1	-8.6	-9.0	-9.5	-9.6	-9.5	-5.0	-1.1	2.2	3.1	6.6	8.3	5.5	3.4	1.2	-0.5	-2.4	-4.3	-5.0	-5.9	-6.5	-3.2	8.3	-9.6
4	-7.3	-7.8	-8.1	-8.6	-9.1	-9.6	-9.8	-10.1	-9.8	-5.6	-1.5	2.8	2.8	4.7	7.8	8.4	5.1	1.6	-1.5	-3.2	-4.9	-6.0	-6.5	-7.5	-3.5	8.4	-10.1
5	-8.3	-8.8	-9.1	-9.3	-9.8	-10.3	-10.5	-10.5	-10.3	-6.0	-2.2	2.9	3.4	5.6	7.5	7.8	5.0	1.1	-2.2	-3.9	-5.0	-6.0	-6.5	-7.4	-3.9	7.8	-10.5
6	-8.1	-8.6	-9.1	-9.3	-9.5	-9.5	-10.0	-10.3	-10.0	-6.0	-2.2	2.3	2.7	6.3	8.5	7.7	4.7	2.6	0.8	0.0	-0.5	-0.8	-1.2	-1.8	-2.6	8.5	-10.3
7	-2.0	-2.2	-2.9	-3.9	-4.3	-4.5	-4.0	-4.3	-4.3	-2.0	1.5	4.4	6.0	7.7	8.9	8.9	7.7	7.2	5.1	3.7	6.9	5.9	4.6	4.1	2.0	8.9	-4.5
8	4.0	3.6	1.4	0.8	0.5	-0.3	-1.6	-2.5	-2.0	-1.2	-0.6	0.7	1.7	1.5	0.9	0.6	0.0	-0.8	-1.5	-2.7	-2.7	-3.7	-3.7	-3.5	-0.5	4.0	-3.7
9	-3.9	-4.1	-4.1	-4.3	-4.3	-4.5	-5.0	-5.0	-4.8	-4.0	-2.9	-2.2	-2.2	-1.7	-1.8	-2.2	-2.5	-3.0	-3.7	-3.7	-3.7	-4.0	-4.5	-4.5	-3.6	-1.7	-5.0
10	-4.3	-4.4	-3.9	-3.5	-4.0	-4.9	-5.8	-6.4	-5.5	-4.0	-1.8	-0.5	-0.2	0.8	2.0	1.8	0.3	-0.6	-3.0	-4.9	-6.0	-7.0	-6.3	-6.3	-3.3	2.0	-7.0
11	-6.9	-6.1	-6.0	-5.9	-5.5	-5.1	-5.5	-5.9	-4.5	-3.2	-1.7	-0.1	2.9	4.0	3.9	3.4	2.4	1.2	-0.3	-1.2	-2.0	-2.7	-3.7	-5.1	-2.2	4.0	-6.9
12	-6.5	-7.3	-8.5	-9.3	-9.8	-10.3	-10.3	-9.8	-8.3	-6.3	-4.3	-2.7	-1.3	0.3	1.1	1.2	0.0	-0.6	-1.3	-1.8	-2.9	-3.7	-4.6	-5.5	-4.7	1.2	-10.3
13	-6.3	-6.5	-5.6	-5.9	-5.0	-4.8	-5.3	-5.4	-4.9	-3.7	-1.7	0.1	2.4	3.6	3.3	3.3	2.9	2.4	1.9	1.8	0.7	0.0	-0.6	-1.7	-1.5	3.6	-6.5
14	-1.2	-0.6	-1.6	-0.5	0.4	0.5	0.9	1.4	1.7	1.5	2.4	3.2	3.9	4.7	5.0	4.6	3.8	2.7	2.3	0.8	-0.6	-0.8	-1.1	-0.8	1.4	5.0	-1.6
15	-1.2	-1.1	-1.2	-1.2	-1.0	-1.0	-1.0	-1.1	-1.3	-1.1	-1.1	-0.8	-0.3	0.2	0.2	-0.1	-2.4	-4.8	-7.0	-8.6	-10.0	-11.1	-11.1	-12.1	-3.3	0.2	-12.1
16	-12.8	-12.5	-12.8	-11.5	-10.5	-9.8	-9.6	-8.8	-7.5	-6.1	-4.8	-3.0	-2.5	-1.3	-1.5	-2.0	-2.2	-2.5	-3.2	-3.4	-3.7	-4.1	-4.8	-4.9	-6.1	-1.3	-12.8
17	-6.0	-5.5	-6.1	-7.4	-8.6	-8.6	-8.3	-8.3	-8.6	-5.6	-3.9	-0.5	0.4	0.9	1.1	0.8	0.7	-0.1	-1.0	-1.0	-1.2	-1.0	-1.2	-1.5	-3.4	1.1	-8.6
18	-0.8	-0.4	-0.4	0.5	1.2	1.3	0.9	1.6	0.4	3.1	3.3	5.2	6.6	7.2	6.3	3.8	2.8	2.1	1.6	1.3	1.2	0.6	-0.1	-1.2	2.0	7.2	-1.2
19	-1.7	-2.9	-4.1	-4.5	-2.5	-2.5	-4.0	-6.5	-7.8	-5.9	-1.6	1.4	2.0	3.1	5.1	4.6	1.9	-0.2	-1.6	-2.2	-3.4	-4.0	-5.1	-5.5	-2.0	5.1	-7.8
20	-5.3	-4.8	-4.5	-2.0	-2.4	-4.8	-6.1	-6.9	-7.1	-4.0	-0.3	1.9	4.4	5.4	5.0	5.2	3.8	1.6	-0.2	-0.8	-1.0	-1.5	-2.7	-3.0	-1.3	5.4	-7.1
21	-2.7	-2.7	-3.7	-4.0	-4.3	-5.1	-6.0	-6.5	-6.4	-4.5	-2.0	-0.4	1.8	2.0	2.6	3.4	2.4	1.9	2.3	1.3	1.7	2.5	3.0	3.6	-0.8	3.6	-6.5
22	2.6	1.3	0.8	-0.8	-1.2	-2.7	-3.5	-1.7	-0.8	-0.1	0.9	3.1	4.6	4.6	4.8	3.6	3.0	2.3	0.6	-0.6	-0.6	-0.1	0.0	-0.6	0.8	4.8	-3.5
23	-0.8	-0.6	1.3	1.5	1.1	0.9	0.6	1.1	-0.5	0.4	2.5	3.6	4.1	4.0	4.7	4.4	4.4	2.2	0.3	-1.3	-2.5	-3.9	-4.8	-5.3	0.7	4.7	-5.3
24	-5.5	-5.9	-5.5	-5.6	-5.8	-5.9	-5.5	-4.8	-4.0	-4.0	-2.9	-1.2	1.7	2.9	2.7	2.9	2.0	1.1	0.2	1.1	0.2	0.6	0.1	1.9	-1.6	2.9	-5.9
25	0.7	0.8	0.8	0.4	-0.6	-0.2	-0.8	-1.5	-2.5	-2.2	-0.5	1.3	1.5	2.2	2.7	1.9	0.3	-1.6	-1.8	-1.8	-2.9	-4.5	-5.0	-3.5	-0.7	2.7	-5.0
26	-1.8	-0.6	-0.6	-0.3	-0.1	-1.2	-2.0	-1.8	-1.8	-1.6	-0.3	0.0	0.3	1.7	2.8	3.9	2.7	2.2	1.6	1.4	1.3	0.7	0.0	-0.8	0.2	3.9	-2.0
27	-1.3	-2.4	-2.2	-3.0	-4.9	-6.0	-5.9	-6.0	-6.8	-5.4	-3.4	-1.2	0.2	1.0	0.8	0.4	-0.3	-0.4	-0.4	-0.6	-1.7	-2.7	-1.8	-0.3	-2.3	1.0	-6.8
28	-0.3	1.0	0.3	-0.4	-0.4	0.0	0.1	0.7	1.2	1.5	2.1	1.2	1.6	2.1	1.2	1.4	1.4	1.4	1.1	0.7	1.2	0.8	0.5	0.2	0.9	2.1	-0.4
29	-0.6	-0.8	-1.2	-1.3	-0.6	-0.6	-1.3	-1.8	-2.2	-1.7	-0.6	0.6	0.2	0.5	1.1	1.6	1.1	0.5	1.5	1.3	0.0	-0.3	-0.1	0.1	-0.2	1.6	-2.2
30	-0.8	-1.0	-1.5	-2.2	-3.2	-4.0	-2.7	-2.7	-2.7	-2.9	-3.0	-1.6	-0.8	-0.6	-0.8	-1.2	-1.7	-2.2	-2.7	-3.7	-4.3	-4.0	-4.6	-5.3	-2.5	-0.6	-5.3
31	-6.8	-7.6	-8.1	-8.6	-8.8	-8.3	-8.5	-8.3	-8.6	-8.1	-6.5	-4.1	-3.4	-2.4	-2.5	-2.2	-3.7	-6.3	-8.1	-10.1	-11.6	-12.5	-13.0	-13.0	-7.5	-2.2	-13.0
Avg	-3.8	-3.9	-4.2	-4.3	-4.5	-4.8	-5.1	-5.1	-5.0	-3.3	-1.3	0.7	1.8	2.8	3.4	3.1	1.9	0.5	-0.7	-1.6	-2.3	-2.8	-3.3	-3.6	-1.9	3.8	-6.8
Max	4.0	3.6	1.4	1.5	1.2	1.3	0.9	1.6	1.7	3.1	3.3	5.2	6.6	7.7	9.9	8.9	7.7	7.2	5.1	3.7	6.9	5.9	4.6	4.1	2.0	9.9	-0.4
Min	-12.8	-12.5	-12.8	-11.5	-10.5	-10.3	-10.5	-10.5	-10.3	-8.1	-6.5	-4.1	-3.4	-2.4	-2.5	-2.2	-3.7	-6.3	-8.1	-10.1	-11.6	-12.5	-13.0	-13.0	-7.5	-2.2	-13.0

**Montana Resources LLP
Greeley School Air Monitoring Summary
Wind Speed - MDEQ monitor (meters per second)
October 2024**

	<< Hour >>																										
Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Avg	Max	Min
1	0.7	0.5	0.7	0.9	0.4	0.5	0.5	0.5	0.4	0.6	0.8	1.6	1.5	2.3	2.7	3.1	3.0	2.4	1.0	0.7	0.7	0.8	0.9	1.4	1.2	3.1	0.4
2	0.6	0.6	0.5	0.9	0.7	0.7	0.7	0.6	1.7	3.3	2.9	2.8	2.6	2.4	3.4	3.0	2.7	3.0	2.4	2.4	3.2	3.2	1.8	1.0	2.0	3.4	0.5
3	1.0	0.6	0.6	0.8	0.5	0.4	0.6	0.5	0.8	1.0	1.5	1.5	1.8	1.3	1.7	1.7	0.9	1.0	0.8	0.7	0.5	0.7	0.4	0.3	0.9	1.8	0.3
4	0.4	0.3	0.4	0.4	0.6	0.7	0.6	0.9	0.5	0.5	1.1	1.8	5.3	4.3	4.8	4.4	3.5	2.1	3.0	4.4	6.4	5.1	5.9	5.8	2.6	6.4	0.3
5	3.8	2.4	2.4	1.5	0.9	0.7	0.8	0.6	0.9	1.3	1.4	1.4	2.0	1.5	1.8	2.2	2.9	2.5	0.7	0.9	1.1	0.7	0.6	0.4	1.5	3.8	0.4
6	0.5	0.4	0.5	0.5	0.6	0.4	0.4	0.4	0.6	0.5	1.2	0.9	1.2	2.1	1.9	1.4	1.7	1.4	1.3	0.8	0.4	0.5	0.3	0.7	0.9	2.1	0.3
7	0.4	0.3	0.3	0.4	0.3	0.5	0.4	0.5	0.8	0.7	1.0	1.5	1.6	1.9	1.5	1.6	1.9	1.1	0.5	0.5	0.4	0.4	0.3	0.5	0.8	1.9	0.3
8	0.6	0.5	0.5	0.4	0.5	0.5	0.6	0.4	0.4	0.6	0.9	1.2	1.5	1.4	1.5	2.4	2.5	2.1	1.3	0.7	0.7	0.6	0.4	0.5	0.9	2.5	0.4
9	0.4	0.4	0.2	0.6	0.6	0.4	0.5	0.4	0.6	0.6	1.0	1.6	3.4	2.7	1.9	2.0	1.2	0.6	0.9	1.0	0.7	0.6	0.5	0.5	1.0	3.4	0.2
10	0.6	0.5	0.4	0.5	0.4	0.4	0.6	0.5	0.7	0.8	0.9	1.1	0.8	1.4	1.5	1.3	1.1	1.0	0.7	0.8	1.3	1.2	0.6	0.6	0.8	1.5	0.4
11	0.5	0.4	0.3	0.3	0.4	0.3	0.5	0.3	0.6	0.6	0.8	1.4	1.5	1.6	1.8	2.4	1.4	0.7	0.6	0.6	1.0	0.7	0.4	0.3	0.8	2.4	0.3
12	0.3	0.4	0.6	0.4	0.5	0.6	0.4	0.4	0.7	0.7	1.0	1.0	1.3	1.4	1.7	1.1	0.8	1.2	0.9	0.4	0.5	0.5	0.4	0.4	0.7	1.7	0.3
13	0.4	0.4	0.3	0.2	0.4	0.3	0.4	0.3	0.4	0.6	0.8	1.0	1.4	1.9	1.4	1.1	1.1	1.1	0.5	0.4	0.3	0.3	0.3	0.3	0.7	1.9	0.2
14	0.3	0.4	0.3	0.3	0.3	0.5	0.4	0.4	0.7	0.6	0.6	0.8	1.3	2.4	2.6	2.5	1.4	0.6	0.4	0.5	0.5	0.6	0.5	0.3	0.8	2.6	0.3
15	0.5	0.5	0.5	0.5	0.5	0.3	0.6	0.3	0.6	0.6	0.9	0.9	0.7	1.2	2.0	2.2	2.0	0.6	0.5	1.0	0.7	0.6	0.5	0.6	0.8	2.2	0.3
16	0.6	0.5	0.6	0.6	0.5	0.4	0.6	0.5	0.7	0.8	1.4	3.6	3.1	1.6	2.1	1.9	1.7	2.5	2.4	2.6	3.5	1.4	0.8	1.1	1.5	3.6	0.4
17	1.3	1.7	1.1	1.0	0.9	0.8	0.9	0.5	1.0	1.0	2.9	2.3	2.3	2.4	2.2	1.4	1.2	1.0	0.7	1.4	1.5	2.2	2.3	1.6	1.5	2.9	0.5
18	2.0	2.2	2.1	1.4	1.0	0.7	0.9	0.7	0.9	0.7	1.0	1.3	1.2	1.5	1.5	1.1	0.9	0.5	1.2	1.0	0.6	0.5	0.6	0.8	1.1	2.2	0.5
19	0.6	0.6	0.8	0.8	0.7	0.7	0.5	0.8	1.2	1.0	2.1	1.3	2.0	2.0	1.8	1.7	1.3	1.5	1.4	0.9	0.7	0.5	0.5	1.0	1.1	2.1	0.5
20	1.0	0.6	0.6	0.7	0.8	0.8	0.6	0.5	0.6	0.9	1.1	1.1	1.7	1.5	1.5	1.5	1.3	0.9	0.7	0.6	0.7	0.6	0.6	0.7	0.9	1.7	0.5
21	0.6	0.8	0.6	0.9	0.8	0.9	0.8	0.6	0.4	0.8	1.0	1.4	3.6	3.1	1.5	2.1	1.5	1.7	1.6	1.4	1.2	1.6	1.3	0.6	1.3	3.6	0.4
22	2.1	1.1	0.6	0.6	1.0	0.6	0.9	0.5	1.1	1.1	1.3	1.7	1.9	1.9	1.9	1.8	2.0	1.8	0.7	0.7	0.4	0.6	0.4	0.5	1.1	2.1	0.4
23	0.5	0.4	0.6	0.4	0.4	0.6	0.4	0.6	0.5	0.6	0.7	1.1	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	0.6	1.1	0.4
24	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	1.2	1.5	1.2	1.1	1.2	1.2	1.4	1.3	0.8	0.6	0.5	0.6	0.5	0.4	0.4	0.9	1.5	0.4
25	0.3	0.4	0.5	0.4	0.4	0.3	0.4	0.5	0.5	0.7	1.0	1.5	1.5	1.3	1.2	1.9	1.7	0.8	0.6	0.7	1.1	1.3	1.0	1.1	0.9	1.9	0.3
26	1.2	1.0	0.9	0.8	0.9	0.7	1.0	0.8	0.5	0.5	1.2	3.0	3.0	2.9	2.4	2.1	1.7	0.5	0.6	0.8	0.7	0.5	0.6	0.7	1.2	3.0	0.5
27	0.9	0.8	0.7	0.8	0.8	0.7	0.7	0.9	0.7	1.1	1.2	2.4	3.5	3.8	3.3	2.2	2.1	1.9	4.0	3.3	1.6	2.5	1.9	1.0	1.8	4.0	0.7
28	0.8	0.7	0.4	0.5	0.4	0.7	0.6	0.6	0.8	0.9	1.2	1.8	1.5	1.8	3.2	2.9	2.7	2.2	1.6	1.7	1.6	1.0	1.4	0.8	1.3	3.2	0.4
29	0.8	0.7	0.7	0.5	0.5	0.7	0.5	0.9	1.0	1.8	3.1	3.5	2.7	2.8	3.0	3.0	2.9	2.2	2.1	1.7	0.9	0.9	0.4	0.4	1.6	3.5	0.4
30	0.3	0.4	0.3	0.3	0.2	0.4	0.3	0.3	0.5	0.5	1.0	1.3	1.2	2.0	2.6	2.6	2.5	1.8	0.7	1.2	0.5	0.7	0.5	0.4	0.9	2.6	0.2
31	0.4	0.5	0.8	0.5	0.6	0.8	0.8	0.5	0.5	0.7	0.9	1.1	1.4	1.0	1.2	1.3	1.0	1.2	1.5	1.5	1.4	0.9	0.5	0.4	0.9	1.5	0.4
Avg	0.8	0.7	0.7	0.6	0.6	0.6	0.6	0.5	0.7	0.9	1.3	1.6	2.0	2.0	2.1	2.0	1.8	1.4	1.2	1.2	1.2	1.1	0.9	0.8	1.1	2.6	0.4
Max	3.8	2.4	2.4	1.5	1.0	0.9	1.0	0.9	1.7	3.3	3.1	3.6	5.3	4.3	4.8	4.4	3.5	3.0	4.0	4.4	6.4	5.1	5.9	5.8	2.6	6.4	0.7
Min	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.5	0.6	0.8	0.7	1.0	1.2	1.1	0.8	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.6	1.1	0.2

Montana Resources LLP
Greeley School Air Monitoring Summary
Wind Speed - MDEQ monitor (meters per second)
November 2024

Day	<< Hour >>																								Avg	Max	Min
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	0.6	0.7	0.7	0.7	0.5	0.8	0.6	0.7	0.6	0.6	0.7	0.8	2.3	3.7	3.3	3.5	3.0	2.1	0.7	1.0	0.9	0.9	0.8	0.8	1.3	3.7	0.5
2	0.6	1.0	0.7	0.6	0.7	0.7	0.5	0.6	0.7	0.8	0.6	0.9	1.1	1.7	2.4	2.6	1.6	1.5	0.6	0.7	1.5	1.1	0.7	0.6	1.0	2.6	0.5
3	0.6	0.6	0.4	0.5	0.5	0.5	0.5	0.7	0.4	0.4	1.0	2.3	1.7	2.9	2.4	2.4	2.0	2.0	1.2	0.4	0.6	0.6	0.6	0.4	1.1	2.9	0.4
4	0.9	0.8	0.5	0.9	1.1	0.5	0.6	0.5	0.6	1.8	3.1	3.2	2.2	2.5	2.6	2.6	1.9	1.6	1.0	1.2	2.6	1.4	1.6	1.5	1.6	3.2	0.5
5	1.0	0.9	0.7	0.9	1.1	0.8	2.8	2.7	2.1	2.2	2.5	2.0	2.2	2.8	3.3	1.8	2.3	1.2	0.9	1.0	0.9	0.7	0.9	0.6	1.6	3.3	0.6
6	0.8	0.7	0.7	1.0	0.7	0.7	0.7	0.7	0.7	0.7	0.9	1.1	1.0	1.4	1.9	3.1	2.4	2.0	1.1	0.7	1.2	0.5	0.5	0.8	1.1	3.1	0.5
7	0.9	0.5	0.5	0.4	0.4	0.5	0.4	0.4	0.6	0.7	0.7	1.1	0.7	1.4	1.1	0.9	1.3	0.7	0.7	0.5	0.6	0.4	0.4	0.4	0.7	1.4	0.4
8	0.4	0.3	0.3	0.4	0.4	0.3	0.4	0.3	0.3	0.7	0.4	1.0	0.9	0.8	1.1	1.1	0.8	0.9	0.5	0.5	0.3	0.4	0.6	0.5	0.6	1.1	0.3
9	0.4	0.5	0.4	0.4	0.7	0.4	0.6	0.3	0.7	0.5	0.6	0.7	0.8	1.0	1.0	0.8	0.6	0.8	0.7	0.6	0.5	0.4	0.5	0.5	0.6	1.0	0.3
10	0.6	0.5	0.7	0.6	0.5	0.6	0.5	0.5	0.5	0.6	0.9	0.5	0.8	1.2	0.8	0.7	0.7	0.6	2.1	0.7	0.7	0.7	0.5	0.6	0.7	2.1	0.5
11	0.7	0.9	1.0	0.6	1.1	1.1	0.7	0.8	0.8	0.9	2.4	3.9	4.0	1.8	1.0	1.0	1.6	1.1	1.0	0.7	0.6	0.7	0.5	0.7	1.2	4.0	0.5
12	1.7	2.2	1.7	1.2	1.6	1.4	2.0	1.6	0.6	0.8	1.9	2.6	2.9	3.1	3.1	3.5	2.3	1.4	0.9	0.7	0.8	0.7	0.7	0.6	1.7	3.5	0.6
13	0.5	0.4	0.6	0.8	0.8	0.6	0.6	0.7	0.9	0.7	1.0	2.9	3.8	4.2	4.5	4.0	3.4	3.9	5.1	3.6	2.3	3.0	2.3	0.6	2.1	5.1	0.4
14	1.1	0.9	0.7	2.0	2.3	2.1	2.0	1.6	1.4	1.3	1.0	1.4	1.3	1.7	1.9	1.1	1.7	0.6	0.5	0.5	0.7	0.5	0.5	0.5	1.2	2.3	0.5
15	0.8	0.3	0.3	0.4	0.6	0.5	0.6	0.5	0.5	1.1	0.5	0.6	0.6	0.6	0.8	1.5	0.8	0.7	0.5	0.4	0.7	1.1	1.3	1.1	0.7	1.5	0.3
16	1.0	1.7	2.8	1.4	1.7	1.3	1.9	0.7	0.6	0.6	0.9	1.6	2.1	1.9	2.2	2.0	2.2	1.2	0.8	0.5	0.4	0.5	0.6	0.5	1.3	2.8	0.4
17	0.8	0.8	0.7	1.2	1.6	0.7	0.7	0.7	1.7	1.6	0.9	1.0	2.2	1.1	2.1	3.8	3.1	2.8	2.8	2.5	2.5	2.7	2.0	2.0	1.8	3.8	0.7
18	1.4	1.7	1.0	1.1	3.0	1.6	0.5	0.7	1.5	1.3	1.3	1.9	1.5	1.5	1.6	1.5	1.4	0.7	0.9	0.6	0.6	0.9	0.6	0.5	1.2	3.0	0.5
19	0.5	0.4	0.6	0.5	0.5	0.4	0.6	0.5	0.6	0.5	0.9	1.2	1.3	1.3	1.2	1.0	0.8	0.4	0.6	0.5	0.8	0.7	0.4	0.6	0.7	1.3	0.4
20	0.4	0.6	0.4	0.5	0.5	1.1	0.7	0.8	0.8	0.5	0.7	1.3	1.4	1.9	1.3	1.8	1.0	0.8	0.7	0.9	0.6	0.6	0.7	0.7	0.9	1.9	0.4
21	1.2	1.2	0.9	0.8	0.9	0.7	0.8	0.9	1.1	1.0	1.7	2.5	3.5	3.3	3.0	3.0	2.0	1.5	1.0	0.8	0.6	0.6	0.7	0.8	1.4	3.5	0.6
22	0.9	0.9	0.7	1.0	0.8	0.6	0.6	0.8	0.7	0.6	0.9	1.9	3.2	1.6	1.4	1.4	0.8	0.7	0.7	0.6	0.8	0.7	0.7	0.7	1.0	3.2	0.6
23	0.6	0.8	1.2	0.8	0.9	0.8	0.7	0.6	0.8	1.4	4.1	3.8	2.6	1.7	2.0	1.4	0.8	1.1	0.6	0.5	1.2	0.6	0.6	0.6	1.3	4.1	0.5
24	0.9	0.3	0.5	0.4	0.4	0.2	0.4	0.7	0.6	1.1	0.4	0.5	0.5	1.6	2.2	1.6	0.9	0.7	0.6	0.6	0.8	0.6	0.6	0.6	0.7	2.2	0.2
25	0.5	0.7	0.5	0.5	0.7	0.8	0.6	0.6	0.5	0.6	0.8	1.1	1.5	1.2	2.3	2.7	1.4	0.8	0.6	0.5	0.6	0.7	0.8	1.2	0.9	2.7	0.5
26	0.5	0.6	0.5	0.7	0.8	0.6	0.5	0.4	0.6	0.6	0.6	1.3	1.2	1.2	1.7	1.5	1.0	1.1	0.5	0.6	0.9	0.8	1.1	1.1	0.8	1.7	0.4
27	0.7	0.8	0.7	0.8	0.8	0.7	0.6	0.4	0.7	0.7	0.8	1.8	1.9	2.2	1.9	1.7	1.2	1.2	0.7	0.9	1.1	1.1	0.7	0.8	1.0	2.2	0.4
28	0.5	0.7	0.4	0.3	0.5	0.6	0.4	0.3	0.3	0.6	1.2	1.3	1.1	1.2	1.1	1.1	0.4	0.5	0.5	0.7	0.6	0.5	0.5	0.4	0.7	1.3	0.3
29	0.4	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.6	0.6	0.4	0.5	0.9	0.8	0.9	0.9	0.7	0.4	0.5	0.5	0.6	0.3	0.5	0.6	0.9	0.3
30	0.7	0.5	0.5	0.8	0.9	0.5	0.5	0.6	0.4	0.7	0.7	0.5	0.4	0.9	1.2	1.1	0.5	0.5	0.4	0.5	0.4	0.6	0.4	0.4	0.6	1.2	0.4
Avg	0.8	0.8	0.7	0.8	0.9	0.8	0.8	0.7	0.8	0.9	1.2	1.6	1.7	1.8	1.9	1.9	1.5	1.2	1.0	0.8	0.9	0.8	0.8	0.7	1.1	2.6	0.4
Max	1.7	2.2	2.8	2.0	3.0	2.1	2.8	2.7	2.1	2.2	4.1	3.9	4.0	4.2	4.5	4.0	3.4	3.9	5.1	3.6	2.6	3.0	2.3	2.0	2.1	5.1	0.7
Min	0.4	0.3	0.3	0.3	0.4	0.2	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.6	0.8	0.7	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.4	0.6	0.9	0.2

