



MONTANA RESOURCES LLP

DATA REPORT FOR TSP AND PM₁₀ MONITORING STATION AT GREELEY SCHOOL IN BUTTE, MONTANA QUARTER 2, 2025

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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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EXECUTIVE SUMMARY

This report summarizes the results of ambient monitoring conducted by Bison Engineering Inc. on behalf of Montana Resources LLP. Monitoring for Total Suspended Particulate (TSP), particulate smaller than 10-micron diameter (PM₁₀) and trace metals was conducted at the former Greeley School site in Butte, Montana. Monitoring results are presented in detail in this report. Summary findings – including comparisons to ambient standards and health-based exposure Guidelines – are presented in the Tables below.

A. Trace Element Results

	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)
TSP Metals – Mean Conc.	2.9	0.18	49	12.9	4.9	2.7	27
PM ₁₀ Metals – Mean Conc.	1.5	0.13	29	6.6	1.6	1.6	15
Lifetime Exposure Guideline (ng/m³)	15	10	2,000	50	400	150	47,619

B. Particulate Concentrations from Bison Filter-Based Samplers

	TSP (µg/m ³)	PM ₁₀ (µg/m ³)
Mean Concentration	17	12
EPA Annual Standard	75¹	50¹
Maximum Concentration	34 ²	19
EPA 24-Hour Standard	260¹	150

¹These ambient standards are no longer in effect

²Maximum gravimetric filter result from Bison E-Sampler, which was collected over a 6-day sampling period

C. Particulate Concentrations by Size Fraction from Continuous Monitors

	TSP (µg/m ³)	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)
Average Concentration ³	19	15	4.4

³Based on concurrent periods with valid data from all 3 monitors. TSP values are from Bison E-Sampler. PM₁₀ and PM_{2.5} values are from the MDEQ/BSB Continuous BAM-1020 monitors.

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:

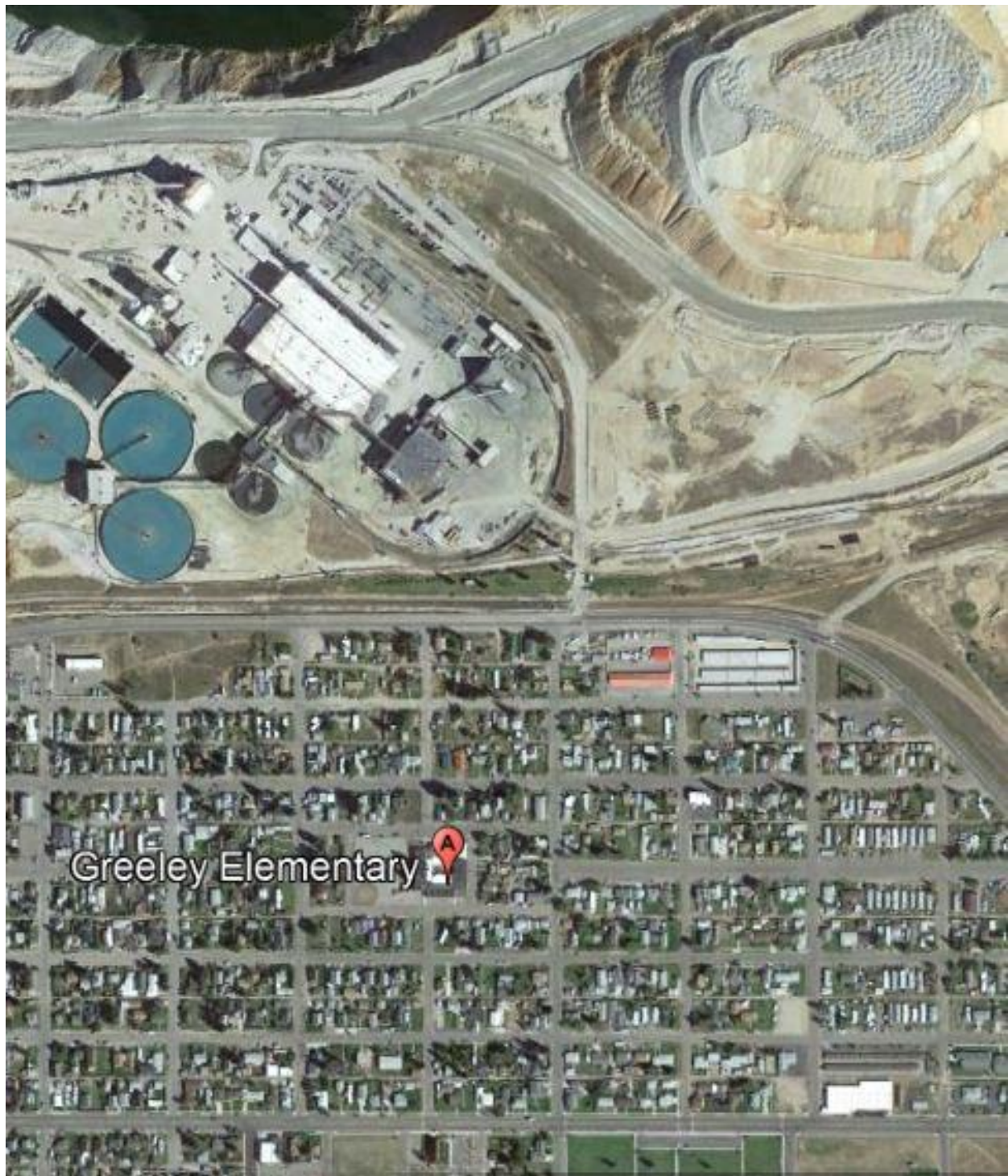
- Continuous monitoring for PM₁₀ using a Met One Model 1020 Beta Attenuation Monitor (BAM-1020).
- Continuous monitoring for PM_{2.5} using a second Met One BAM-1020.
- Episodic monitoring for PM_{2.5} using a BGI Model PQ-200 sampler. This sampler collects particulate matter on a filter over a 24-hour 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 second quarter of 2025. 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 of typically 4-8 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 11 m³ to 22 m³ for the E-Sampler (based on four 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 June 2025 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 second quarter of 2025. 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 on most sampling dates and no extreme differences between the two methods. A small but consistent bias was noted between the two methods, with the filter-based sampler producing lower PM₁₀ results than the BAM-1020 monitor.

Although not the focus of this study, these results show that the maximum 24-hour PM₁₀ concentrations (19 µg/m³ for the BGI sampler and 23 µg/m³ for the BAM-1020 monitor, both on April 7) were well below the 24-hour standard of 150 µg/m³.⁴ The quarterly PM₁₀ averages from both samplers (12 µg/m³ and 14 µg/m³) were well below the Montana Annual PM₁₀ standard of 50 µg/m³.⁵

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 2, 2025

Sample Collection Date (2025)	BGI PM10¹ (µg/m³)	BAM-1020¹ PM10 (µg/m³)	Arithmetic Difference (µg/m³)	Relative Difference (%)		BAM-1020¹ PM2.5 (µg/m³)
Apr 01	5.6	8.1	-2.5	37		3.8
Apr 07	19.3	22.7	-3.4	16		4.7
Apr 13	No Data	6.4	----	----		3.2
Apr 19	10.0	15.6	-5.6	43		5.0
Apr 25	13.0	14.3	-1.3	9		4.5
May 01	13.3	13.7	-0.4	3		3.8
May 07	12.1	13.1	-1.0	8		4.1
May 13	3.2	4.1	-0.9	26		3.1
May 19	5.6	7.5	-1.9	29		2.8
May 25	13.5	15.7	-2.2	15		5.0
May 31	15.5	19.3	-3.8	22		4.7
Jun 06	13.1	18.0	-4.9	32		5.7
Jun 12	11.8	11.9	-0.1	1		3.8
Jun 18	15.1	18.3	-3.2	19		5.6
Jun 24	13.4	13.3	0.1	1		5.7
Jun 30	14.8	18.7	-3.9	23		5.0
Average²	12.0	14.3	-2.3	17³		4.5

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

²Averages only include dates with data from all 3 monitors.

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 second quarter of 2025.

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 temporally. 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 51 hours of E-Sampler data were excluded from analysis during the second 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 second 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.

Overall, the daily TSP averages from the E-Sampler TSP monitor were nearly 50 percent higher than the PM₁₀ values from the BAM-1020 PM₁₀ monitor in April. They were approximately 30 percent higher in May, and virtually equal in June. This indicates that nearly half of the airborne particulate was larger than 10 microns in the beginning of the quarter, while virtually all particulate was smaller than 10 microns by the end of the quarter. It should be recognized that the TSP measurements are made using a nephelometric technique while the hourly PM₁₀ measurements are made using beta attenuation. The PM_{2.5} fraction averaged approximately 23 percent over the quarter and showed less variation than the PM₁₀ fraction. In general, TSP levels were highest in April and decreased as the quarter progressed. Monthly changes in PM₁₀ and PM_{2.5} levels were less pronounced.

Average temperatures were near normal in both April and June, and above normal in May. Precipitation was well below normal in both April and June and above normal in May, based on records from the Butte airport.

Table 2: TSP, PM₁₀ and PM_{2.5} Averages for Quarter 2, 2025

Period 2025	TSP (µg/m³)	PM₁₀ (µg/m³)	PM_{2.5} (µg/m³)
April	22	15	4.8
May	17	13	4.2
June	15	15	4.4
Quarter 2	19	15	4.4

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 April 2025

Date 2025	TSP (µg/m³)	PM₁₀ (µg/m³)	PM_{2.5} (µg/m³)
Apr 1	10	8	4.1
Apr 2	7	6	2.3
Apr 3	11	11	3.7
Apr 4	11	10	3.4
Apr 5	21	16	4.6
Apr 6	23	16	5.0
Apr 7	29	23	4.7
Apr 8	8	7	2.9
Apr 9	34	18	5.9
Apr 10	70	35	9.5
Apr 11	49	28	7.8
Apr 12	13	7	4.3
Apr 13	15	6	3.2
Apr 14	32	17	5.5
Apr 15	35	25	6.9
Apr 16	33	36	6.7
Apr 17	24	21	3.4
Apr 18	17	11	4.3
Apr 19	22	16	5.0
Apr 20	13	9	4.4
Apr 21	6	7	3.2
Apr 22	11	9	3.5
Apr 23	17	14	4.7
Apr 24	20	15	5.3
Apr 25	17	14	4.5
Apr 26	17	13	3.9
Apr 27	25	16	5.6
Apr 28	17	12	4.6
Apr 29	25	18	4.6
Apr 30	16	13	4.0
Average	22	15	4.8

Table 2b: TSP, PM₁₀ and PM_{2.5} Daily Averages for May 2025

Date 2025	TSP (µg/m³)	PM₁₀ (µg/m³)	PM_{2.5} (µg/m³)
May 1	19	14	3.8
May 2	35	23	7.8
May 3	43	23	8.2
May 4	13	12	4.2
May 5	10	8	3.5
May 6	8	7	3.2
May 7	16	13	4.1
May 8	18	17	4.9
May 9	20	17	5.8
May 10	20	18	4.5
May 11	11	11	2.6
May 12	25	20	6.3
May 13	7	4	3.0
May 14	6	3	3.0
May 15	7	7	3.0
May 16	9	7	3.7
May 17	7	7	2.5
May 18	4	6	2.3
May 19	9	7	2.8
May 20	12	8	2.7
May 21	20	11	4.0
May 22	22	No Data	3.2
May 23	19	13	4.6
May 24	21	11	4.5
May 25	22	16	5.0
May 26	27	21	4.5
May 27	23	15	4.2
May 28	15	15	3.2
May 29	28	22	5.1
May 30	16	15	4.0
May 31	24	19	4.7
Average	17	13	4.2

Table 2c: TSP, PM₁₀ and PM_{2.5} Daily Averages for June 2025

Date 2025	TSP (µg/m³)	PM₁₀ (µg/m³)	PM_{2.5} (µg/m³)
Jun 1	37	35	6.2
Jun 2	13	15	3.1
Jun 3	16	14	2.9
Jun 4	18	17	4.0
Jun 5	No Data	-----	-----
Jun 6	No Data	-----	-----
Jun 7	No Data	-----	-----
Jun 8	No Data	-----	-----
Jun 9	No Data	-----	-----
Jun 10	11	20	5.8
Jun 11	11	12	4.0
Jun 12	11	12	3.8
Jun 13	12	12	4.3
Jun 14	14	13	4.4
Jun 15	15	15	5.9
Jun 16	14	15	5.3
Jun 17	16	18	4.8
Jun 18	16	18	5.8
Jun 19	16	21	5.7
Jun 20	9	13	3.9
Jun 21	4	6	2.1
Jun 22	4	6	3.0
Jun 23	13	9	3.6
Jun 24	25	13	5.7
Jun 25	26	17	5.0
Jun 26	25	22	5.1
Jun 27	19	16	4.4
Jun 28	11	13	2.9
Jun 29	14	14	4.0
Jun 30	16	19	5.0
Average	15	15	4.4

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 second quarter.
- Figure 3 presents a wind rose for only those periods when the reported hourly TSP concentration was above $29 \mu\text{g}/\text{m}^3$; 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 $11 \mu\text{g}/\text{m}^3$; 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.

Consistent with recent calendar quarters, Figure 2 shows an emphasis for southwest through southeast winds, with roughly 35 percent of all winds blowing from those directions. However, there was also a strong emphasis for winds from the northwest quadrant, accounting for roughly 40 percent of observed winds; this is a marked departure from recent calendar quarters. The average wind speed of 1.7 m/s (3.8 mph) was higher than for recent quarters, likely reflecting less frequent inversion conditions.

Figure 3 shows a wind rose for high⁸ ($>29 \mu\text{g}/\text{m}^3$) TSP concentrations. Wind directions during these periods did not differ greatly from the overall pattern shown in Figure 2. There was a slight increase in winds from northerly and southerly directions. Wind speeds were lower during “high” TSP concentrations, averaging only 1.2 m/s (2.7 mph). This is consistent with more stagnant conditions.

Figure 4 shows a wind rose for low ($<11 \mu\text{g}/\text{m}^3$) TSP concentrations. Winds from the northwest quadrant were dominant, occurring approximately 50 percent of the time. Wind speeds during low-TSP periods were noticeably higher than for the quarter overall, averaging 2.1 m/s (4.7 mph).

In general, TSP levels tended to increase during both southerly and northerly winds and decreased during northwesterly 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 PM₁₀ and PM_{2.5} data presented in Section 4.1, the

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.

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

Overall, the gravimetrically determined TSP concentrations from the E-Sampler were approximately 30 percent higher than concurrent PM₁₀ concentrations from the BAM-1020 monitor. This comparison indicates that on average nearly 80 percent of the airborne particulate was smaller than 10 microns during the second quarter of 2025; this is consistent with the analysis presented in Section 4.1.

Table 3: Summary of Gravimetric TSP vs Hourly PM₁₀ for Quarter 2, 2025

Sampling Period (2025)	Average Gravimetric TSP (µg/m³)	Average BAM-1020 PM₁₀ (µg/m³)
03/31-04/02	8.7	7.0
04/02-04/08	17.0	13.5
04/08-04/14	34.4	17.8
04/14-04/23	20.4	16.5
04/23-04/28	19.1	13.7
04/28-05/06	22.0	14.9
05/06-05/12	17.6	15.1
05/12-05/16	8.5	6.4
05/16-05/20	7.1	6.8
05/20-06/04	21.4	17.0
06/04-06/10	9.7*	20.1
06/10-06/17	13.1	13.9
06/17-06/23	9.8	12.6
06/23-07/01	20.2	-----
Average**	16.6	12.9

*Excluded from average calculation due to suspect gravimetric results.

**To facilitate direct comparison, these averages include only periods with valid results from both samplers.

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

Second Quarter 2025 (direction wind was from)

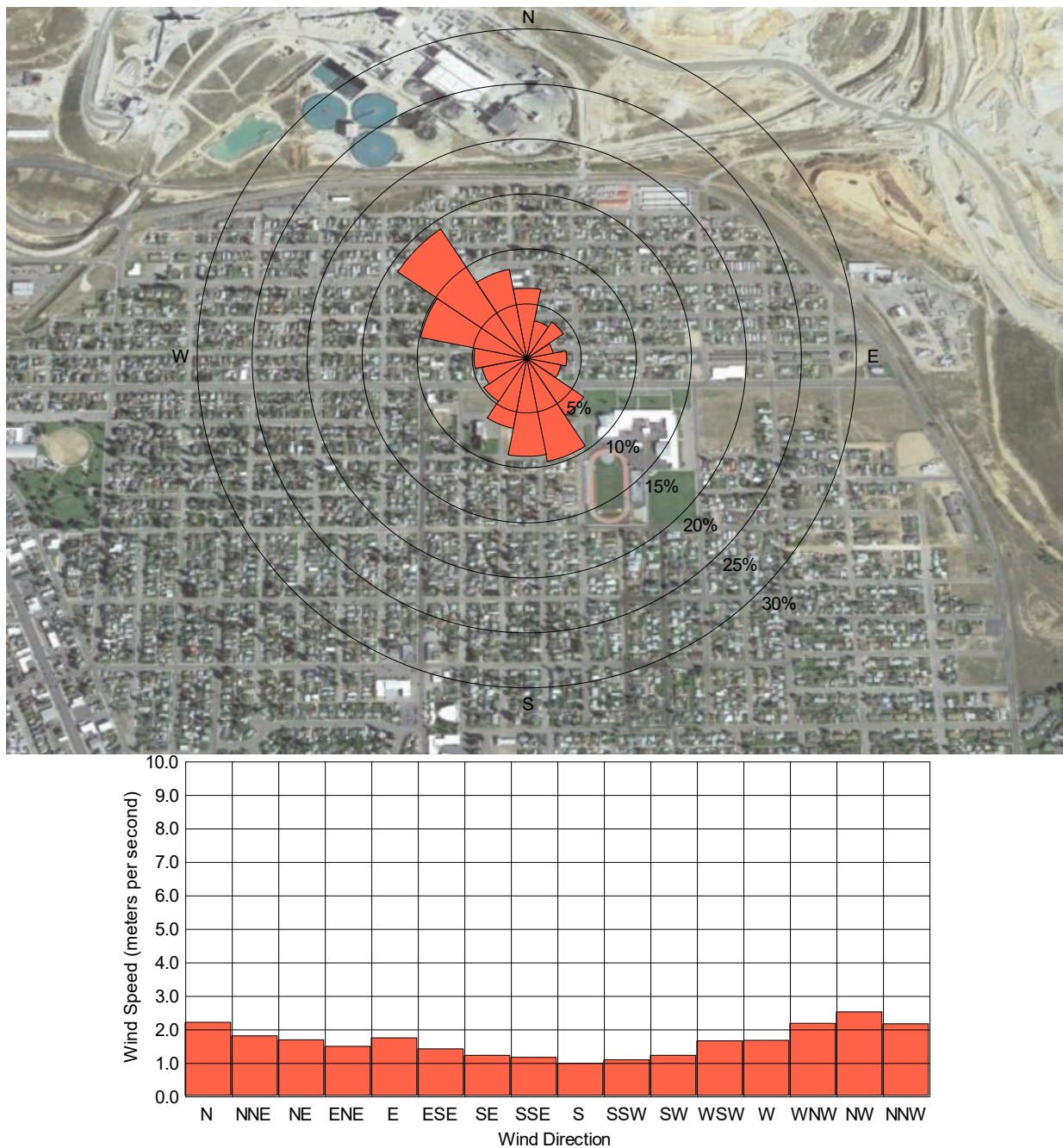


Figure 3. Quarterly Wind Rose, Greeley School (TSP >29 $\mu\text{g}/\text{m}^3$)

Second Quarter 2025 (direction wind was from)

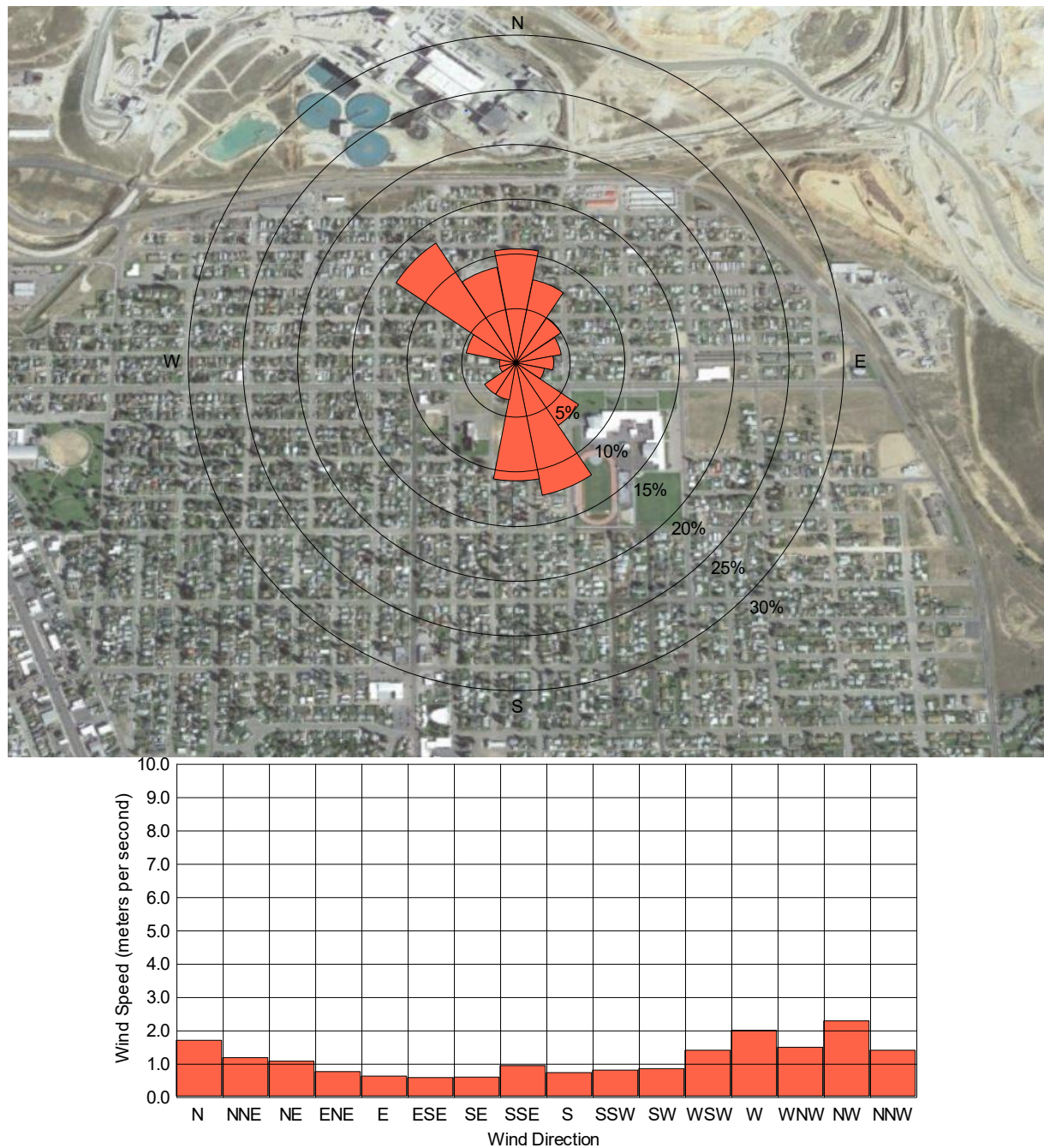
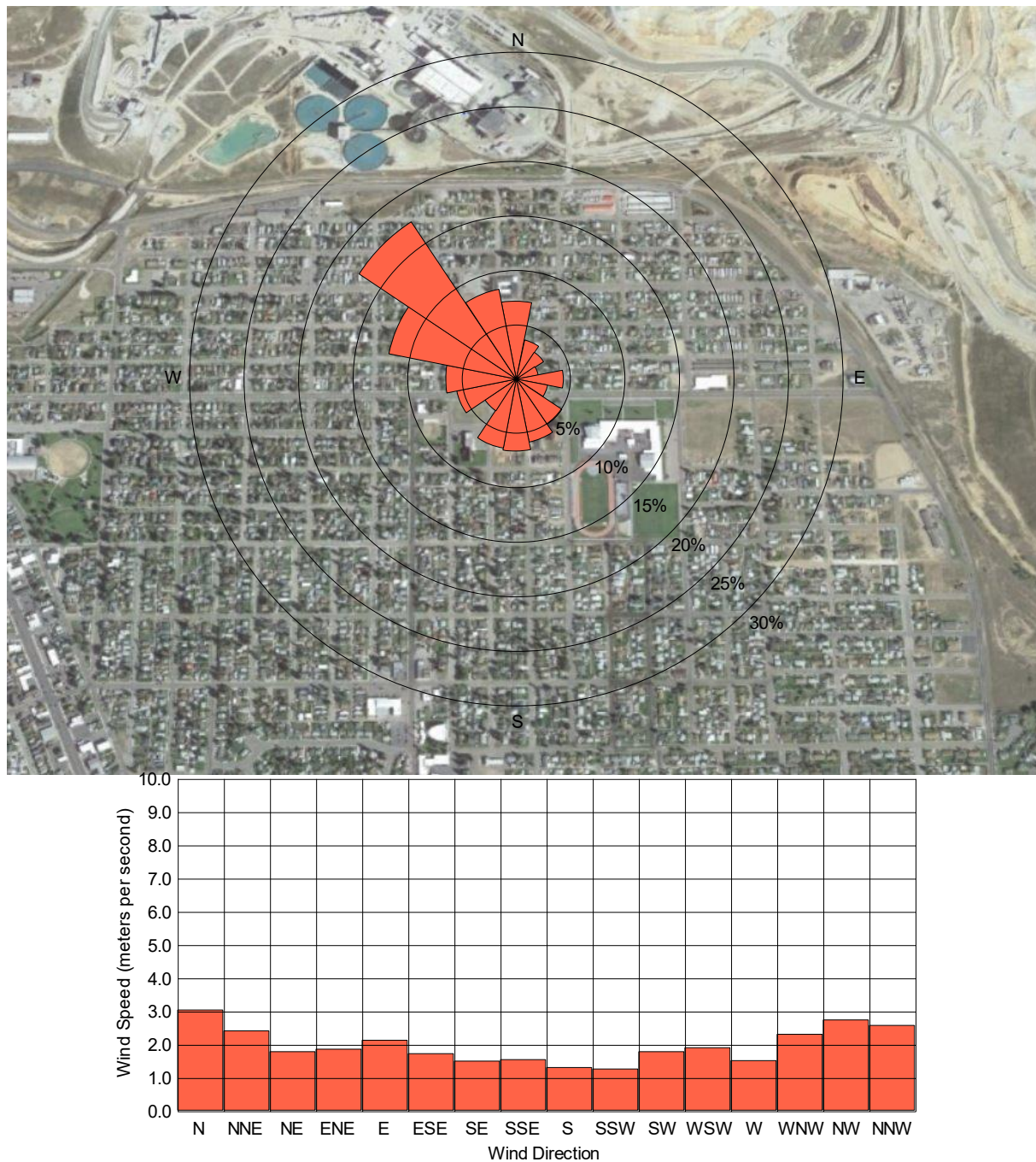


Figure 4. Quarterly Wind Rose, Greeley School (TSP <11 $\mu\text{g}/\text{m}^3$)

Second Quarter 2025 (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 PM₁₀ samples collected during the second quarter were analyzed for trace elements, as well as two Field Blanks and four filter lot blanks (Lab Blanks). All scheduled samples were successfully collected in the normal manner, with the following exceptions:

- The PM₁₀ sample scheduled for April 13 was not collected
- A TSP sample was collected as scheduled from June 4 to June 10, but the gravimetric results were unrealistically low. It is unknown whether this reflected loss of sample material after collection, an incomplete filter seal, or some other event. The chemical analysis results for that filter are included and flagged in the following tables, but those results were not incorporated into the statistical averages.

Tables 4a and 4b summarize the total particulate mass and ELI analytical results for samples collected during the second quarter. Detectable concentrations of copper and molybdenum were found in most samples, while arsenic, cadmium and lead were often non-detectable. Table 4c shows the Field Blank and Lab Blank results associated with the second 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 second quarter were non-detectable, with the following exceptions:

- Low levels of molybdenum were detected in one Field Blank.
- Zinc was detected in one Lab Blank, at a concentration less than twice the zinc MDL
- The arsenic concentration in the Method Blanks associated with the TSP and PM₁₀ samples collected between March 31 and April 8 was equal to the arsenic MDL (0.06 ug/filter). Because the arsenic concentrations are **typically** non-detectable, the effect of the method blank result is evident in those TSP and PM₁₀ sample results – and also in the associated Field Blank and Lab (filter) Blank. This had a small effect on the calculated average arsenic concentrations for the second quarter:

- If the reported arsenic concentrations for these samples are taken at face value, the quarterly average arsenic concentrations are 2.9 ng/m³ for the TSP samples and 1.5 ng/m³ for the PM₁₀ samples.
- If the arsenic concentrations for the samples are treated as non-detectable and set to ½ the ambient detection limit, the average concentrations decrease to 1.8 ng/m³ for the TSP samples and 1.3 ng/m³ for the PM₁₀ samples.
- The TSP sample collected from March 31 to April 2 shows an apparent airborne arsenic concentration of 14 ng/m³. However, this value results from a reported detectable arsenic mass on the filter (0.074 µg, which likely reflects the Method Blank bias noted above) in combination with an unusually low sample volume of 5.15 m³ (because the sampling period was only 2 days, versus the more typical 4 to 8 days).
- Treating the arsenic results for these samples as non-detectable reduces the average arsenic concentration by approximately 1 percent of the lifetime exposure Guideline value (15 ng/m³) for the PM₁₀ samples, and by approximately 7 percent of the Guideline value for the TSP samples. Regardless of the approach taken, the average arsenic concentration during the second quarter is less than 20 percent of the lifetime exposure Guideline for both TSP and PM₁₀.
- For purposes of this quarterly report, Tables 5a and 5b report arsenic as the concentrations taken at face value per the discussion above.

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 below the applicable lifetime exposure Guideline values. The closest approach to a Guideline was for manganese in the sample collected from March 31 to April 2, with a concentration of 49 ng/m³, or 98% of the Guideline value of 50 ng/m³. All quarterly averages for the seven trace elements were less than 30 percent of the applicable Guideline values. If the arsenic result of 14 ng/m³ for the March 31 – April 2 TSP sample is taken at face value, that value represents 93 percent of the Guideline of 15 ng/m³.
- All trace element concentrations in the individual PM₁₀ samples were well below the applicable Guideline values. The closest approach to a Guideline was for manganese in the sample collected on April 7, with a concentration of 13 ng/m³, or 26% of the lifetime exposure Guideline value of 50 ng/m³. All quarterly averages for the seven trace elements were less than 20 percent of the applicable lifetime 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)
03/31-04/02	45	0.074	ND	0.65	0.25	0.094	0.050	0.69
04/02-04/08	282	0.070	ND	0.49	0.20	0.091	ND	0.45
04/08-04/14	579	ND	ND	1.4	0.33	0.28	0.073	0.79
04/14-04/23	503	ND	ND	1.4	0.31	0.091	0.073	0.75
04/23-04/28	262	ND	ND	0.55	ND	0.030	ND	ND
04/28-05/06	474	ND	ND	1.3	0.30	0.099	0.069	0.46
05/06-05/12	292	ND	ND	0.37	ND	0.012	ND	ND
05/12-05/16	96	ND	ND	0.22	ND	0.0079	ND	ND
05/16-05/20	78	ND	ND	0.25	ND	0.0089	ND	ND
05/20-06/04	877	ND	ND	2.3	0.46	0.14	0.11	0.62
06/04-06/10	161	ND	ND	0.33	ND	0.0073	ND	ND
06/10-06/17	252	ND	ND	0.67	ND	0.038	ND	ND
06/17-06/23	161	ND	ND	0.33	ND	0.016	ND	ND
06/23-07/01	444	ND	ND	1.3	0.28	0.087	0.085	0.62

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)
04/01	134	0.071	ND	0.43	ND	0.016	ND	0.32
04/07	464	0.077	ND	1.2	0.31	0.12	0.065	0.55
04/13	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
04/19	241	ND	ND	0.48	ND	0.017	ND	0.49
04/25	313	ND	ND	0.96	0.21	0.031	0.046	0.42
05/01	319	ND	ND	0.59	0.22	0.039	ND	0.84
05/07	291	ND	ND	0.51	ND	0.019	ND	ND
05/13	76	ND	ND	0.22	ND	0.010	ND	ND
05/19	135	ND	ND	0.22	ND	0.012	ND	ND
05/25	325	ND	ND	0.72	0.23	0.14	ND	ND
05/31	372	ND	ND	1.1	0.22	0.039	0.053	0.31
06/06	314	ND	ND	0.86	ND	0.033	0.053	0.34
06/12	284	ND	ND	0.68	ND	0.021	ND	0.30
06/18	362	ND	ND	0.48	0.20	0.018	0.065	0.42
06/24	322	ND	ND	0.99	ND	0.024	0.094	0.41
06/30	356	ND	ND	0.85	0.20	0.026	0.053	0.36

All values are micrograms per filter. ND denotes not detected. (1) denotes no sample was collected.