Montana Resources LLP
Greeley School Air Monitoring Summary
Wind Speed - MDEQ monitor (meters per second)
December 2024

Day	<< Hour >>																								Avg	Max	Min
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	0.4	0.5	0.4	0.6	0.5	0.4	0.4	0.7	0.5	0.4	0.7	0.6	0.3	0.9	0.5	0.7	0.4	0.7	0.4	0.3	0.4	0.7	0.4	0.4	0.5	0.9	0.3
2	0.4	0.4	0.4	0.4	0.5	0.4	0.3	0.5	0.3	0.3	0.4	0.6	0.8	0.6	0.7	0.7	0.5	0.5	0.6	0.5	0.5	0.5	0.4	0.5	0.5	0.8	0.3
3	0.4	0.4	0.6	0.5	0.4	0.5	0.3	0.5	0.5	0.6	0.5	0.6	1.4	0.7	1.3	0.9	0.8	0.5	0.5	0.3	0.4	0.3	0.4	0.4	0.6	1.4	0.3
4	0.5	0.3	0.5	0.5	0.3	0.3	0.3	0.3	0.3	0.5	0.3	0.5	0.7	0.7	0.6	0.5	0.4	0.6	0.4	0.5	0.3	0.3	0.3	0.3	0.4	0.7	0.3
5	0.3	0.3	0.4	0.4	0.3	0.3	0.4	0.3	0.4	0.5	0.6	0.6	0.7	0.5	0.8	0.6	0.5	0.6	0.3	0.4	0.3	0.4	0.4	0.5	0.5	0.8	0.3
6	0.3	0.5	0.4	0.5	0.5	0.7	0.6	0.4	0.5	0.4	0.7	0.6	1.0	1.1	0.8	0.7	0.6	0.5	0.6	0.6	0.7	0.8	0.9	0.8	0.6	1.1	0.3
7	0.6	1.0	0.9	0.7	1.0	1.1	1.0	0.6	0.9	0.6	0.7	0.6	0.6	1.0	1.0	0.7	1.0	2.2	0.9	0.9	2.1	2.3	2.1	2.6	1.1	2.6	0.6
8	2.0	2.5	2.7	2.1	3.8	2.1	1.3	0.8	0.7	2.0	1.4	2.2	2.6	2.7	2.3	1.7	2.2	2.3	2.4	1.6	0.9	0.5	0.5	1.3	1.9	3.8	0.5
9	0.7	0.8	0.7	0.8	0.7	0.9	0.7	0.4	0.6	0.7	0.5	0.8	1.0	1.5	2.0	2.4	2.7	1.4	0.7	0.5	0.6	0.9	0.7	0.6	1.0	2.7	0.4
10	0.9	1.1	1.3	2.0	0.7	1.0	0.4	0.6	0.9	0.7	1.0	1.2	1.2	1.1	2.2	1.7	1.1	1.4	0.6	0.7	0.4	0.5	0.9	0.6	1.0	2.2	0.4
11	0.6	0.6	0.6	0.6	0.7	0.6	0.5	0.4	0.5	0.4	0.7	0.8	1.0	0.9	0.6	0.4	0.5	0.8	0.4	0.7	0.6	0.5	0.5	0.6	0.6	1.0	0.4
12	0.5	0.5	0.5	0.4	0.5	0.4	0.3	0.4	0.6	0.6	0.6	0.6	0.8	1.2	0.6	0.6	0.5	0.6	0.8	0.5	0.3	0.4	0.5	0.4	0.5	1.2	0.3
13	0.5	0.5	0.5	0.9	0.7	0.6	0.4	0.5	0.9	0.7	0.5	0.6	1.0	2.3	2.0	1.3	1.1	0.9	0.6	0.8	1.2	2.5	1.7	0.9	1.0	2.5	0.4
14	1.0	1.6	0.6	1.4	2.4	1.9	2.2	3.5	2.3	1.0	0.8	1.1	1.1	0.7	1.1	2.4	1.4	0.7	0.9	0.6	0.6	0.6	0.5	0.6	1.3	3.5	0.5
15	0.6	0.6	0.6	0.6	1.2	2.9	3.1	3.0	2.5	2.9	1.6	1.7	1.4	2.0	2.4	1.6	1.2	0.7	0.8	0.5	0.9	0.5	0.7	0.6	1.4	3.1	0.5
16	0.7	1.0	0.7	0.6	0.7	0.5	0.5	0.5	0.6	0.6	0.8	0.6	1.0	1.0	0.9	0.7	0.7	1.0	1.1	0.8	0.5	0.5	0.4	0.5	0.7	1.1	0.4
17	0.7	0.7	0.5	0.4	0.5	0.6	0.7	0.4	0.6	0.7	0.7	0.6	0.4	0.9	0.9	1.0	0.6	0.6	0.3	0.6	0.6	0.6	0.3	0.5	0.6	1.0	0.3
18	0.6	0.6	0.7	0.9	1.3	1.3	1.5	1.3	0.9	1.8	1.2	1.9	4.1	5.2	3.5	2.9	1.2	1.3	1.4	1.3	1.4	1.3	1.1	1.7	1.7	5.2	0.6
19	1.1	0.9	0.7	1.1	1.0	1.2	1.0	0.5	0.5	0.6	0.5	0.8	0.9	0.5	0.7	0.5	0.4	0.5	0.4	0.6	0.5	0.6	0.5	0.6	0.7	1.2	0.4
20	0.7	0.9	0.7	1.0	1.0	0.5	0.7	0.8	0.9	0.9	0.4	0.9	0.6	0.7	0.7	1.0	0.6	0.6	0.5	0.7	0.6	0.4	0.7	0.6	0.7	1.0	0.4
21	0.6	0.6	0.6	0.7	0.5	0.5	0.5	0.6	0.6	0.4	0.9	0.6	0.9	0.9	1.1	0.6	0.7	0.8	0.9	0.8	1.1	1.0	1.1	2.6	0.8	2.6	0.4
22	2.6	2.2	0.8	1.0	0.9	0.6	0.7	1.0	0.7	0.7	1.1	1.0	2.5	2.8	2.6	1.0	1.0	0.4	0.5	0.5	0.4	0.3	0.5	0.7	1.1	2.8	0.3
23	0.7	0.8	1.0	0.8	0.7	0.7	0.5	0.8	0.4	0.6	0.5	0.5	0.9	0.7	0.8	0.9	0.6	0.5	0.5	0.6	0.5	0.5	0.6	0.6	0.7	1.0	0.4
24	0.5	0.4	0.8	0.7	0.8	0.6	1.1	1.1	0.8	0.8	0.6	0.5	0.6	0.7	0.8	0.9	0.7	0.6	0.7	0.9	0.7	0.9	0.8	2.0	0.8	2.0	0.4
25	1.2	1.2	1.0	1.4	1.0	1.8	1.5	1.4	0.8	1.0	1.2	1.2	0.9	1.3	1.2	1.2	0.4	0.5	0.5	0.6	0.8	0.7	0.6	0.7	1.0	1.8	0.4
26	1.7	2.6	1.7	1.6	2.6	2.4	1.0	0.8	0.6	0.7	1.2	0.9	1.1	2.7	2.2	2.2	2.4	1.2	1.0	0.8	1.5	1.1	0.8	0.8	1.5	2.7	0.6
27	0.6	0.9	1.1	0.9	0.5	0.5	0.6	0.7	0.5	0.7	0.7	1.6	1.5	0.9	0.8	0.8	1.0	0.4	0.7	0.6	0.5	0.5	1.0	1.1	0.8	1.6	0.4
28	1.2	1.4	0.8	0.5	0.6	0.7	0.7	1.0	0.9	1.2	1.0	1.1	1.1	2.3	1.5	1.0	0.7	1.3	0.9	0.6	1.4	1.2	1.7	1.1	1.1	2.3	0.5
29	1.1	0.5	0.7	0.5	0.9	0.7	1.3	0.7	0.4	0.4	0.3	0.5	0.6	0.6	0.9	0.9	0.5	1.0	1.7	3.2	1.2	1.6	1.9	1.8	1.0	3.2	0.3
30	0.7	0.9	0.7	0.7	0.7	0.8	1.7	1.6	1.3	1.3	0.7	0.8	1.3	1.5	1.2	1.0	1.2	1.3	1.4	0.9	0.8	1.7	0.6	0.6	1.1	1.7	0.6
31	0.4	0.3	0.5	0.4	0.6	0.4	0.6	0.5	0.7	0.8	0.5	0.5	0.8	0.8	0.8	1.8	1.6	0.7	0.6	0.7	0.4	0.4	0.5	0.6	0.7	1.8	0.3
Avg	0.8	0.9	0.8	0.8	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.9	1.1	1.3	1.3	1.1	0.9	0.9	0.8	0.8	0.7	0.8	0.8	0.9	0.9	2.0	0.4
Max	2.6	2.6	2.7	2.1	3.8	2.9	3.1	3.5	2.5	2.9	1.6	2.2	4.1	5.2	3.5	2.9	2.7	2.3	2.4	3.2	2.1	2.5	2.1	2.6	1.9	5.2	0.6
Min	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.3	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.7	0.3

Montana Resources LLP
Greeley School Air Monitoring Summary
Wind Direction - MDEQ monitor (degrees)
October 2024

Day	<< Hour >>																								Prev
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	147	92	171	147	242	109	168	162	339	41	346	350	26	204	225	219	216	195	208	338	49	51	81	191	156
2	44	57	100	184	272	61	87	81	198	229	222	245	254	269	239	245	282	290	299	309	322	329	310	236	271
3	146	154	106	147	190	199	154	227	359	339	344	294	315	322	308	297	213	167	213	148	121	172	213	100	195
4	187	243	176	271	200	163	159	161	26	56	359	343	146	170	193	208	218	199	201	263	301	312	300	300	220
5	295	283	275	264	240	170	130	130	214	257	306	259	275	244	224	278	300	293	241	164	140	95	141	150	235
6	195	192	170	218	169	240	190	199	132	103	19	276	25	187	249	260	289	230	153	107	170	106	181	133	185
7	119	231	99	149	248	170	137	145	122	26	340	8	246	221	244	224	291	289	131	103	59	2	149	214	172
8	189	151	216	78	213	153	127	161	107	11	12	337	325	226	249	220	212	188	35	2	166	112	315	165	175
9	313	175	113	140	159	185	302	135	293	52	356	356	186	215	243	250	266	273	152	131	156	86	155	146	181
10	101	145	173	150	201	200	98	74	265	188	279	210	11	9	268	213	224	218	138	126	189	5	174	194	182
11	228	170	78	203	171	110	147	105	163	134	323	330	60	75	226	217	220	244	155	129	160	218	225	109	166
12	90	115	101	183	117	245	76	144	149	84	360	307	340	333	51	106	222	168	139	96	160	231	229	207	136
13	89	210	247	255	186	73	204	352	247	248	332	354	327	319	322	303	187	173	311	68	219	233	100	90	264
14	234	110	136	120	286	134	233	134	153	129	341	5	351	221	227	208	221	316	70	61	129	180	189	192	171
15	94	248	129	314	135	307	154	197	132	355	327	312	54	85	137	144	144	228	126	129	112	90	72	151	124
16	102	153	39	157	68	118	133	253	184	299	15	182	198	243	194	261	267	297	309	298	298	357	90	286	239
17	293	290	259	270	293	200	166	170	265	134	309	305	329	314	282	265	259	256	239	315	284	306	317	285	276
18	302	309	305	287	210	151	137	154	124	211	117	97	143	25	50	143	92	172	151	115	90	183	137	160	141
19	191	6	130	188	355	342	167	125	360	344	42	355	225	251	261	228	257	218	228	334	53	56	60	31	325
20	41	51	120	299	90	142	13	134	69	7	82	87	125	8	324	245	232	185	79	135	124	99	66	155	91
21	124	115	136	164	112	261	174	194	30	150	344	236	149	156	181	226	246	171	169	212	203	236	182	333	181
22	296	259	186	170	157	192	151	158	165	103	207	269	260	250	229	228	227	288	224	130	179	127	146	220	200
23	152	128	194	173	152	205	208	167	138	43	316	21	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	160
24	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	320	293	263	274	300	277	352	251	259	242	142	151	172	215	185	241	250
25	194	135	195	207	148	259	190	166	159	145	48	45	307	331	213	165	177	225	143	31	82	36	105	92	153
26	187	39	110	233	99	78	224	136	154	148	356	197	197	198	227	234	213	230	156	122	166	174	26	154	170
27	130	110	168	59	170	50	165	92	12	320	226	213	206	219	236	255	252	274	328	346	308	322	338	193	244
28	177	134	120	144	244	231	353	26	113	183	251	289	231	253	311	308	307	320	343	327	327	215	157	133	254
29	121	173	156	166	137	179	180	183	171	85	317	335	336	322	326	330	334	346	348	338	158	147	116	134	144
30	47	179	170	166	197	135	254	170	160	126	10	320	127	206	196	176	172	161	212	157	40	206	58	86	161
31	44	145	165	134	196	192	177	145	175	316	326	57	17	72	167	258	39	311	245	256	300	184	190	97	175
Prev	144	155	151	183	183	170	162	150	150	76	337	316	296	255	244	235	239	237	182	100	148	153	141	163	188

Montana Resources LLP
Greeley School Air Monitoring Summary
Wind Direction - MDEQ monitor (degrees)
November 2024

Day	<< Hour >>																								Prev
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	194	119	234	153	192	9	175	179	152	101	150	43	201	166	163	159	174	169	239	152	203	278	61	98	164
2	96	107	173	269	173	169	135	185	149	135	17	359	51	168	187	201	242	312	12	167	201	258	228	147	172
3	152	150	143	138	141	191	158	188	226	82	239	298	271	308	297	295	299	327	295	217	175	114	293	216	219
4	265	200	291	115	182	313	160	260	99	185	213	216	214	205	195	201	242	234	271	174	212	96	171	165	204
5	120	219	237	255	224	125	304	300	291	292	293	289	294	309	311	286	300	284	244	192	189	206	234	223	260
6	224	226	153	142	176	160	267	237	159	114	30	48	133	73	290	309	312	327	344	265	201	117	146	153	183
7	141	188	150	221	200	142	179	184	91	191	118	20	337	35	78	299	238	211	138	130	177	128	225	59	158
8	198	159	321	134	141	58	166	59	136	160	64	37	313	14	1	25	235	173	199	184	227	104	146	179	139
9	89	240	147	235	145	184	181	301	159	16	23	21	355	8	349	20	26	163	147	117	228	177	346	178	122
10	161	153	186	170	49	229	107	158	107	163	340	55	358	31	28	18	45	338	140	37	150	131	187	71	100
11	158	29	48	146	40	179	185	21	4	360	160	182	169	167	335	85	184	89	123	79	117	342	47	260	103
12	287	305	315	295	318	327	328	323	176	252	278	294	304	303	301	305	296	294	266	222	247	35	115	122	294
13	90	158	95	153	161	30	114	78	111	164	317	208	191	179	172	169	161	163	170	164	147	125	137	289	149
14	160	317	26	223	190	185	176	237	323	342	346	314	55	130	253	253	237	246	93	185	189	66	231	178	223
15	153	129	97	142	208	152	156	175	199	146	6	278	325	58	227	218	138	70	109	80	260	253	248	269	171
16	267	294	306	294	301	298	315	267	242	172	237	245	283	288	298	277	223	221	189	140	147	166	94	44	257
17	198	201	243	194	166	48	182	162	159	151	177	115	177	172	162	160	162	161	144	174	178	197	186	235	174
18	230	338	243	297	320	343	156	245	304	297	281	304	284	274	275	286	260	208	113	290	47	65	171	103	280
19	225	109	163	176	155	137	170	62	220	167	192	275	239	233	272	272	283	42	146	127	168	215	224	182	191
20	228	181	199	184	223	160	223	170	178	48	2	71	151	170	182	186	317	328	359	176	239	178	54	148	182
21	15	109	5	73	175	254	139	11	117	18	162	170	170	164	164	164	156	128	120	155	230	357	25	32	125
22	38	22	116	227	153	154	144	21	25	56	36	221	171	226	242	240	284	47	251	167	137	17	105	182	142
23	153	157	301	70	74	107	64	209	3	274	164	193	214	151	312	42	190	221	94	99	259	184	135	166	156
24	128	186	211	190	158	133	162	157	116	164	356	50	94	203	230	220	209	137	104	94	154	150	210	177	159
25	166	172	207	23	170	111	156	177	242	78	47	70	69	196	190	175	137	60	67	98	56	131	95	182	129
26	220	146	243	172	147	167	185	223	211	215	10	21	39	54	278	304	258	280	168	219	270	265	300	267	235
27	235	244	244	232	238	237	240	227	162	305	265	213	235	236	242	236	265	237	270	274	160	153	218	184	233
28	176	164	217	356	193	173	210	19	173	162	256	244	240	246	229	236	175	136	49	59	160	211	134	198	193
29	175	235	155	126	158	156	212	159	129	178	135	113	48	19	59	250	282	270	101	86	19	112	320	123	138
30	48	94	58	196	139	166	222	118	126	158	154	348	21	359	39	21	107	81	49	111	113	124	162	128	103
Prev	174	172	201	183	173	159	177	197	158	151	325	328	256	203	257	251	233	214	136	150	185	147	169	168	182

Montana Resources LLP
Greeley School Air Monitoring Summary
Wind Direction - MDEQ monitor (degrees)
December 2024

Day	<< Hour >>																								Prev
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	183	182	114	220	147	316	167	176	155	148	6	38	15	14	340	358	42	119	180	233	97	126	106	125	123
2	139	164	164	107	140	162	142	149	193	125	116	57	69	21	38	1	27	73	140	320	127	154	16	161	113
3	122	121	146	136	211	90	88	280	187	130	6	192	9	276	235	212	144	110	121	319	103	63	130	138	137
4	110	52	99	160	25	149	84	136	152	156	97	76	12	3	344	16	9	150	147	246	87	160	141	140	103
5	91	129	101	201	162	118	122	113	122	154	54	84	35	14	9	9	4	125	185	152	96	76	154	106	104
6	69	146	336	99	183	156	101	144	174	99	75	77	349	39	350	81	83	58	112	59	114	61	127	250	92
7	91	151	138	250	154	169	124	107	207	299	317	312	125	13	349	185	138	110	47	352	276	248	216	191	167
8	190	182	296	313	316	311	271	244	255	304	264	242	254	287	269	272	290	297	323	333	319	178	232	275	275
9	232	218	178	207	243	218	167	210	181	167	145	84	37	260	290	301	300	291	287	265	266	262	236	242	236
10	201	153	276	299	247	158	288	27	127	185	299	308	211	245	293	290	277	294	153	134	102	173	347	148	235
11	182	179	168	175	151	234	187	99	114	194	159	22	350	322	51	188	78	144	136	131	126	150	177	105	147
12	184	202	99	124	154	117	77	177	131	135	63	28	24	140	47	28	74	173	119	139	91	199	106	312	114
13	170	191	220	170	321	175	171	160	184	168	77	15	208	206	199	193	212	240	78	157	172	167	195	11	181
14	169	172	318	174	171	184	187	180	195	321	357	343	12	33	210	176	144	160	297	34	111	343	167	161	174
15	37	25	189	137	255	305	297	306	301	307	294	292	258	247	234	247	254	179	83	109	139	36	98	89	271
16	167	98	108	180	140	190	177	136	308	185	347	175	56	251	309	21	331	14	33	121	85	111	161	125	124
17	168	153	191	172	203	160	174	340	172	171	158	82	71	30	48	44	139	133	81	188	75	29	160	122	131
18	42	332	89	311	310	327	12	333	115	174	187	239	221	224	242	247	250	278	281	275	276	228	155	129	259
19	73	51	43	42	16	37	75	118	159	95	174	172	146	179	344	75	39	109	246	162	93	147	220	78	100
20	176	143	190	260	174	174	135	78	123	147	132	27	3	23	5	31	68	86	74	138	24	176	123	66	106
21	117	125	217	150	69	14	153	106	245	23	274	29	125	35	43	156	71	38	79	8	54	54	329	199	75
22	305	303	49	103	143	283	60	340	30	57	60	53	223	199	200	218	227	164	125	76	298	47	4	42	53
23	265	71	71	360	60	114	357	36	63	149	32	285	6	29	4	34	79	226	121	100	92	48	141	97	59
24	171	332	249	140	204	331	154	95	157	182	24	76	108	31	10	9	45	164	45	29	146	164	98	341	91
25	12	338	320	286	249	309	315	330	326	287	86	114	228	266	253	285	288	76	50	32	153	103	123	74	328
26	175	160	161	165	195	172	166	258	266	327	225	300	28	190	211	227	222	257	235	212	225	251	290	262	223
27	125	120	131	113	39	47	238	140	67	215	110	25	352	69	11	40	21	13	35	334	181	345	46	7	54
28	194	195	74	224	151	143	26	37	2	88	241	246	44	230	253	123	158	190	170	33	173	197	192	204	173
29	170	19	126	22	191	8	4	201	208	240	218	77	40	49	26	125	247	72	304	313	290	294	320	323	336
30	288	291	256	246	135	348	324	301	304	294	183	181	265	266	278	272	291	300	315	246	317	320	224	198	276
31	245	170	198	197	163	185	194	169	186	190	120	108	23	128	251	226	215	171	91	159	218	202	221	175	183
Prev	158	147	150	176	174	167	139	136	172	170	93	46	24	330	319	315	33	138	102	103	121	143	159	135	142

Montana Resources LLP
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Standard Deviation of Wind Direction - MDEQ monitor (degrees)
October 2024

Day	<< Hour >>																								Avg	Max	Min
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	36	56	67	31	49	48	51	54	78	63	62	32	42	56	36	31	28	23	66	52	64	55	70	49	50	78	23
2	73	44	63	65	53	45	48	52	45	33	34	37	38	39	36	38	30	25	23	23	21	21	30	37	40	73	21
3	27	47	55	40	50	32	36	37	37	58	39	47	33	61	32	27	47	43	55	37	51	52	41	60	44	61	27
4	47	85	61	67	71	65	66	85	74	63	46	44	16	22	23	26	28	24	25	28	19	19	17	16	43	85	16
5	24	25	35	44	57	66	66	46	45	50	76	58	43	59	49	37	19	23	34	23	16	40	49	50	43	76	16
6	47	44	46	67	57	67	71	73	50	64	39	65	65	49	39	47	28	25	38	34	45	65	50	49	51	73	25
7	45	68	70	78	62	70	74	64	60	60	33	51	51	43	46	36	28	18	50	42	67	78	48	62	54	78	18
8	43	50	59	62	65	70	90	75	64	65	47	39	55	45	45	34	28	21	36	65	47	34	54	60	52	90	21
9	61	44	55	72	40	65	64	62	53	64	28	50	23	33	42	39	39	53	31	50	48	60	62	55	50	72	23
10	78	48	56	56	53	67	69	73	41	34	50	57	82	39	36	34	36	29	27	25	60	52	50	27	49	82	25
11	51	51	48	53	42	66	27	50	29	59	52	42	51	49	47	32	29	35	51	52	31	56	63	66	47	66	27
12	64	71	62	71	30	38	53	35	45	66	44	61	49	41	43	63	35	20	46	67	69	79	68	72	54	79	20
13	47	58	59	60	45	49	43	58	63	57	52	61	44	20	25	36	39	18	52	67	52	50	56	52	48	67	18
14	44	62	50	45	54	64	56	43	28	75	64	59	36	44	32	29	32	53	44	66	71	73	47	67	52	75	28
15	39	66	59	54	55	60	51	52	50	56	66	47	69	54	37	23	16	25	57	55	57	64	67	70	52	70	16
16	65	52	71	72	86	82	79	73	69	46	57	22	30	41	25	37	37	21	22	25	21	30	33	52	48	86	21
17	30	27	39	41	42	25	31	54	39	24	25	24	23	28	26	36	36	36	59	30	29	18	20	23	32	59	18
18	19	19	37	25	38	47	23	18	54	73	63	70	64	50	53	73	64	47	28	30	38	79	61	72	48	79	18
19	59	46	54	60	62	75	72	55	39	39	34	57	43	41	35	38	39	30	29	41	36	50	51	56	48	75	29
20	61	70	69	92	85	71	61	64	62	50	60	55	43	44	60	44	32	24	49	67	59	67	75	80	60	92	24
21	55	79	71	73	80	78	71	89	77	39	27	68	19	18	29	36	42	23	19	34	33	46	50	65	51	89	18
22	27	39	52	71	61	63	22	32	19	50	78	41	44	44	41	39	33	25	41	34	75	59	69	53	46	78	19
23	49	84	74	76	66	64	72	52	54	58	51	67	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	64	84	49
24	AQ	AQ	AQ	AQ	AQ	AQ	AQ	AQ	38	37	51	61	67	69	69	42	49	44	58	66	66	51	55	51	55	69	37
25	38	48	50	39	62	57	46	58	59	46	39	38	38	38	61	25	20	51	48	45	67	21	41	71	46	71	20
26	44	55	47	79	79	75	62	81	58	73	36	29	23	22	33	33	24	51	64	67	65	74	67	55	54	81	22
27	77	81	84	82	81	76	83	61	76	53	47	29	24	25	29	38	37	32	21	31	25	23	30	44	50	84	21
28	41	71	56	31	70	49	49	42	36	66	54	33	41	46	18	20	18	20	34	23	23	48	22	38	40	71	18
29	40	45	44	51	56	39	41	32	29	40	22	20	23	18	18	20	21	21	20	25	56	14	52	49	33	56	14
30	53	54	58	67	64	30	38	56	28	65	43	53	70	34	25	23	18	14	61	34	55	67	53	68	47	70	14
31	58	57	76	67	60	76	51	65	47	40	41	49	41	40	43	39	22	32	28	37	42	26	26	63	47	76	22
Avg	48	55	58	60	59	59	56	56	50	54	47	47	43	40	38	36	32	30	41	43	47	49	49	54	48	76	22
Max	78	85	84	92	86	82	90	89	78	75	78	70	82	69	69	73	64	53	66	67	75	79	75	80	64	92	49
Min	19	19	35	25	30	25	22	18	19	24	22	20	16	18	18	20	16	14	19	23	16	14	17	16	32	56	14