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)
05/01-LB	5	0.065	ND	ND	ND	ND	ND	ND
04/02-FFB	30	0.063	ND	ND	ND	0.024	ND	ND
05/06-FFB	7	ND	ND	ND	ND	ND	ND	ND
05/25-LB	-1	ND	ND	0.59	ND	ND	0.10	0.50
06/25-LB	5	ND	ND	ND	ND	ND	ND	ND
08/08-LB	-4	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)
03/31-04/02	5.15	14***	ND	130	49	18	9.7	130
04/02-04/08	16.59	4.2	ND	30	12	5.5	ND	27
04/08-04/14	16.82	ND	ND	83	20	17	4.3	47
04/14-04/23	24.71	ND	ND	57	13	3.7	3.0	30
04/23-04/28	13.73	ND	ND	40	ND	2.2	ND	ND
04/28-05/06	21.51	ND	ND	60	14	4.6	3.2	21
05/06-05/12	16.59	ND	ND	22	ND	0.72	ND	ND
05/12-05/16	11.33	ND	ND	19	ND	0.70	ND	ND
05/16-05/20	10.98	ND	ND	23	ND	0.81	ND	ND
05/20-06/04	41.07	ND	ND	56	11	3.4	2.7	15
06/04-06/10	16.59	ND	ND	20	ND	0.44	ND	ND
06/10-06/17	19.22	ND	ND	35	ND	2.0	ND	ND
06/17-06/23	16.47	ND	ND	20	ND	1.0	ND	ND
06/23-07/01	21.96	ND	ND	59	13	4.0	3.9	28
Average (ng/m ³) *		2.9	0.18	49	12.9	4.9	2.7	27
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 2.7 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.

***This value is likely a statistical oddity as discussed in the text.

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)
04/01	24.03	3.0	ND	18	ND	0.67	ND	13
04/07	24.03	3.2	ND	50	13	5.0	2.7	23
04/13	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
04/19	24.03	ND	ND	20	ND	0.71	ND	20
04/25	24.03	ND	ND	40	8.7	1.3	1.9	17
05/01	24.03	ND	ND	25	9.2	1.6	ND	35
05/07	24.03	ND	ND	21	ND	0.79	ND	ND
05/13	24.03	ND	ND	9.2	ND	0.42	ND	ND
05/19	24.03	ND	ND	9.2	ND	0.50	ND	ND
05/25	24.03	ND	ND	30	9.6	5.8	ND	ND
05/31	24.03	ND	ND	46	9.2	1.6	2.2	13
06/06	24.03	ND	ND	36	ND	1.4	2.2	14
06/12	24.03	ND	ND	28	ND	0.87	ND	12
06/18	24.03	ND	ND	20	8.3	0.75	2.7	17
06/24	24.02	ND	ND	41	ND	1.0	3.9	17
06/30	24.03	ND	ND	35	8.3	1.1	2.2	15
Average (ng/m ³) *		1.5	0.13	29	6.6	1.6	1.6	15
Guideline (ng/m ³) **		15	10	2,000	50	400	150	47,619

(1) Denotes no sample was collected.

* 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 Q1 2025.

^E Based on 24-hour sampling period and total sample volume of 24 m³. Range reflects maximum and minimum laboratory MDLs during Q1 2025.

^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 April 29, May 21 and June 9.¹⁰

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 second 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 July 7, 2025, also are shown to demonstrate data validity through the end of the quarter.

Table 8: Summary of Quarter 2, 2025 Calibration Verification Results

Date	Calibration Check	Results	Limits	Actions
04/29/2025	BGI PM ₁₀ Flow Verification (A)	-0.9%	±4%	
	BGI PM ₁₀ Flow Verification (B)	+1.0%	±4%	
	BGI Ambient Temperature	+0.2°C	±2.0°C	
	BGI Filter Temperature	-0.1°C	±2.0°C	
	BGI Ambient Pressure	-3.7 mm Hg	±10 mmHg	
	BGI Leak Test (pressure drop)	0 cm H ₂ O	≤4 cm H ₂ O	
	E-Sampler Flow Verification (A)	-0.5%	±5%	
	E-Sampler Flow Verification (B)	+0.5%	±5%	
	E-Sampler Ambient Temperature	-1.0°C	±2.0°C	
	E-Sampler Ambient Pressure	-135 Pa	±1333 Pa	
	E-Sampler Leak Test	0.0 LPM	≤0.3 LPM	
	E-Sampler Relative Humidity	+0.2% RH	±7% RH	
05/21/2025	BGI PM ₁₀ Flow Verification (A)	-1.6%	±4%	
	BGI PM ₁₀ Flow Verification (B)	+1.6%	±4%	
	BGI Ambient Temperature	-0.2°C	±2.0°C	
	BGI Filter Temperature	+0.2°C	±2.0°C	
	BGI Ambient Pressure	-3.7 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	-0.2°C	±2.0°C	
	E-Sampler Ambient Pressure	-102 Pa	±1333 Pa	
	E-Sampler Leak Test	0.0 LPM	≤0.3 LPM	
	E-Sampler Relative Humidity	-0.9% RH	±7% RH	
06/09/2025	BGI PM ₁₀ Flow Verification (A)	-1.4%	±4%	
	BGI PM ₁₀ Flow Verification (B)	+1.6%	±4%	
	BGI Ambient Temperature	+0.1°C	±2.0°C	
	BGI Filter Temperature	+0.3°C	±2.0°C	
	BGI Ambient Pressure	-3.7 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	-0.8°C	±2.0°C	
	E-Sampler Ambient Pressure	-157 Pa	±1333 Pa	
	E-Sampler Leak Test	0.0 LPM	≤0.3 LPM	
	E-Sampler Relative Humidity	-2.7% RH	±7% RH	

Date	Calibration Check	Results	Limits	Actions
07/07/2025	BGI PM ₁₀ Flow Verification (A)	-0.8%	±4%	
	BGI PM ₁₀ Flow Verification (B)	+0.8%	±4%	
	BGI Ambient Temperature	+0.1°C	±2.0°C	
	BGI Filter Temperature	0.0°C	±2.0°C	
	BGI Ambient Pressure	-3.7 mm Hg	±10 mmHg	
	BGI Leak Test (pressure drop)	0 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	+0.3°C	±2.0°C	
	E-Sampler Ambient Pressure	+38 Pa	±1333 Pa	
	E-Sampler Leak Test	0.0 LPM	≤0.3 LPM	
	E-Sampler Relative Humidity	-1.0% 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).				

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 second quarter audit was performed on June 9, 2025, for the PM₁₀ sampler, and on June 18, 2025, for the TSP sampler. All audit results were satisfactory.

Table 9: Quarter 2, 2025 Audit Results

BGI PQ200 PM10 Sampler – Performance Audit			
Date: 06/09/2025	Time: 1145-1202	Sampler Serial Number: 1622 - Greeley	
Performed By: Daniel Bitz		Observer: Steve Heck	
Ref Std: Swift 25.0 SN D16202		Certification Date: 07-15-2024	
Barometric Pressure Sensor Verification			
Reading (mm Hg)	Sampler (a)	Audit (b)	Difference (a - b) (must be $\leq \pm 10$)
Ambient Pressure	621	624.1	-3.1
Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Audit (b)	Difference (a - b) (must be $\leq \pm 2^{\circ}\text{C}$)
Ambient Temperature	27.2	27.1	+0.1
Filter Temperature	28.4	28.5	-0.1
Leak Check (must be ≤ 4 cm drop)			
Vacuum Readings (cm H2O)	Start 96	End 95	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	16.67	16.39	+1.7%
Reading (liters per minute)	Audit (b)	Design Flow Rate Standard (c)	% Difference $100 \cdot (b - 16.7) / 16.7$ (must be $\leq \pm 5\%$)
Difference from design flow rate	16.39	16.7	-1.9%
Comments: Exposed filter temporarily removed			

Met One E-Sampler – Quarterly Audit			
Date: 06/18/2025	Time: 1300-1330 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) 01-13-2025	
Barometric Pressure Sensor Verification			
Reading (Pascals)	Sampler (a)	Reference Standard (b)	Difference (a - b) (limit $\leq \pm 1333$ Pa)
Ambient Pressure	83,060 Pa	623.0 mmHg =83,060 Pa	0 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	26.2 C	26.6 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	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 (checked with Assmann Psychrometer)			
Dry Bulb Temp. $^{\circ}\text{C}$	24.5	Calculated RH (a)	16.3
Wet Bulb Temp. $^{\circ}\text{C}$	10.2	Sampler RH (b)	15%
BP Inches Hg	24.53	Difference = a - b (must be $\leq 7\%$ RH)	-1.3% RH

8.0 DATA COMPLETENESS

The percentages of data recovery for each Greeley School monitoring parameter reported by MR during the second quarter of 2025 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 93.0 percent for TSP and 100.0 percent for relative humidity.

- The TSP sample (and associated hourly data) collected from June 4 to June 10 was invalidated because of unrealistically low gravimetric results. It is unknown whether this reflected loss of sample material after collection, an incomplete filter seal, or some other event.
- Otherwise, TSP data loss was limited to routine QA/QC, filter replacement activities, and very brief power outages.

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 92.9 percent for TSP and 93.8 percent for PM₁₀. Causes of missing data included:

- As noted above, the TSP sample collected from June 4 to June 10 was invalidated because of unrealistically low gravimetric results. The trace element results from that sample are included in Section 5.0 but are flagged. Those results were not included in the quarterly averages because of uncertainty about the completeness of the sample.
- It appears that no PM₁₀ sample was collected on April 13, and that the filter identified as that sample was actually a Field Blank.

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
April 2025					
TSP	696	688	98.9	6	99.7
Relative Humidity	720	720	100.0	0	100.0
Total	1416	1408	99.4	6	99.9
May 2025					
TSP	722	715	99.0	5	99.7
Relative Humidity	744	744	100.0	0	100.0
Total	1466	1459	99.5	5	99.9
June 2025					
TSP	715	563	78.7	7	79.7
Relative Humidity	720	720	100.0	0	100.0
Total	1435	1283	89.4	7	89.9
Quarter 2, 2025					
TSP	2133	1966	92.2	18	93.0
Relative Humidity	2184	2184	100.0	0	100.0
Total	4317	4150	96.1	18	96.5
^A Only hours with relative humidity <90 percent of maximum value are counted as possible TSP data hours. See discussion in Section 4.1. ^B Includes hours affected by filter changes, which usually occur every 4 to 8 days.					

Table 11: Quarterly Data Completeness Summary – Filter Analysis Data

Montana Resources LLP – Greeley School			
Parameter	Readings Possible	Valid Readings	Percent Recovery
April 2025			
TSP – Gravimetric	5	5	100.0
TSP – Trace Elements	35	35	100.0
PM ₁₀ – Gravimetric	5	4	80.0
PM ₁₀ – Trace Elements	35	28	80.0
Total	80	72	90.0
May 2025			
TSP – Gravimetric	5	5	100.0
TSP – Trace Elements	35	35	100.0
PM ₁₀ – Gravimetric	6	6	100.0
PM ₁₀ – Trace Elements	42	42	100.0
Total	88	88	100.0
June 2025			
TSP – Gravimetric	4	3	75.0
TSP – Trace Elements	28	21	75.0
PM ₁₀ – Gravimetric	5	5	100.0
PM ₁₀ – Trace Elements	35	35	100.0
Total	72	64	88.9
Quarter 2, 2025			
TSP – Gravimetric	14	13	92.9
TSP – Trace Elements	98	91	92.9
PM ₁₀ – Gravimetric	16	15	93.8
PM ₁₀ – Trace Elements	112	105	93.8
Total	240	224	93.3

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 4- 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 second quarter of 2025.

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	19 ¹	24-hour (max)	150	NAAQS & MAAQS
Pb	0.010 ² 0.003 ³	90-day	1.50	MAAQS
		3-month	0.15	NAAQS
TSP	17 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 23 µg/m³.

² This value was the maximum from the filter-based TSP sampler, collected over a 3-day sampling period. A maximum 24-hour value of 0.004 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 2, 2025, based on gravimetric filter analysis.

¹² 40 CFR 50 *et seq.*

¹³ ARM 17.8.223

**APPENDIX A: VALIDATED AMBIENT MONITORING DATA BY
MONTH, SECOND QUARTER 2025**

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)
April 2025

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	35	10	9	9	7	12	18	15	9	5	6	5	6	5	6	5	AO	10	35	5
2	AO	AO	AO	AO	AO	AO	AO	7	11	BA	5	9	2	5	4	4	7	4	5	10	15	15	5	11	7	15	2
3	14	9	19	9	21	15	21	30	7	8	7	7	5	4	9	9	8	4	3	11	25	5	10	12	11	30	3
4	8	4	5	8	10	AO	AO	22	16	12	13	13	9	8	10	8	8	5	10	14	25	20	13	10	11	25	4
5	8	11	19	13	22	21	AO	18	22	43	15	8	9	12	14	11	13	10	9	19	41	55	48	37	21	55	8
6	28	27	35	25	34	41	26	34	32	48	18	13	11	13	12	13	13	13	12	30	21	13	19	26	23	48	11
7	23	25	19	38	58	41	44	53	65	78	53	35	21	15	14	25	14	10	10	22	12	9	5	1	29	78	1
8	5	3	5	7	2	1	5	4	4	4	BA	5	8	8	9	8	6	9	8	11	15	14	14	33	8	33	1
9	47	41	29	21	26	27	30	45	30	17	27	35	11	12	27	32	29	36	50	48	54	51	44	53	34	54	11
10	53	47	56	56	48	84	77	89	92	150	96	81	68	59	57	54	72	108	48	56	63	53	47	63	70	150	47
11	59	66	74	62	51	65	69	101	107	95	65	41	29	32	27	30	29	24	26	45	15	17	24	27	49	107	15
12	32	23	20	26	30	20	14	12	12	11	17	9	3	3	2	5	3	5	14	12	18	12	9	11	13	32	2
13	11	11	6	12	6	9	6	14	6	9	6	8	5	11	15	17	15	17	20	21	26	26	42	39	15	42	5
14	26	26	26	54	41	60	78	68	41	59	29	27	21	BA	17	21	19	18	15	16	17	28	20	17	32	78	15
15	18	16	22	28	33	46	118	46	71	86	21	20	16	17	18	20	17	23	24	21	23	31	29	65	35	118	16
16	50	35	31	34	48	52	64	81	46	27	15	14	19	13	21	17	19	36	64	46	23	18	5	11	33	81	5
17	16	31	62	6	16	19	9	5	6	11	10	9	6	11	21	11	29	39	7	228	5	4	6	6	24	228	4
18	3	8	11	16	30	14	79	15	14	17	7	7	4	9	5	9	9	8	10	16	14	15	40	48	17	79	3
19	56	46	38	24	19	45	72	30	24	13	14	12	11	16	9	10	10	20	11	9	7	5	7	12	22	72	5
20	8	10	10	9	21	39	47	34	12	12	11	8	6	6	8	5	7	9	8	9	9	9	7	11	13	47	5
21	AO	AO	AO	AO	7	AO	AO	10	6	7	5	4	4	4	2	6	7	7	5	5	6	8	9	12	6	12	2
22	16	11	5	8	15	18	15	15	14	10	AV	7	4	9	11	9	12	13	15	14	7	6	7	13	11	18	4
23	13	27	21	8	11	25	25	25	21	21	20	21	15	BA	12	13	9	19	15	13	15	19	19	15	17	27	8
24	18	20	25	18	22	36	44	33	37	32	19	15	16	12	14	13	12	15	15	13	16	11	14	12	20	44	11
25	11	18	22	22	26	26	48	27	29	22	11	7	9	9	12	12	11	9	8	9	12	12	8	29	17	48	7
26	16	20	15	19	13	30	22	19	13	15	15	15	AV	14	13	14	14	13	15	18	25	20	14	20	17	30	13
27	14	56	25	12	21	46	77	25	42	37	30	16	15	12	14	16	20	23	21	21	20	15	15	15	25	77	12
28	15	16	14	9	14	14	13	16	15	16	23	20	19	BA	18	13	18	14	14	19	23	24	25	20	17	25	9
29	20	34	38	59	59	84	75	44	32	29	17	BF	12	13	11	5	4	4	1	1	1	4	8	13	25	84	1
30	16	10	18	11	40	25	14	13	14	12	13	11	13	13	14	14	13	18	13	18	17	20	24	14	16	40	10
Avg	22	24	25	23	27	35	44	32	28	31	21	17	13	13	15	14	15	18	16	26	19	18	18	23	22	60	8
Max	59	66	74	62	59	84	118	101	107	150	96	81	68	59	57	54	72	108	64	228	63	55	48	65	70	228	47
Min	3	3	5	6	2	1	5	4	4	4	5	4	2	3	2	4	3	4	1	1	1	4	5	1	6	12	1

Montana Resources LLP
Greeley School Air Monitoring Summary
TSP - Met One E-Sampler (micrograms per cubic meter)
May 2025

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	12	8	10	14	36	48	41	49	29	23	12	12	11	11	12	13	11	10	10	10	19	19	17	16	19	49	8
2	11	14	13	17	14	24	23	32	63	75	25	20	20	29	24	29	26	26	38	56	65	65	67	72	35	75	11
3	62	83	61	52	49	48	46	54	97	91	43	28	AV	22	24	25	19	17	16	28	31	28	31	31	43	97	16
4	31	25	22	19	17	16	16	16	11	14	16	14	10	11	16	14	13	7	2	2	4	2	6	5	13	31	2
5	4	4	4	7	2	AO	AO	AO	5	4	24	35	53	11	7	7	5	6	6	7	7	7	5	6	10	53	2
6	5	6	4	6	8	8	12	8	6	BA	5	3	9	8	7	5	14	5	4	3	5	12	16	24	8	24	3
7	22	15	11	13	30	33	26	28	35	22	16	4	3	5	4	7	5	4	10	16	31	26	18	10	16	35	3
8	9	12	12	12	21	33	25	47	44	22	13	14	16	16	15	14	14	10	12	12	15	18	18	14	18	47	9
9	13	11	12	18	13	19	18	27	46	27	22	16	12	12	12	15	15	14	15	23	25	34	20	33	20	46	11
10	28	20	19	19	18	18	22	26	40	35	21	13	16	20	28	13	10	8	8	16	21	28	18	18	20	40	8
11	22	19	21	18	8	21	12	7	11	5	5	5	7	15	8	7	8	8	7	12	9	10	10	11	11	22	5
12	12	13	11	44	68	72	67	44	19	21	BA	21	25	34	20	17	17	14	14	10	10	10	9	4	25	72	4
13	4	AO	AO	AO	AO	AO	10	8	8	12	8	7	1	3	1	3	1	3	5	8	16	9	9	8	7	16	1
14	7	4	5	3	1	5	5	AO	3	9	5	5	5	5	8	20	9	4	7	0	4	1	8	8	6	20	0
15	5	5	8	13	7	9	5	4	7	7	3	4	5	5	3	5	5	7	7	5	8	14	14	14	7	14	3
16	8	9	7	8	22	14	12	13	13	9	13	14	9	BA	6	6	4	6	7	7	13	5	4	3	9	22	3
17	3	3	3	3	8	9	4	6	15	11	6	3	3	5	6	5	5	9	9	10	8	10	6	10	7	15	3
18	AO	4	3	AO	AO	4	4	4	1	2	5	3	2	2	1	5	5	7	9	3	5	6	6	8	4	9	1
19	7	6	8	7	10	11	16	7	4	5	6	6	7	7	6	5	6	12	9	8	10	7	18	18	9	18	4
20	10	25	12	18	19	10	6	4	4	4	4	7	9	BA	16	16	18	14	18	16	16	11	11	14	12	25	4
21	16	14	14	14	24	27	65	33	18	11	11	BF	8	13	14	18	16	16	18	29	16	21	21	21	20	65	8
22	27	16	18	18	22	43	61	64	45	29	16	13	21	18	21	21	19	5	3	5	10	8	11	AO	22	64	3
23	AO	AO	AO	AO	AO	AO	AO	AO	AO	51	14	13	16	14	11	16	19	19	13	19	29	14	19	18	19	51	11
24	14	16	14	19	18	24	22	29	48	45	16	18	18	21	16	16	14	13	14	11	16	27	26	27	21	48	11
25	19	24	21	22	19	27	24	48	49	38	32	30	19	10	10	14	11	24	13	13	13	14	16	22	22	49	10
26	13	37	43	56	51	33	18	27	41	32	26	22	16	16	AV	30	24	19	22	24	14	19	19	14	27	56	13
27	11	11	10	13	13	26	22	32	41	37	33	27	22	30	27	26	26	29	22	24	24	21	19	11	23	41	10
28	16	13	10	11	11	14	16	35	46	41	14	13	10	11	11	8	6	16	10	10	16	10	10	13	15	46	6
29	11	14	13	14	14	24	49	40	38	29	40	29	19	16	57	27	21	21	35	30	33	26	32	32	28	57	11
30	22	22	18	13	14	16	13	16	13	14	14	11	16	11	14	19	10	10	13	18	30	26	16	18	16	30	10
31	18	14	13	18	11	18	16	29	69	46	27	19	16	13	16	13	18	18	13	19	26	21	40	67	24	69	11
Avg	15	16	14	17	20	23	23	26	29	26	17	14	13	14	14	14	13	12	13	15	18	17	17	19	17	42	7
Max	62	83	61	56	68	72	67	64	97	91	43	35	53	34	57	30	26	29	38	56	65	65	67	72	43	97	16
Min	3	3	3	3	1	4	4	4	1	2	3	3	1	2	1	3	1	3	2	0	4	1	4	3	4	9	0

Montana Resources LLP
Greeley School Air Monitoring Summary
TSP - Met One E-Sampler (micrograms per cubic meter)
June 2025

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	40	AV	29	24	24	26	45	61	70	49	48	51	46	41	35	29	38	24	30	77	19	22	18	16	37	77	16
2	14	14	13	16	10	11	10	10	11	16	14	13	13	18	14	14	14	14	14	18	16	8	8	3	13	18	3
3	6	8	6	5	8	22	26	40	16	11	13	11	8	10	13	14	16	16	32	29	16	16	14	27	16	40	5
4	14	8	6	8	13	22	18	43	40	19	11	10	BA	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	18	43	6
5	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM			
6	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM			
7	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM			
8	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM			
9	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	BF	BF	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM			
10	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	BA	17	10	10	14	11	9	8	12	7	7	11	17	7
11	7	7	7	9	12	15	13	15	23	40	28	15	13	9	8	4	2	2	2	7	7	7	7	9	11	40	2
12	6	7	6	AO	AO	9	8	15	17	12	11	13	9	12	11	15	16	9	9	9	12	10	7	8	11	17	6
13	10	10	10	10	12	12	15	15	13	15	28	10	7	11	14	16	11	10	10	11	13	15	11	9	12	28	7
14	14	10	12	13	12	13	12	12	18	20	17	18	14	13	12	12	10	15	15	14	12	15	13	12	14	20	10
15	12	13	11	13	11	12	15	26	25	18	14	11	14	12	15	12	15	13	31	18	17	16	12	11	15	31	11
16	17	20	12	10	11	16	16	20	24	13	11	18	26	16	15	15	10	8	7	9	10	11	11	10	14	26	7
17	10	13	9	11	12	20	19	25	34	28	15	15	15	BA	15	14	15	15	14	15	17	AV	15	13	16	34	9
18	13	14	16	15	17	20	20	31	41	16	15	11	14	AZ	10	11	10	11	10	13	17	18	14	15	16	41	10
19	15	15	16	13	13	15	29	30	22	17	24	15	14	13	14	17	15	11	17	23	8	7	10	9	16	30	7
20	8	8	12	8	10	12	12	15	16	19	15	17	15	6	6	3	5	2	2	3	3	6	4	3	9	19	2
21	3	3	5	1	0	2	1	2	1	4	3	4	4	5	6	8	4	4	3	7	6	1	3	5	4	8	0
22	3	6	2	2	4	3	8	8	7	6	5	3	1	1	1	1	1	1	3	3	5	8	6	1	4	8	1
23	2	4	3	AO	AO	AO	8	8	6	9	10	12	11	BA	15	21	15	20	17	19	19	18	19	19	13	21	2
24	18	47	20	21	19	25	35	35	45	39	24	19	22	23	18	18	20	20	22	23	22	19	23	20	25	47	18
25	21	26	21	23	33	34	28	42	50	35	28	18	19	20	26	30	18	15	15	22	24	26	19	22	26	50	15
26	23	25	28	23	29	34	31	49	AV	34	32	23	24	26	42	16	14	17	15	13	18	20	18	20	25	49	13
27	18	17	20	23	22	21	34	24	35	26	21	16	13	14	10	13	14	13	15	14	15	11	9	27	19	35	9
28	14	13	9	10	11	11	16	21	15	9	7	7	6	5	8	8	8	10	9	16	15	11	13	14	11	21	5
29	10	7	52	22	34	10	9	14	13	8	6	9	4	6	9	10	7	7	11	11	16	27	13	14	14	52	4
30	11	10	11	11	14	17	24	40	45	22	6	8	8	9	10	10	10	9	10	20	18	17	22	24	16	45	6
Avg	13	13	14	13	15	17	19	25	26	20	17	14	14	14	14	13	12	12	14	17	14	14	12	13	15	33	7
Max	40	47	52	24	34	34	45	61	70	49	48	51	46	41	42	30	38	24	32	77	24	27	23	27	37	77	18
Min	2	3	2	1	0	2	1	2	1	4	3	3	1	1	1	1	1	1	2	3	3	1	3	1	4	8	0

Montana Resources LLP
Greeley School Air Monitoring Summary
Relative Humidity (% RH)
April 2025

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

Montana Resources LLP
Greeley School Air Monitoring Summary
Relative Humidity (% RH)
May 2025

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	61	63	67	71	76	77	72	60	46	39	36	31	26	24	22	21	21	21	20	28	33	39	46	50	44	77	20
2	57	63	66	69	71	73	67	51	39	30	19	18	16	11	11	11	10	11	13	19	27	30	35	42	36	73	10
3	47	54	58	62	65	68	60	44	35	27	17	15	13	12	12	12	12	14	15	20	26	31	34	39	33	68	12
4	48	55	60	65	73	76	73	62	55	48	44	43	40	39	41	50	60	75	76	79	76	76	83	84	62	84	39
5	87	89	87	83	87	91	91	92	89	78	70	67	69	69	72	67	63	66	63	63	66	64	60	59	75	92	59
6	59	57	57	57	58	59	59	50	46	47	45	48	50	52	53	51	50	49	51	58	64	71	78	84	56	84	45
7	87	88	88	87	89	89	79	70	64	52	40	31	31	31	28	27	23	23	24	26	35	44	56	63	53	89	23
8	68	71	76	79	82	83	68	58	46	33	29	27	24	21	17	16	15	17	19	21	24	31	38	48	42	83	15
9	58	60	64	69	71	72	58	47	38	27	21	20	16	15	14	16	15	15	16	20	27	35	43	52	37	72	14
10	57	61	64	67	70	71	55	46	39	26	19	17	15	14	26	27	21	20	20	26	34	39	43	49	39	71	14
11	55	62	65	55	49	62	64	54	53	44	38	35	32	36	50	31	21	16	22	30	32	37	47	52	43	65	16
12	58	70	80	64	67	67	58	50	55	42	30	25	25	29	46	49	45	57	68	78	81	83	85	87	58	87	25
13	89	90	91	91	91	90	89	87	83	79	77	73	80	80	79	75	66	65	67	69	69	69	75	80	79	91	65
14	82	85	85	86	88	89	89	90	89	86	77	81	75	71	77	77	75	82	85	84	83	79	76	73	82	90	71
15	72	71	71	73	72	75	82	82	79	73	66	58	58	61	57	52	46	45	49	51	62	69	66	64	65	82	45
16	65	73	78	83	87	87	83	76	67	56	56	49	37	38	39	38	41	45	50	58	62	66	74	80	62	87	37
17	81	84	87	89	89	88	78	72	62	53	42	42	40	35	29	27	34	41	49	67	85	86	85	88	64	89	27
18	90	89	89	90	90	88	85	85	83	79	74	76	77	73	73	64	62	59	58	57	59	64	58	62	74	90	57
19	61	63	66	68	74	74	61	50	44	37	36	34	32	29	26	22	26	28	42	65	61	64	63	70	50	74	22
20	72	75	80	79	72	66	69	65	53	41	40	37	29	24	24	25	25	26	25	32	40	45	51	57	48	80	24
21	60	68	72	75	75	71	62	59	44	37	33	30	29	27	25	22	22	22	25	27	32	38	52	59	44	75	22
22	62	64	66	67	69	67	63	51	41	34	45	44	38	35	35	53	87	85	81	80	82	85	89	91	63	91	34
23	92	93	93	94	94	94	94	93	90	80	52	47	39	35	35	33	35	36	37	40	47	48	61	71	64	94	33
24	76	80	83	85	85	86	73	67	58	43	34	31	26	22	18	17	18	19	19	32	40	46	53	60	49	86	17
25	63	68	72	74	77	76	56	53	48	38	32	26	21	18	16	16	18	23	24	25	25	29	32	40	40	77	16
26	50	59	61	67	71	72	52	45	38	31	27	23	18	14	17	24	31	29	24	48	61	60	57	59	43	72	14
27	67	77	81	84	85	85	78	71	63	49	46	40	35	32	30	30	29	30	30	33	34	33	40	56	52	85	29
28	63	69	73	73	76	74	58	53	44	36	31	29	28	27	26	25	28	27	28	29	30	34	40	41	43	76	25
29	46	49	51	60	68	68	52	49	40	32	29	27	24	23	25	28	22	20	22	25	32	34	41	43	38	68	20
30	45	46	47	48	57	63	54	47	37	29	26	23	18	16	15	17	15	14	15	20	31	37	42	51	34	63	14
31	58	63	66	70	72	71	54	47	39	27	21	19	17	15	14	14	12	10	12	15	22	29	36	41	35	72	10
Avg	66	70	72	74	76	77	69	62	55	46	40	38	35	33	34	33	34	35	37	43	48	51	56	61	52	80	28
Max	92	93	93	94	94	94	94	93	90	86	77	81	80	80	79	77	87	85	85	84	85	86	89	91	82	94	71
Min	45	46	47	48	49	59	52	44	35	26	17	15	13	11	11	11	10	10	12	15	22	29	32	39	33	63	10

Montana Resources LLP
Greeley School Air Monitoring Summary
Relative Humidity (% RH)
June 2025

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

Montana Resources LLP
Greeley School Air Monitoring Summary
Temperature - MDEQ monitor (degrees Celsius)
April 2025