Montana Resources LLP
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Day	<< Hour >>																								Avg	Max	Min
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	56	65	70	60	63	39	71	50	42	47	58	65	38	16	19	19	16	25	76	67	76	67	66	72	52	76	16
2	58	43	66	42	55	62	71	71	55	53	53	45	45	25	27	21	30	25	51	43	32	52	50	32	46	71	21
3	44	19	67	57	64	55	51	31	58	48	57	28	43	24	30	30	25	19	23	56	66	53	64	53	44	67	19
4	34	28	42	65	43	51	53	60	20	28	22	22	24	26	22	21	33	39	44	53	24	48	26	42	36	65	20
5	20	43	41	52	39	63	23	25	34	33	30	36	33	23	20	32	24	42	48	35	23	32	28	30	34	63	20
6	32	45	38	17	35	25	34	43	33	39	31	30	56	48	47	19	16	18	33	50	31	38	54	30	35	56	16
7	23	44	35	56	41	45	41	63	46	55	56	58	72	38	49	43	26	36	36	44	65	70	67	69	49	72	23
8	47	44	46	40	56	50	63	37	62	33	58	43	60	55	35	23	36	24	41	37	59	48	45	51	46	63	23
9	49	45	48	52	42	55	41	47	34	38	32	62	60	41	32	34	63	48	54	54	63	60	66	78	50	78	32
10	68	82	85	64	69	63	40	71	61	65	25	38	31	24	27	33	40	53	18	17	24	38	39	40	46	85	17
11	48	31	21	59	50	66	59	81	66	72	48	16	14	19	29	58	20	48	33	47	50	75	59	53	47	81	14
12	34	30	26	25	22	24	19	20	45	51	37	35	22	24	21	21	28	30	41	32	36	55	46	72	33	72	19
13	54	65	60	80	57	53	65	84	60	63	63	38	21	18	16	16	15	14	15	15	19	18	19	56	41	84	14
14	53	65	72	29	27	29	20	39	44	32	55	16	21	45	40	48	30	58	32	61	43	67	54	41	43	72	16
15	19	34	73	60	43	44	65	63	25	26	57	58	69	75	54	20	24	22	20	36	43	34	32	40	43	75	19
16	35	25	18	31	25	24	18	30	46	59	55	40	32	33	26	37	20	20	20	45	78	64	67	63	38	78	18
17	63	62	42	47	17	50	65	54	17	28	68	44	19	30	25	15	14	15	16	23	21	24	40	44	35	68	14
18	43	20	48	58	25	38	52	32	27	30	39	23	40	41	38	37	36	31	35	64	67	40	72	55	41	72	20
19	49	58	49	61	54	67	76	63	21	50	74	53	41	46	52	47	62	45	75	69	52	57	63	50	56	76	21
20	63	53	58	63	65	51	62	49	44	73	67	40	37	25	49	33	33	62	50	35	76	61	50	62	53	76	25
21	50	53	60	69	77	69	65	49	66	57	42	22	18	18	18	15	18	17	17	30	40	54	48	25	42	77	15
22	34	43	65	46	53	65	45	46	43	54	30	32	17	26	67	27	43	51	66	66	58	54	63	62	48	67	17
23	67	83	62	56	61	69	48	89	69	69	17	23	35	34	52	33	54	20	53	53	40	65	63	47	53	89	17
24	22	50	23	31	27	32	26	21	43	26	58	50	34	42	24	24	18	39	44	60	41	57	41	47	37	60	18
25	74	58	79	90	67	71	67	51	84	45	56	48	36	49	33	16	34	53	40	64	58	46	55	68	56	90	16
26	68	50	70	49	54	59	51	48	64	32	61	22	26	28	55	23	28	34	34	33	43	52	31	39	44	70	22
27	40	38	40	34	31	27	32	56	40	41	49	33	32	36	30	30	46	28	36	57	53	31	28	19	37	57	19
28	34	35	76	52	32	23	32	54	51	37	45	59	46	52	48	29	40	56	77	50	53	69	76	66	50	77	23
29	72	72	71	80	61	58	84	66	67	43	44	63	37	23	37	60	37	38	51	49	58	58	68	64	57	84	23
30	83	81	72	81	76	55	77	58	51	45	72	60	59	27	24	26	35	30	73	31	61	62	68	53	57	83	24
Avg	48	49	54	54	48	49	51	52	47	46	49	40	37	34	35	30	31	35	42	46	48	52	52	51	45	73	19
Max	83	83	85	90	77	71	84	89	84	73	74	65	72	75	67	60	63	62	77	69	78	75	76	78	57	90	32
Min	19	19	18	17	17	23	18	20	17	26	17	16	14	16	16	15	14	14	15	15	19	18	19	19	33	56	14

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December 2024

Day	<< Hour >>																								Avg	Max	Min
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	70	59	59	57	61	81	63	58	50	52	48	43	58	26	64	39	33	35	54	72	66	65	71	52	56	81	26
2	86	73	78	78	57	57	57	58	76	42	56	55	47	45	35	22	27	68	49	77	59	57	64	65	58	86	22
3	52	68	63	69	84	53	71	79	53	59	36	59	38	49	36	48	38	59	54	64	59	78	58	65	58	84	36
4	63	59	63	59	54	44	67	49	50	50	49	69	44	37	54	40	49	56	68	71	59	55	71	70	56	71	37
5	54	54	56	67	62	60	54	65	44	48	36	49	42	74	24	24	50	60	70	58	47	74	56	70	54	74	24
6	64	60	84	61	52	56	57	57	57	41	48	45	49	53	39	55	41	61	47	59	76	75	82	80	58	84	39
7	79	81	85	81	83	89	78	75	88	69	83	66	67	47	51	63	34	15	32	70	32	34	27	19	60	89	15
8	31	19	29	31	16	20	49	76	39	23	39	32	37	38	39	42	32	30	19	29	50	61	60	34	36	76	16
9	37	31	48	29	51	25	21	68	33	39	60	65	50	38	32	22	22	32	65	78	54	34	35	36	42	78	21
10	31	25	48	27	47	48	55	47	56	67	69	53	59	59	34	29	37	45	78	72	51	47	47	72	50	78	25
11	57	72	61	69	41	64	86	44	50	66	50	56	33	24	42	64	38	58	59	42	54	67	32	52	53	86	24
12	39	33	79	65	33	52	63	66	32	67	46	43	53	25	34	26	37	62	43	52	57	46	56	55	49	79	25
13	51	63	77	59	55	54	57	55	71	72	57	38	44	21	19	19	28	35	46	56	19	18	25	50	45	77	18
14	65	21	56	54	18	23	22	17	30	35	70	50	33	34	28	18	41	66	42	39	30	67	41	34	39	70	17
15	28	47	32	24	43	26	32	27	24	19	33	37	42	33	26	37	35	53	41	62	51	50	81	58	39	81	19
16	80	90	70	53	53	57	51	46	73	40	59	50	52	60	42	33	41	24	16	33	58	71	30	52	51	90	16
17	38	32	43	62	69	35	53	70	69	43	33	47	50	19	13	24	48	70	49	51	58	52	40	67	47	70	13
18	50	76	64	51	53	55	27	51	72	27	55	36	23	24	32	34	41	46	40	42	49	57	60	29	46	76	23
19	62	41	32	56	45	18	57	62	63	55	55	36	25	65	52	38	45	48	67	64	74	55	63	45	51	74	18
20	68	90	74	36	68	60	47	82	74	45	72	25	56	42	29	34	74	64	66	74	58	56	69	74	60	90	25
21	49	66	74	55	65	69	73	59	59	69	61	50	37	52	51	60	65	55	71	55	49	67	41	31	58	74	31
22	53	33	65	43	63	38	26	53	50	46	46	62	28	22	20	22	23	51	46	84	81	46	72	65	47	84	20
23	76	52	50	49	55	48	69	34	71	30	24	54	32	41	48	33	35	59	41	27	48	54	81	45	48	81	24
24	68	77	37	55	36	66	58	54	44	75	62	74	61	64	36	65	58	59	44	46	61	47	53	20	55	77	20
25	39	27	41	27	36	18	32	26	53	50	60	56	73	44	38	36	35	51	74	54	72	57	56	50	46	74	18
26	58	16	30	22	19	22	54	61	48	38	42	42	35	20	30	31	27	50	38	53	23	44	41	42	37	61	16
27	66	47	32	51	41	58	88	58	55	58	51	35	26	35	30	44	22	47	24	81	57	84	46	55	50	88	22
28	32	50	46	57	80	61	67	56	64	44	62	50	33	33	54	34	47	28	46	53	24	22	15	28	45	80	15
29	52	69	52	60	44	32	19	35	40	36	45	51	29	30	42	40	50	40	28	17	39	32	21	21	39	69	17
30	38	27	31	36	52	38	25	26	40	42	25	26	41	43	41	42	31	23	20	43	52	16	54	32	35	54	16
31	30	34	40	41	17	26	25	24	30	32	50	54	46	72	60	31	22	41	71	68	53	52	58	31	42	72	17
Avg	54	51	55	51	50	47	52	53	53	48	51	49	43	41	38	37	39	48	49	56	52	53	52	48	49	78	22
Max	86	90	85	81	84	89	88	82	88	75	83	74	73	74	64	65	74	70	78	84	81	84	82	80	60	90	39
Min	28	16	29	22	16	18	19	17	24	19	24	25	23	19	13	18	22	15	16	17	19	16	15	19	35	54	13

APPENDIX B: GRAVIMETRIC ANALYSIS DATA

Quarter 4, 2024 Filter Analysis Results - TSP Greeley

FILTER	START	END	HOURS	FLOW LPM	SAMPLE VOLUME (M3)	PRE WEIGHT (MG)	PRE-WEIGHT DATE	POST WEIGHT (MG)	POST-WEIGHT DATE	PART MASS (MG)	CONC (UG/M3)	MDEQ PM10
C1103522	09/23 @ 15	10/01 @ 14	192	2.0	21.96	120.023	9-Sep	120.538	25-Oct	0.515	23.4	20.0
C1103524	10/01 @ 15	10/07 @ 13	143	2.0	16.36	122.020	9-Sep	122.586	25-Oct	0.566	34.6	38.5
C1103501	10/07 @ 14	10/14 @ 14	169	2.0	19.33	120.794	2-Oct	121.494	19-Nov	0.700	36.2	37.2
C1103503	10/14 @ 15	10/18 @ 14	96	2.0	10.98	118.929	2-Oct	119.177	19-Nov	0.248	22.6	28.3
C1103505	10/18 @ 15	10/24 @ 14	144	2.0	16.47	120.096	2-Oct	120.261	19-Nov	0.165	10.0	9.8
C1853167	10/24 @ 15	10/28 @ 14	96	2.0	10.98	116.417	22-Oct	116.557	3-Jan	0.140	12.7	11.8
C1853169	10/28 @ 15	11/06 @ 14	216	2.0	24.71	117.823	22-Oct	118.193	3-Jan	0.370	15.0	8.8
C1853171	11/06 @ 15	11/12 @ 15	145	2.0	16.59	115.024	22-Oct	115.300	3-Jan	0.276	16.6	15.5
C1853173	11/12 @ 16	11/18 @ 14	143	2.0	16.36	116.627	22-Oct	116.834	3-Jan	0.207	12.7	9.9
C1103541	11/18 @ 15	11/25 @ 12	166	2.0	18.99	119.610	11-Nov	119.846	3-Jan	0.236	12.4	14.2
C1103543	11/25 @ 13	11/27 @ 10	46	2.0	5.26	123.193	11-Nov	123.273	3-Jan	0.080	15.2	10.8
C1103545	11/27 @ 11	12/03 @ 15	149	2.0	17.05	123.321	11-Nov	123.834	3-Jan	0.513	30.1	30.7
C1103547	12/03 @ 16	12/11 @ 15	192	2.0	21.96	118.993	11-Nov	119.768	3-Jan	0.775	35.3	30.2
C1853177	12/11 @ 16	12/18 @ 12	165	0.0	0.00	118.944	9-Dec	118.981	5-Feb	0.037		
C1853179	12/18 @ 13	12/23 @ 14	122	2.0	13.96	115.562	9-Dec	115.972	5-Feb	0.410	29.4	23.5
C1853181	12/23 @ 15	12/30 @ 15	169	2.0	19.33	117.455	9-Dec	117.800	5-Feb	0.345	17.8	11.7
C1853184	12/30 @ 16	01/06 @ 15	168	2.0	19.22	116.380	9-Dec	116.535	5-Feb	0.155	8.1	

E-Sampler did not run from 12-11 to 12-18

Quarter 4, 2024 Filter Analysis Results - PM10 - Greeley

FILTER	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)	DEQ (UG/M3)
C1103523	10/03	16.70	24:00	24.03	123.782	9-Sep	124.272	25-Oct	0.490	20.4	19.3
C1103502	10/09	16.70	24:00	24.03	119.164	2-Oct	120.474	19-Nov	1.310	54.5	50.9
C1103504	10/15	16.70	37:06	37.16	120.093	2-Oct	121.713	19-Nov	1.620	43.6	44.4
C1103527	10/21	16.70	24:00	24.03	123.730	2-Oct	124.016	19-Nov	0.286	11.9	10.2
C1853168	10/27	16.70	24:00	24.03	115.505	22-Oct	115.747	3-Jan	0.242	10.1	13.2
C1853170	11/02	16.71	23:59	24.03	115.441	22-Oct	115.694	3-Jan	0.253	10.5	10.1
C1853172	11/08	16.70	24:00	24.03	116.054	22-Oct	116.527	3-Jan	0.473	19.7	16.3
C1853174	11/14	16.70	24:00	24.03	117.167	22-Oct	117.544	3-Jan	0.377	15.7	13.3
C1103542	11/20	16.71	23:59	24.03	122.245	11-Nov	122.867	3-Jan	0.622	25.9	24.6
C1103544	11/26	16.71	23:59	24.03	120.755	11-Nov	121.084	3-Jan	0.329	13.7	10.5
C1103546	12/02	16.70	24:00	24.03	124.383	11-Nov	125.440	3-Jan	1.057	44.0	41.0
C1103548	12/08	16.70	24:00	24.03	126.164	11-Nov	126.298	3-Jan	0.134	5.6	5.8
C1853178	12/14	16.71	23:59	24.03	118.016	9-Dec	118.195	5-Feb	0.179	7.4	9.5
C1853182	12/20	16.70	24:00	24.03	117.011	9-Dec	118.012	5-Feb	1.001	41.7	35.0
C1853180	12/26	16.70	24:00	24.03	116.300	9-Dec	116.381	5-Feb	0.081	3.4	4.5

Quarter 4, 2024 Filter Analysis Results - Blanks - Greeley

FILTER	TYPE	DATE*	PRE WEIGHT (MG)	PRE-WEIGHT DATE	POST WEIGHT (MG)	POST-WEIGHT DATE	PART MASS (MG)
C1103517	Lab	11-Nov	118.337	9-Sep	118.341	25-Oct	0.004
C1103525	Field	7-Oct	122.570	9-Sep	122.581	25-Oct	0.011
C1103526	Lab	23-Nov	124.324	2-Oct	124.326	19-Nov	0.002
C1103530	Field	30-Oct	122.362	2-Oct	122.378	19-Nov	0.016
C1853166	Lab	18-Jan	117.161	22-Oct	117.169	3-Jan	0.008
C1853175	Field	18-Nov	116.910	22-Oct	116.928	3-Jan	0.018
C1103549	Field	11-Dec	122.416	11-Nov	122.428	3-Jan	0.018
C1103550	Lab	18-Jan	123.476	11-Nov	123.481	3-Jan	0.005
C1853176	Lab	20-Feb	117.115	9-Dec	117.118	5-Feb	0.003
C1853185	Field	6-Jan	115.972	9-Dec	115.986	5-Feb	0.014

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

APPENDIX C: WIND ROSE TABLES

Table C-1. Quarterly Wind Rose Summary, Greeley School (All Data)

Fourth Quarter 2024 (All Data)																		
Direction>>>		N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Total
Wind Speed (meters per second)	0.1 - 1.0	2.9	3.7	4.0	3.9	4.3	5.6	8.0	9.5	8.5	4.0	4.1	3.2	1.9	1.3	1.7	1.8	68.6
	1.1 - 2.0	0.8	0.9	0.9	0.5	0.5	0.2	0.7	1.3	1.6	1.2	2.0	2.4	2.3	2.4	1.8	1.3	20.8
	2.1 - 3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	1.0	1.2	1.0	0.4	0.2	1.5	1.4	0.3	7.7
	3.1 - 4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.2	0.3	0.1	0.0	0.2	0.4	0.2	2.2
	4.1 - 5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.4
	5.1 - 6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.3
	6.1 - 7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	7.1 - 8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	8.1 - 9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	9.1 - 10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	10.1 - 11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	11.1 - 12.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	12.1 - 13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	13.1 - 14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	14.1 - 15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	15.1 - 16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	16.1 - 17.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	17.1 - 18.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	18.1 - 19.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	19.1 - 20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	> 20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Calm																		0.0
Total		3.7	4.6	4.9	4.4	4.8	5.9	8.9	11.7	11.7	6.7	7.4	6.2	4.5	5.6	5.3	3.6	100.0
Average Speed		0.9	0.8	0.8	0.7	0.6	0.6	0.7	0.9	1.0	1.2	1.2	1.1	1.2	1.7	1.7	1.3	1.0

Table C-2. Wind Rose Summary, Greeley School TSP >41

Fourth Quarter, 2024 (TSP >41 µg/m ³)																		
Direction>>>		N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Total
Wind Speed (meters per second)	0.1 - 1.0	4.1	4.5	4.5	5.9	8.6	6.6	14.5	15.2	9.7	3.8	3.4	2.1	1.4	0.7	3.8	2.8	91.4
	1.1 - 2.0	0.3	0.7	1.0	0.0	0.3	0.0	0.0	0.3	0.0	0.3	0.7	0.7	0.7	0.3	0.0	0.7	6.2
	2.1 - 3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	1.4
	3.1 - 4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.3
	4.1 - 5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.3
	5.1 - 6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	6.1 - 7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.3
	7.1 - 8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	8.1 - 9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	9.1 - 10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	10.1 - 11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	11.1 - 12.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	12.1 - 13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	13.1 - 14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	14.1 - 15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	15.1 - 16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	16.1 - 17.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	17.1 - 18.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	18.1 - 19.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	19.1 - 20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	> 20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Calm																		0.0
Total		4.5	5.2	5.5	5.9	9.0	6.6	14.5	15.5	10.3	4.8	4.5	2.8	2.4	1.4	3.8	3.4	100.0
Average Speed		0.7	0.7	0.8	0.5	0.5	0.5	0.6	0.6	0.6	0.8	0.9	0.9	1.4	2.3	0.5	0.8	0.7

Table C-3. Wind Rose Summary, Greeley School TSP < 7

Fourth Quarter, 2024 (TSP <7 µg/m³)																		
Direction>>>		N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Total
Wind Speed (meters per second)	0.1 - 1.0	0.7	2.0	2.0	1.7	0.5	2.3	2.0	2.5	3.7	2.0	2.7	4.5	2.8	2.0	1.0	1.0	33.4
	1.1 - 2.0	1.0	0.8	1.3	0.2	0.8	0.3	1.2	2.2	2.5	2.2	4.7	5.7	6.2	5.8	4.3	2.3	41.6
	2.1 - 3.0	0.0	0.0	0.2	0.0	0.0	0.2	0.5	0.8	2.7	2.5	2.2	1.3	0.5	3.7	3.2	0.7	18.4
	3.1 - 4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.0	0.5	0.5	0.2	0.0	0.3	1.2	0.5	5.7
	4.1 - 5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.7
	5.1 - 6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.3
	6.1 - 7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	7.1 - 8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	8.1 - 9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	9.1 - 10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	10.1 - 11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	11.1 - 12.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	12.1 - 13.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	13.1 - 14.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	14.1 - 15.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	15.1 - 16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	16.1 - 17.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	17.1 - 18.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	18.1 - 19.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	19.1 - 20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	> 20.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Calm																		0.0
Total		1.7	2.8	3.5	1.8	1.3	2.8	3.7	7.2	10.4	7.2	10.4	11.7	9.5	11.9	9.7	4.5	100.0
Average Speed		1.1	0.9	1.0	0.8	1.0	0.9	1.2	1.8	1.8	1.8	1.7	1.3	1.3	1.7	2.0	1.8	1.6

APPENDIX D: LABORATORY ANALYSIS REPORTS



ANALYTICAL SUMMARY REPORT

November 12, 2024

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

Work Order: B24102438 Quote ID: B4795

Project Name: Montana Resources/Greely School DH

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
B24102438-001	Particulate filter C1103516 PM10	09/15/24 00:00	10/29/24	Air	Metals on air filter by ICP/ICPMS Nitric acid-extraction by 40CFR50G
B24102438-002	Particulate filter C1103517 Lab Blank	09/09/24 17:15	10/29/24	Air	Same As Above
B24102438-003	Particulate filter C1103518 TSP 9/11- 9/16	09/16/24 00:00	10/29/24	Air	Same As Above
B24102438-004	Particulate filter C1103519 PM10	09/21/24 00:00	10/29/24	Air	Same As Above
B24102438-005	Particulate filter C1103520 TSP 9/16- 9/23	09/23/24 00:00	10/29/24	Air	Same As Above
B24102438-006	Particulate filter C1103521 PM10	09/27/24 00:00	10/29/24	Air	Same As Above
B24102438-007	Particulate filter C1103522 TSP 9/23- 10/1	10/01/24 00:00	10/29/24	Air	Same As Above
B24102438-008	Particulate filter C1103523 PM10	10/03/24 00:00	10/29/24	Air	Same As Above
B24102438-009	Particulate filter C1103524 TSP 10/1- 10/7	10/07/24 00:00	10/29/24	Air	Same As Above
B24102438-010	Particulate filter C1103525 PM10 field blank	10/07/24 14:45	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 DH
Work Order: B24102438

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 C1103516 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24102438-001
Collection Date: 09/15/24
Date Received: 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 18:27 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 82		194924
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/11/24 18:27 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 82		194924
Copper	0.74	ug/filter	J	1.0	0.16	E200.8	11/12/24 12:53 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 282		194924
Lead	0.043	ug/filter	J	1.0	0.042	E200.8	11/12/24 12:53 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 282		194924
Manganese	ND	ug/filter		1.0	0.18	E200.8	11/11/24 18:27 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 82		194924
Molybdenum	0.63	ug/filter	J	1.0	0.0050	E200.8	11/12/24 12:53 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 282		194924
Zinc	0.44	ug/filter	J	1.0	0.30	E200.8	11/12/24 12:53 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 282		194924

Report RL - Analyte Reporting Limit
Definitions: 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
Client Sample ID: Particulate filter C1103517 Lab Blank
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24102438-002
Collection Date: 09/09/24 17:15
Date Received: 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 18:32 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 83		194924
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/11/24 18:32 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 83		194924
Copper	ND	ug/filter		1.0	0.16	E200.8	11/11/24 18:32 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 83		194924
Lead	ND	ug/filter		1.0	0.042	E200.8	11/11/24 18:32 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 83		194924
Manganese	ND	ug/filter		1.0	0.18	E200.8	11/11/24 18:32 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 83		194924
Molybdenum	0.0073	ug/filter	J	1.0	0.0050	E200.8	11/12/24 12:59 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 283		194924
Zinc	ND	ug/filter		1.0	0.30	E200.8	11/11/24 18:32 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 83		194924

Report RL - Analyte Reporting Limit
Definitions: 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
Client Sample ID: Particulate filter C1103518 TSP 9/11-9/16
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24102438-003
Collection Date: 09/16/24
Date Received: 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 18:38 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 84		194924
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/11/24 18:38 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 84		194924
Copper	0.37	ug/filter	J	1.0	0.16	E200.8	11/12/24 13:05 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 284		194924
Lead	ND	ug/filter		1.0	0.042	E200.8	11/11/24 18:38 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 84		194924
Manganese	ND	ug/filter		1.0	0.18	E200.8	11/11/24 18:38 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 84		194924
Molybdenum	0.048	ug/filter	J	1.0	0.0050	E200.8	11/12/24 13:05 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 284		194924
Zinc	ND	ug/filter		1.0	0.30	E200.8	11/11/24 18:38 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 84		194924