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	-2.4	-2.5	-2.7	-3.5	-3.9	-3.5	-3.9	-2.5	-0.8	-0.5	-1.0	-0.3	-0.4	-0.1	-0.4	-0.5	0.2	-0.4	-1.1	-1.3	-1.5	-2.0	-2.2	-2.5	-1.7	0.2	-3.9
2	-2.9	-2.9	-2.9	-2.9	-2.9	-3.0	-2.7	-2.4	-1.6	-0.3	1.4	3.1	3.5	4.5	4.8	4.8	3.4	1.7	1.2	0.5	0.3	-0.2	-0.5	-0.5	0.1	4.8	-3.0
3	-0.5	-0.5	-0.6	-1.1	-1.2	-1.2	-2.0	-1.2	1.1	1.6	2.3	2.9	3.9	4.6	4.3	3.2	2.6	0.6	-0.6	-1.7	-3.0	-3.9	-5.4	-5.6	-0.1	4.6	-5.6
4	-4.9	-4.5	-4.8	-5.3	-6.0	-6.9	-6.9	-5.8	-3.4	-2.4	-1.1	0.5	1.3	2.2	3.2	4.1	4.2	3.7	2.8	0.8	-0.8	-2.2	-3.2	-4.5	-1.7	4.2	-6.9
5	-5.5	-6.5	-7.4	-7.9	-8.6	-9.3	-9.5	-7.0	-2.5	0.1	3.5	5.5	7.1	8.7	10.9	12.2	12.6	12.0	9.7	6.8	4.0	1.8	0.2	-1.1	1.2	12.6	-9.5
6	-2.0	-3.2	-3.7	-4.3	-4.8	-5.5	-5.5	-2.9	1.9	4.4	9.4	10.5	12.6	14.1	15.3	16.4	16.5	16.1	14.5	10.6	7.4	4.5	2.5	1.4	5.3	16.5	-5.5
7	0.5	-0.4	-1.1	-1.8	-2.4	-2.5	-2.0	0.6	5.4	8.8	11.2	11.7	13.5	14.3	14.8	14.8	14.9	14.7	13.1	11.4	9.5	8.0	4.6	4.8	6.9	14.9	-2.5
8	3.9	4.0	4.1	4.1	3.8	2.9	2.1	3.5	5.3	6.8	6.3	7.0	9.1	9.7	10.9	11.1	11.0	10.4	8.2	5.5	4.0	2.8	1.1	0.3	5.7	11.1	0.3
9	0.6	-0.8	0.9	1.6	-0.1	-1.2	-1.3	0.6	4.7	7.1	6.2	6.7	8.0	7.9	9.8	10.0	10.4	9.8	8.8	7.1	5.7	3.3	1.4	-0.3	4.5	10.4	-1.3
10	-1.0	-1.8	-2.7	-2.5	-3.0	-3.7	-3.7	-0.6	4.5	6.9	11.0	13.5	17.0	17.9	18.8	19.9	20.7	20.1	18.7	15.4	11.8	8.9	6.8	4.5	8.2	20.7	-3.7
11	3.0	2.1	0.9	0.1	-0.6	-1.3	-0.8	3.2	7.5	10.7	14.1	16.1	16.3	16.3	15.8	14.6	14.0	13.3	12.1	10.5	7.8	6.5	5.5	4.3	8.0	16.3	-1.3
12	2.8	1.7	1.3	1.7	1.8	1.9	2.8	3.2	4.2	5.9	6.0	6.9	6.1	6.3	6.0	5.3	4.2	3.4	2.7	1.6	0.7	0.2	0.0	-0.8	3.2	6.9	-0.8
13	-0.6	-0.8	-2.2	-2.2	-1.7	-2.4	-2.2	-0.8	0.3	1.6	2.9	4.0	4.5	6.2	7.2	7.8	7.7	7.1	6.2	4.7	3.5	2.2	-0.4	-1.7	2.1	7.8	-2.4
14	-2.7	-3.5	-4.3	-5.0	-5.5	-6.1	-6.4	-2.7	0.8	3.1	5.9	7.4	9.4	10.7	12.0	13.2	14.4	14.7	14.0	10.9	8.0	5.6	3.0	1.3	4.1	14.7	-6.4
15	0.0	-1.0	-2.0	-2.7	-3.2	-3.7	-3.5	1.1	5.9	10.8	14.8	16.0	18.0	19.1	19.4	19.6	18.5	17.1	14.9	14.0	12.4	10.8	8.4	6.1	8.8	19.6	-3.7
16	4.5	3.1	1.5	0.7	0.5	0.1	0.1	4.5	9.6	10.7	11.9	12.9	14.0	14.1	14.5	13.5	11.1	7.5	3.6	0.2	-0.3	-1.2	-1.5	-2.2	5.6	14.5	-2.2
17	-2.4	-2.2	-2.5	-2.5	-2.5	-2.5	-2.5	-1.8	-1.0	-0.6	0.1	0.7	0.7	0.2	0.6	1.1	0.4	0.7	-0.5	-1.7	-1.8	-2.2	-2.5	-3.2	-1.2	1.1	-3.2
18	-3.5	-3.9	-4.4	-6.6	-7.8	-9.1	-9.3	-6.1	-2.5	0.3	2.2	3.3	4.8	6.3	6.9	7.5	7.4	7.3	6.9	5.1	3.0	1.6	-0.4	-1.8	0.3	7.5	-9.3
19	-2.9	-3.5	-3.9	-4.5	-5.0	-5.5	-4.9	-0.4	4.6	7.3	9.2	11.7	13.4	13.2	13.6	12.5	11.5	10.1	6.7	5.6	4.4	4.3	4.8	4.2	4.4	13.6	-5.5
20	3.0	2.7	1.5	0.7	-0.4	-1.3	-1.6	0.7	5.5	6.8	8.3	9.6	10.0	10.2	11.6	10.1	10.4	9.1	7.8	6.8	5.9	2.9	1.5	0.7	5.1	11.6	-1.6
21	0.6	0.7	0.7	0.7	0.3	-0.6	-0.1	1.1	1.6	0.9	2.2	3.3	3.6	4.8	6.2	7.8	6.6	6.1	4.8	3.2	2.6	2.2	0.4	-0.8	2.5	7.8	-0.8
22	-1.7	-3.0	-3.9	-4.6	-5.1	-5.3	-4.3	-1.5	1.6	3.0	3.9	5.2	6.3	7.0	7.9	8.2	8.9	8.5	7.2	6.0	4.4	3.4	2.6	0.4	2.3	8.9	-5.3
23	-0.8	-0.6	-1.7	-3.0	-3.5	-4.0	-3.5	-0.5	3.0	4.8	6.8	8.6	9.9	11.8	11.4	12.7	12.0	11.2	9.9	8.8	7.9	7.0	5.8	5.1	5.0	12.7	-4.0
24	2.6	0.6	-0.8	-2.2	-2.7	-3.5	-2.9	0.8	4.8	7.8	8.8	10.0	10.6	10.6	11.1	10.7	10.6	10.0	9.8	8.1	6.6	5.6	4.6	4.2	5.2	11.1	-3.5
25	3.3	1.2	-0.1	-1.1	-1.6	-2.0	-1.3	2.5	5.4	7.4	9.3	10.7	12.0	13.1	14.3	14.9	14.7	14.1	12.6	11.0	9.1	8.1	6.9	5.5	7.1	14.9	-2.0
26	5.0	5.1	5.2	3.9	2.7	1.8	2.9	5.6	7.8	10.4	13.3	15.2	13.5	11.3	13.3	14.2	16.1	14.6	13.3	11.6	9.9	7.6	6.2	4.4	9.0	16.1	1.8
27	3.7	3.4	3.2	2.7	1.4	0.3	0.9	4.4	7.8	10.5	14.0	14.1	12.9	9.7	8.7	9.6	10.2	10.3	9.8	9.0	7.0	5.8	5.5	5.6	7.1	14.1	0.3
28	5.0	4.6	4.1	4.0	3.6	3.0	3.0	3.7	4.8	6.1	8.4	9.6	11.5	12.4	13.2	13.0	13.1	13.3	12.9	11.3	10.0	7.6	5.5	3.9	7.8	13.3	3.0
29	3.5	3.1	2.5	3.0	3.5	3.4	5.4	7.7	9.3	11.0	12.5	12.5	12.9	12.6	11.8	9.8	9.8	8.8	9.0	7.8	7.1	6.7	5.7	5.0	7.7	12.9	2.5
30	4.6	4.3	2.4	3.6	2.9	2.3	2.8	4.0	5.9	7.0	8.8	9.3	9.8	9.6	10.5	11.0	11.1	10.9	10.8	9.1	8.2	7.2	4.7	2.4	6.8	11.1	2.3
Avg	0.4	-0.2	-0.8	-1.2	-1.7	-2.3	-2.0	0.4	3.4	5.3	7.1	8.3	9.2	9.6	10.3	10.4	10.3	9.6	8.3	6.6	5.1	3.8	2.4	1.3	4.3	11.2	-2.8
Max	5.0	5.1	5.2	4.1	3.8	3.4	5.4	7.7	9.6	11.0	14.8	16.1	18.0	19.1	19.4	19.9	20.7	20.1	18.7	15.4	12.4	10.8	8.4	6.1	9.0	20.7	3.0
Min	-5.5	-6.5	-7.4	-7.9	-8.6	-9.3	-9.5	-7.0	-3.4	-2.4	-1.1	-0.3	-0.4	-0.1	-0.4	-0.5	0.2	-0.4	-1.1	-1.7	-3.0	-3.9	-5.4	-5.6	-1.7	0.2	-9.5

Montana Resources LLP
Greeley School Air Monitoring Summary
Temperature - MDEQ monitor (degrees Celsius)
May 2025

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	1.4	1.2	0.2	-0.6	-1.7	-2.2	-0.8	2.7	6.3	9.8	11.5	13.0	13.8	14.6	15.8	16.4	16.7	16.9	16.2	13.4	11.2	9.0	6.9	5.8	8.2	16.9	-2.2
2	3.9	2.5	1.7	1.1	0.0	-0.6	1.0	5.1	9.4	13.2	16.2	18.5	20.1	21.7	22.5	22.7	22.9	22.0	20.6	18.4	15.1	12.1	9.7	7.3	12.0	22.9	-0.6
3	6.2	4.7	3.6	2.4	1.5	1.0	2.8	7.3	11.9	15.7	19.3	21.7	22.6	23.2	23.4	23.3	24.5	23.2	22.0	20.0	16.9	15.3	13.7	12.2	14.1	24.5	1.0
4	10.4	11.8	11.0	10.1	7.9	6.8	7.6	10.0	11.4	13.2	14.3	14.8	16.0	16.6	15.5	13.1	9.9	7.0	6.2	4.9	4.3	4.2	3.4	3.0	9.7	16.6	3.0
5	2.5	2.3	2.4	2.6	2.0	1.7	1.5	0.8	1.3	2.1	2.4	2.5	2.3	2.5	2.4	3.2	3.7	3.8	3.8	3.3	3.0	3.1	3.4	3.5	2.6	3.8	0.8
6	3.4	3.1	3.1	3.1	2.6	2.1	2.3	4.4	5.5	6.0	7.9	7.6	7.5	7.7	7.7	8.3	8.8	9.2	9.1	7.5	6.1	4.8	3.6	2.2	5.6	9.2	2.1
7	1.2	0.7	0.3	-0.4	-1.0	-1.2	1.3	4.5	7.1	10.5	14.5	17.2	17.5	18.1	19.6	20.2	21.0	20.7	20.0	17.5	14.5	12.5	10.1	8.5	10.6	21.0	-1.2
8	7.5	6.7	5.5	4.7	3.9	3.3	6.5	10.0	13.5	16.1	17.6	18.9	20.1	20.4	21.4	22.0	22.0	20.6	19.3	17.5	15.4	12.6	10.3	8.1	13.5	22.0	3.3
9	6.4	5.2	4.0	2.9	2.2	1.6	4.4	8.2	11.6	15.3	18.9	21.0	22.1	23.0	23.7	24.0	24.2	23.3	22.5	20.5	17.4	14.8	12.6	10.7	14.2	24.2	1.6
10	9.4	8.1	7.2	6.6	5.7	5.3	9.2	12.5	15.5	19.4	22.9	25.3	26.4	26.9	22.0	22.0	22.5	22.8	23.3	20.5	17.7	15.5	13.4	11.8	16.3	26.9	5.3
11	10.7	9.4	9.1	11.2	13.6	11.6	11.6	12.2	13.1	16.4	17.4	18.5	18.8	18.1	15.6	20.0	20.9	21.2	19.1	16.6	15.9	14.5	12.7	11.9	15.0	21.2	9.1
12	11.9	10.3	8.3	9.4	8.6	8.1	10.2	12.3	12.2	13.5	15.1	15.6	15.8	14.8	11.9	11.0	10.2	7.9	6.0	4.9	4.3	4.1	3.2	2.2	9.7	15.8	2.2
13	1.3	0.8	0.9	1.2	1.4	1.6	1.9	2.6	3.8	4.8	5.4	6.2	5.7	5.3	5.9	6.6	7.8	7.6	6.9	6.2	6.0	6.0	5.3	4.7	4.4	7.8	0.8
14	4.2	3.5	3.4	2.8	2.4	1.5	1.3	1.5	2.2	3.7	5.5	4.5	5.6	6.2	5.3	6.3	7.0	5.4	4.6	4.8	4.8	5.3	5.3	5.2	4.3	7.0	1.3
15	4.8	4.7	4.5	4.3	4.2	3.9	3.2	3.6	4.4	5.7	6.9	8.2	8.0	7.6	8.6	9.3	10.0	10.1	9.5	8.7	6.9	5.8	6.3	6.2	6.5	10.1	3.2
16	5.7	5.0	4.5	3.6	2.9	2.6	3.8	4.9	5.9	8.2	7.5	8.6	9.9	10.0	10.4	10.8	10.5	10.0	9.5	8.4	8.1	7.3	6.2	5.3	7.1	10.8	2.6
17	5.1	3.6	2.1	1.1	0.9	1.2	3.0	5.6	7.7	9.6	11.9	12.6	13.5	14.6	15.8	15.8	14.9	13.9	11.7	9.1	6.9	6.8	6.4	6.3	8.3	15.8	0.9
18	6.0	5.3	4.6	4.4	4.5	4.7	4.9	5.0	4.9	5.1	5.8	5.9	5.7	5.9	6.0	7.1	7.1	6.3	5.8	5.2	4.6	4.0	3.6	2.9	5.2	7.1	2.9
19	2.5	1.5	1.1	0.3	-0.8	-1.1	1.0	2.9	4.1	6.0	7.6	8.7	10.2	11.5	12.7	13.2	12.4	11.3	7.9	5.2	5.6	5.6	5.5	4.7	5.8	13.2	-1.1
20	4.0	3.3	2.1	2.6	3.5	4.1	4.3	5.0	7.0	7.7	8.8	9.5	11.0	12.5	13.1	12.6	12.0	11.1	10.5	9.2	7.4	6.3	5.2	4.2	7.4	13.1	2.1
21	3.2	0.9	-0.1	-1.0	-0.8	-0.1	2.7	3.8	6.3	7.3	8.0	9.3	9.7	10.3	11.4	13.4	13.5	13.0	11.7	10.7	9.2	7.2	4.5	3.0	6.5	13.5	-1.0
22	2.5	1.9	1.7	1.7	1.7	2.4	3.9	6.2	8.7	10.7	10.0	11.3	13.3	14.3	14.8	11.4	4.8	4.8	5.6	5.7	5.5	5.0	3.7	2.8	6.4	14.8	1.7
23	2.1	1.6	1.4	1.9	1.9	2.0	2.2	3.2	5.5	8.6	10.7	12.1	13.7	14.5	14.9	15.4	15.2	14.7	14.0	12.8	11.2	10.0	7.4	5.5	8.4	15.4	1.4
24	4.3	2.8	1.9	1.1	0.6	0.3	3.1	6.2	8.6	12.2	14.3	15.6	16.2	17.7	18.3	19.5	19.7	19.7	19.2	16.8	14.4	12.4	10.8	9.2	11.0	19.7	0.3
25	7.7	6.2	5.0	4.0	3.1	3.2	7.6	10.8	12.7	15.3	17.8	19.6	21.4	22.3	23.7	23.8	24.2	22.9	21.1	19.4	17.9	16.4	15.3	13.8	14.8	24.2	3.1
26	12.0	10.1	8.9	8.0	7.0	6.8	10.9	14.1	16.6	18.9	20.8	22.9	25.1	26.1	25.6	22.9	21.2	22.0	21.7	16.2	14.5	14.7	14.4	13.5	16.5	26.1	6.8
27	12.3	10.4	9.6	8.4	7.4	7.4	9.1	11.3	13.4	15.9	17.1	18.3	19.5	20.3	21.2	21.0	21.3	20.8	19.9	18.9	17.5	16.9	14.9	11.5	15.2	21.3	7.4
28	9.9	8.5	7.5	7.0	6.4	6.5	9.8	12.2	14.6	17.5	20.7	21.2	21.7	22.0	22.3	23.4	21.9	22.7	21.3	19.7	18.5	17.0	15.4	15.6	16.0	23.4	6.4
29	14.9	14.4	13.9	11.7	9.8	9.8	13.4	15.0	17.4	19.9	22.3	24.1	26.3	26.8	24.7	24.0	26.2	26.1	24.4	22.6	20.5	19.6	18.4	17.4	19.3	26.8	9.8
30	16.0	15.0	14.1	13.3	11.0	9.7	11.9	14.2	15.4	17.3	18.1	19.8	21.4	22.3	23.1	23.9	24.8	24.6	23.6	21.9	19.1	16.3	14.3	12.1	17.6	24.8	9.7
31	10.4	9.1	8.1	7.2	6.4	6.5	10.3	14.1	16.8	20.6	24.0	26.6	28.2	29.0	29.7	30.3	30.5	30.5	29.0	27.4	23.2	20.2	17.4	16.5	19.7	30.5	6.4
Avg	6.6	5.6	4.9	4.4	3.8	3.6	5.4	7.5	9.5	11.8	13.6	14.8	15.8	16.3	16.4	16.7	16.5	16.0	15.0	13.4	11.7	10.5	9.1	8.0	10.7	17.8	2.9
Max	16.0	15.0	14.1	13.3	13.6	11.6	13.4	15.0	17.4	20.6	24.0	26.6	28.2	29.0	29.7	30.3	30.5	30.5	29.0	27.4	23.2	20.2	18.4	17.4	19.7	30.5	9.8
Min	1.2	0.7	-0.1	-1.0	-1.7	-2.2	-0.8	0.8	1.3	2.1	2.4	2.5	2.3	2.5	2.4	3.2	3.7	3.8	3.8	3.3	3.0	3.1	3.2	2.2	2.6	3.8	-2.2

Montana Resources LLP
Greeley School Air Monitoring Summary
Temperature - MDEQ monitor (degrees Celsius)
June 2025