Report RL - Analyte Reporting Limit
Definitions: 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
Client Sample ID: Particulate filter C1103519 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24102438-004
Collection Date: 09/21/24
Date Received: 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 18:44 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 85		194924
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/11/24 18:44 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 85		194924
Copper	0.30	ug/filter	J	1.0	0.16	E200.8	11/12/24 13:11 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 285		194924
Lead	ND	ug/filter		1.0	0.042	E200.8	11/11/24 18:44 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 85		194924
Manganese	ND	ug/filter		1.0	0.18	E200.8	11/11/24 18:44 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 85		194924
Molybdenum	0.024	ug/filter	J	1.0	0.0050	E200.8	11/12/24 13:11 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 285		194924
Zinc	ND	ug/filter		1.0	0.30	E200.8	11/11/24 18:44 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 85		194924

Report RL - Analyte Reporting Limit
Definitions: 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
Client Sample ID: Particulate filter C1103520 TSP 9/16-9/23
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24102438-005
Collection Date: 09/23/24
Date Received: 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 18:50 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 86		194924
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/11/24 18:50 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 86		194924
Copper	0.70	ug/filter	J	1.0	0.16	E200.8	11/12/24 13:17 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 286		194924
Lead	0.049	ug/filter	J	1.0	0.042	E200.8	11/11/24 18:50 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 86		194924
Manganese	0.18	ug/filter	J	1.0	0.18	E200.8	11/12/24 13:17 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 286		194924
Molybdenum	0.23	ug/filter	J	1.0	0.0050	E200.8	11/12/24 13:17 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 286		194924
Zinc	0.46	ug/filter	J	1.0	0.30	E200.8	11/12/24 13:17 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 286		194924

Report RL - Analyte Reporting Limit
Definitions: 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
Client Sample ID: Particulate filter C1103521 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24102438-006
Collection Date: 09/27/24
Date Received: 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 18:56 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 87		194924
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/11/24 18:56 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 87		194924
Copper	1.0	ug/filter		1.0	0.16	E200.8	11/11/24 18:56 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 87		194924
Lead	0.079	ug/filter	J	1.0	0.042	E200.8	11/12/24 13:23 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 287		194924
Manganese	0.30	ug/filter	J	1.0	0.18	E200.8	11/12/24 13:23 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 287		194924
Molybdenum	0.14	ug/filter	J	1.0	0.0050	E200.8	11/12/24 13:23 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 287		194924
Zinc	0.52	ug/filter	J	1.0	0.30	E200.8	11/12/24 13:23 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 287		194924

Report RL - Analyte Reporting Limit
Definitions: 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
Client Sample ID: Particulate filter C1103522 TSP 9/23-10/1
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24102438-007
Collection Date: 10/01/24
Date Received: 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 19:02 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 88		194924
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/11/24 19:02 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 88		194924
Copper	1.1	ug/filter		1.0	0.16	E200.8	11/11/24 19:02 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 88		194924
Lead	0.097	ug/filter	J	1.0	0.042	E200.8	11/12/24 13:28 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 288		194924
Manganese	0.50	ug/filter	J	1.0	0.18	E200.8	11/12/24 13:28 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 288		194924
Molybdenum	0.19	ug/filter	J	1.0	0.0050	E200.8	11/12/24 13:28 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 288		194924
Zinc	0.57	ug/filter	J	1.0	0.30	E200.8	11/12/24 13:28 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 288		194924

Report RL - Analyte Reporting Limit
Definitions: 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
Client Sample ID: Particulate filter C1103523 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24102438-008
Collection Date: 10/03/24
Date Received: 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 19:19 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 91		194924
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/11/24 19:19 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 91		194924
Copper	0.54	ug/filter	J	1.0	0.16	E200.8	11/12/24 13:46 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 291		194924
Lead	0.050	ug/filter	J	1.0	0.042	E200.8	11/12/24 13:46 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 291		194924
Manganese	0.21	ug/filter	J	1.0	0.18	E200.8	11/12/24 13:46 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 291		194924
Molybdenum	0.012	ug/filter	J	1.0	0.0050	E200.8	11/12/24 13:46 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 291		194924
Zinc	0.34	ug/filter	J	1.0	0.30	E200.8	11/12/24 13:46 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 291		194924

Report RL - Analyte Reporting Limit
Definitions: 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
Client Sample ID: Particulate filter C1103524 TSP 10/1-10/7
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24102438-009
Collection Date: 10/07/24
Date Received: 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 19:25 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 92		194924
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/11/24 19:25 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 92		194924
Copper	0.69	ug/filter	J	1.0	0.16	E200.8	11/12/24 13:52 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 292		194924
Lead	0.073	ug/filter	J	1.0	0.042	E200.8	11/12/24 13:52 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 292		194924
Manganese	0.46	ug/filter	J	1.0	0.18	E200.8	11/12/24 13:52 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 292		194924
Molybdenum	0.072	ug/filter	J	1.0	0.0050	E200.8	11/12/24 13:52 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 292		194924
Zinc	0.49	ug/filter	J	1.0	0.30	E200.8	11/12/24 13:52 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 292		194924

Report RL - Analyte Reporting Limit
Definitions: 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
Client Sample ID: Particulate filter C1103525 PM10 field blank
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24102438-010
Collection Date: 10/07/24 14:45
Date Received: 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 19:31 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 93		194924
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/11/24 19:31 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 93		194924
Copper	ND	ug/filter		1.0	0.16	E200.8	11/11/24 19:31 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 93		194924
Lead	ND	ug/filter		1.0	0.042	E200.8	11/11/24 19:31 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 93		194924
Manganese	ND	ug/filter		1.0	0.18	E200.8	11/11/24 19:31 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 93		194924
Molybdenum	ND	ug/filter		1.0	0.0050	E200.8	11/11/24 19:31 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 93		194924
Zinc	ND	ug/filter		1.0	0.30	E200.8	11/11/24 19:31 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 93		194924

Report RL - Analyte Reporting Limit
Definitions:

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Work Order: B24102438

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 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: CCV	7	Continuing Calibration Verification Standard							11/11/24 19:08	
Arsenic		0.0487	mg/L	0.0050	97	90	110			
Cadmium		0.0475	mg/L	0.0010	95	90	110			
Copper		0.0503	mg/L	0.010	101	90	110			
Lead		0.0519	mg/L	0.0010	104	90	110			
Manganese		0.0488	mg/L	0.0050	98	90	110			
Molybdenum		0.0468	mg/L	0.0050	94	90	110			
Zinc		0.0499	mg/L	0.0050	100	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 12:24	
Arsenic		0.0491	mg/L	0.0050	98	90	110			
Cadmium		0.0493	mg/L	0.0010	99	90	110			
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: CCV	7	Continuing Calibration Verification Standard							11/12/24 13:34	
Arsenic		0.0480	mg/L	0.0050	96	90	110			
Cadmium		0.0477	mg/L	0.0010	95	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: B24102438

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 13:34		
Copper		0.0501	mg/L	0.010	100	90	110			
Lead		0.0482	mg/L	0.0010	96	90	110			
Manganese		0.0483	mg/L	0.0050	97	90	110			
Molybdenum		0.0482	mg/L	0.0050	96	90	110			
Zinc		0.0499	mg/L	0.0050	100	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			
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	5	Method Blank				Run: ICPMS207-B_241111A			11/12/24 11:43	
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

B24102438

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



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	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	☐ Email
Purchase Order	MTR223018		
Quote	Bottle Order		

Report Information (if different than Account Information)

Company/Name		Bison Engineering, Inc.	
Contact	Don Milimine		
Phone	(406) 208-4833		
Mailing Address	2751 Enterprise Avenue Suite 2		
City, State, Zip	Billings, MT 59102		
Email	dmilimine@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 DH	
Sampler Name			
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	Matrix (Sample Above)
W - Water	
S - Solids	
V - Vegetation	
B - Bioassay	
O - Other	
DW - Drinking Water	

Analysis Requested

Sample Identification (Name, Location, Interval, etc.)	Collection Date	Time	Number of Containers	Matrix (Sample Above)	Arsenic	Cadmium	Copper	Lead	Manganese	Molybdenum	Zinc
1 Particulate filter C1103516 PM10	9/15/24	24 hr composite	1	on nylon filter	x	x	x	x	x	x	x
2 Particulate filter C1103517 Lab Blank	9/9/24	1715	1	on nylon filter	x	x	x	x	x	x	x
3 Particulate filter C1103518 TSP 9/11-9/16	9/11-9/16	continuous	1	on nylon filter	x	x	x	x	x	x	x
4 Particulate filter C1103519 PM10	9/21/24	24 hr composite	1	on nylon filter	x	x	x	x	x	x	x
5 Particulate filter C1103520 TSP 9/16-9/23	9/16-9/23	continuous	1	on nylon filter	x	x	x	x	x	x	x
6 Particulate filter C1103521 PM10	9/27/24	24 hr composite	1	on nylon filter	x	x	x	x	x	x	x
7 Particulate filter C1103522 TSP 9/23-10/1	9/23-10/1	continuous	1	on nylon filter	x	x	x	x	x	x	x
8 Particulate filter C1103523 PM10	10/3/24	24 hr composite	1	on nylon filter	x	x	x	x	x	x	x
9 Particulate filter C1103524 TSP 10/1-10/7	10/1-10/7	continuous	1	on nylon filter	x	x	x	x	x	x	x
10 Particulate filter C1103525 PM10 field blank	10/7/24	1445	1	on nylon filter	x	x	x	x	x	x	x

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

ELI LAB ID
Laboratory Use Only
B24102438

Custody Record MUST be signed	Relinquished by (print) Don Milimine	Date/Time 10/24/24 1054	Signature Don Milimine	Received by (print) Casper Jones	Date/Time 10/24/24 1054	Signature Casper Jones			
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 Cash Check	Amount \$	Receipt Number (class/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.



ANALYTICAL SUMMARY REPORT

December 05, 2024

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

Work Order: B24111559 Quote ID: B4795

Project Name: Montana Resources/Greely School DH

Energy Laboratories Inc Billings MT received the following 8 samples for Bison Engineering on 11/20/2024 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B24111559-001	Particulate filter C1103501 TSP 10/7- 10/14	10/14/24 00:00	11/20/24	Air	Metals on air filter by ICP/ICPMS Nitric acid-extraction by 40CFR50G
B24111559-002	Particulate filter C1103502 PM10	10/08/24 00:00	11/20/24	Air	Same As Above
B24111559-003	Particulate filter C1103503 TSP 10/14- 10/18	10/18/24 00:00	11/20/24	Air	Same As Above
B24111559-004	Particulate filter C1103504 PM10	10/15/24 00:00	11/20/24	Air	Same As Above
B24111559-005	Particulate filter C1103505 TSP 10/18- 10/24	10/24/24 00:00	11/20/24	Air	Same As Above
B24111559-006	Particulate filter C1103526 Lab Blank	10/02/24 17:40	11/20/24	Air	Same As Above
B24111559-007	Particulate filter C1103527 PM10	10/21/24 00:00	11/20/24	Air	Same As Above
B24111559-008	Particulate filter C1103530 Field Blank	10/30/24 10:46	11/20/24	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 DH
Work Order: B24111559

Report Date: 12/05/24

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 C1103501 TSP 10/7-10/14
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24111559-001
Collection Date: 10/14/24
Date Received: 11/20/24
Report Date: 12/05/24

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	11/23/24 07:13 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 198		195329
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/23/24 07:13 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 198		195329
Copper	1.5	ug/filter		1.0	0.16	E200.8	11/23/24 07:13 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 198		195329
Lead	0.093	ug/filter	J	1.0	0.042	E200.8	12/02/24 17:01 / ae	11/21/24 15:06	40CFR50	ICPMS207-B_241202A : 60		195329
Manganese	0.55	ug/filter	J	1.0	0.18	E200.8	12/02/24 17:01 / ae	11/21/24 15:06	40CFR50	ICPMS207-B_241202A : 60		195329
Molybdenum	0.22	ug/filter	J	1.0	0.0050	E200.8	12/04/24 13:36 / ae	11/21/24 15:06	40CFR50	ICPMS207-B_241204A : 44		195329
Zinc	0.85	ug/filter	J	1.0	0.30	E200.8	12/02/24 17:01 / ae	11/21/24 15:06	40CFR50	ICPMS207-B_241202A : 60		195329

Report RL - Analyte Reporting Limit
Definitions: 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
Client Sample ID: Particulate filter C1103502 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24111559-002
Collection Date: 10/08/24
Date Received: 11/20/24
Report Date: 12/05/24

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	11/23/24 07:19 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 199		195329
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/23/24 07:19 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 199		195329
Copper	1.5	ug/filter		1.0	0.16	E200.8	11/23/24 07:19 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 199		195329
Lead	0.11	ug/filter	J	1.0	0.042	E200.8	12/02/24 17:07 / ae	11/21/24 15:06	40CFR50	ICPMS207-B_241202A : 61		195329
Manganese	0.75	ug/filter	J	1.0	0.18	E200.8	12/02/24 17:07 / ae	11/21/24 15:06	40CFR50	ICPMS207-B_241202A : 61		195329
Molybdenum	0.033	ug/filter	J	1.0	0.0050	E200.8	11/23/24 07:19 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 199		195329
Zinc	0.76	ug/filter	J	1.0	0.30	E200.8	12/02/24 17:07 / ae	11/21/24 15:06	40CFR50	ICPMS207-B_241202A : 61		195329

Report RL - Analyte Reporting Limit
Definitions: 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
Client Sample ID: Particulate filter C1103503 TSP 10/14-10/18
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24111559-003
Collection Date: 10/18/24
Date Received: 11/20/24
Report Date: 12/05/24

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	11/23/24 07:24 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 200		195329
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/23/24 07:24 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 200		195329
Copper	0.48	ug/filter	J	1.0	0.16	E200.8	12/02/24 17:13 / ae	11/21/24 15:06	40CFR50	ICPMS207-B_241202A : 62		195329
Lead	0.048	ug/filter	J	1.0	0.042	E200.8	12/04/24 13:42 / ae	11/21/24 15:06	40CFR50	ICPMS207-B_241204A : 45		195329
Manganese	0.22	ug/filter	J	1.0	0.18	E200.8	12/02/24 17:13 / ae	11/21/24 15:06	40CFR50	ICPMS207-B_241202A : 62		195329
Molybdenum	0.027	ug/filter	J	1.0	0.0050	E200.8	11/23/24 07:24 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 200		195329
Zinc	0.30	ug/filter	J	1.0	0.30	E200.8	11/23/24 07:24 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 200		195329

Report RL - Analyte Reporting Limit
Definitions: 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
Client Sample ID: Particulate filter C1103504 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24111559-004
Collection Date: 10/15/24
Date Received: 11/20/24
Report Date: 12/05/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	0.072	ug/filter	J	1.0	0.058	E200.8	12/02/24 17:20 / ae	11/21/24 15:06	40CFR50	ICPMS207-B_241202A : 63		195329
Cadmium	0.011	ug/filter	J	1.0	0.0063	E200.8	12/02/24 17:20 / ae	11/21/24 15:06	40CFR50	ICPMS207-B_241202A : 63		195329
Copper	3.6	ug/filter		1.0	0.16	E200.8	11/23/24 07:30 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 201		195329
Lead	0.26	ug/filter	J	1.0	0.042	E200.8	12/02/24 17:20 / ae	11/21/24 15:06	40CFR50	ICPMS207-B_241202A : 63		195329
Manganese	1.2	ug/filter		1.0	0.18	E200.8	11/23/24 07:30 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 201		195329
Molybdenum	0.16	ug/filter	J	1.0	0.0050	E200.8	12/04/24 13:48 / ae	11/21/24 15:06	40CFR50	ICPMS207-B_241204A : 46		195329
Zinc	1.7	ug/filter		1.0	0.30	E200.8	11/23/24 07:30 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 201		195329

Report RL - Analyte Reporting Limit
Definitions: 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
Client Sample ID: Particulate filter C1103505 TSP 10/18-10/24
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24111559-005
Collection Date: 10/24/24
Date Received: 11/20/24
Report Date: 12/05/24

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	11/23/24 07:36 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 202		195329
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/23/24 07:36 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 202		195329
Copper	0.34	ug/filter	J	1.0	0.16	E200.8	12/02/24 17:26 / ae	11/21/24 15:06	40CFR50	ICPMS207-B_241202A : 64		195329
Lead	ND	ug/filter		1.0	0.042	E200.8	11/23/24 07:36 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 202		195329
Manganese	ND	ug/filter		1.0	0.18	E200.8	11/23/24 07:36 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 202		195329
Molybdenum	0.11	ug/filter	J	1.0	0.0050	E200.8	11/23/24 07:36 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 202		195329
Zinc	ND	ug/filter		1.0	0.30	E200.8	11/23/24 07:36 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 202		195329

Report RL - Analyte Reporting Limit
Definitions: 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
Client Sample ID: Particulate filter C1103526 Lab Blank
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24111559-006
Collection Date: 10/02/24 17:40
Date Received: 11/20/24
Report Date: 12/05/24

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	11/23/24 07:54 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 205		195329
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/23/24 07:54 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 205		195329
Copper	ND	ug/filter		1.0	0.16	E200.8	12/04/24 13:54 / ae	11/21/24 15:06	40CFR50	ICPMS207-B_241204A : 47		195329
Lead	ND	ug/filter		1.0	0.042	E200.8	11/23/24 07:54 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 205		195329
Manganese	ND	ug/filter		1.0	0.18	E200.8	11/23/24 07:54 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 205		195329
Molybdenum	0.011	ug/filter	J	1.0	0.0050	E200.8	12/04/24 13:54 / ae	11/21/24 15:06	40CFR50	ICPMS207-B_241204A : 47		195329
Zinc	ND	ug/filter		1.0	0.30	E200.8	11/23/24 07:54 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 205		195329

Report RL - Analyte Reporting Limit
Definitions: 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
Client Sample ID: Particulate filter C1103527 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24111559-007
Collection Date: 10/21/24
Date Received: 11/20/24
Report Date: 12/05/24

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	11/23/24 08:00 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 206		195329
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/23/24 08:00 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 206		195329
Copper	0.78	ug/filter	J	1.0	0.16	E200.8	12/02/24 17:38 / ae	11/21/24 15:06	40CFR50	ICPMS207-B_241202A : 66		195329
Lead	0.050	ug/filter	J	1.0	0.042	E200.8	12/04/24 14:00 / ae	11/21/24 15:06	40CFR50	ICPMS207-B_241204A : 48		195329
Manganese	0.23	ug/filter	J	1.0	0.18	E200.8	12/02/24 17:38 / ae	11/21/24 15:06	40CFR50	ICPMS207-B_241202A : 66		195329
Molybdenum	0.30	ug/filter	J	1.0	0.0050	E200.8	12/04/24 14:00 / ae	11/21/24 15:06	40CFR50	ICPMS207-B_241204A : 48		195329
Zinc	0.62	ug/filter	J	1.0	0.30	E200.8	12/02/24 17:38 / ae	11/21/24 15:06	40CFR50	ICPMS207-B_241202A : 66		195329

Report RL - Analyte Reporting Limit
Definitions: 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
Client Sample ID: Particulate filter C1103530 Field Blank
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24111559-008
Collection Date: 10/30/24 10:46
Date Received: 11/20/24
Report Date: 12/05/24

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	11/23/24 08:05 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 207		195329
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/23/24 08:05 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 207		195329
Copper	ND	ug/filter		1.0	0.16	E200.8	11/23/24 08:05 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 207		195329
Lead	ND	ug/filter		1.0	0.042	E200.8	11/23/24 08:05 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 207		195329
Manganese	ND	ug/filter		1.0	0.18	E200.8	11/23/24 08:05 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 207		195329
Molybdenum	0.0093	ug/filter	J	1.0	0.0050	E200.8	11/23/24 08:05 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 207		195329
Zinc	ND	ug/filter		1.0	0.30	E200.8	11/23/24 08:05 / jks	11/21/24 15:06	40CFR50	ICPMS207-B_241122A : 207		195329

Report RL - Analyte Reporting Limit
Definitions: 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

Work Order: B24111559

Report Date: 12/05/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS207-B_241122A		
Lab ID: QCS	7	Initial Calibration Verification Standard							11/23/24 04:40	
Arsenic		0.0511	mg/L	0.0050	102	90	110			
Cadmium		0.0255	mg/L	0.0010	102	90	110			
Copper		0.0522	mg/L	0.010	104	90	110			
Lead		0.0507	mg/L	0.0010	101	90	110			
Manganese		0.261	mg/L	0.0050	104	90	110			
Molybdenum		0.0497	mg/L	0.0050	99	90	110			
Zinc		0.0517	mg/L	0.0050	103	90	110			
Lab ID: CCV	7	Continuing Calibration Verification Standard							11/23/24 06:32	
Arsenic		0.0496	mg/L	0.0050	99	90	110			
Cadmium		0.0500	mg/L	0.0010	100	90	110			
Copper		0.0507	mg/L	0.010	101	90	110			
Lead		0.0491	mg/L	0.0010	98	90	110			
Manganese		0.0484	mg/L	0.0050	97	90	110			
Molybdenum		0.0493	mg/L	0.0050	99	90	110			
Zinc		0.0506	mg/L	0.0050	101	90	110			
Lab ID: CCV	7	Continuing Calibration Verification Standard							11/23/24 07:42	
Arsenic		0.0495	mg/L	0.0050	99	90	110			
Cadmium		0.0506	mg/L	0.0010	101	90	110			
Copper		0.0508	mg/L	0.010	102	90	110			
Lead		0.0492	mg/L	0.0010	98	90	110			
Manganese		0.0489	mg/L	0.0050	98	90	110			
Molybdenum		0.0504	mg/L	0.0050	101	90	110			
Zinc		0.0504	mg/L	0.0050	101	90	110			
Method: E200.8								Batch: 195329		
Lab ID: MB-195329	7	Method Blank				Run: ICPMS207-B_241122A			11/23/24 05:39	
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-195329	7	Laboratory Control Sample				Run: ICPMS207-B_241122A			11/23/24 05:45	
Arsenic		110	ug/filter	1.0	109	85	115			
Cadmium		56.3	ug/filter	1.0	113	85	115			
Copper		114	ug/filter	5.0	114	85	115			
Lead		107	ug/filter	1.0	107	85	115			
Manganese		541	ug/filter	5.0	108	85	115			
Molybdenum		110	ug/filter	1.0	110	85	115			
Zinc		113	ug/filter	5.0	113	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: B24111559

Report Date: 12/05/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 195329
Lab ID: LCSD-195329	7	Laboratory Control Sample Duplicate				Run: ICPMS207-B_241122A			11/23/24 05:51	
Arsenic		109	ug/filter	1.0	109	85	115			
Cadmium		56.1	ug/filter	1.0	112	85	115			
Copper		114	ug/filter	5.0	114	85	115			
Lead		109	ug/filter	1.0	109	85	115			
Manganese		535	ug/filter	5.0	107	85	115			
Molybdenum		110	ug/filter	1.0	110	85	115			
Zinc		113	ug/filter	5.0	113	85	115			
Method: E200.8										Analytical Run: ICPMS207-B_241202A
Lab ID: QCS	6	Initial Calibration Verification Standard				12/02/24 12:17				
Arsenic		0.0497	mg/L	0.0050	99	90	110			
Cadmium		0.0251	mg/L	0.0010	100	90	110			
Copper		0.0516	mg/L	0.010	103	90	110			
Lead		0.0494	mg/L	0.0010	99	90	110			
Manganese		0.252	mg/L	0.0050	101	90	110			
Zinc		0.0510	mg/L	0.0050	102	90	110			
Lab ID: CCV	6	Continuing Calibration Verification Standard				12/02/24 16:43				
Arsenic		0.0495	mg/L	0.0050	99	90	110			
Cadmium		0.0509	mg/L	0.0010	102	90	110			
Copper		0.0512	mg/L	0.010	102	90	110			
Lead		0.0480	mg/L	0.0010	96	90	110			
Manganese		0.0486	mg/L	0.0050	97	90	110			
Zinc		0.0511	mg/L	0.0050	102	90	110			
Method: E200.8										Batch: 195329
Lab ID: MB-195329	6	Method Blank				Run: ICPMS207-B_241202A			12/02/24 15:41	
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						
Zinc		ND	ug/filter	0.3						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Billings, MT Branch

Work Order: B24111559

Report Date: 12/05/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS207-B_241204A		
Lab ID: QCS	3	Initial Calibration Verification Standard								12/04/24 11:03
Copper		0.0521	mg/L	0.010	104	90	110			
Lead		0.0533	mg/L	0.0010	107	90	110			
Molybdenum		0.0503	mg/L	0.0050	101	90	110			
Lab ID: CCV	3	Continuing Calibration Verification Standard								12/04/24 13:12
Copper		0.0484	mg/L	0.010	97	90	110			
Lead		0.0486	mg/L	0.0010	97	90	110			
Molybdenum		0.0473	mg/L	0.0050	95	90	110			
Method: E200.8								Batch: 195329		
Lab ID: MB-195329	3	Method Blank								Run: ICPMS207-B_241204A 12/04/24 13:30
Copper		ND	ug/filter	0.2						
Lead		ND	ug/filter	0.04						
Molybdenum		ND	ug/filter	0.005						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



Work Order Receipt Checklist

Bison Engineering

B24111559

Login completed by: Danielle N. Harris

Date Received: 11/20/2024

Reviewed by: cjohnson

Received by: KLP

Reviewed Date: 11/25/2024

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:	4.7°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

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Page 1 of 1

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	Quote	Bottle Order	
MTR223018			

Report Information (if different than Account Information)

Company/Name		Bison Engineering, Inc.	
Contact	Don Milimine		
Phone	(406) 208-4833		
Mailing Address		2751 Enterprise Avenue Suite 2	
City, State, Zip	Billings, MT 59102		
Email	dmilimine@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 DH	
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 - Solids	V - Vegetation
B - Bioassay	O - Other
DW - Drinking Water	

Analysis Requested

Lead	Cadmium	Arsenic	Manganese	Molybdenum	Zinc
☒	☒	☒	☒	☒	☒

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	Time	Number of Containers	Matrix (See Codes Above)	Analysis Requested						See Attached	RUSH TAT	ELI LAB ID Laboratory Use Only
					Lead	Cadmium	Arsenic	Manganese	Molybdenum	Zinc			
1 Particulate filter C1103501 TSP 10/7-10/14	10/7-10/14	continuous	1	on action filter	☒	☒	☒	☒	☒	☒			B24 W559
2 Particulate filter C1103502 PM10	10/8/24	24 hr composite	1	on action filter	☒	☒	☒	☒	☒	☒			
3 Particulate filter C1103503 TSP 10/14-10/18	10/14-10/18	continuous	1	on action filter	☒	☒	☒	☒	☒	☒			
4 Particulate filter C1103504 PM10	10/15/24	24 hr composite	1	on action filter	☒	☒	☒	☒	☒	☒			
5 Particulate filter C1103505 TSP 10/18-10/24	10/18-10/24	continuous	1	on action filter	☒	☒	☒	☒	☒	☒			
6 Particulate filter C1103526 Lab Blank	10/2/24	1740	1	on action filter	☒	☒	☒	☒	☒	☒			
7 Particulate filter C1103527 PM10	10/21/24	24 hr composite	1	on action filter	☒	☒	☒	☒	☒	☒			
8 Particulate filter C1103530 Field Blank	10/30/24	1046	1	on action filter	☒	☒	☒	☒	☒	☒			
9			1										
10			1										

Custody Record MUST be signed	Relinquished by (print) Don Milimine	Signature	11/20/24	Received by (print) Don Milimine	Signature	Date/Time	11/20/24	1553	Amount \$	Receipt Number (cash/check only)
Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp °C	Temp Blank	On Ice	Payment Type	CC	Cash	Check
		Y N C B	Y N		Y N	Y N				

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

January 21, 2025

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

Work Order: B25010271 Quote ID: B4795

Project Name: Montana Resources/Greely School PW

Energy Laboratories Inc Billings MT received the following 40 samples for Bison Engineering on 1/7/2025 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B25010271-001	Particulate filter C1183156 Lab Blank	10/23/24 11:20	01/07/25	Air	Metals on air filter by ICP/ICPMS Nitric acid-extraction by 40CFR50G
B25010271-002	Particulate filter C1853157 TSP Pine ST	11/01/24 0:00	01/07/25	Air	Same As Above
B25010271-003	Particulate filter C1853158 TSP Walnut ST	11/01/24 0:00	01/07/25	Air	Same As Above
B25010271-004	Particulate filter C1853159 TSP Pine ST	11/08/24 0:00	01/07/25	Air	Same As Above
B25010271-005	Particulate filter C1853160 TSP Walnut ST	11/08/24 0:00	01/07/25	Air	Same As Above
B25010271-006	Particulate filter C1853161 TSP Pine ST	11/14/24 0:00	01/07/25	Air	Same As Above
B25010271-007	Particulate filter C1853162 TSP Field Blank	11/13/24 15:01	01/07/25	Air	Same As Above
B25010271-008	Particulate filter C1853163 TSP Walnut ST	11/14/24 0:00	01/07/25	Air	Same As Above
B25010271-009	Particulate filter C1853164 TSP Walnut ST	11/20/24 0:00	01/07/25	Air	Same As Above
B25010271-010	Particulate filter C1853165 TSP Pine ST	11/20/24 0:00	01/07/25	Air	Same As Above
B25010271-011	Particulate filter C1853151 Lab Blank	11/13/24 10:10	01/07/25	Air	Same As Above
B25010271-012	Particulate filter C1853152 TSP Pine ST	11/26/24 0:00	01/07/25	Air	Same As Above
B25010271-013	Particulate filter C1853153 TSP Walnut ST	11/26/24 0:00	01/07/25	Air	Same As Above
B25010271-014	Particulate filter C1853154 TSP Field Blank	11/27/24 9:56	01/07/25	Air	Same As Above
B25010271-015	Particulate filter C1853155 TSP Pine ST	12/02/24 0:00	01/07/25	Air	Same As Above
B25010271-016	Particulate filter C1853196 TSP Walnut ST	12/02/24 0:00	01/07/25	Air	Same As Above

ANALYTICAL SUMMARY REPORT

B25010271-017	Particulate filter C1853197 TSP Pine ST	12/09/24 0:00	01/07/25	Air	Same As Above
B25010271-018	Particulate filter C1853198 TSP Walnut ST	12/09/24 0:00	01/07/25	Air	Same As Above
B25010271-019	Particulate filter C1853199 TSP Pine ST	12/14/24 0:00	01/07/25	Air	Same As Above
B25010271-020	Particulate filter C1853200 TSP Walnut ST	12/14/24 0:00	01/07/25	Air	Same As Above
B25010271-021	Particulate filter C1853166 Lab Blank	10/23/24 11:20	01/07/25	Air	Same As Above
B25010271-022	Particulate filter C1853167 TSP 10/24- 10/28	10/28/24 0:00	01/07/25	Air	Same As Above
B25010271-023	Particulate filter C1853168 PM10	10/27/24 0:00	01/07/25	Air	Same As Above
B25010271-024	Particulate filter C1853169 TSP 10/28- 11/06	11/16/24 0:00	01/07/25	Air	Same As Above
B25010271-025	Particulate filter C1853170 PM10	11/02/24 0:00	01/07/25	Air	Same As Above
B25010271-026	Particulate filter C1853171 TSP 11/06- 11/12	11/12/24 0:00	01/07/25	Air	Same As Above
B25010271-027	Particulate filter C1853172 PM10	11/08/24 0:00	01/07/25	Air	Same As Above
B25010271-028	Particulate filter C1853173 TSP 11/12- 11/18	11/18/24 0:00	01/07/25	Air	Same As Above
B25010271-029	Particulate filter C1853174 PM10	11/14/24 0:00	01/07/25	Air	Same As Above
B25010271-030	Particulate filter C1853175 Field Blank	11/18/24 14:20	01/07/25	Air	Same As Above
B25010271-031	Particulate filter C1103541 TSP 11/18- 11/25	11/25/24 0:00	01/07/25	Air	Same As Above
B25010271-032	Particulate filter C1103542 PM10	11/20/24 0:00	01/07/25	Air	Same As Above
B25010271-033	Particulate filter C1103543 TSP 11/25- 11/27	11/27/24 0:00	01/07/25	Air	Same As Above
B25010271-034	Particulate filter C1103544 PM10	11/26/24 0:00	01/07/25	Air	Same As Above
B25010271-035	Particulate filter C1103545 TSP 11/27- 12/03	12/03/24 0:00	01/07/25	Air	Same As Above
B25010271-036	Particulate filter C1103546 PM10	12/02/24 0:00	01/07/25	Air	Same As Above
B25010271-037	Particulate filter C1103547 TSP 12/03- 12/11	12/11/24 0:00	01/07/25	Air	Same As Above



ANALYTICAL SUMMARY REPORT

B25010271-038	Particulate filter C1103548 PM10	12/08/24 0:00	01/07/25	Air	Same As Above
B25010271-039	Particulate filter C1103549 Field Blank	12/11/24 10:30	01/07/25	Air	Same As Above
B25010271-040	Particulate filter C1103550 Lab Blank	11/13/24 11:00	01/07/25	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.

Note: Pages 4-23 of Lab Report B25010271 have been excluded from this Appendix.

They pertain to samples collected at the Pine St and Walnut St sites.

Those results are documented in a separate report for those sites



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1853166 Lab Blank
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B25010271-021
Collection Date: 10/23/24 11:20
Date Received: 01/07/25
Report Date: 01/21/25

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	01/18/25 06:54 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 210		196650
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	01/18/25 06:54 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 210		196650
Copper	ND	ug/filter		1.0	0.16	E200.8	01/18/25 06:54 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 210		196650
Lead	ND	ug/filter		1.0	0.042	E200.8	01/18/25 06:54 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 210		196650
Manganese	ND	ug/filter		1.0	0.18	E200.8	01/18/25 06:54 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 210		196650
Molybdenum	ND	ug/filter		1.0	0.0059	E200.8	01/18/25 06:54 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 210		196650
Zinc	ND	ug/filter		1.0	0.30	E200.8	01/18/25 06:54 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 210		196650

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 C1853167 TSP 10/24-10/28
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B25010271-022
Collection Date: 10/28/24
Date Received: 01/07/25
Report Date: 01/21/25

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	01/18/25 07:00 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 211		196650
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	01/18/25 07:00 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 211		196650
Copper	0.26	ug/filter	J	1.0	0.16	E200.8	01/18/25 15:31 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 296		196650
Lead	ND	ug/filter		1.0	0.042	E200.8	01/18/25 07:00 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 211		196650
Manganese	ND	ug/filter		1.0	0.18	E200.8	01/18/25 07:00 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 211		196650
Molybdenum	0.085	ug/filter	J	1.0	0.0059	E200.8	01/18/25 07:00 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 211		196650
Zinc	ND	ug/filter		1.0	0.30	E200.8	01/18/25 07:00 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 211		196650

Report Definitions: RL - Analyte Reporting 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
Client Sample ID: Particulate filter C1853168 PM10
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B25010271-023
Collection Date: 10/27/24
Date Received: 01/07/25
Report Date: 01/21/25

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	01/18/25 07:06 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 212		196650
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	01/18/25 07:06 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 212		196650
Copper	0.61	ug/filter	J	1.0	0.16	E200.8	01/18/25 15:37 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 297		196650
Lead	0.044	ug/filter	J	1.0	0.042	E200.8	01/18/25 07:06 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 212		196650
Manganese	ND	ug/filter		1.0	0.18	E200.8	01/21/25 14:17 / jks	01/16/25 09:17	40CFR50	ICPMS208-B_250120A : 279		196650
Molybdenum	0.33	ug/filter	J	1.0	0.0059	E200.8	01/18/25 07:06 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 212		196650
Zinc	0.32	ug/filter	J	1.0	0.30	E200.8	01/18/25 07:06 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 212		196650

Report Definitions: RL - Analyte Reporting 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
Client Sample ID: Particulate filter C1853169 TSP 10/28-11/06
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B25010271-024
Collection Date: 11/16/24
Date Received: 01/07/25
Report Date: 01/21/25

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	01/18/25 07:12 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 213		196650
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	01/18/25 07:12 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 213		196650
Copper	0.57	ug/filter	J	1.0	0.16	E200.8	01/18/25 15:43 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 298		196650
Lead	0.051	ug/filter	J	1.0	0.042	E200.8	01/18/25 07:12 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 213		196650
Manganese	0.19	ug/filter	J	1.0	0.18	E200.8	01/18/25 07:12 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 213		196650
Molybdenum	0.037	ug/filter	J	1.0	0.0059	E200.8	01/18/25 07:12 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 213		196650
Zinc	0.46	ug/filter	J	1.0	0.30	E200.8	01/18/25 07:12 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 213		196650

Report Definitions: RL - Analyte Reporting 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
Client Sample ID: Particulate filter C1853170 PM10
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B25010271-025
Collection Date: 11/02/24
Date Received: 01/07/25
Report Date: 01/21/25

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	01/18/25 07:18 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 214		196650
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	01/18/25 07:18 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 214		196650
Copper	0.54	ug/filter	J	1.0	0.16	E200.8	01/18/25 15:48 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 299		196650
Lead	ND	ug/filter		1.0	0.042	E200.8	01/18/25 07:18 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 214		196650
Manganese	ND	ug/filter		1.0	0.18	E200.8	01/18/25 07:18 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 214		196650
Molybdenum	0.043	ug/filter	J	1.0	0.0059	E200.8	01/18/25 07:18 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 214		196650
Zinc	0.38	ug/filter	J	1.0	0.30	E200.8	01/18/25 07:18 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 214		196650

Report RL - Analyte Reporting Limit
Definitions: 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
Client Sample ID: Particulate filter C1853171 TSP 11/06-11/12
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B25010271-026
Collection Date: 11/12/24
Date Received: 01/07/25
Report Date: 01/21/25

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	01/18/25 07:24 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 215		196650
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	01/18/25 07:24 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 215		196650
Copper	0.66	ug/filter	J	1.0	0.16	E200.8	01/18/25 15:54 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 300		196650
Lead	0.049	ug/filter	J	1.0	0.042	E200.8	01/18/25 07:24 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 215		196650
Manganese	ND	ug/filter		1.0	0.18	E200.8	01/18/25 07:24 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 215		196650
Molybdenum	0.066	ug/filter	J	1.0	0.0059	E200.8	01/18/25 07:24 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 215		196650
Zinc	0.38	ug/filter	J	1.0	0.30	E200.8	01/18/25 07:24 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 215		196650

Report RL - Analyte Reporting Limit
Definitions: 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
Client Sample ID: Particulate filter C1853172 PM10
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B25010271-027
Collection Date: 11/08/24
Date Received: 01/07/25
Report Date: 01/21/25

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	01/18/25 07:29 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 216		196650
Cadmium	0.0084	ug/filter	J	1.0	0.0063	E200.8	01/18/25 07:29 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 216		196650
Copper	0.62	ug/filter	J	1.0	0.16	E200.8	01/18/25 16:12 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 303		196650
Lead	0.064	ug/filter	J	1.0	0.042	E200.8	01/18/25 07:29 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 216		196650
Manganese	0.20	ug/filter	J	1.0	0.18	E200.8	01/18/25 07:29 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 216		196650
Molybdenum	0.034	ug/filter	J	1.0	0.0059	E200.8	01/18/25 07:29 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 216		196650
Zinc	0.47	ug/filter	J	1.0	0.30	E200.8	01/18/25 07:29 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 216		196650

Report Definitions: RL - Analyte Reporting 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
Client Sample ID: Particulate filter C1853173 TSP 11/12-11/18
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B25010271-028
Collection Date: 11/18/24
Date Received: 01/07/25
Report Date: 01/21/25

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	01/18/25 07:35 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 217		196650
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	01/18/25 07:35 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 217		196650
Copper	0.25	ug/filter	J	1.0	0.16	E200.8	01/18/25 16:18 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 304		196650
Lead	ND	ug/filter		1.0	0.042	E200.8	01/18/25 07:35 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 217		196650
Manganese	ND	ug/filter		1.0	0.18	E200.8	01/18/25 07:35 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 217		196650
Molybdenum	0.025	ug/filter	J	1.0	0.0059	E200.8	01/18/25 07:35 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 217		196650
Zinc	ND	ug/filter		1.0	0.30	E200.8	01/18/25 07:35 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 217		196650

Report Definitions: RL - Analyte Reporting 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
Client Sample ID: Particulate filter C1853174 PM10
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B25010271-029
Collection Date: 11/14/24
Date Received: 01/07/25
Report Date: 01/21/25

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	01/18/25 07:41 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 218		196650
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	01/18/25 07:41 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 218		196650
Copper	0.47	ug/filter	J	1.0	0.16	E200.8	01/18/25 16:24 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 305		196650
Lead	0.051	ug/filter	J	1.0	0.042	E200.8	01/18/25 07:41 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 218		196650
Manganese	0.31	ug/filter	J	1.0	0.18	E200.8	01/18/25 07:41 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 218		196650
Molybdenum	0.017	ug/filter	J	1.0	0.0059	E200.8	01/18/25 07:41 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 218		196650
Zinc	0.53	ug/filter	J	1.0	0.30	E200.8	01/18/25 07:41 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 218		196650

Report Definitions: RL - Analyte Reporting 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
Client Sample ID: Particulate filter C1853175 Field Blank
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B25010271-030
Collection Date: 11/18/24 14:20
Date Received: 01/07/25
Report Date: 01/21/25

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	01/18/25 07:59 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 221		196650
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	01/18/25 07:59 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 221		196650
Copper	ND	ug/filter		1.0	0.16	E200.8	01/18/25 07:59 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 221		196650
Lead	ND	ug/filter		1.0	0.042	E200.8	01/18/25 07:59 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 221		196650
Manganese	ND	ug/filter		1.0	0.18	E200.8	01/18/25 07:59 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 221		196650
Molybdenum	ND	ug/filter		1.0	0.0059	E200.8	01/18/25 07:59 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 221		196650
Zinc	ND	ug/filter		1.0	0.30	E200.8	01/18/25 07:59 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 221		196650

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 C1103541 TSP 11/18-11/25
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B25010271-031
Collection Date: 11/25/24
Date Received: 01/07/25
Report Date: 01/21/25

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	01/18/25 08:04 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 222		196650
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	01/18/25 08:04 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 222		196650
Copper	0.33	ug/filter	J	1.0	0.16	E200.8	01/18/25 16:29 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 306		196650
Lead	ND	ug/filter		1.0	0.042	E200.8	01/18/25 08:04 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 222		196650
Manganese	ND	ug/filter		1.0	0.18	E200.8	01/18/25 08:04 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 222		196650
Molybdenum	0.030	ug/filter	J	1.0	0.0059	E200.8	01/18/25 08:04 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 222		196650
Zinc	0.35	ug/filter	J	1.0	0.30	E200.8	01/18/25 08:04 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 222		196650

Report Definitions: RL - Analyte Reporting 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
Client Sample ID: Particulate filter C1103542 PM10
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B25010271-032
Collection Date: 11/20/24
Date Received: 01/07/25
Report Date: 01/21/25

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	01/18/25 08:10 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 223		196650
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	01/18/25 08:10 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 223		196650
Copper	0.91	ug/filter	J	1.0	0.16	E200.8	01/18/25 16:35 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 307		196650
Lead	0.061	ug/filter	J	1.0	0.042	E200.8	01/18/25 08:10 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 223		196650
Manganese	0.31	ug/filter	J	1.0	0.18	E200.8	01/18/25 08:10 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 223		196650
Molybdenum	0.12	ug/filter	J	1.0	0.0059	E200.8	01/18/25 08:10 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 223		196650
Zinc	0.62	ug/filter	J	1.0	0.30	E200.8	01/18/25 08:10 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 223		196650

Report Definitions: RL - Analyte Reporting 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
Client Sample ID: Particulate filter C1103543 TSP 11/25-11/27
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B25010271-033
Collection Date: 11/27/24
Date Received: 01/07/25
Report Date: 01/21/25

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	01/18/25 08:16 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 224		196650
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	01/18/25 08:16 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 224		196650
Copper	0.17	ug/filter	J	1.0	0.16	E200.8	01/18/25 08:16 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 224		196650
Lead	ND	ug/filter		1.0	0.042	E200.8	01/18/25 08:16 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 224		196650
Manganese	ND	ug/filter		1.0	0.18	E200.8	01/18/25 08:16 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 224		196650
Molybdenum	0.013	ug/filter	J	1.0	0.0059	E200.8	01/18/25 08:16 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 224		196650
Zinc	ND	ug/filter		1.0	0.30	E200.8	01/18/25 08:16 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 224		196650

Report Definitions: RL - Analyte Reporting 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
Client Sample ID: Particulate filter C1103544 PM10
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B25010271-034
Collection Date: 11/26/24
Date Received: 01/07/25
Report Date: 01/21/25

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	01/18/25 08:22 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 225		196650
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	01/18/25 08:22 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 225		196650
Copper	0.65	ug/filter	J	1.0	0.16	E200.8	01/18/25 16:47 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 309		196650
Lead	ND	ug/filter		1.0	0.042	E200.8	01/18/25 08:22 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 225		196650
Manganese	ND	ug/filter		1.0	0.18	E200.8	01/18/25 08:22 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 225		196650
Molybdenum	0.022	ug/filter	J	1.0	0.0059	E200.8	01/18/25 08:22 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 225		196650
Zinc	0.47	ug/filter	J	1.0	0.30	E200.8	01/18/25 08:22 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 225		196650

Report Definitions: RL - Analyte Reporting 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
Client Sample ID: Particulate filter C1103545 TSP 11/27-12/03
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B25010271-035
Collection Date: 12/03/24
Date Received: 01/07/25
Report Date: 01/21/25

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	01/18/25 08:28 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 226		196650
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	01/18/25 08:28 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 226		196650
Copper	1.0	ug/filter		1.0	0.16	E200.8	01/18/25 08:28 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 226		196650
Lead	0.051	ug/filter	J	1.0	0.042	E200.8	01/18/25 16:53 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 310		196650
Manganese	0.24	ug/filter	J	1.0	0.18	E200.8	01/18/25 08:28 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 226		196650
Molybdenum	0.022	ug/filter	J	1.0	0.0059	E200.8	01/18/25 08:28 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 226		196650
Zinc	0.53	ug/filter	J	1.0	0.30	E200.8	01/18/25 08:28 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 226		196650

Report Definitions: RL - Analyte Reporting 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
Client Sample ID: Particulate filter C1103546 PM10
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B25010271-036
Collection Date: 12/02/24
Date Received: 01/07/25
Report Date: 01/21/25

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	01/18/25 08:34 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 227		196650
Cadmium	0.011	ug/filter	J	1.0	0.0063	E200.8	01/18/25 08:34 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 227		196650
Copper	2.3	ug/filter		1.0	0.16	E200.8	01/18/25 08:34 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 227		196650
Lead	0.12	ug/filter	J	1.0	0.042	E200.8	01/18/25 16:58 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 311		196650
Manganese	0.43	ug/filter	J	1.0	0.18	E200.8	01/18/25 08:34 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 227		196650
Molybdenum	0.082	ug/filter	J	1.0	0.0059	E200.8	01/18/25 08:34 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 227		196650
Zinc	1.2	ug/filter		1.0	0.30	E200.8	01/18/25 08:34 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 227		196650

Report Definitions: RL - Analyte Reporting 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
Client Sample ID: Particulate filter C1103547 TSP 12/03-12/11
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B25010271-037
Collection Date: 12/11/24
Date Received: 01/07/25
Report Date: 01/21/25

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	01/18/25 08:39 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 228		196650
Cadmium	0.0090	ug/filter	J	1.0	0.0063	E200.8	01/18/25 08:39 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 228		196650
Copper	1.2	ug/filter		1.0	0.16	E200.8	01/18/25 08:39 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 228		196650
Lead	0.086	ug/filter	J	1.0	0.042	E200.8	01/18/25 17:04 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 312		196650
Manganese	0.38	ug/filter	J	1.0	0.18	E200.8	01/18/25 08:39 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 228		196650
Molybdenum	0.074	ug/filter	J	1.0	0.0059	E200.8	01/18/25 08:39 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 228		196650
Zinc	0.89	ug/filter	J	1.0	0.30	E200.8	01/18/25 08:39 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 228		196650

Report Definitions: RL - Analyte Reporting 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
Client Sample ID: Particulate filter C1103548 PM10
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B25010271-038
Collection Date: 12/08/24
Date Received: 01/07/25
Report Date: 01/21/25

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	01/18/25 08:45 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 229		196650
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	01/18/25 08:45 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 229		196650
Copper	0.31	ug/filter	J	1.0	0.16	E200.8	01/18/25 08:45 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 229		196650
Lead	ND	ug/filter		1.0	0.042	E200.8	01/18/25 08:45 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 229		196650
Manganese	ND	ug/filter		1.0	0.18	E200.8	01/18/25 08:45 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 229		196650
Molybdenum	0.0072	ug/filter	J	1.0	0.0059	E200.8	01/18/25 08:45 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 229		196650
Zinc	ND	ug/filter		1.0	0.30	E200.8	01/18/25 08:45 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 229		196650

Report Definitions: RL - Analyte Reporting 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
Client Sample ID: Particulate filter C1103549 Field Blank
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B25010271-039
Collection Date: 12/11/24 10:30
Date Received: 01/07/25
Report Date: 01/21/25

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	01/18/25 08:51 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 230		196650
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	01/18/25 08:51 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 230		196650
Copper	ND	ug/filter		1.0	0.16	E200.8	01/18/25 08:51 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 230		196650
Lead	ND	ug/filter		1.0	0.042	E200.8	01/18/25 08:51 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 230		196650
Manganese	ND	ug/filter		1.0	0.18	E200.8	01/18/25 08:51 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 230		196650
Molybdenum	ND	ug/filter		1.0	0.0059	E200.8	01/18/25 08:51 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 230		196650
Zinc	ND	ug/filter		1.0	0.30	E200.8	01/18/25 08:51 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 230		196650

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 C1103550 Lab Blank
Project: Montana Resources/Greely School PW
Matrix: Air

Lab ID: B25010271-040
Collection Date: 11/13/24 11:00
Date Received: 01/07/25
Report Date: 01/21/25

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	01/18/25 09:09 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 233		196650
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	01/18/25 09:09 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 233		196650
Copper	ND	ug/filter		1.0	0.16	E200.8	01/18/25 09:09 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 233		196650
Lead	ND	ug/filter		1.0	0.042	E200.8	01/18/25 09:09 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 233		196650
Manganese	ND	ug/filter		1.0	0.18	E200.8	01/18/25 09:09 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 233		196650
Molybdenum	ND	ug/filter		1.0	0.0059	E200.8	01/18/25 09:09 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 233		196650
Zinc	ND	ug/filter		1.0	0.30	E200.8	01/18/25 09:09 / jks	01/16/25 09:17	40CFR50	ICPMS207-B_250117A : 233		196650