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	14.7	13.3	12.4	12.0	11.1	11.3	15.2	16.5	16.6	16.0	16.8	18.1	20.4	21.7	20.9	20.6	20.6	20.1	18.3	15.7	15.0	14.4	13.8	13.3	16.2	21.7	11.1
2	12.0	10.5	9.2	8.6	8.3	8.3	8.4	9.5	10.7	12.0	12.8	13.8	14.4	14.7	14.6	14.0	14.1	14.1	13.4	10.8	9.5	8.5	7.6	6.9	11.1	14.7	6.9
3	6.1	4.4	2.9	1.7	1.2	1.0	3.8	7.0	10.1	12.0	13.5	13.2	14.1	14.2	14.3	13.3	12.7	12.4	11.7	10.5	9.9	9.3	8.6	6.9	9.0	14.3	1.0
4	5.0	3.3	1.7	0.8	0.1	0.4	4.4	6.9	9.4	11.1	12.6	13.7	14.7	15.6	15.5	16.4	15.7	15.3	14.6	13.4	11.7	10.2	8.6	6.6	9.5	16.4	0.1
5	4.7	3.4	2.3	1.4	0.8	1.1	5.2	8.0	11.0	13.6	15.1	17.3	17.8	17.5	18.2	16.8	17.0	16.5	16.0	15.1	12.8	10.3	8.5	6.9	10.7	18.2	0.8
6	5.5	4.0	3.0	2.4	1.7	2.3	7.0	10.6	13.9	17.2	18.6	20.2	21.3	22.1	22.0	21.3	20.8	19.8	19.3	18.6	17.3	16.5	15.7	14.1	14.0	22.1	1.7
7	12.4	9.6	8.1	7.2	6.7	7.6	9.7	13.4	16.5	18.9	20.0	20.3	22.6	23.1	23.9	23.9	23.8	23.2	22.6	21.7	19.9	18.8	17.1	14.3	16.9	23.9	6.7
8	12.2	11.4	12.7	11.7	10.8	10.5	11.4	13.1	15.0	16.7	18.8	20.5	22.4	23.3	24.4	25.0	25.8	25.3	24.7	23.3	20.8	17.7	15.5	13.4	17.8	25.8	10.5
9	11.3	9.7	8.8	7.7	7.1	7.6	11.4	15.3	18.6	22.7	25.2	26.6	27.2	27.9	28.7	28.9	29.1	28.6	27.8	26.5	24.6	21.1	18.1	15.3	19.8	29.1	7.1
10	13.3	11.5	10.1	9.2	8.2	8.4	13.1	17.3	20.3	24.4	26.3	27.5	27.4	25.8	27.1	27.1	26.9	25.1	22.9	21.5	20.6	18.9	17.4	15.4	19.4	27.5	8.2
11	13.8	13.1	11.6	10.9	10.4	10.1	11.6	14.0	16.1	18.3	19.9	20.1	16.1	17.6	17.3	15.6	13.9	14.5	14.7	14.5	14.1	13.1	12.4	11.7	14.4	20.1	10.1
12	10.6	9.7	8.8	7.7	7.9	8.2	9.3	11.1	14.1	17.6	19.4	21.3	22.0	22.3	23.9	22.6	19.7	19.6	19.0	18.5	17.4	15.7	14.6	14.3	15.6	23.9	7.7
13	13.1	12.1	11.4	10.3	8.8	8.4	11.4	13.6	15.4	17.3	17.8	14.7	18.1	18.8	20.5	18.7	17.9	16.8	17.2	16.3	15.7	14.2	13.4	12.2	14.8	20.5	8.4
14	10.7	9.5	8.4	7.9	7.0	7.2	9.8	11.6	13.3	15.3	17.8	21.3	22.9	24.0	25.4	25.4	25.2	24.7	23.0	21.4	20.2	19.2	17.4	15.0	16.8	25.4	7.0
15	13.6	11.9	9.9	8.8	7.7	7.6	10.8	14.1	16.7	19.5	21.8	23.7	24.7	25.2	22.9	25.2	23.8	23.0	22.0	21.5	20.2	19.5	17.8	15.8	17.8	25.2	7.6
16	13.9	12.1	10.5	9.5	8.8	8.9	10.6	13.1	15.8	19.0	20.2	20.9	19.6	19.1	20.1	18.1	17.2	17.2	17.3	16.7	15.7	14.4	12.5	10.9	15.1	20.9	8.8
17	9.2	8.1	7.1	6.2	5.6	5.8	8.0	11.6	14.9	18.3	20.1	21.0	21.9	23.2	23.8	24.3	24.8	23.9	22.8	21.5	20.2	18.1	15.5	13.3	16.2	24.8	5.6
18	11.6	10.1	8.7	7.6	6.6	7.0	10.8	14.2	17.2	19.9	21.8	23.7	24.6	25.7	25.6	26.7	27.0	26.4	26.1	24.7	21.8	19.4	17.0	14.2	18.3	27.0	6.6
19	12.1	11.0	9.6	8.5	7.7	7.8	11.7	15.2	16.9	19.2	22.5	24.6	26.6	27.2	26.3	25.7	25.0	24.8	23.8	21.7	18.4	17.2	16.1	16.0	18.1	27.2	7.7
20	15.3	13.6	12.5	12.7	11.9	11.8	11.5	12.7	14.9	17.4	20.7	20.5	14.5	14.9	14.7	14.0	12.9	11.0	10.0	9.0	7.8	8.0	7.5	7.8	12.8	20.7	7.5
21	8.5	7.5	6.5	5.9	5.2	4.8	4.9	6.2	7.2	7.5	7.3	9.0	10.9	12.1	13.5	14.3	13.8	13.2	12.1	10.1	8.0	7.3	7.2	6.9	8.7	14.3	4.8
22	6.5	5.9	5.4	5.2	5.0	4.4	4.0	4.3	4.6	5.4	6.2	5.7	5.2	6.0	6.3	5.7	6.7	7.4	8.2	7.4	6.1	5.9	5.8	4.7	5.8	8.2	4.0
23	3.1	2.5	1.9	0.9	0.3	0.5	3.7	8.0	9.0	10.3	11.9	13.6	14.3	15.0	15.6	16.1	15.5	16.2	16.4	15.2	12.6	10.4	8.4	6.7	9.5	16.4	0.3
24	5.2	4.3	3.3	2.8	2.1	2.3	5.9	8.5	11.3	14.1	17.6	19.1	20.1	20.8	22.4	22.7	23.1	23.5	21.9	20.5	18.6	16.1	13.7	11.5	13.8	23.5	2.1
25	9.6	8.2	7.1	6.1	5.3	5.5	9.1	12.0	15.5	19.4	22.2	24.1	24.5	23.9	22.7	22.2	23.5	23.1	22.5	21.1	18.1	16.2	14.4	13.0	16.2	24.5	5.3
26	12.1	11.7	12.0	10.8	10.4	11.0	12.0	14.0	16.2	18.9	20.8	21.5	22.4	22.4	19.2	16.2	17.0	19.2	18.6	17.1	15.5	13.9	12.3	11.7	15.7	22.4	10.4
27	11.1	10.2	9.8	9.7	9.7	9.9	12.8	14.0	16.3	19.4	22.1	22.7	22.2	23.8	24.7	23.7	22.9	22.1	21.2	20.1	18.1	17.2	15.1	13.1	17.2	24.7	9.7
28	11.4	9.8	8.7	8.6	8.7	8.7	9.4	13.8	16.1	17.4	18.9	20.8	21.9	22.3	22.9	23.4	23.5	23.0	21.8	20.3	18.7	17.0	15.9	15.2	16.6	23.5	8.6
29	14.6	13.7	10.4	8.4	6.7	6.6	9.8	12.7	15.3	17.2	18.6	20.5	21.3	22.3	22.9	23.5	23.8	24.1	23.1	22.0	20.1	17.6	15.1	12.8	16.8	24.1	6.6
30	11.1	9.7	8.7	7.8	7.0	7.3	11.2	14.9	17.8	21.7	24.8	25.9	27.1	28.3	29.8	29.8	30.0	30.5	29.5	28.5	25.9	23.9	20.2	17.3	20.4	30.5	7.0
Avg	10.5	9.2	8.1	7.3	6.6	6.7	9.3	11.9	14.2	16.6	18.4	19.5	20.1	20.7	21.0	20.7	20.5	20.2	19.4	18.2	16.5	15.0	13.4	11.9	14.8	22.1	6.3
Max	15.3	13.7	12.7	12.7	11.9	11.8	15.2	17.3	20.3	24.4	26.3	27.5	27.4	28.3	29.8	29.8	30.0	30.5	29.5	28.5	25.9	23.9	20.2	17.3	20.4	30.5	11.1
Min	3.1	2.5	1.7	0.8	0.1	0.4	3.7	4.3	4.6	5.4	6.2	5.7	5.2	6.0	6.3	5.7	6.7	7.4	8.2	7.4	6.1	5.9	5.8	4.7	5.8	8.2	0.1

Montana Resources LLP
Greeley School Air Monitoring Summary
Wind Speed - MDEQ monitor (meters per second)
April 2025

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	1.0	0.9	1.0	0.4	0.3	0.5	0.4	0.5	0.4	0.7	1.4	0.9	1.4	1.8	2.0	1.7	0.9	0.6	1.7	1.5	1.4	1.0	0.7	1.3	1.0	2.0	0.3
2	1.2	0.8	0.6	0.6	0.4	0.6	0.4	0.8	1.1	0.8	0.9	1.4	2.3	1.9	2.4	2.0	2.4	1.4	0.7	0.6	0.8	1.6	1.0	0.4	1.1	2.4	0.4
3	0.6	0.7	0.7	0.3	0.5	0.5	0.5	0.6	0.8	1.9	2.1	2.1	1.8	2.4	3.2	2.1	3.5	3.5	3.0	2.9	2.8	2.9	1.6	1.5	1.8	3.5	0.3
4	1.1	1.2	1.6	1.3	1.1	0.8	0.8	0.9	1.4	1.4	1.3	1.4	1.9	1.7	2.0	1.6	1.8	1.8	1.4	1.1	1.4	0.7	0.9	1.4	1.3	2.0	0.7
5	1.1	0.7	0.7	0.6	0.5	0.5	0.6	0.5	0.7	0.8	1.1	1.6	1.8	2.0	1.7	1.8	2.0	1.6	1.9	0.8	0.7	0.6	0.5	0.6	1.1	2.0	0.5
6	0.6	0.4	0.4	0.5	0.6	0.4	0.5	0.4	0.6	1.2	1.4	2.0	1.6	1.7	2.0	1.4	1.4	1.3	1.1	0.7	1.3	0.9	0.4	0.6	1.0	2.0	0.4
7	0.6	0.5	0.8	0.4	0.6	0.5	0.5	0.9	0.7	0.8	1.1	1.3	2.0	3.5	2.7	3.0	3.4	2.8	1.7	0.7	1.8	1.6	1.6	1.3	1.5	3.5	0.4
8	0.7	1.2	0.7	1.1	3.3	1.0	0.6	1.0	2.7	3.6	3.5	3.0	3.4	3.7	3.0	3.0	2.6	2.7	3.1	1.6	0.7	1.3	0.5	0.9	2.0	3.7	0.5
9	0.8	0.5	1.2	1.5	0.7	0.8	0.5	0.5	1.1	1.5	3.7	2.2	3.1	3.6	3.8	4.5	4.3	4.2	3.3	1.1	1.1	1.1	1.0	0.5	1.9	4.5	0.5
10	1.0	0.6	0.3	0.5	0.6	0.7	0.5	0.4	0.5	1.1	1.3	2.0	2.7	3.7	3.7	3.3	1.8	3.2	2.1	1.5	1.3	0.8	0.7	0.7	1.5	3.7	0.3
11	0.7	0.9	0.6	0.7	0.5	0.4	0.7	0.7	0.7	1.2	1.4	1.9	1.9	1.6	2.2	2.6	2.4	2.6	1.7	1.3	1.6	1.5	1.2	0.5	1.3	2.6	0.4
12	0.6	0.6	1.2	1.1	1.0	1.1	1.3	1.0	1.4	1.3	0.9	1.3	1.6	3.1	3.0	2.9	2.6	4.8	4.2	3.3	2.2	1.7	1.9	0.8	1.9	4.8	0.6
13	2.4	2.0	1.2	0.8	1.4	0.7	1.4	1.4	2.1	1.4	1.6	1.5	1.8	2.0	2.7	2.5	2.4	3.1	3.2	2.4	1.3	0.9	0.8	1.0	1.7	3.2	0.7
14	0.7	0.9	0.6	0.6	0.3	0.5	0.3	1.0	0.9	1.4	1.3	1.8	2.0	2.6	2.6	2.3	1.5	1.5	0.9	1.4	1.3	0.5	0.7	0.5	1.2	2.6	0.3
15	0.5	0.4	0.3	0.3	0.5	0.5	0.4	0.4	0.6	0.9	1.4	1.8	1.6	2.1	2.8	2.3	2.4	2.8	3.7	3.0	1.0	1.1	0.4	0.5	1.3	3.7	0.3
16	0.7	0.7	0.5	0.6	0.7	0.6	0.4	0.4	0.7	1.5	1.6	1.9	2.7	2.4	2.3	2.5	4.1	4.4	5.8	4.9	3.1	3.0	2.0	1.5	2.0	5.8	0.4
17	2.2	2.5	2.5	1.4	2.0	3.1	4.5	4.4	4.4	6.0	5.8	4.4	4.7	4.8	4.2	3.6	5.0	5.6	6.6	5.8	5.3	4.1	2.7	1.3	4.0	6.6	1.3
18	1.3	1.8	1.0	1.1	0.8	0.7	0.6	1.0	0.9	1.1	1.3	1.9	2.1	1.6	1.7	2.7	3.0	2.9	2.6	1.1	1.0	0.5	0.5	0.3	1.4	3.0	0.3
19	0.2	0.3	0.4	0.3	0.4	0.4	0.5	0.6	1.3	1.4	1.7	2.0	2.4	2.7	2.9	3.4	3.7	4.1	2.5	4.0	3.4	2.0	1.7	0.7	1.8	4.1	0.2
20	0.5	0.8	0.7	0.7	0.7	0.6	0.4	0.4	0.8	1.4	1.6	2.0	1.9	2.5	2.4	2.9	2.6	4.2	4.1	2.9	2.3	1.8	0.6	0.7	1.6	4.2	0.4
21	0.6	0.7	0.5	0.7	0.8	0.6	0.5	0.8	0.8	1.2	1.9	3.3	3.8	2.3	2.8	2.7	2.3	2.6	3.0	4.6	3.1	2.8	0.9	0.8	1.8	4.6	0.5
22	0.7	0.7	0.4	0.4	0.7	0.6	0.5	0.4	0.9	1.7	2.2	2.0	1.6	2.3	2.1	1.6	1.9	2.1	2.1	2.1	1.5	1.6	1.6	1.0	1.4	2.3	0.4
23	0.6	0.5	0.5	0.4	0.6	0.4	0.6	0.6	0.9	1.4	1.5	1.8	1.7	1.6	1.8	1.7	1.9	2.0	2.5	2.6	2.1	2.1	2.8	2.2	1.5	2.8	0.4
24	1.0	0.7	0.6	0.4	0.4	0.4	0.6	0.7	1.0	1.2	2.3	2.2	3.1	4.1	3.9	2.4	2.9	2.7	3.0	3.4	4.1	3.2	2.3	1.6	2.0	4.1	0.4
25	1.0	0.7	0.6	0.5	0.5	0.4	0.4	0.8	1.1	1.8	3.4	3.7	3.4	3.0	2.6	3.1	3.6	3.7	3.7	3.9	2.7	1.7	1.5	0.7	2.0	3.9	0.4
26	1.0	1.1	1.8	0.8	0.6	0.4	0.5	0.9	1.1	1.7	2.0	2.1	2.5	2.0	3.2	3.0	1.3	1.3	2.1	1.5	0.8	1.5	1.1	0.6	1.5	3.2	0.4
27	1.0	0.6	1.1	0.7	0.5	0.4	0.6	0.5	0.8	1.2	1.4	2.2	4.2	5.4	4.5	2.7	3.3	2.7	3.3	5.0	2.5	1.4	1.8	1.4	2.0	5.4	0.4
28	2.4	1.4	1.7	2.2	1.8	1.4	1.0	1.1	1.5	1.3	1.1	1.4	1.6	1.7	2.3	2.2	3.0	2.8	2.1	2.6	2.2	0.9	0.6	0.5	1.7	3.0	0.5
29	0.6	0.7	0.6	0.9	0.6	0.5	0.5	0.7	0.7	1.2	3.4	3.4	2.3	2.4	3.6	5.1	3.0	3.7	3.6	3.5	3.6	4.0	3.0	2.1	2.2	5.1	0.5
30	1.7	1.5	1.0	1.6	1.2	1.0	0.7	0.6	1.1	1.2	1.7	1.6	2.3	3.6	3.9	3.4	3.4	3.2	3.0	2.3	1.8	1.4	1.0	1.2	1.9	3.9	0.6
Avg	1.0	0.9	0.9	0.8	0.8	0.7	0.7	0.8	1.1	1.5	1.9	2.1	2.4	2.7	2.8	2.7	2.7	2.9	2.8	2.5	2.0	1.7	1.3	1.0	1.7	3.6	0.5
Max	2.4	2.5	2.5	2.2	3.3	3.1	4.5	4.4	4.4	6.0	5.8	4.4	4.7	5.4	4.5	5.1	5.0	5.6	6.6	5.8	5.3	4.1	3.0	2.2	4.0	6.6	1.3
Min	0.2	0.3	0.3	0.3	0.3	0.4	0.3	0.4	0.4	0.7	0.9	0.9	1.4	1.6	1.7	1.4	0.9	0.6	0.7	0.6	0.7	0.5	0.4	0.3	1.0	2.0	0.2

Montana Resources LLP
Greeley School Air Monitoring Summary
Wind Speed - MDEQ monitor (meters per second)
May 2025

	<< 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	1.1	0.8	0.9	0.5	0.4	0.4	0.5	0.9	1.0	1.4	2.0	1.9	1.8	1.9	1.6	1.7	1.5	1.3	1.2	2.4	1.3	0.6	0.6	0.9	1.2	2.4	0.4	
2	0.4	0.4	0.5	0.3	0.4	0.3	0.5	0.5	0.5	1.4	2.1	1.9	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	0.8	2.1	0.3	
3	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM				
4	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM				
5	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM				
6	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM				
7	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	1.5	2.2	2.7	1.6	1.7	2.2	0.7	0.6	1.0	0.5	0.6	1.4	2.7	0.5
8	0.4	0.9	4.7	4.2	3.7	3.7	0.7	0.7	1.0	1.4	1.7	2.1	2.5	2.5	2.2	2.3	2.5	3.2	2.9	2.3	1.9	1.3	0.9	1.0	2.1	4.7	0.4	
9	3.8	4.8	3.2	1.2	0.8	0.8	0.5	0.5	0.9	1.4	1.6	2.0	2.2	2.3	2.0	2.7	2.3	2.6	1.8	0.7	1.0	0.8	0.7	0.5	1.7	4.8	0.5	
10	0.5	0.7	0.5	1.8	4.6	2.8	0.6	0.5	0.9	1.1	1.9	4.4	4.3	4.2	4.4	3.3	3.0	3.0	1.6	0.6	0.6	0.6	1.1	0.6	2.0	4.6	0.5	
11	0.6	0.6	0.8	1.1	2.4	0.5	1.2	2.6	0.9	2.0	3.4	5.1	4.8	2.3	2.0	2.9	4.1	3.5	2.9	0.9	2.4	1.6	0.8	0.9	2.1	5.1	0.5	
12	1.6	0.7	0.5	0.8	0.7	0.7	1.0	1.1	1.2	1.0	1.3	1.9	2.2	3.5	3.8	4.1	4.7	2.5	2.0	2.8	1.0	0.8	1.0	1.2	1.8	4.7	0.5	
13	1.1	0.6	0.3	0.7	0.9	0.5	0.8	0.7	0.7	0.9	0.8	0.9	1.2	0.8	0.7	1.3	2.4	2.3	2.8	2.2	2.3	1.8	3.7	1.7	1.3	3.7	0.3	
14	0.9	2.1	1.0	2.0	2.2	0.7	0.9	1.2	1.2	0.9	1.9	3.2	3.6	1.9	1.6	1.7	1.9	2.7	2.1	2.3	4.4	2.9	3.3	3.3	2.1	4.4	0.7	
15	3.5	2.9	3.6	3.5	3.6	2.4	2.4	3.1	0.9	1.1	2.2	1.9	2.8	2.2	3.0	3.1	2.8	2.7	2.8	2.1	2.0	1.9	0.6	0.8	2.4	3.6	0.6	
16	2.7	4.0	3.9	3.6	2.9	3.2	3.6	0.7	0.6	1.3	1.1	1.3	1.0	1.4	1.0	1.3	1.2	1.0	0.7	1.2	0.6	1.3	1.7	4.0	1.9	4.0	0.6	
17	4.7	3.4	1.0	2.1	4.2	1.4	0.6	0.9	1.1	1.5	1.8	2.4	2.4	2.0	1.5	1.4	1.8	3.4	4.0	2.3	2.0	1.6	2.3	0.8	2.1	4.7	0.6	
18	1.1	1.0	1.1	1.1	1.1	0.9	1.1	3.2	2.1	2.6	2.4	2.2	2.7	3.7	3.5	3.8	3.3	3.5	3.6	3.5	3.1	4.0	3.4	2.1	2.5	4.0	0.9	
19	3.3	2.7	2.1	0.9	0.8	0.8	1.3	1.8	1.8	1.6	1.8	1.9	1.9	1.7	2.1	2.1	2.1	3.0	3.5	5.6	4.0	4.3	4.4	4.9	2.5	5.6	0.8	
20	3.7	2.5	1.0	1.2	4.8	4.8	3.8	2.1	1.4	2.3	3.2	2.5	2.2	2.6	2.4	2.9	2.6	3.3	3.7	3.6	3.5	2.9	2.6	2.9	2.9	4.8	1.0	
21	2.0	0.8	0.5	0.6	0.7	0.7	0.4	1.4	0.9	1.9	2.0	1.7	1.7	1.8	1.6	1.8	1.9	2.2	2.3	2.1	1.5	2.5	4.0	1.0	1.6	4.0	0.4	
22	1.2	1.2	0.8	0.7	0.8	2.1	2.7	0.6	1.1	0.9	1.7	1.4	1.7	3.6	3.1	2.8	2.3	2.9	0.9	0.7	2.7	4.0	4.5	2.6	2.0	4.5	0.6	
23	1.4	1.4	3.7	2.4	0.7	0.8	1.0	0.6	0.7	1.1	1.2	1.4	1.6	1.7	1.6	2.3	2.7	2.8	2.3	2.0	1.9	1.1	1.9	4.3	1.8	4.3	0.6	
24	4.0	1.1	0.8	2.2	0.8	0.5	1.1	0.7	0.9	1.2	1.4	1.6	1.7	1.6	1.9	1.6	1.5	1.3	1.0	2.3	1.3	0.7	0.7	0.8	1.4	4.0	0.5	
25	0.8	3.8	4.8	4.2	2.0	3.1	0.4	0.6	1.3	1.6	1.7	1.7	1.4	1.8	1.4	1.6	2.1	3.3	3.8	3.7	2.8	1.2	1.8	0.9	2.2	4.8	0.4	
26	0.7	0.6	0.5	0.5	0.4	0.3	0.6	0.8	1.0	1.6	1.7	1.9	1.6	1.6	2.9	3.6	3.7	2.1	1.2	2.8	1.5	1.3	2.9	3.7	1.6	3.7	0.3	
27	1.7	1.2	0.7	0.6	0.5	0.7	0.8	0.8	1.2	1.0	1.7	1.7	2.4	1.9	2.0	2.7	2.8	3.1	3.0	2.5	1.8	2.2	1.3	1.1	1.6	3.1	0.5	
28	0.7	0.7	0.5	0.4	0.5	0.5	0.5	0.7	0.9	1.1	1.4	2.0	2.1	1.5	2.0	1.8	2.4	3.1	3.5	3.0	2.0	1.3	1.2	1.4	1.5	3.5	0.4	
29	1.0	1.6	1.9	0.6	0.5	0.5	0.3	1.0	1.0	1.3	1.9	1.8	1.7	2.2	3.2	2.3	2.2	1.1	2.0	1.5	1.0	1.8	2.0	2.6	1.5	3.2	0.3	
30	2.1	1.8	2.7	2.5	1.1	1.0	1.4	1.2	1.3	1.1	1.6	1.9	1.6	1.9	2.0	2.1	1.7	1.7	1.7	1.3	1.3	0.8	1.1	0.7	1.6	2.7	0.7	
31	0.5	0.5	0.5	0.6	1.6	0.8	0.7	0.6	0.8	1.2	1.6	1.9	2.2	2.2	1.7	1.7	2.3	2.2	1.9	1.1	0.8	1.1	0.8	1.0	1.3	2.3	0.5	
Avg	1.8	1.6	1.6	1.6	1.7	1.3	1.1	1.1	1.0	1.4	1.8	2.1	2.2	2.2	2.2	2.4	2.4	2.5	2.4	2.2	1.9	1.7	1.9	1.8	1.8	3.9	0.5	
Max	4.7	4.8	4.8	4.2	4.8	4.8	3.8	3.2	2.1	2.6	3.4	5.1	4.8	4.2	4.4	4.1	4.7	3.5	4.0	5.6	4.4	4.3	4.5	4.9	2.9	5.6	1.0	
Min	0.4	0.4	0.3	0.3	0.4	0.3	0.3	0.5	0.5	0.9	0.8	0.9	1.0	0.8	0.7	1.3	1.2	1.0	0.7	0.6	0.6	0.6	0.5	0.5	0.8	2.1	0.3	

Montana Resources LLP
Greeley School Air Monitoring Summary
Wind Speed - MDEQ monitor (meters per second)
June 2025

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	1.0	0.9	0.9	0.9	1.0	0.7	1.2	2.4	2.3	2.6	2.2	1.7	2.2	1.8	2.6	3.1	3.4	3.2	3.5	3.8	3.0	3.0	1.6	1.9	2.1	3.8	0.7
2	2.0	1.8	2.2	1.8	2.2	1.5	1.7	1.8	2.4	2.5	2.5	2.5	2.6	2.6	2.6	2.7	2.3	3.0	2.5	3.5	3.3	2.9	2.8	3.8	2.5	3.8	1.5
3	5.3	4.0	2.2	1.6	2.2	2.9	0.8	0.6	0.9	1.3	1.4	2.2	1.8	2.0	2.1	2.6	2.3	2.7	3.2	2.9	2.8	2.1	1.3	1.5	2.2	5.3	0.6
4	4.3	2.2	3.0	1.9	1.8	0.6	0.5	0.8	0.9	1.4	1.4	2.0	1.3	1.7	2.4	1.7	2.7	1.9	1.5	0.9	1.2	0.9	0.7	3.3	1.7	4.3	0.5
5	5.0	2.7	1.4	3.0	2.5	3.0	0.5	0.8	1.0	1.5	1.3	1.4	1.7	2.8	2.8	3.0	2.4	2.2	1.9	1.1	0.6	0.9	0.7	2.5	1.9	5.0	0.5
6	5.0	4.7	1.6	0.9	2.8	0.9	0.3	0.5	0.8	1.3	1.5	2.0	1.9	1.9	2.6	3.1	3.6	3.3	2.9	2.4	2.7	2.5	1.8	1.4	2.2	5.0	0.3
7	0.9	0.6	0.5	0.6	0.5	0.5	0.6	0.7	1.1	2.0	2.6	2.8	2.9	3.1	3.4	4.0	3.8	3.8	2.7	2.3	2.0	1.7	1.0	1.0	1.9	4.0	0.5
8	1.0	0.9	4.0	1.6	1.0	1.5	1.9	1.5	0.9	1.0	1.2	1.5	1.9	2.4	2.0	2.5	1.9	2.3	1.8	1.8	1.1	0.9	1.2	0.6	1.6	4.0	0.6
9	0.9	0.6	0.6	0.4	0.5	0.4	0.7	0.5	0.8	0.9	1.7	1.9	2.8	2.5	2.5	3.2	3.0	3.3	2.8	2.3	1.8	1.1	1.1	0.6	1.5	3.3	0.4
10	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.8	1.2	1.4	1.7	1.4	2.0	2.1	1.7	1.2	1.7	2.2	1.6	2.1	2.0	1.4	0.5	1.2	2.2	0.4
11	0.6	0.5	0.4	0.5	0.6	0.5	0.4	0.6	0.6	0.9	0.6	1.6	1.5	1.6	2.5	3.4	1.0	1.0	0.6	0.7	1.0	1.1	0.5	0.7	1.0	3.4	0.4
12	1.0	1.4	0.7	0.7	0.6	0.8	0.7	0.8	0.7	1.1	1.4	1.7	1.4	2.9	2.2	2.9	2.7	2.9	1.8	1.3	1.4	1.3	1.0	0.8	1.4	2.9	0.6
13	0.8	0.9	0.9	0.8	0.7	0.7	0.8	0.8	1.0	1.5	2.4	2.2	1.5	1.8	1.4	3.1	1.8	2.3	2.5	2.1	0.8	1.1	1.4	0.9	1.4	3.1	0.7
14	0.8	0.8	0.7	0.7	0.8	0.5	0.8	0.7	1.2	1.2	1.2	1.3	1.6	1.6	1.5	2.1	1.6	2.1	2.8	3.1	2.5	2.0	1.1	0.9	1.4	3.1	0.5
15	1.2	1.3	0.5	0.6	0.5	0.5	0.8	0.6	0.9	1.2	1.3	1.7	2.4	2.6	2.2	1.6	4.4	3.8	3.3	2.5	1.9	1.5	1.2	0.8	1.6	4.4	0.5
16	1.2	0.8	0.7	1.0	0.8	0.8	0.9	0.6	1.1	1.4	1.6	2.1	2.8	1.9	1.8	3.4	2.8	2.7	1.3	0.8	0.8	0.7	0.5	0.8	1.4	3.4	0.5
17	0.7	0.6	0.5	2.6	4.6	0.6	0.7	0.7	0.8	1.2	1.8	1.8	2.2	2.0	1.9	1.7	2.0	2.2	2.3	2.1	2.2	0.9	1.3	1.1	1.6	4.6	0.5
18	0.7	0.6	0.6	0.5	0.6	0.5	0.5	0.6	0.8	1.6	1.9	2.2	2.3	2.1	2.6	2.3	2.5	2.2	1.8	0.9	0.6	1.3	1.3	0.7	1.3	2.6	0.5
19	0.5	0.6	0.5	0.4	0.5	0.3	0.6	0.7	1.3	1.3	1.3	1.6	1.8	1.6	1.8	1.9	2.6	2.3	3.2	3.1	1.7	1.9	1.9	2.6	1.5	3.2	0.3
20	3.0	1.2	1.1	1.5	0.8	0.8	0.6	0.8	0.8	1.4	1.3	1.9	2.4	1.5	3.5	3.4	3.7	4.1	3.1	1.6	1.0	2.3	2.9	1.0	1.9	4.1	0.6
21	2.3	1.1	1.4	4.0	3.8	2.9	2.6	1.1	1.5	1.4	2.5	1.8	1.8	1.8	1.9	2.4	2.5	2.8	3.3	3.9	3.7	3.8	2.6	2.2	2.5	4.0	1.1
22	1.3	2.2	4.3	4.7	5.4	4.7	4.7	5.0	4.6	2.2	1.9	2.6	1.5	1.2	2.1	1.6	1.4	1.1	1.3	1.0	1.1	0.5	1.5	4.9	2.6	5.4	0.5
23	2.6	1.5	2.8	1.5	0.5	0.6	0.7	1.1	1.2	1.4	1.2	1.7	1.9	1.9	2.1	2.1	2.7	2.1	1.5	1.1	0.7	1.4	0.9	2.0	1.5	2.8	0.5
24	4.7	5.0	2.7	1.2	1.5	0.8	0.4	0.8	0.9	1.4	1.4	1.7	1.7	1.9	1.7	1.6	1.4	1.2	1.6	2.2	1.8	1.2	0.9	1.3	1.7	5.0	0.4
25	0.5	0.5	0.7	3.1	4.8	3.0	0.5	0.7	0.9	1.0	1.5	2.2	2.5	1.9	3.1	3.7	1.5	1.3	1.0	1.0	0.6	0.7	0.8	0.4	1.6	4.8	0.4
26	0.4	0.7	1.1	0.7	0.9	0.8	0.7	1.1	1.0	1.1	1.7	1.7	1.3	1.3	4.2	1.8	1.2	1.0	1.1	1.1	0.7	0.9	1.2	0.5	1.2	4.2	0.4
27	0.6	0.5	0.5	0.3	0.8	0.7	0.7	1.3	1.2	1.6	2.5	3.1	1.8	2.2	2.5	2.7	3.1	3.2	3.0	2.5	2.9	1.9	1.2	0.6	1.7	3.2	0.3
28	1.0	0.5	0.7	0.4	0.6	0.6	0.4	0.6	1.0	1.6	1.6	1.9	2.3	2.5	2.7	2.6	2.6	2.8	3.1	3.6	2.9	3.0	3.2	3.4	1.9	3.6	0.4
29	2.0	1.7	1.5	0.7	0.7	0.6	0.7	0.6	0.9	1.4	1.8	1.6	2.2	2.2	2.8	2.7	2.6	2.3	2.5	1.9	0.9	1.1	1.4	0.6	1.6	2.8	0.6
30	1.0	0.8	0.6	0.6	0.6	0.7	0.5	0.6	0.9	1.3	1.8	2.2	2.1	2.1	1.7	2.5	1.9	1.3	1.8	1.7	1.3	1.4	1.3	0.7	1.3	2.5	0.5
Avg	1.8	1.4	1.3	1.3	1.5	1.1	0.9	1.0	1.2	1.4	1.7	1.9	2.0	2.0	2.4	2.6	2.4	2.4	2.3	2.0	1.7	1.6	1.4	1.5	1.7	3.8	0.5
Max	5.3	5.0	4.3	4.7	5.4	4.7	4.7	5.0	4.6	2.6	2.6	3.1	2.9	3.1	4.2	4.0	4.4	4.1	3.5	3.9	3.7	3.8	3.2	4.9	2.6	5.4	1.5
Min	0.4	0.5	0.4	0.3	0.5	0.3	0.3	0.5	0.6	0.9	0.6	1.3	1.3	1.2	1.4	1.6	1.0	1.0	0.6	0.7	0.6	0.5	0.5	0.4	1.0	2.2	0.3

Montana Resources LLP
Greeley School Air Monitoring Summary
Wind Direction - MDEQ monitor (degrees)
April 2025