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

Work Order: B25010271

Report Date: 01/21/25

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8							Analytical Run: ICPMS207-B_250108A		
Lab ID: QCS	Initial Calibration Verification Standard							01/08/25 23:58	
Arsenic	0.0498	mg/L	0.0050	100	90	110			
Cadmium	0.0260	mg/L	0.0010	104	90	110			
Copper	0.0519	mg/L	0.010	104	90	110			
Lead	0.0495	mg/L	0.0010	99	90	110			
Manganese	0.257	mg/L	0.0050	103	90	110			
Molybdenum	0.0499	mg/L	0.0050	100	90	110			
Zinc	0.0511	mg/L	0.0050	102	90	110			
Lab ID: CCV	Continuing Calibration Verification Standard							01/09/25 04:27	
Arsenic	0.0501	mg/L	0.0050	100	90	110			
Cadmium	0.0483	mg/L	0.0010	97	90	110			
Copper	0.0500	mg/L	0.010	100	90	110			
Lead	0.0489	mg/L	0.0010	98	90	110			
Manganese	0.0515	mg/L	0.0050	103	90	110			
Molybdenum	0.0471	mg/L	0.0050	94	90	110			
Zinc	0.0495	mg/L	0.0050	99	90	110			
Lab ID: CCV	Continuing Calibration Verification Standard							01/09/25 05:48	
Arsenic	0.0497	mg/L	0.0050	99	90	110			
Cadmium	0.0497	mg/L	0.0010	99	90	110			
Copper	0.0496	mg/L	0.010	99	90	110			
Lead	0.0482	mg/L	0.0010	96	90	110			
Manganese	0.0496	mg/L	0.0050	99	90	110			
Molybdenum	0.0492	mg/L	0.0050	98	90	110			
Zinc	0.0502	mg/L	0.0050	100	90	110			
Lab ID: CCV	Continuing Calibration Verification Standard							01/09/25 06:59	
Arsenic	0.0498	mg/L	0.0050	100	90	110			
Cadmium	0.0513	mg/L	0.0010	103	90	110			
Copper	0.0499	mg/L	0.010	100	90	110			
Lead	0.0481	mg/L	0.0010	96	90	110			
Manganese	0.0493	mg/L	0.0050	99	90	110			
Molybdenum	0.0500	mg/L	0.0050	100	90	110			
Zinc	0.0508	mg/L	0.0050	102	90	110			
Lab ID: QCS	Initial Calibration Verification Standard							01/09/25 09:03	
Arsenic	0.0518	mg/L	0.0050	104	90	110			
Cadmium	0.0256	mg/L	0.0010	102	90	110			
Copper	0.0532	mg/L	0.010	106	90	110			
Lead	0.0495	mg/L	0.0010	99	90	110			
Manganese	0.263	mg/L	0.0050	105	90	110			
Molybdenum	0.0496	mg/L	0.0050	99	90	110			
Zinc	0.0524	mg/L	0.0050	105	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: B25010271

Report Date: 01/21/25

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8					Analytical Run: ICPMS207-B_250108A				
Lab ID: CCV	Continuing Calibration Verification Standard							01/09/25 11:00	
Arsenic	0.0502	mg/L	0.0050	100	90	110			
Cadmium	0.0483	mg/L	0.0010	97	90	110			
Copper	0.0514	mg/L	0.010	103	90	110			
Lead	0.0486	mg/L	0.0010	97	90	110			
Manganese	0.0498	mg/L	0.0050	100	90	110			
Molybdenum	0.0485	mg/L	0.0050	97	90	110			
Zinc	0.0506	mg/L	0.0050	101	90	110			
Lab ID: CCV	Continuing Calibration Verification Standard							01/09/25 12:46	
Arsenic	0.0493	mg/L	0.0050	99	90	110			
Cadmium	0.0487	mg/L	0.0010	97	90	110			
Copper	0.0504	mg/L	0.010	101	90	110			
Lead	0.0494	mg/L	0.0010	99	90	110			
Manganese	0.0489	mg/L	0.0050	98	90	110			
Molybdenum	0.0487	mg/L	0.0050	97	90	110			
Zinc	0.0498	mg/L	0.0050	100	90	110			
Method: E200.8					Batch: 196446				
Lab ID: MB-196446	Method Blank			Run: ICPMS207-B_250108A			01/09/25 04:56		
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-196446	Laboratory Control Sample			Run: ICPMS207-B_250108A			01/09/25 05:02		
Arsenic	95.7	ug/filter	1.0	96	85	115			
Cadmium	49.0	ug/filter	1.0	98	85	115			
Copper	95.7	ug/filter	1.0	96	85	115			
Lead	97.8	ug/filter	1.0	98	85	115			
Manganese	479	ug/filter	1.0	96	85	115			
Molybdenum	101	ug/filter	1.0	101	85	115			
Zinc	92.8	ug/filter	1.0	93	85	115			
Lab ID: LCSD-196446	Laboratory Control Sample Duplicate			Run: ICPMS207-B_250108A			01/09/25 05:08		
Arsenic	97.8	ug/filter	1.0	98	85	115			
Cadmium	49.5	ug/filter	1.0	99	85	115			
Copper	97.1	ug/filter	1.0	97	85	115			
Lead	96.7	ug/filter	1.0	97	85	115			
Manganese	487	ug/filter	1.0	97	85	115			
Molybdenum	102	ug/filter	1.0	102	85	115			
Zinc	93.7	ug/filter	1.0	94	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: B25010271

Report Date: 01/21/25

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8							Analytical Run: ICPMS207-B_250117A		
Lab ID: QCS	Initial Calibration Verification Standard							01/18/25 02:13	
Arsenic	0.0516	mg/L	0.0050	103	90	110			
Cadmium	0.0257	mg/L	0.0010	103	90	110			
Copper	0.0535	mg/L	0.010	107	90	110			
Lead	0.0506	mg/L	0.0010	101	90	110			
Manganese	0.260	mg/L	0.0050	104	90	110			
Molybdenum	0.0504	mg/L	0.0050	101	90	110			
Zinc	0.0532	mg/L	0.0050	106	90	110			
Lab ID: CCV	Continuing Calibration Verification Standard							01/18/25 06:31	
Arsenic	0.0493	mg/L	0.0050	99	90	110			
Cadmium	0.0491	mg/L	0.0010	98	90	110			
Copper	0.0505	mg/L	0.010	101	90	110			
Lead	0.0490	mg/L	0.0010	98	90	110			
Manganese	0.0495	mg/L	0.0050	99	90	110			
Molybdenum	0.0500	mg/L	0.0050	100	90	110			
Zinc	0.0500	mg/L	0.0050	100	90	110			
Lab ID: CCV	Continuing Calibration Verification Standard							01/18/25 07:47	
Arsenic	0.0499	mg/L	0.0050	100	90	110			
Cadmium	0.0498	mg/L	0.0010	100	90	110			
Copper	0.0514	mg/L	0.010	103	90	110			
Lead	0.0500	mg/L	0.0010	100	90	110			
Manganese	0.0496	mg/L	0.0050	99	90	110			
Molybdenum	0.0496	mg/L	0.0050	99	90	110			
Zinc	0.0502	mg/L	0.0050	100	90	110			
Lab ID: CCV	Continuing Calibration Verification Standard							01/18/25 08:57	
Arsenic	0.0485	mg/L	0.0050	97	90	110			
Cadmium	0.0480	mg/L	0.0010	96	90	110			
Copper	0.0498	mg/L	0.010	100	90	110			
Lead	0.0499	mg/L	0.0010	100	90	110			
Manganese	0.0487	mg/L	0.0050	97	90	110			
Molybdenum	0.0481	mg/L	0.0050	96	90	110			
Zinc	0.0497	mg/L	0.0050	99	90	110			
Lab ID: QCS	Initial Calibration Verification Standard							01/18/25 10:27	
Arsenic	0.0527	mg/L	0.0050	105	90	110			
Cadmium	0.0269	mg/L	0.0010	108	90	110			
Copper	0.0539	mg/L	0.010	108	90	110			
Lead	0.0478	mg/L	0.0010	96	90	110			
Manganese	0.266	mg/L	0.0050	106	90	110			
Molybdenum	0.0526	mg/L	0.0050	105	90	110			
Zinc	0.0529	mg/L	0.0050	106	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: B25010271

Report Date: 01/21/25

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8							Analytical Run: ICPMS207-B_250117A		
Lab ID: CCV	Continuing Calibration Verification Standard							01/18/25 14:50	
Arsenic	0.0499	mg/L	0.0050	100	90	110			
Cadmium	0.0468	mg/L	0.0010	94	90	110			
Copper	0.0499	mg/L	0.010	100	90	110			
Lead	0.0459	mg/L	0.0010	92	90	110			
Manganese	0.0525	mg/L	0.0050	105	90	110			
Molybdenum	0.0466	mg/L	0.0050	93	90	110			
Zinc	0.0498	mg/L	0.0050	100	90	110			
Lab ID: CCV	Continuing Calibration Verification Standard							01/18/25 16:00	
Arsenic	0.0494	mg/L	0.0050	99	90	110			
Cadmium	0.0485	mg/L	0.0010	97	90	110			
Copper	0.0502	mg/L	0.010	100	90	110			
Lead	0.0458	mg/L	0.0010	92	90	110			
Manganese	0.0524	mg/L	0.0050	105	90	110			
Molybdenum	0.0489	mg/L	0.0050	98	90	110			
Zinc	0.0498	mg/L	0.0050	100	90	110			
Lab ID: CCV	Continuing Calibration Verification Standard							01/18/25 17:10	
Arsenic	0.0496	mg/L	0.0050	99	90	110			
Cadmium	0.0498	mg/L	0.0010	100	90	110			
Copper	0.0506	mg/L	0.010	101	90	110			
Lead	0.0476	mg/L	0.0010	95	90	110			
Manganese	0.0523	mg/L	0.0050	105	90	110			
Molybdenum	0.0499	mg/L	0.0050	100	90	110			
Zinc	0.0504	mg/L	0.0050	101	90	110			
Method: E200.8							Batch: 196650		
Lab ID: MB-196650	Method Blank							Run: ICPMS207-B_250117A	
Arsenic	ND	ug/filter	0.06					01/18/25 06:19	
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-196650	Laboratory Control Sample							Run: ICPMS207-B_250117A	
Arsenic	94.4	ug/filter	1.0	94	85	115		01/18/25 06:25	
Cadmium	48.3	ug/filter	1.0	97	85	115			
Copper	98.2	ug/filter	5.0	98	85	115			
Lead	95.4	ug/filter	1.0	95	85	115			
Manganese	459	ug/filter	5.0	92	85	115			
Molybdenum	96.9	ug/filter	1.0	97	85	115			
Zinc	94.6	ug/filter	5.0	95	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: B25010271

Report Date: 01/21/25

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8 Batch: 196650									
Lab ID: LCSD-196650	Laboratory Control Sample Duplicate				Run: ICPMS207-B_250117A			01/18/25 06:43	
Arsenic	96.2	ug/filter	1.0	96	85	115			
Cadmium	48.0	ug/filter	1.0	96	85	115			
Copper	100	ug/filter	5.0	100	85	115			
Lead	94.8	ug/filter	1.0	95	85	115			
Manganese	478	ug/filter	5.0	96	85	115			
Molybdenum	96.9	ug/filter	1.0	97	85	115			
Zinc	97.3	ug/filter	5.0	97	85	115			
Lab ID: MB-196650 Method Blank Run: ICPMS207-B_250117A 01/18/25 15:25									
Copper	ND	ug/filter	0.2						
Method: E200.8 Analytical Run: ICPMS208-B_250120A									
Lab ID: QCS	Initial Calibration Verification Standard				01/21/25 09:49				
Manganese	0.251	mg/L	0.0050	100	90	110			
Molybdenum	0.0502	mg/L	0.0050	100	90	110			
Lab ID: CCV Continuing Calibration Verification Standard 01/21/25 13:11									
Manganese	0.0494	mg/L	0.0050	99	90	110			
Molybdenum	0.0489	mg/L	0.0050	98	90	110			
Method: E200.8 Batch: 196446									
Lab ID: MB-196446	Method Blank				Run: ICPMS208-B_250120A			01/21/25 13:59	
Molybdenum	ND	ug/filter	0.006						
Method: E200.8 Batch: 196650									
Lab ID: MB-196650	Method Blank				Run: ICPMS208-B_250120A			01/21/25 14:05	
Manganese	ND	ug/filter	0.2						
Molybdenum	ND	ug/filter	0.006						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



Work Order Receipt Checklist

Bison Engineering

B25010271

Login completed by: Kyelie L. Pflock

Date Received: 1/7/2025

Reviewed by: dharris

Received by: DC

Reviewed Date: 1/9/2025

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:	2.4°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



Trust our People. Trust our Data.

Chain of Custody & Analytical Request Record

www.energylab.com

Page 1 of 4

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

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 - Solids	☐ V - Vegetation
☐ B - Bioassay	☐ O - Other
☐ DW - Drinking Water	

Analysis Requested

	Arsenic	Cadmium	Copper	Lead	Manganese	Molybdenum	Zinc
1 Particulate filter C1183156 Lab Blank	X	X	X	X	X	X	X
2 Particulate filter C1853157 TSP Pine ST	X	X	X	X	X	X	X
3 Particulate filter C1853158 TSP Walnut ST	X	X	X	X	X	X	X
4 Particulate filter C1853159 TSP Pine ST	X	X	X	X	X	X	X
5 Particulate filter C1853160 TSP Walnut ST	X	X	X	X	X	X	X
6 Particulate filter C1853161 TSP Pine ST	X	X	X	X	X	X	X
7 Particulate filter C1853162 TSP Field Blank	X	X	X	X	X	X	X
8 Particulate filter C1853163 TSP Walnut ST	X	X	X	X	X	X	X
9 Particulate filter C1853164 TSP Walnut ST	X	X	X	X	X	X	X
10 Particulate filter C1853165 TSP Pine ST	X	X	X	X	X	X	X

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

See Attached

Sample Identification (Name, Location, Interval, etc.)	Collection Date	Time	Matrix (See Codes Above)	Number of Containers	Ar	Cd	Cu	Pb	Mn	Mo	Zn	ELI LAB ID RUSH TAT
1 Particulate filter C1183156 Lab Blank	10/23/24	1120	on 1st filter	1	X	X	X	X	X	X	X	B25010271-001
2 Particulate filter C1853157 TSP Pine ST	11/1/24	24 hr Composite	on 1st filter	1	X	X	X	X	X	X	X	-002
3 Particulate filter C1853158 TSP Walnut ST	11/1/24	24 hr Composite	on 1st filter	1	X	X	X	X	X	X	X	-003
4 Particulate filter C1853159 TSP Pine ST	11/8/24	24 hr Composite	on 1st filter	1	X	X	X	X	X	X	X	-004
5 Particulate filter C1853160 TSP Walnut ST	11/8/24	24 hr Composite	on 1st filter	1	X	X	X	X	X	X	X	-005
6 Particulate filter C1853161 TSP Pine ST	11/14/24	24 hr Composite	on 1st filter	1	X	X	X	X	X	X	X	-006
7 Particulate filter C1853162 TSP Field Blank	11/13/24	1501	on 1st filter	1	X	X	X	X	X	X	X	-007
8 Particulate filter C1853163 TSP Walnut ST	11/14/24	24 hr Composite	on 1st filter	1	X	X	X	X	X	X	X	-008
9 Particulate filter C1853164 TSP Walnut ST	11/20/24	24 hr Composite	on 1st filter	1	X	X	X	X	X	X	X	-009
10 Particulate filter C1853165 TSP Pine ST	11/20/24	24 hr Composite	on 1st filter	1	X	X	X	X	X	X	X	-010

Custody Record MUST be signed	Relinquished by (print) Don Milmine	Signature	Relinquished by (print) Don Milmine	Signature
	Relinquished by (print) Don Milmine	Signature	Relinquished by (print) Don Milmine	Signature
Shipped By	Cooler ID(s)	Custody Seals Y N C B	Intact Y N	Receipt Temp °C
LABORATORY USE ONLY		Received by Laboratory (print) Don Milmine	Signature	Amount \$
LABORATORY USE ONLY		Received by Laboratory (print) Don Milmine	Signature	Receipt Number (each 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

Chain of Custody & Analytical Request Record



Account Information <i>(Billing information)</i>				Report Information <i>(if different than Account Information)</i>		Comments
Company/Name Bison Engineering, Inc.				Company/Name Bison Engineering, Inc.		
Contact Shelley Argott-Brown				Contact Don Milmine		
Phone (406) 442-5768				Phone (406) 208-4833		
Mailing Address 3143 E Lyndale Avenue				Mailing Address 2751 Enterprise Avenue Suite 2		
City, State, Zip Helena MT, 59601				City, State, Zip Billings, MT 59102		
Email sbrown-argott@bison-eng.com				Email dmlimine@bison-eng.com		
Receive Invoice ☐ Hard Copy ☐ Email ☐ Email		Receive Report ☐ Hard Copy ☐ Email		Receive Report ☐ Hard Copy ☐ Email		
Purchase Order MTR224018		Quote		Special Report/Formats:		
		Bottle Order		☐ LEVEL IV ☐ NELAC ☐ EDD/EDT (contact laboratory) ☐ Other _____		

[illegible]

Shipped By	Cooler ID(s)	Custody Seals			Intact			Receipt Temp °C	Temp Blank			On Ice			Payment Type		Amount \$	Receipt Number (cash/check only)
		Y	N	C	B	Y	N		Y	N	CC	Cash	Check					
Custody Record MUST be signed	Relinquished by (print)	Date/Time			Signature	Received by (print)			Date/Time			Signature						
	Relinquished by (print)	Date/Time			Signature	Received by Laboratory (print)			Date/Time			Signature						
LABORATORY USE 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.



Trust our People. Trust our Data.

Chain of Custody & Analytical Request Record

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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	☐ Hard Copy
Purchase Order	MTR224018		

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 DH	
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 - Solids/Solids	V - Vegetation	B - Bioassay	O - Other	DW - Drinking Water
---------	-----------	-------------------	----------------	--------------	-----------	---------------------

Analysis Requested

As	Cd	Cu	Fe	Mn	Pb	Se	Zn
----	----	----	----	----	----	----	----

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	Time	Number of Containers	Matrix (See Codes Above)	Analysis Requested							See Attached	RUSH TAT	ELI LAB ID Laboratory Use Only
					As	Cd	Cu	Fe	Mn	Pb	Se			
1 Particulate filter C1853166 Lab Blank	10/23/24	1120	1	on filter	x	x	x	x	x	x	x			B25010271-021
2 Particulate filter C1853167 TSP 10/24 - 10/28	10/24	10/28	1	on filter	x	x	x	x	x	x	x			-022
3 Particulate filter C1853168 PM10	10/27/24	Composite	1	on filter	x	x	x	x	x	x	x			-023
4 Particulate filter C1853169 TSP 10/28 - 11/16	10/28	11/16	1	on filter	x	x	x	x	x	x	x			-024
5 Particulate filter C1853170 PM10	11/2/24	Composite	1	on filter	x	x	x	x	x	x	x			-025
6 Particulate filter C1853171 TSP 11/6 - 11/12	11/6	11/12	1	on filter	x	x	x	x	x	x	x			-026
7 Particulate filter C1853172 PM10	11/8/24	Composite	1	on filter	x	x	x	x	x	x	x			-027
8 Particulate filter C1853173 TSP 11/12 - 11/18	11/12	11/18	1	on filter	x	x	x	x	x	x	x			-028
9 Particulate filter C1853174 PM10	11/14/24	Composite	1	on filter	x	x	x	x	x	x	x			-029
10 Particulate filter C1853175 Field Blank	11/18/24	1420	1	on filter	x	x	x	x	x	x	x			-030

Custody Record MUST be signed	Relinquished by (print)	Signature	Date/Time	Received by (print)	Signature	Date/Time
	Relinquished by (print)	Signature	Date/Time	Received by (print)	Signature	Date/Time
Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	Temp Blank	On Ice
	Y N C B	Y N C B	Y N	°C	Y N	Y N
Payment Type	Cash	Check	Amount	Receipt Number (cash/check only)	Signature	Date/Time
	CC	Check	\$		Signature	Date/Time

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



Chain of Custody & Analytical Request Record

Trust our People. Trust our Data.

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Account Information (Billing Information)

Company/Name		Bison Engineering, Inc.	
Contact	Shelley Argott-Brown	Contact	Don Milimine
Phone	(406) 442-5768	Phone	(406) 208-4833
Mailing Address		3143 E Lyndale Avenue	
City, State, Zip	Helena MT, 59601	City, State, Zip	Billings, MT 59102
Email	sbrown-argott@bison-eng.com	Email	dmilimine@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 Milimine	Contact	Don Milimine
Phone	(406) 208-4833	Phone	(406) 208-4833
Mailing Address		2751 Enterprise Avenue Suite 2	
City, State, Zip	Billings, MT 59102	City, State, Zip	Billings, MT 59102
Email	dmilimine@bison-eng.com	Email	dmilimine@bison-eng.com
Receive Report	☒ Hard Copy ☒ Email	Receive Report	☒ Hard Copy ☒ Email
Special Report/Forms:	☒ LEVEL IV ☒ NELAC ☒ EDD/EDT (contact laboratory) ☒ Other	Special Report/Forms:	☒ LEVEL IV ☒ NELAC ☒ EDD/EDT (contact laboratory) ☒ Other

Comments

Analyze per history

Project Information

Project Name, PWSID, Permit, etc.		Montana Resources/Greely School DH	
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 - Solids	V - Vegetation
B - Bioassay	O - Other
DW - Drinking Water	

Analysis Requested

	Arsenic	Cadmium	Copper	Lead	Manganese	Molybdenum	Zinc
1 Particulate filter C1103541 TSP 11/18 - 11/25	X	X	X	X	X	X	X
2 Particulate filter C1103542 PM10 11/20/24 Composite	X	X	X	X	X	X	X
3 Particulate filter C1103543 TSP 11/25 - 11/27	X	X	X	X	X	X	X
4 Particulate filter C1103544 PM10 11/26/24 Composite	X	X	X	X	X	X	X
5 Particulate filter C1103545 TSP 11/27 - 12/3	X	X	X	X	X	X	X
6 Particulate filter C1103546 PM10 12/2/24 Composite	X	X	X	X	X	X	X
7 Particulate filter C1103547 TSP 12/3 - 12/11	X	X	X	X	X	X	X
8 Particulate filter C1103548 PM10 12/8/24 Composite	X	X	X	X	X	X	X
9 Particulate filter C1103549 Field Blank 12/11/24	X	X	X	X	X	X	X
10 Particulate filter C1103550 Lab Blank 11/13/24	X	X	X	X	X	X	X

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

Sample Identification (Name, Location, Interval, etc.)	Collection Date	Time	Matrix (See Codes Above)	Number of Containers
1 Particulate filter C1103541 TSP 11/18 - 11/25	11/18 - 11/25	continuous	Particulate filter	1
2 Particulate filter C1103542 PM10 11/20/24 Composite	11/20/24	24 hr Composite	Particulate filter	1
3 Particulate filter C1103543 TSP 11/25 - 11/27	11/25 - 11/27	continuous	Particulate filter	1
4 Particulate filter C1103544 PM10 11/26/24 Composite	11/26/24	24 hr Composite	Particulate filter	1
5 Particulate filter C1103545 TSP 11/27 - 12/3	11/27 - 12/3	continuous	Particulate filter	1
6 Particulate filter C1103546 PM10 12/2/24 Composite	12/2/24	24 hr Composite	Particulate filter	1
7 Particulate filter C1103547 TSP 12/3 - 12/11	12/3 - 12/11	continuous	Particulate filter	1
8 Particulate filter C1103548 PM10 12/8/24 Composite	12/8/24	24 hr Composite	Particulate filter	1
9 Particulate filter C1103549 Field Blank 12/11/24	12/11/24	1030	Particulate filter	1
10 Particulate filter C1103550 Lab Blank 11/13/24	11/13/24	1100	Particulate filter	1

See Attached	Lead	Manganese	Molybdenum	Zinc
	X	X	X	X
	X	X	X	X
	X	X	X	X
	X	X	X	X
	X	X	X	X
	X	X	X	X
	X	X	X	X
	X	X	X	X
	X	X	X	X
	X	X	X	X

ELI LAB ID	825010271-031
RUSH	-032
TAT	-033
	-034
	-035
	-036
	-037
	-038
	-039
	-040

Custody Record MUST be signed

Relinquished by (print)	Signature	Date/Time	11/25-12/12
Relinquished by (print)	Signature	Date/Time	
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
		CC	
		Cash	
		Check	
		Amount	\$
		Receipt Number (cash/check only)	

Received by (print)	Signature	Date/Time	11/25-12/12
Received by Laboratory (print)	Signature	Date/Time	11/25-12/12
LABORATORY USE 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

February 27, 2025

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

Work Order: B25020654 Quote ID: B4795

Project Name: Montana Resources/Greely School DH

Energy Laboratories Inc Billings MT received the following 10 samples for Bison Engineering on 2/13/2025 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B25020654-001	Particulate Filter C1853176 Lab Blank	12/09/24 16:20	02/13/25	Air	Metals on air filter by ICP/ICPMS Nitric acid-extraction by 40CFR50G
B25020654-002	Particulate Filter C1853177 TSP 12/11- 12/18	12/18/24 00:00	02/13/25	Air	Same As Above
B25020654-003	Particulate Filter C18531778 PM10	12/14/24 00:00	02/13/25	Air	Same As Above
B25020654-004	Particulate Filter C1853179 TSP 12/18- 12/23	12/23/24 00:00	02/13/25	Air	Same As Above
B25020654-005	Particulate Filter C1853180 PM10	12/20/24 00:00	02/13/25	Air	Same As Above
B25020654-006	Particulate Filter C1853181 TSP 12/20- 12/30	12/30/24 00:00	02/13/25	Air	Same As Above
B25020654-007	Particulate Filter C1853182 PM10	12/26/24 00:00	02/13/25	Air	Same As Above
B25020654-008	Particulate Filter C1853183 TSP 12/30- 1/6	01/06/25 00:00	02/13/25	Air	Same As Above
B25020654-009	Particulate Filter C1853184 PM10	01/01/25 00:00	02/13/25	Air	Same As Above
B25020654-010	Particulate Filter C1853185 Field Blank	01/06/25 13:26	02/13/25	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 DH
Work Order: B25020654

Report Date: 02/27/25

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 C1853176 Lab Blank
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25020654-001
Collection Date: 12/09/24 16:20
Date Received: 02/13/25
Report Date: 02/27/25

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	02/26/25 21:45 / ae	02/14/25 09:41	40CFR50	ICPMS208-B_250226A : 121		197366
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	02/20/25 07:20 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 384		197366
Copper	ND	ug/filter		1.0	0.16	E200.8	02/20/25 07:20 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 384		197366
Lead	ND	ug/filter		1.0	0.042	E200.8	02/20/25 07:20 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 384		197366
Manganese	ND	ug/filter		1.0	0.18	E200.8	02/20/25 07:20 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 384		197366
Molybdenum	0.0093	ug/filter	J	1.0	0.0059	E200.8	02/20/25 16:52 / jks	02/14/25 09:41	40CFR50	ICPMS208-B_250220A : 59		197366
Zinc	ND	ug/filter		1.0	0.30	E200.8	02/20/25 07:20 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 384		197366

Report RL - Analyte Reporting Limit
Definitions: 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
Client Sample ID: Particulate Filter C1853177 TSP 12/11-12/18
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25020654-002
Collection Date: 12/18/24
Date Received: 02/13/25
Report Date: 02/27/25

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	02/26/25 21:51 / ae	02/14/25 09:41	40CFR50	ICPMS208-B_250226A : 122		197366
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	02/20/25 07:26 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 385		197366
Copper	ND	ug/filter		1.0	0.16	E200.8	02/20/25 07:26 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 385		197366
Lead	ND	ug/filter		1.0	0.042	E200.8	02/20/25 07:26 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 385		197366
Manganese	ND	ug/filter		1.0	0.18	E200.8	02/20/25 07:26 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 385		197366
Molybdenum	ND	ug/filter		1.0	0.0059	E200.8	02/26/25 21:51 / ae	02/14/25 09:41	40CFR50	ICPMS208-B_250226A : 122		197366
Zinc	ND	ug/filter		1.0	0.30	E200.8	02/20/25 07:26 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 385		197366

Report RL - Analyte Reporting Limit
Definitions:

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 C18531778 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25020654-003
Collection Date: 12/14/24
Date Received: 02/13/25
Report Date: 02/27/25

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	02/26/25 21:57 / ae	02/14/25 09:41	40CFR50	ICPMS208-B_250226A : 123		197366
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	02/20/25 07:32 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 386		197366
Copper	ND	ug/filter		1.0	0.16	E200.8	02/20/25 07:32 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 386		197366
Lead	ND	ug/filter		1.0	0.042	E200.8	02/20/25 07:32 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 386		197366
Manganese	ND	ug/filter		1.0	0.18	E200.8	02/20/25 07:32 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 386		197366
Molybdenum	0.010	ug/filter	J	1.0	0.0059	E200.8	02/20/25 17:04 / jks	02/14/25 09:41	40CFR50	ICPMS208-B_250220A : 61		197366
Zinc	ND	ug/filter		1.0	0.30	E200.8	02/20/25 07:32 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 386		197366

Report RL - Analyte Reporting Limit
Definitions: 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
Client Sample ID: Particulate Filter C1853179 TSP 12/18-12/23
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25020654-004
Collection Date: 12/23/24
Date Received: 02/13/25
Report Date: 02/27/25

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	02/26/25 22:03 / ae	02/14/25 09:41	40CFR50	ICPMS208-B_250226A : 124		197366
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	02/20/25 07:37 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 387		197366
Copper	0.67	ug/filter	J	1.0	0.16	E200.8	02/20/25 17:10 / jks	02/14/25 09:41	40CFR50	ICPMS208-B_250220A : 62		197366
Lead	ND	ug/filter		1.0	0.042	E200.8	02/20/25 07:37 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 387		197366
Manganese	ND	ug/filter		1.0	0.18	E200.8	02/20/25 07:37 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 387		197366
Molybdenum	0.027	ug/filter	J	1.0	0.0059	E200.8	02/20/25 17:10 / jks	02/14/25 09:41	40CFR50	ICPMS208-B_250220A : 62		197366
Zinc	0.45	ug/filter	J	1.0	0.30	E200.8	02/20/25 17:10 / jks	02/14/25 09:41	40CFR50	ICPMS208-B_250220A : 62		197366

Report RL - Analyte Reporting Limit
Definitions: 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
Client Sample ID: Particulate Filter C1853180 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25020654-005
Collection Date: 12/20/24
Date Received: 02/13/25
Report Date: 02/27/25

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	02/26/25 22:09 / ae	02/14/25 09:41	40CFR50	ICPMS208-B_250226A : 125		197366
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	02/20/25 07:43 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 388		197366
Copper	ND	ug/filter		1.0	0.16	E200.8	02/20/25 07:43 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 388		197366
Lead	ND	ug/filter		1.0	0.042	E200.8	02/20/25 07:43 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 388		197366
Manganese	ND	ug/filter		1.0	0.18	E200.8	02/20/25 07:43 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 388		197366
Molybdenum	0.0078	ug/filter	J	1.0	0.0059	E200.8	02/20/25 17:16 / jks	02/14/25 09:41	40CFR50	ICPMS208-B_250220A : 63		197366
Zinc	ND	ug/filter		1.0	0.30	E200.8	02/20/25 07:43 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 388		197366

Report RL - Analyte Reporting Limit
Definitions: 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
Client Sample ID: Particulate Filter C1853181 TSP 12/20-12/30
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25020654-006
Collection Date: 12/30/24
Date Received: 02/13/25
Report Date: 02/27/25

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	02/26/25 22:15 / ae	02/14/25 09:41	40CFR50	ICPMS208-B_250226A : 126		197366
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	02/20/25 08:01 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 391		197366
Copper	0.56	ug/filter	J	1.0	0.16	E200.8	02/20/25 17:22 / jks	02/14/25 09:41	40CFR50	ICPMS208-B_250220A : 64		197366
Lead	ND	ug/filter		1.0	0.042	E200.8	02/20/25 08:01 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 391		197366
Manganese	ND	ug/filter		1.0	0.18	E200.8	02/20/25 08:01 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 391		197366
Molybdenum	0.029	ug/filter	J	1.0	0.0059	E200.8	02/20/25 17:22 / jks	02/14/25 09:41	40CFR50	ICPMS208-B_250220A : 64		197366
Zinc	0.32	ug/filter	J	1.0	0.30	E200.8	02/20/25 17:22 / jks	02/14/25 09:41	40CFR50	ICPMS208-B_250220A : 64		197366

Report RL - Analyte Reporting Limit
Definitions: 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
Client Sample ID: Particulate Filter C1853182 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25020654-007
Collection Date: 12/26/24
Date Received: 02/13/25
Report Date: 02/27/25

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	0.066	ug/filter	J	1.0	0.058	E200.8	02/26/25 22:21 / ae	02/14/25 09:41	40CFR50	ICPMS208-B_250226A : 127		197366
Cadmium	0.0087	ug/filter	J	1.0	0.0044	E200.8	02/20/25 17:40 / jks	02/14/25 09:41	40CFR50	ICPMS208-B_250220A : 67		197366
Copper	1.8	ug/filter		1.0	0.16	E200.8	02/20/25 08:07 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 392		197366
Lead	0.098	ug/filter	J	1.0	0.042	E200.8	02/20/25 17:40 / jks	02/14/25 09:41	40CFR50	ICPMS208-B_250220A : 67		197366
Manganese	0.53	ug/filter	J	1.0	0.18	E200.8	02/20/25 17:40 / jks	02/14/25 09:41	40CFR50	ICPMS208-B_250220A : 67		197366
Molybdenum	0.053	ug/filter	J	1.0	0.0059	E200.8	02/20/25 17:40 / jks	02/14/25 09:41	40CFR50	ICPMS208-B_250220A : 67		197366
Zinc	1.2	ug/filter		1.0	0.30	E200.8	02/20/25 08:07 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 392		197366

Report RL - Analyte Reporting Limit
Definitions: 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
Client Sample ID: Particulate Filter C1853183 TSP 12/30-1/6
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25020654-008
Collection Date: 01/06/25
Date Received: 02/13/25
Report Date: 02/27/25

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	02/26/25 22:27 / ae	02/14/25 09:41	40CFR50	ICPMS208-B_250226A : 128		197366
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	02/20/25 08:13 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 393		197366
Copper	0.87	ug/filter	J	1.0	0.16	E200.8	02/20/25 17:46 / jks	02/14/25 09:41	40CFR50	ICPMS208-B_250220A : 68		197366
Lead	0.045	ug/filter	J	1.0	0.042	E200.8	02/20/25 17:46 / jks	02/14/25 09:41	40CFR50	ICPMS208-B_250220A : 68		197366
Manganese	0.21	ug/filter	J	1.0	0.18	E200.8	02/20/25 17:46 / jks	02/14/25 09:41	40CFR50	ICPMS208-B_250220A : 68		197366
Molybdenum	0.051	ug/filter	J	1.0	0.0059	E200.8	02/20/25 17:46 / jks	02/14/25 09:41	40CFR50	ICPMS208-B_250220A : 68		197366
Zinc	0.49	ug/filter	J	1.0	0.30	E200.8	02/20/25 17:46 / jks	02/14/25 09:41	40CFR50	ICPMS208-B_250220A : 68		197366

Report RL - Analyte Reporting Limit
Definitions: 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
Client Sample ID: Particulate Filter C1853184 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25020654-009
Collection Date: 01/01/25
Date Received: 02/13/25
Report Date: 02/27/25

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	02/26/25 22:45 / ae	02/14/25 09:41	40CFR50	ICPMS208-B_250226A : 131		197366
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	02/20/25 08:18 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 394		197366
Copper	0.52	ug/filter	J	1.0	0.16	E200.8	02/20/25 17:52 / jks	02/14/25 09:41	40CFR50	ICPMS208-B_250220A : 69		197366
Lead	ND	ug/filter		1.0	0.042	E200.8	02/20/25 08:18 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 394		197366
Manganese	ND	ug/filter		1.0	0.18	E200.8	02/20/25 08:18 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 394		197366
Molybdenum	0.030	ug/filter	J	1.0	0.0059	E200.8	02/20/25 17:52 / jks	02/14/25 09:41	40CFR50	ICPMS208-B_250220A : 69		197366
Zinc	0.30	ug/filter	J	1.0	0.30	E200.8	02/20/25 17:52 / jks	02/14/25 09:41	40CFR50	ICPMS208-B_250220A : 69		197366

Report RL - Analyte Reporting Limit
Definitions: 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
Client Sample ID: Particulate Filter C1853185 Field Blank
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25020654-010
Collection Date: 01/06/25 13:26
Date Received: 02/13/25
Report Date: 02/27/25

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	02/20/25 08:24 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 395		197366
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	02/20/25 08:24 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 395		197366
Copper	ND	ug/filter		1.0	0.16	E200.8	02/20/25 08:24 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 395		197366
Lead	ND	ug/filter		1.0	0.042	E200.8	02/20/25 08:24 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 395		197366
Manganese	ND	ug/filter		1.0	0.18	E200.8	02/20/25 08:24 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 395		197366
Molybdenum	ND	ug/filter		1.0	0.0050	E200.8	02/20/25 08:24 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 395		197366
Zinc	ND	ug/filter		1.0	0.30	E200.8	02/20/25 08:24 / jks	02/14/25 09:41	40CFR50	ICPMS207-B_250218A : 395		197366

Report RL - Analyte Reporting Limit
Definitions:

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Billings, MT Branch

Work Order: B25020654

Report Date: 02/27/25

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8						Analytical Run: ICPMS207-B_250218A				
Lab ID: QCS	7	Initial Calibration Verification Standard							02/20/25 05:58	
Arsenic		0.0508	mg/L	0.0050	102	90	110			
Cadmium		0.0252	mg/L	0.0010	101	90	110			
Copper		0.0523	mg/L	0.010	105	90	110			
Lead		0.0530	mg/L	0.0010	106	90	110			
Manganese		0.258	mg/L	0.0050	103	90	110			
Molybdenum		0.0494	mg/L	0.0050	99	90	110			
Zinc		0.0521	mg/L	0.0050	104	90	110			
Lab ID: CCV	7	Continuing Calibration Verification Standard							02/20/25 06:27	
Arsenic		0.0477	mg/L	0.0050	95	90	110			
Cadmium		0.0449	mg/L	0.0010	90	90	110			
Copper		0.0481	mg/L	0.010	96	90	110			
Lead		0.0483	mg/L	0.0010	97	90	110			
Manganese		0.0480	mg/L	0.0050	96	90	110			
Molybdenum		0.0450	mg/L	0.0050	90	90	110			
Zinc		0.0480	mg/L	0.0050	96	90	110			
Lab ID: CCV	7	Continuing Calibration Verification Standard							02/20/25 07:49	
Arsenic		0.0480	mg/L	0.0050	96	90	110			
Cadmium		0.0451	mg/L	0.0010	90	90	110			
Copper		0.0491	mg/L	0.010	98	90	110			
Lead		0.0470	mg/L	0.0010	94	90	110			
Manganese		0.0486	mg/L	0.0050	97	90	110			
Molybdenum		0.0449	mg/L	0.0050	90	90	110			
Zinc		0.0484	mg/L	0.0050	97	90	110			
Method: E200.8						Batch: 197366				
Lab ID: MB-197366	7	Method Blank				Run: ICPMS207-B_250218A			02/20/25 06:56	
Arsenic		ND	ug/filter	0.06						
Cadmium		ND	ug/filter	0.006						
Copper		0.2	ug/filter	0.2						
Lead		ND	ug/filter	0.04						
Manganese		ND	ug/filter	0.2						
Molybdenum		ND	ug/filter	0.005						
Zinc		0.6	ug/filter	0.3						
Lab ID: LCS-197366	7	Laboratory Control Sample				Run: ICPMS207-B_250218A			02/20/25 07:02	
Arsenic		92.0	ug/filter	1.0	92	85	115			
Cadmium		45.0	ug/filter	1.0	90	85	115			
Copper		95.0	ug/filter	1.0	95	85	115			
Lead		98.3	ug/filter	1.0	98	85	115			
Manganese		478	ug/filter	1.0	96	85	115			
Molybdenum		98.9	ug/filter	1.0	99	85	115			
Zinc		90.3	ug/filter	1.0	90	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: B25020654

Report Date: 02/27/25

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 197366
Lab ID: LCSD-197366										02/20/25 07:08
7 Laboratory Control Sample Duplicate										Run: ICPMS207-B_250218A
Arsenic		93.8	ug/filter	1.0	94	85	115			
Cadmium		46.2	ug/filter	1.0	92	85	115			
Copper		96.6	ug/filter	1.0	97	85	115			
Lead		102	ug/filter	1.0	102	85	115			
Manganese		493	ug/filter	1.0	99	85	115			
Molybdenum		99.4	ug/filter	1.0	99	85	115			
Zinc		92.0	ug/filter	1.0	92	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: B25020654

Report Date: 02/27/25

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										
Analytical Run: ICPMS208-B_250220A										
Lab ID: QCS	6	Initial Calibration Verification Standard								02/20/25 12:25
Cadmium		0.0253	mg/L	0.0010	101	90	110			
Copper		0.0522	mg/L	0.010	104	90	110			
Lead		0.0502	mg/L	0.0010	100	90	110			
Manganese		0.256	mg/L	0.0050	102	90	110			
Molybdenum		0.0495	mg/L	0.0050	99	90	110			
Zinc		0.0523	mg/L	0.0050	105	90	110			
Lab ID: CCV	6	Continuing Calibration Verification Standard								02/20/25 15:40
Cadmium		0.0494	mg/L	0.0010	99	90	110			
Copper		0.0502	mg/L	0.010	100	90	110			
Lead		0.0500	mg/L	0.0010	100	90	110			
Manganese		0.0499	mg/L	0.0050	100	90	110			
Molybdenum		0.0492	mg/L	0.0050	98	90	110			
Zinc		0.0506	mg/L	0.0050	101	90	110			
Lab ID: CCV	6	Continuing Calibration Verification Standard								02/20/25 17:28
Cadmium		0.0471	mg/L	0.0010	94	90	110			
Copper		0.0504	mg/L	0.010	101	90	110			
Lead		0.0476	mg/L	0.0010	95	90	110			
Manganese		0.0500	mg/L	0.0050	100	90	110			
Molybdenum		0.0469	mg/L	0.0050	94	90	110			
Zinc		0.0514	mg/L	0.0050	103	90	110			
Lab ID: QCS	6	Initial Calibration Verification Standard								02/21/25 19:45
Cadmium		0.0245	mg/L	0.0010	98	90	110			
Copper		0.0521	mg/L	0.010	104	90	110			
Lead		0.0490	mg/L	0.0010	98	90	110			
Manganese		0.257	mg/L	0.0050	103	90	110			
Molybdenum		0.0484	mg/L	0.0050	97	90	110			
Zinc		0.0514	mg/L	0.0050	103	90	110			
Lab ID: CCV	6	Continuing Calibration Verification Standard								02/22/25 03:16
Cadmium		0.0458	mg/L	0.0010	92	90	110			
Copper		0.0495	mg/L	0.010	99	90	110			
Lead		0.0461	mg/L	0.0010	92	90	110			
Manganese		0.0482	mg/L	0.0050	96	90	110			
Molybdenum		0.0451	mg/L	0.0050	90	90	110			
Zinc		0.0488	mg/L	0.0050	97	90	110			
Method: E200.8										
Batch: 197366										
Lab ID: MB-197366	6	Method Blank				Run: ICPMS208-B_250220A				02/20/25 16:46
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						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Billings, MT Branch

Work Order: B25020654

Report Date: 02/27/25

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 197366
Lab ID: MB-197366	6	Method Blank				Run: ICPMS208-B_250220A				02/20/25 16:46
Zinc		ND	ug/filter	0.3						
Method: E200.8										Analytical Run: ICPMS208-B_250226A
Lab ID: QCS	2	Initial Calibration Verification Standard								02/26/25 18:34
Arsenic		0.0508	mg/L	0.0050	102	90	110			
Molybdenum		0.0487	mg/L	0.0050	97	90	110			
Lab ID: CCV	2	Continuing Calibration Verification Standard								02/26/25 21:15
Arsenic		0.0499	mg/L	0.0050	100	90	110			
Molybdenum		0.0481	mg/L	0.0050	96	90	110			
Lab ID: CCV	2	Continuing Calibration Verification Standard								02/26/25 22:33
Arsenic		0.0497	mg/L	0.0050	99	90	110			
Molybdenum		0.0452	mg/L	0.0050	90	90	110			
Method: E200.8										Batch: 197366
Lab ID: MB-197366	2	Method Blank				Run: ICPMS208-B_250226A				02/26/25 21:39
Arsenic		ND	ug/filter	0.06						
Molybdenum		ND	ug/filter	0.006						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



Work Order Receipt Checklist

Bison Engineering

B25020654

Login completed by: Crystal M. Jones

Date Received: 2/13/2025

Reviewed by: dharris

Received by: KLP

Reviewed Date: 2/14/2025

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:	-1.8°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

www.energylab.com

Account Information <i>(Billing information)</i>				Report Information <i>(If different than Account Information)</i>		Comments
Company/Name Bison Engineering, Inc.				Company/Name Bison Engineering, Inc.		
Contact Melissa Young				Contact Don Mlmine		
Phone (406) 442-5768				Phone (406) 208-4833		
Mailing Address 3143 E Lyndale Avenue				Mailing Address 2751 Enterprise Avenue Suite 2		
City, State, Zip Helena MT, 59601				City, State, Zip Billings, MT 59102		
Email myyoung@bison-eng.com				Email dmlmine@bison-eng.com		
Receive Invoice ☐ Hard Copy ☐ Email ☐		Receive Report ☐ Hard Copy ☐ Email ☐		Receive Report ☐ Hard Copy ☐ Email ☐		
Purchase Order MTR223018		Quote		Special Report/Formats: ☐ LEVEL IV ☐ NELAC ☐ EDD/EDT (contact laboratory) ☐ Other		

Project Information		
Project Name, PWSID, Permit, etc. Montana Resources/Greely School DH		
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)		

[illegible]

Custody Record MUST be signed	Relinquished by (print) <i>Don Williams</i>	Date/Time <i>2/13/25 0840</i>	Signature <i>Don Williams</i>	Received by (print)	Date/Time	Signature
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print) <i>Myself</i>	Date/Time <i>2-13-25</i>	Signature <i>DB</i>
Shipped By	Cooler ID(s)	LABORATORY USE ONLY				Receipt Number (cash/check only)
		Custody Seals Y N C B	Intact Y N	Receipt Temp °C	Temp Blank Y N	

This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.

APPENDIX E: 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)
Copper	EPA	RSL: HI = 1	Cd (water) (Noncancer Risk)	10	ng/m ³	HI=1	https://semspub.epa.gov/work/HQ/401635.pdf - (November, 2021)
	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
	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	ng/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 </

Zinc (Zn)

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

<u>Term</u>	<u>Definition</u>
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 lifetime 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 F: CALIBRATIONS

BGI PQ200 PM10 Sampler – Monthly Calibration Checks			
Date: 10/11/2024	Time: 1218 – 1235 MST	Sampler Serial Number: 1622	
Performed By: Steve Heck		Location (field or lab): Greeley School	
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 $\leq \pm 10$)
Ambient Pressure	622 mm Hg	625.4 mmHg	-3.4
Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 2^{\circ}\text{C}$)
Ambient Temperature	19.0 C	18.6 C	+0.4 C
Filter Temperature	18.5 C	18.8 C	-0.3 C
Leak Check			
Vacuum Readings (cm H ₂ O)	Start 128	End 127	Pass Fail
Flow Rate Verification			
Reading (liters per minute)	Sampler (a)	Reference Standard (b)	% Difference $100 \cdot (a - b) / b$ (must be $\leq \pm 4\%$)
Operating flow rate check	16.67	16.43	+1.5%
Reading (liters per minute)	Reference Standard (b)	Design Flow Rate Standard (c)	% Difference $100 \cdot (b - 16.7) / 16.7$ (must be $\leq \pm 5\%$)
Design flow rate calculation	16.43	16.70	-1.6%
Removed exposed filter temporarily. No adjustments			

BGI PQ200 PM10 Sampler – Monthly Calibration Checks			
Date: 11/13/2024	Time: 1129 – 1150 MST	Sampler Serial Number: 1622	
Performed By: Steve Heck		Location (field or lab): Greeley School	
Ref Standard & S/N: 1) Swift 25.0 SN D16202		Certification Date: 1) 07-15-2024	
Barometric Pressure Sensor Verification			
Reading (mm Hg)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 10$)
Ambient Pressure	616 mm Hg	619.8 mmHg	-3.8
Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 2^{\circ}\text{C}$)
Ambient Temperature	4.9 C	4.7 C	+0.2 C
Filter Temperature	5.3 C	5.1 C	+0.2 C
Leak Check			
Vacuum Readings (cm H ₂ O)	Start	End	Pass Fail
	102	101	
Flow Rate Verification			
Reading (liters per minute)	Sampler (a)	Reference Standard (b)	% Difference $100 \cdot (a - b) / b$ (must be $\leq \pm 4\%$)
Operating flow rate check	16.67	16.60	+0.4%
Reading (liters per minute)	Reference Standard (b)	Design Flow Rate Standard (c)	% Difference $100 \cdot (b - 16.7) / 16.7$ (must be $\leq \pm 5\%$)
Design flow rate calculation	16.60	16.70	-0.4%
Removed exposed filter temporarily. No adjustments			

BGI PQ200 PM10 Sampler – Monthly Calibration Checks			
Date: 12/03/2024	Time: 1327 – 1344 MST	Sampler Serial Number: 1622	
Performed By: Steve Heck		Location (field or lab): Greeley School	
Ref Standard & S/N: 1) Swift 25.0 SN D16202		Certification Date: 1) 07-15-2024	
Barometric Pressure Sensor Verification			
Reading (mm Hg)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 10$)
Ambient Pressure	624 mm Hg	628.2 mmHg	-4.2
Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 2^{\circ}\text{C}$)
Ambient Temperature	7.3 C	7.1 C	+0.2 C
Filter Temperature	5.7 C	6.1 C	-0.4 C
Leak Check			
Vacuum Readings (cm H ₂ O)	Start	End	Pass Fail
	101	100	
Flow Rate Verification			
Reading (liters per minute)	Sampler (a)	Reference Standard (b)	% Difference $100 \cdot (a - b) / b$ (must be $\leq \pm 4\%$)
Operating flow rate check	16.70	16.62	+0.5%
Reading (liters per minute)	Reference Standard (b)	Design Flow Rate Standard (c)	% Difference $100 \cdot (b - 16.7) / 16.7$ (must be $\leq \pm 5\%$)
Design flow rate calculation	16.62	16.70	-0.5%
Removed exposed filter temporarily. No adjustments			

BGI PQ200 PM10 Sampler – Monthly Calibration Checks			
Date: 01/15/2025	Time: 1125 – 1142 MST	Sampler Serial Number: 1622	
Performed By: Steve Heck		Location (field or lab): Greeley School	
Ref Standard & S/N: 1) Delta Cal SN 1288		Certification Date: 1) 12-19-2024	
Barometric Pressure Sensor Verification			
Reading (mm Hg)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 10$)
Ambient Pressure	627 mm Hg	629.1 mmHg	-2.1
Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 2^{\circ}\text{C}$)
Ambient Temperature	2.3 C	1.3 C	+1.0 C
Filter Temperature	-1.0 C	0.0 C	-1.0 C
Leak Check			
Vacuum Readings (cm H ₂ O)	Start 97	End 96	Pass Fail
Flow Rate Verification			
Reading (liters per minute)	Sampler (a)	Reference Standard (b)	% Difference $100 \cdot (a - b) / b$ (must be $\leq \pm 4\%$)
Operating flow rate check	16.72	16.97	-1.5%
Reading (liters per minute)	Reference Standard (b)	Design Flow Rate Standard (c)	% Difference $100 \cdot (b - 16.7) / 16.7$ (must be $\leq \pm 5\%$)
Design flow rate calculation	16.97	16.70	+1.6%
Removed clean filter temporarily. No adjustments			

Met One E-Sampler – Monthly Calibration Check / Quarterly Audit			
Date: 10/11/2024	Time: 1230-1250 MST	Sampler Serial Number: X24429	
Performed By: Steve Heck		Location (field or lab): Greeley School	
Ref Standard & S/N: 1) Swift 6.0 SN C13475 (Flow/BP) 2) Delta Cal SN 1288 (Temp)		Certification Date: 1) 09-27-2024 2) 01-03-2024	
Barometric Pressure Sensor Verification			
Reading (Pascals)	Sampler (a)	Reference Standard (b)	Difference (a - b) (limit $\leq \pm 1333$ Pa)
Ambient Pressure	83,451 Pa	626.6 mm Hg = 83,540 Pa	-89 Pa
Pascals = mmHg * 133.322		Limit of ± 1333 Pascals = ± 10 mmHg	
Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 2^\circ\text{C}$)
Ambient Temperature	21.0 C	20.6 C	+0.4 C
Leak Check			
Leak Check Flow Rate	0.0 LPM	(must be < 0.4 LPM)	Pass Fail
Flow Rate Verification			
Reading (liters per minute)	Sampler (a)	Reference Standard (b)	% Difference $100 \cdot (a - b) / b$ (must be $\leq \pm 5\%$)
Audit standard flow rate check	2.0	1.98	+1.0 %
Reading (liters per minute)	Reference Standard (b)	Design Flow Rate Standard (c)	% Difference $100 \cdot (b - 2.0) / 2.0$ (must be $\leq \pm 5\%$)
Design flow rate check	1.98	2.0	-1.0 %
Relative Humidity Verification			
Dry Bulb Temp. $^\circ\text{C}$	19.0	Calculated RH (a)	26.3%
Wet Bulb Temp. $^\circ\text{C}$	8.8	Sampler RH (b)	27%
BP Inches Hg	24.67	Difference = a - b (must be $\leq 7\%$ RH)	+0.7%

Checked flow with expired SN 14999, read 1.96 LPM. BP read 625.3 mm Hg

Met One E-Sampler – Monthly Calibration Check / Quarterly Audit			
Date: 11/13/2024	Time: 1102-1120 MST	Sampler Serial Number: X24429	
Performed By: Steve Heck		Location (field or lab): Greeley School	
Ref Standard & S/N: 1) Swift 6.0 SN C13475 (Flow/BP) 2) Delta Cal SN 1288 (Temp)		Certification Date: 1) 09-27-2024 2) 01-03-2024	
Barometric Pressure Sensor Verification			
Reading (Pascals)	Sampler (a)	Reference Standard (b)	Difference (a - b) (limit $\leq \pm 1333$ Pa)
Ambient Pressure	82,747 Pa	621.9 mm Hg = 82,913 Pa	-166 Pa
Pascals = mmHg * 133.322		Limit of ± 1333 Pascals = ± 10 mmHg	
Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 2^{\circ}\text{C}$)
Ambient Temperature	8.3 C	8.2 C	+0.1 C
Leak Check			
Leak Check Flow Rate	0.0 LPM	(must be < 0.4 LPM)	Pass Fail
Flow Rate Verification			
Reading (liters per minute)	Sampler (a)	Reference Standard (b)	% Difference $100 \cdot (a - b) / b$ (must be $\leq \pm 5\%$)
Audit standard flow rate check	2.0	2.02	-1.0 %
Reading (liters per minute)	Reference Standard (b)	Design Flow Rate Standard (c)	% Difference $100 \cdot (b - 2.0) / 2.0$ (must be $\leq \pm 5\%$)
Design flow rate check	2.02	2.0	+1.0 %
Relative Humidity Verification			
Dry Bulb Temp. $^{\circ}\text{C}$	4.4	Calculated RH (a)	36.4%
Wet Bulb Temp. $^{\circ}\text{C}$	-0.8	Sampler RH (b)	34%
BP Inches Hg	24.48	Difference = a - b (must be $\leq 7\%$ RH)	-2.4%

Met One E-Sampler – Monthly Calibration Check / Quarterly Audit			
Date: 12/03/2024	Time: 1343-1400 MST	Sampler Serial Number: X24429	
Performed By: Steve Heck		Location (field or lab): Greeley School	
Ref Standard & S/N: 1) Swift 6.0 SN C13475 (Flow/BP) 2) Swift 25.0 SN D16202 (Temp)		Certification Date: 1) 09-27-2024 2) 07-15-2024	
Barometric Pressure Sensor Verification			
Reading (Pascals)	Sampler (a)	Reference Standard (b)	Difference (a - b) (limit $\leq \pm 1333$ Pa)
Ambient Pressure	83,763 Pa	629.1 mm Hg = 83,873 Pa	-110 Pa
Pascals = mmHg * 133.322		Limit of ± 1333 Pascals = ± 10 mmHg	
Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 2^{\circ}\text{C}$)
Ambient Temperature	12.9 C	12.9 C	0.0 C
Leak Check			
Leak Check Flow Rate	0.0 LPM	(must be < 0.4 LPM)	Pass Fail
Flow Rate Verification			
Reading (liters per minute)	Sampler (a)	Reference Standard (b)	% Difference $100 \cdot (a - b) / b$ (must be $\leq \pm 5\%$)
Audit standard flow rate check	2.0	2.02	-1.0 %
Reading (liters per minute)	Reference Standard (b)	Design Flow Rate Standard (c)	% Difference $100 \cdot (b - 2.0) / 2.0$ (must be $\leq \pm 5\%$)
Design flow rate check	2.02	2.0	+1.0 %
Relative Humidity Verification			
Dry Bulb Temp. $^{\circ}\text{C}$	6.9	Calculated RH (a)	48.3%
Wet Bulb Temp. $^{\circ}\text{C}$	2.4	Sampler RH (b)	46%
BP Inches Hg	24.77	Difference = a - b (must be $\leq 7\%$ RH)	-2.3%

Met One E-Sampler – Monthly Calibration Check / Quarterly Audit			
Date: 01/15/2025	Time: 1146-1202 MST	Sampler Serial Number: X24429	
Performed By: Steve Heck		Location (field or lab): Greeley School	
Ref Standard & S/N: 1) Swift 6.0 SN 13475 (Flow/BP) 2) Delta Cal SN 1288 (Temp)		Certification Date: 1) 09-27-2024 2) 12-19-2024	
Barometric Pressure Sensor Verification			
Reading (Pascals)	Sampler (a)	Reference Standard (b)	Difference (a - b) (limit $\leq \pm 1333$ Pa)
Ambient Pressure	84,173 Pa	632.6 mm Hg = 84,340 Pa	-167 Pa
Pascals = mmHg * 133.322		Limit of ± 1333 Pascals = ± 10 mmHg	
Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 2^{\circ}\text{C}$)
Ambient Temperature	8.4 C**	6.3 C**	+2.1 C**
Leak Check			
Leak Check Flow Rate	0.0 LPM	(must be < 0.4 LPM)	Pass Fail
Flow Rate Verification			
Reading (liters per minute)	Sampler (a)	Reference Standard (b)	% Difference $100 \cdot (a - b) / b$ (must be $\leq \pm 5\%$)
Audit standard flow rate check	2.0	1.97	+1.5 %
Reading (liters per minute)	Reference Standard (b)	Design Flow Rate Standard (c)	% Difference $100 \cdot (b - 2.0) / 2.0$ (must be $\leq \pm 5\%$)
Design flow rate check	1.97	2.0	-1.5 %
Relative Humidity Verification			
Dry Bulb Temp. $^{\circ}\text{C}$	-0.7	Calculated RH (a)	59.6%
Wet Bulb Temp. $^{\circ}\text{C}$	-3.2	Sampler RH (b)	54%
BP Inches Hg	24.90	Difference = a - b (must be $\leq 7\%$ RH)	-5.6%

Intense, direct sun. Adjusted temperature to read 9.2 C at reference temperature of 8.3 C

**APPENDIX G: CALIBRATION STANDARD
CERTIFICATION SHEETS**



Met One Instruments, Inc.

1600 NW Washington Blvd • Grants Pass, OR 97526 • (541) 471-7111 • www.metone.com

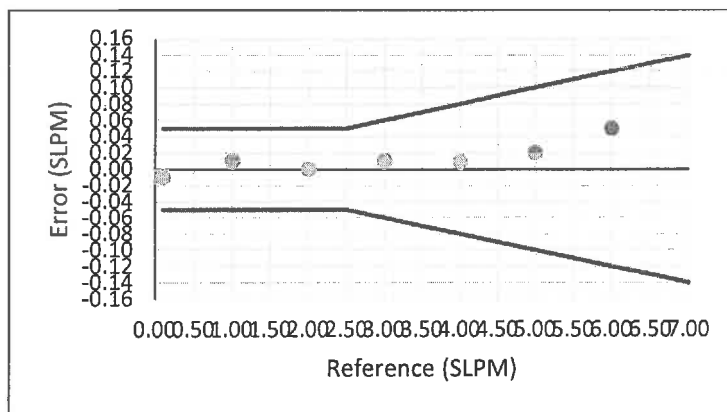
Certificate of Calibration

Model Swift 6.0

Serial Number: C13475
Firmware Version: 83373 Rev 1.0.0
Customer: BISON ENGINEERING INC
As Left ☒ As Found ☐

Calibrated By: A.Schultz
Calibration Date: 9/27/24
Next Calibration Date: 9/27/25

Flow Calibration			
Standard (SLPM)	Swift 6.0 (SLPM)	Acceptable Range	In Tolerance
1.000	1.00	0.95 - 1.05	Yes
2.000	2.00	1.95 - 2.05	Yes
3.000	3.01	2.94 - 3.06	Yes
4.000	4.01	3.92 - 4.08	Yes
5.000	5.00	4.90 - 5.10	Yes
6.000	6.00	5.88 - 6.12	Yes
Flow Accuracy: $\pm 2\%$ of reading or ± 0.05 LPM, whichever is greater			



Temperature		
Standard (°C)	Swift (°C)	In Tolerance
21.99	22.9	Yes
Temperature Accuracy: $\pm 1.0^\circ\text{C}$		

Pressure		
Standard (mbar)	Swift (mbar)	In Tolerance
977.9	977.8	Yes
Pressure Accuracy: ± 16 mbar		

Calibration Procedure: Swift 6.0-6100
Recommended Calibration Interval: 12 months from the first day of use

Standards	Manufacturer	Model	SN	Cal Due Date
Temp/Humidity/BP	Met One Instruments	597	Y13061	5/20/2025
Temperature Probe	Rotronics	HC2-S3	GP-438	8/22/2025
Air Flow Meter (Flow & Temp)	Alicat	M-50SLPM-D/5M	432090	7/26/2025

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.



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

CERTIFICATE OF CALIBRATION - NIST TRACEABILITY

Calibration Report #: 149645-04122023

TetraCal Serial Number: 149645

Calibration Technician: Melissa Sardoni

Date: 4-Dec-2023

Recommended Recal Date: 4-Dec-2024

Critical Venturi Flow Meter

Max Uncertainty = 0.346%

TE20004 6 - 30.00 LPM

Calibration Due: 25-Sep-2024

TE20006 1.40 - 6.0 LPM

Calibration Due: 25-Sep-2024

TE20008 0.40 - 1.20 LPM

Calibration Due: 26-Sep-2024

Room Temperature: $\pm 0.03^{\circ}\text{C}$ from -5°C - 70°C Room Temperature: 24.40°C

Brand: Eutechnics

TE Number: TE12312

Serial Number: 358921

Std Cal Date: 1-Sep-23

Std Cal Due Date: 1-Sep-24

Ambient Temperature (set): 24.8°C

Aux (filter) Temperature (set): 24.4°C

Barometric and Absolute Pressure

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

TE Number: TE20203

Serial Number: U1220936

Std Cal Date: 6-Jun-23

Std Cal Due Date: 6-Jun-24

TetraCal:

Barometric pressure (set): 617.20 mmHg

0

Results of Venturi Calibration

Flow Rate (Q) vs. Pressure Drop (ΔP).

Where: Q=Lpm, ΔP = Cm of H₂O

Venturi

TE20004 Q1 = 5.45324

$\Delta P^{\wedge}$ 0.51821

Overall Uncertainty: 0.35%

TE20006 Q2 = 1.17346

$\Delta P^{\wedge}$ 0.52812

Overall Uncertainty: 0.35%

TE20008 Q3 = 0.21591

$\Delta P^{\wedge}$ 0.52812

Overall Uncertainty: 0.35%



Mesa Labs 12100 W. 6th Ave Lakewood,
CO 80228

NIST Traceable Calibration Facility

As Shipped Calibration Data for TetraCal

Unit Type: TetraCal TC12 Flow Range: 1.20 -30.00 LPM Serial No. : 149645 Firmware Version: 3.41P	Date	Technician
	04Dec2023	Melissa Sardoni
	Ambient Pressure: 617 mmHg Ambient Temperature: 24.4 °C	

Range 1: 1.2 - 6.00 LPM		Test #	Static Pressure mmHg	Barometric Pressure mmHg	Venturi Qa LPM	DUT Qa LPM	% error %
Venturi Type	TE20004 1A	1	122.34	617.7	5.968	5.975	0.117
Flow range	6 - 30.00 LPM	2	363.64	617.7	18.103	17.991	-0.619
		3	594.51	617.7	29.713	29.903	0.639
Maximum allowable error at any flow rate is 0.75%.						Average Result	0.046 PASS

Range 2: 6.00 - 30.0 LPM		Test #	Static Pressure mmHg	Barometric Pressure mmHg	Venturi Qa LPM	DUT Qa LPM	% error %
Venturi Type	TE20006 2A	1	107.98	617.7	1.503	1.496	-0.466
Flow range	1.40 - 6.0 LPM	2	232.85	617.7	3.309	3.295	-0.423
		3	416.30	617.7	5.961	5.987	0.436
Maximum allowable error at any flow rate is 0.75%.						Average Result	-0.151 PASS

Range 3: NP		Test #	Static Pressure mmHg	Barometric Pressure mmHg	Venturi Qa LPM	DUT Qa LPM	% error %
Venturi Type	TE20008 3A	1	218.27	617.2	0.499	0.496	-0.601
Flow range	0.40 - 1.20 LPM	2	342.63	617.2	0.800	0.796	-0.500
		3	507.69	617.7	1.199	1.197	-0.167
Maximum allowable error at any flow rate is 0.75%.						Average Result	-0.423 PASS

Performed By: Melissa Sardoni

Date: 4-Dec-2023

Melissa Sardoni
Leonard Reinert

Approved By:

Quality Specialist

Date: 06Dec2023

Leonard Reinert



Mesa Labs 12100 W. 6th Ave Lakewood,
CO 80228

NIST Traceable Calibration Facility

As-Found data for TetraCal

Unit Type: TetraCal TC12	Date	Technician
Flow Range: 1.20 -30.00 LPM	04Dec2023	Melissa Sardoni
Serial No. : 149645	Ambient Pressure:	617 mmHg
Firmware Version: 3.41P	Ambient Temperature:	24.4 °C

	As Received Temp. Press. Calibration				As Shipped Temp. Press. Calibration			
	DUT	Standard	Diff	+/- 1 mmHg	DUT	Standard	Diff	+/- 1 mmHg
Pres _{AMB} mmHg	616.5	616.7	-0.2	Pass	617.2	617.1	0.1	Pass
	DUT	Standard	Diff	+/- 1 °C	DUT	Standard	Diff	+/- 1 °C
Temp _{AMB} °C	23.3	23.2	0.1	Pass	24.8	24.4	0.4	Pass
Temp _{Filter} °C	24.4	24.4	0	Pass	24.4	24.4	0	Pass

	Offset	New Offset
Pres _{AMB}	-47	-46.8
Temp _{AMB}	0.25	0.15
Temp _{Filter}	0.15	0.15

Range 1: 1.2 - 6.00 LPM		Test #	Static Pressure mmHg	Barometric Pressure mmHg	Venturi Qa LPM	DUT Qa LPM	% error %
Venturi	TE20004	1	124.11	617.0	6.058	6.006	-0.858
Type	1A	2	365.22	617.5	18.17	18.008	-0.892
Flow range	6 - 30.00 LPM	3	594.39	617.0	29.711	29.788	0.259
Maximum allowable error at any flow rate is 0.75%.						Average Result	-0.497
							FAIL

Range 2: 6.00 - 30.0 LPM		Test #	Static Pressure mmHg	Barometric Pressure mmHg	Venturi Qa LPM	DUT Qa LPM	% error %
Venturi	TE20006	1	109.62	617.0	1.526	1.505	-1.376
Type	2A	2	235.68	617.0	3.349	3.310	-1.165
Flow range	1.40 - 6.0 LPM	3	419.04	617.5	5.994	5.981	-0.217
Maximum allowable error at any flow rate is 0.75%.						Average Result	-0.919
							FAIL

Range 3: NP		Test #	Static Pressure mmHg	Barometric Pressure mmHg	Venturi Qa LPM	DUT Qa LPM	% error %
Venturi	TE20008	1	217.24	617.5	0.495	0.496	0.202
Type	3A	2	346.69	617.5	0.808	0.803	-0.619
Flow range	0.40 - 1.20 LPM	3	507.24	617.5	1.198	1.196	-0.167
Maximum allowable error at any flow rate is 0.75%.						Average Result	-0.195
							PASS



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: $\pm 0.03^{\circ}\text{C}$ 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	$\Delta P^{\wedge}$	0.51536	Overall Uncertainty: 0.35%
TE20007	Q= 3.95205	$\Delta P^{\wedge}$	0.52799	Overall Uncertainty: 0.35%



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		Test #	Static Pressure mmHg	Barometric Pressure mmHg	Venturi Qa LPM	DUT Qa LPM	% error %
Venturi	TE20005	1	134.39	615.4	6.530	6.504	-0.398
Type	1B	2	205.14	615.4	10.048	10.005	-0.428
Flow range	6 - 30.00 LPM	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		Test #	Static Pressure mmHg	Barometric Pressure mmHg	Venturi Qa LPM	DUT Qa LPM	% error %
Venturi	TE20007	1	139.56	615.9	1.941	1.953	0.618
Type	2B	2	206.07	615.9	2.895	2.908	0.449
Flow range	1.40 - 6.0 LPM	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

Approved By:

TROY THACKER

Date: 03JAN2024

Troy Thacker



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							
Pres _{AMB}	3	2.9							
Temp _{AMB}	0	0							
Temp _{Filter}	0	0							

Range 1		Test #	Static Pressure mmHg	Barometric Pressure mmHg	Venturi Qa LPM	DUT Qa LPM	% error %
Venturi	TE20005	1	134.61	616.0	6.533	6.499	-0.520
Type	1B	2	204.39	616.0	9.997	9.938	-0.590
Flow range	6 - 30.00 LPM	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 Result	-0.626 PASS

Range 2		Test #	Static Pressure mmHg	Barometric Pressure mmHg	Venturi Qa LPM	DUT Qa LPM	% error %
Venturi	TE20007	1	139.22	616.0	1.935	1.952	0.879
Type	2B	2	200.99	616.5	2.818	2.814	-0.142
Flow range	1.40 - 6.0 LPM	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 Result	0.171 FAIL



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

CERTIFICATE OF CALIBRATION - NIST TRACEABILITY

Calibration Report #: 1288-19122024
DeltaCal Serial Number: 1288
Calibration Technician: Elsy Lasky
Date: 19-Dec-2024
Recommended Recal Date: 19-Dec-2025

Critical Venturi Flow Meter

Max Uncertainty = 0.346%

TE20004	6 - 30.00 LPM	Calibration Due:	22-Oct-2025
TE20006	1.40 - 6.0 LPM	Calibration Due:	17-Oct-2025

Room Temperature: $\pm 0.03^{\circ}\text{C}$ from -5°C - 70°C Room Temperature: 24.00°C

Brand:	Eutechnics	Serial Number:	358921
TE Number:	TE12312	Std Cal Due Date:	26-Aug-25
Std Cal Date:	26-Aug-24		

Ambient Temperature (set): 24.0°C

Aux (filter) Temperature (set): 24.0°C

Barometric and Absolute Pressure

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

TE Number:	TE12311	Serial Number:	H0850001
Std Cal Date:	23-Feb-24	Std Cal Due Date:	23-Feb-25

DeltaCal:

Barometric pressure (set): 609.10 mmHg

Results of Venturi Calibration

Flow Rate (Q) vs. Pressure Drop (ΔP).

Where: Q=Lpm, ΔP = Cm of H2O

Venturi

TE20004	Q= 3.96199	$\Delta P^{\wedge}$	0.52283	Overall Uncertainty: 0.35%
TE20006	Q= 3.92006	$\Delta P^{\wedge}$	0.5439	Overall Uncertainty: 0.35%



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
19Dec2024	Elsy Lasky

Ambient Pressure:	622.3	mmHg
Ambient Temperature:	24	°C

Range 1		Test #	Static Pressure mmHg	Barometric Pressure mmHg	Venturi Qa LPM	DUT Qa LPM	% error %
Venturi Type	TE20004 1A	1	133.14	622.7	6.517	6.500	-0.261
Flow range	6 - 30.00 LPM	2	204.61	622.7	10.085	10.016	-0.684
		3	264.61	622.7	13.076	13.012	-0.489
		4	324.54	622.7	16.066	16.019	-0.293
		5	364.67	622.7	18.074	18.012	-0.343
		6	398.36	622.7	19.756	19.805	0.248
Maximum allowable error at any flow rate is 0.75%.						Average Result	-0.304
						Result	PASS

Range 2		Test #	Static Pressure mmHg	Barometric Pressure mmHg	Venturi Qa LPM	DUT Qa LPM	% error %
Venturi Type	TE20006 2A	1	143.14	622.2	2.015	2.008	-0.347
Flow range	1.40 - 6.0 LPM	2	213.42	622.2	3.023	3.016	-0.232
		3	261.43	622.2	3.711	3.724	0.350
		4	316.47	622.2	4.500	4.521	0.467
		5	369.32	622.2	5.258	5.269	0.209
		6	417.88	622.2	5.954	5.985	0.521
Maximum allowable error at any flow rate is 0.75%.						Average Result	0.161
						Result	PASS

Performed By: Elsy Lasky

Date: 19-Dec-2024

Approved By:

Troy Thacker
QC Inspector

Date: 23 DEC 2024



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
19Dec2024	Elsy Lasky

Ambient Pressure:	622.3	mmHg
Ambient Temperature:	24	°C

As Received Temp. Press. Calibration					As Shipped Temp. Press. Calibration				
	DUT	Standard	Diff	+/- 1 mmHg	DUT	Standard	Diff	+/- 1 mmHg	
Pres _{AMB} mmHg	609.6	619.9	-10.3	Fail	622.2	622.3	-0.1	Pass	
	DUT	Standard	Diff	+/- 1 °C	DUT	Standard	Diff	+/- 1 °C	
Temp _{AMB} °C	-51	24	-75	Fail	24	24	0	Pass	
Temp _{Filter} °C	24	24	0	Pass	24	24	0	Pass	
	Offset	New Offset							
Pres _{AMB}	2.9	13.2							
Temp _{AMB}	0.05	75.05							
Temp _{Filter}	0	0							

Range 1		Test #	Static Pressure mmHg	Barometric Pressure mmHg	Venturi Qa LPM	DUT Qa LPM	% error %
Venturi	TE20004	1	156.85	609.1	5.878	6.588	12.079
Type	1A	2	234.96	609.1	8.855	10.009	13.032
Flow range	6 - 30.00 LPM	3	305.31	609.1	11.536	13.029	12.942
		4	374.67	609.1	14.179	16.007	12.892
		5	421.14	609.1	15.950	18.057	13.210
		6	459.25	609.1	17.402	19.838	13.998
Maximum allowable error at any flow rate is 0.75%.						Average Result	13.026
							FAIL

Range 2		Test #	Static Pressure mmHg	Barometric Pressure mmHg	Venturi Qa LPM	DUT Qa LPM	% error %
Venturi	TE20006	1	167.05	609.6	1.798	2.011	11.846
Type	2A	2	249.30	609.1	2.699	3.037	12.523
Flow range	1.40 - 6.0 LPM	3	307.97	609.1	3.341	3.762	12.601
		4	363.80	609.1	3.952	4.522	14.423
		5	422.33	609.1	4.592	5.223	13.741
		6	478.87	609.1	5.211	5.922	13.644
Maximum allowable error at any flow rate is 0.75%.						Average Result	13.130
							FAIL

Certificate of Calibration

Model Swift 25.0

Serial Number : D16202

Calibrated Date: 7/15/2024

Firmware: R0.2.0.5a

Calibrated By: A.Schultz

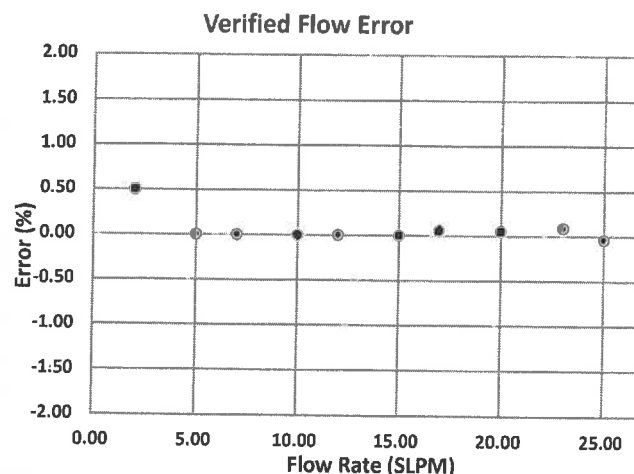
As Left



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.