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	272	344	360	215	62	60	231	113	81	271	53	317	202	230	295	312	248	259	330	321	341	352	122	184	304
2	185	141	165	165	171	199	172	211	203	10	66	331	307	328	305	317	289	205	208	243	139	148	146	190	201
3	162	198	190	180	233	192	207	234	247	324	321	318	285	197	238	303	1	48	59	44	22	63	190	219	240
4	332	63	79	94	175	149	189	203	168	165	140	44	316	295	298	275	336	314	296	284	157	149	158	147	186
5	150	168	161	200	187	192	182	175	141	20	29	57	45	43	339	272	287	272	307	291	131	104	179	153	167
6	195	179	217	249	189	133	204	150	85	349	68	44	73	167	213	249	263	255	263	298	159	120	164	193	189
7	199	3	161	242	173	249	194	116	25	33	317	344	190	154	167	209	228	237	246	234	258	226	72	117	208
8	336	135	197	248	299	175	137	311	197	219	227	240	239	240	240	246	254	250	243	248	188	156	183	80	224
9	178	231	44	354	197	166	144	120	61	256	309	315	313	316	306	311	307	309	324	278	283	150	191	32	291
10	158	150	174	99	286	152	234	124	125	340	353	326	166	174	166	160	212	224	247	292	154	130	69	352	172
11	186	141	167	156	174	70	54	167	25	346	353	297	277	285	295	319	331	318	325	298	194	148	138	155	261
12	172	185	156	148	154	152	138	194	144	255	340	286	315	312	320	321	296	309	300	302	294	291	300	273	265
13	307	289	197	232	299	264	308	343	312	255	310	2	329	302	294	295	302	305	308	329	334	283	168	156	296
14	176	191	223	128	349	210	302	175	59	5	5	320	335	326	323	327	319	108	117	166	146	186	169	222	229
15	243	180	169	262	146	66	162	117	28	37	96	33	229	277	232	268	247	286	313	313	220	170	11	157	221
16	115	208	102	144	163	174	231	149	57	334	273	239	249	243	265	269	316	22	19	10	10	326	352	3	296
17	326	328	349	33	356	350	3	5	20	17	20	2	353	7	9	337	13	358	4	6	5	359	347	203	359
18	47	335	37	181	182	193	188	162	140	9	290	232	210	215	272	296	314	313	308	279	218	292	97	138	245
19	184	154	167	168	139	143	151	29	21	66	42	265	269	288	298	308	313	309	342	314	316	322	311	222	296
20	270	261	198	163	145	131	211	326	34	320	28	184	248	232	254	298	290	312	310	304	327	320	15	167	276
21	158	182	135	160	171	174	162	209	193	227	89	27	310	303	303	276	295	281	307	312	305	301	253	227	243
22	245	156	97	107	201	170	160	101	25	24	339	294	311	348	329	320	303	298	313	333	58	75	39	206	350
23	226	215	181	204	206	203	206	199	179	358	327	331	342	326	329	46	80	36	65	89	40	27	54	44	24
24	198	158	189	154	198	196	176	36	44	47	65	80	56	114	90	50	56	50	74	91	115	116	127	147	106
25	93	341	339	59	195	44	58	19	4	325	97	89	78	77	104	83	89	88	97	95	106	110	97	102	74
26	297	328	158	251	3	185	298	79	4	325	34	138	240	238	128	134	106	226	237	291	328	185	141	142	222
27	136	22	167	259	169	164	167	116	341	35	68	116	51	8	351	2	352	340	345	20	236	209	147	316	42
28	328	153	314	342	10	52	37	111	210	234	187	295	36	164	311	332	322	311	295	299	298	201	110	95	320
29	68	85	131	81	3	83	15	20	14	353	209	210	252	297	308	315	308	308	304	312	316	313	307	330	335
30	334	303	222	295	206	159	212	188	91	183	257	284	9	325	348	319	315	336	310	321	307	311	212	165	284
Prev	203	184	164	180	188	160	186	138	64	341	10	326	300	282	295	305	308	305	313	310	291	171	131	164	266

Montana Resources LLP
Greeley School Air Monitoring Summary
Wind Direction - MDEQ monitor (degrees)
May 2025

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	159	177	158	127	234	189	174	3	339	98	139	133	346	315	298	331	301	197	148	110	169	215	156	113	167
2	175	217	191	251	189	173	169	80	345	349	11	57	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	178
3	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	
4	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	
5	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	
6	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	
7	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	352	194	178	234	218	214	257	124	125	215	124	193
8	159	322	315	329	329	355	185	6	20	42	263	233	250	263	268	278	283	310	325	349	32	178	150	160	300
9	308	328	323	171	185	149	168	50	330	329	37	161	184	183	235	187	208	190	200	227	126	156	108	165	185
10	279	204	188	223	326	324	153	150	359	337	175	156	180	183	152	159	193	182	190	181	55	110	94	88	170
11	52	194	284	106	164	44	206	165	278	170	171	156	170	208	29	142	165	195	160	168	153	172	164	72	162
12	130	360	76	215	345	52	12	200	246	325	314	315	328	303	307	310	308	289	319	18	360	195	272	207	314
13	141	141	186	182	168	133	191	199	188	217	252	258	287	179	39	344	336	333	328	300	301	314	298	293	247
14	349	18	329	134	84	96	138	139	131	129	326	307	326	5	107	150	127	348	302	12	309	313	307	306	16
15	305	311	308	307	305	310	310	300	201	18	300	257	298	309	327	323	332	331	341	328	21	242	285	290	309
16	348	354	327	348	55	47	300	8	5	63	14	5	292	246	212	233	241	213	266	320	72	323	106	342	337
17	333	26	163	123	102	138	178	132	355	336	267	161	154	176	190	176	120	99	86	217	354	20	43	190	131
18	215	284	239	224	248	262	283	296	292	319	321	291	298	322	322	328	331	325	327	307	301	299	301	296	295
19	349	350	296	268	204	201	212	287	308	257	216	208	195	269	257	239	277	293	305	345	356	10	342	303	280
20	351	293	128	352	350	323	307	299	282	288	306	301	271	280	259	293	294	301	303	305	319	332	316	327	306
21	264	123	192	110	162	144	291	152	1	266	275	259	228	198	263	230	262	287	315	336	32	70	327	236	252
22	169	190	172	182	176	300	249	341	16	330	153	27	8	88	87	210	330	273	280	247	169	283	337	9	270
23	202	184	360	93	145	175	138	25	20	14	7	30	249	232	241	274	301	304	306	312	308	359	145	353	316
24	1	214	167	146	203	177	151	80	15	7	46	140	312	317	358	299	299	317	258	128	152	183	193	150	186
25	202	312	298	312	353	348	163	344	356	322	322	316	264	217	200	295	149	85	96	102	101	164	137	274	298
26	167	84	125	63	167	180	133	13	340	334	309	316	203	254	301	34	67	35	323	116	292	309	340	37	6
27	160	175	176	191	132	160	141	184	58	330	4	338	301	306	294	304	306	314	315	324	326	344	188	163	278
28	204	192	243	221	235	222	156	343	7	37	112	71	105	358	42	101	91	100	96	89	98	189	153	151	121
29	198	178	165	223	84	127	181	8	333	322	314	323	83	151	294	57	145	110	304	305	304	297	326	329	305
30	332	337	344	322	242	154	149	61	41	249	317	139	319	296	299	301	268	295	296	302	138	161	165	145	290
31	218	201	202	192	176	192	149	119	321	312	344	122	138	123	251	276	226	228	199	198	155	150	175	224	194
Prev	226	243	221	195	185	163	182	34	344	334	317	279	264	260	276	269	269	285	291	305	32	242	208	237	269

Montana Resources LLP
Greeley School Air Monitoring Summary
Wind Direction - MDEQ monitor (degrees)
June 2025

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	181	161	139	152	138	146	321	313	307	308	311	9	278	279	314	308	319	315	311	337	335	326	322	302	306
2	296	286	294	294	301	292	300	306	288	285	299	281	280	290	284	313	323	319	347	18	48	22	42	42	314
3	11	301	138	143	152	145	159	32	126	271	359	319	254	275	291	308	311	339	338	337	327	332	353	274	317
4	359	241	121	149	74	189	195	49	54	61	43	3	319	202	283	290	296	291	313	310	143	180	131	274	302
5	297	257	199	140	143	158	185	313	18	61	44	251	334	346	42	60	41	48	22	42	103	129	137	136	70
6	315	317	252	220	125	164	139	7	15	348	305	284	273	269	298	303	307	309	293	305	304	296	283	281	296
7	178	105	104	128	93	137	185	42	321	270	292	309	290	293	298	301	306	311	294	293	335	335	283	163	297
8	162	115	41	269	266	96	61	110	150	299	318	359	231	311	310	301	284	298	298	311	293	156	124	213	289
9	166	195	189	166	182	220	144	332	356	324	227	256	297	293	305	302	299	304	303	298	293	164	151	198	253
10	166	207	203	188	174	185	145	220	351	18	46	196	144	41	279	198	212	231	152	154	135	144	136	19	171
11	101	212	179	185	191	208	169	180	117	309	273	94	345	47	26	144	91	161	165	45	84	104	174	67	136
12	157	131	146	187	167	177	170	13	127	88	338	192	206	328	270	295	246	328	336	310	305	152	139	204	201
13	153	154	190	159	204	181	186	141	162	337	263	357	17	134	299	313	36	349	20	56	350	133	150	152	142
14	114	162	198	158	153	189	182	144	310	322	305	306	346	331	309	312	354	326	322	316	324	322	279	171	292
15	137	148	180	180	185	205	125	40	77	339	341	332	281	161	286	7	317	309	327	327	331	350	100	162	324
16	165	187	201	176	179	190	173	38	309	320	326	357	12	63	290	300	319	311	359	110	204	105	170	143	225
17	184	217	182	290	348	243	177	150	1	22	299	320	257	194	239	275	285	310	304	306	339	82	165	154	263
18	193	184	153	187	178	188	154	73	13	350	117	204	244	246	249	217	228	234	225	282	245	150	163	165	200
19	236	219	237	219	205	165	159	128	316	326	348	336	26	334	338	338	343	88	76	126	335	34	155	18	341
20	93	162	99	123	137	198	215	208	223	327	316	240	179	42	318	328	320	321	329	289	196	80	302	293	263
21	179	224	261	301	305	299	309	96	275	276	316	328	311	233	278	277	301	303	312	329	340	350	338	324	299
22	345	297	3	345	355	13	349	348	353	344	1	355	49	110	303	271	35	358	270	259	279	232	200	353	336
23	356	107	137	138	160	196	153	36	323	339	355	192	228	262	174	277	322	329	302	302	110	114	151	180	201
24	326	320	257	30	160	240	170	150	352	322	309	219	329	317	276	306	311	292	352	6	115	130	143	135	301
25	236	224	181	319	325	265	165	356	327	342	316	188	182	262	305	317	357	300	8	105	48	96	99	214	297
26	222	122	174	243	161	160	169	343	203	185	5	302	234	27	319	358	322	134	176	150	64	185	149	127	176
27	170	182	133	213	156	96	49	131	353	324	199	190	271	278	284	302	310	319	333	328	332	336	264	230	274
28	159	186	155	208	159	180	171	91	19	306	225	265	271	272	289	288	288	295	303	306	325	351	346	343	272
29	344	296	164	173	213	178	170	182	87	9	53	354	304	312	318	312	313	306	317	324	7	95	151	237	306
30	199	183	164	227	232	195	171	36	324	328	142	147	143	125	134	117	270	278	144	160	332	42	156	194	173
Prev	182	197	174	190	173	187	168	59	351	331	325	292	283	297	296	303	314	311	321	327	341	87	156	197	277

Montana Resources LLP
Greeley School Air Monitoring Summary
Standard Deviation of Wind Direction - MDEQ monitor (degrees)
April 2025

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

Montana Resources LLP
Greeley School Air Monitoring Summary
Standard Deviation of Wind Direction - MDEQ monitor (degrees)
May 2025

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

Montana Resources LLP
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Standard Deviation of Wind Direction - MDEQ monitor (degrees)
June 2025

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

APPENDIX B: GRAVIMETRIC ANALYSIS DATA

Quarter 2, 2025 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)	E-S CONC (UG/M3)	TRUE E-S MULT
C1104715	03/31 @ 14	04/02 @ 10	45	2.0	5.15	118.961	7-Mar	119.006	18-Apr	0.045	8.7	7.7	5.68
C1104713	04/02 @ 11	04/08 @ 11	145	2.0	16.59	119.363	7-Mar	119.645	18-Apr	0.282	17.0	15.5	5.48
C1104739	04/08 @ 12	04/14 @ 14	147	2.0	16.82	117.564	31-Mar	118.143	16-May	0.579	34.4	22.9	7.52
C1104736	04/14 @ 15	04/23 @ 14	216	2.0	24.71	119.365	31-Mar	119.868	16-May	0.503	20.4	20.4	4.99
C1104740	04/23 @ 15	04/28 @ 14	120	2.0	13.73	120.984	31-Mar	121.246	16-May	0.262	19.1	16.3	5.85
C1104742	04/28 @ 15	05/06 @ 10	188	2.0	21.51	120.284	31-Mar	120.758	16-May	0.474	22.0	18.4	5.99
C1108791	05/06 @ 11	05/12 @ 11	145	2.0	16.59	124.410	1-May	124.702	13-Jun	0.292	17.6	16.1	5.47
C1108793	05/12 @ 12	05/16 @ 14	99	2.0	11.33	126.267	1-May	126.363	13-Jun	0.096	8.5	6.5	6.52
C1108795	05/16 @ 15	05/20 @ 14	96	2.0	10.98	126.580	1-May	126.658	13-Jun	0.078	7.1	8.2	4.33
C1108797	05/20 @ 15	06/04 @ 13	359	2.0	41.07	123.674	1-May	124.551	13-Jun	0.877	21.4	13.4	7.97
C1108782	06/04 @ 14	06/10 @ 14	145	2.0	16.59	123.850	30-May	124.011	21-Jul	0.161	9.7	22.7	2.14
C1108784	06/10 @ 15	06/17 @ 14	168	2.0	19.22	123.628	30-May	123.880	21-Jul	0.252	13.1	17.9	3.66
C1108786	06/17 @ 15	06/23 @ 14	144	2.0	16.47	123.841	30-May	124.002	21-Jul	0.161	9.8	14.0	3.49
C1108788	06/23 @ 15	07/01 @ 14	192	2.0	21.96	124.100	30-May	124.544	21-Jul	0.444	20.2	19.4	5.21

Invalidated due to unreasonably low mass

Quarter 2, 2025 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)
C1104712	04/01	16.70	24:00	24.03	120.176	7-Mar	120.310	18-Apr	0.134	5.6	8.1
C1104714	04/07	16.70	23:59	24.03	121.696	7-Mar	122.160	18-Apr	0.464	19.3	22.7
NONE	04/13	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
C1104737	04/19	16.71	23:59	24.03	120.452	31-Mar	120.693	16-May	0.241	10.0	15.6
C1104741	04/25	16.70	24:00	24.03	119.959	31-Mar	120.272	16-May	0.313	13.0	14.3
C1104743	05/01	16.70	24:00	24.03	119.391	31-Mar	119.710	16-May	0.319	13.3	13.7
C1108792	05/07	16.71	23:59	24.03	125.741	1-May	126.032	13-Jun	0.291	12.1	13.1
C1108794	05/13	16.71	23:59	24.03	125.280	1-May	125.356	13-Jun	0.076	3.2	4.1
C1108796	05/19	16.70	24:00	24.03	122.819	1-May	122.954	13-Jun	0.135	5.6	7.5
C1108798	05/25	16.70	24:00	24.03	123.727	1-May	124.052	13-Jun	0.325	13.5	15.7
C1108799	05/31	16.71	23:59	24.03	125.056	1-May	125.428	13-Jun	0.372	15.5	19.3
C1108781	06/06	16.70	24:00	24.03	124.792	30-May	125.106	21-Jul	0.314	13.1	18.0
C1108783	06/12	16.70	24:00	24.03	123.703	30-May	123.987	21-Jul	0.284	11.8	11.9
C1108785	06/18	16.71	23:59	24.03	123.700	30-May	124.062	21-Jul	0.362	15.1	18.3
C1108787	06/24	16.71	23:59	24.02	124.656	30-May	124.978	21-Jul	0.322	13.4	13.3
C1108789	06/30	16.70	24:00	24.03	123.699	30-May	124.055	21-Jul	0.356	14.8	18.7

No Sample Collected

Quarter 2, 2025 Filter Analysis Results - Blanks - Greeley

FILTER	TYPE	DATE*	PRE WEIGHT (MG)	PRE-WEIGHT DATE	POST WEIGHT (MG)	POST-WEIGHT DATE	PART MASS (MG)
C1104706	Lab	1-May	119.557	7-Mar	119.562	18-Apr	0.005
C1104711	Field	2-Apr	121.965	7-Mar	121.995	18-Apr	0.030
C1104744	Field	6-May	119.265	31-Mar	119.272	16-May	0.007
C1104745	Lab	25-May	119.951	31-Mar	119.950	16-May	-0.001
C1108800	Lab	25-Jun	126.352	1-May	126.357	13-Jun	0.005
C1108790	Lab	8-Aug	124.172	30-May	124.168	21-Jul	-0.004

*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)

Second Quarter 2025 (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	1.4	1.3	1.1	0.9	1.4	1.5	3.4	5.5	6.4	4.1	2.4	1.1	1.0	0.9	0.6	1.1	34.1
	1.1 - 2.0	2.5	1.2	1.7	1.0	0.9	1.0	1.8	3.0	1.6	1.7	1.6	1.6	2.4	3.3	4.7	3.0	33.0
	2.1 - 3.0	0.7	0.5	0.7	0.4	0.5	0.5	0.9	0.7	0.6	0.5	0.5	1.3	1.4	4.2	4.1	2.6	20.2
	3.1 - 4.0	0.6	0.1	0.4	0.1	0.8	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.0	1.1	3.4	1.1	8.8
	4.1 - 5.0	0.8	0.2	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.2	1.2	0.4	3.3
	5.1 - 6.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
	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		6.3	3.5	4.0	2.5	3.6	3.2	6.3	9.5	8.9	6.5	4.7	4.2	4.8	9.7	14.0	8.2	100.0
Average Speed		2.2	1.8	1.7	1.5	1.8	1.4	1.2	1.2	1.0	1.1	1.2	1.7	1.7	2.2	2.6	2.2	1.7

Table C-2. Quarterly Wind Rose Summary, Greeley School TSP > 29

Second Quarter 2025 (TSP >29 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	4.2	6.2	3.5	3.1	3.5	2.7	6.5	9.6	9.6	2.3	3.1	0.8	0.0	1.5	1.9	4.6	63.1
	1.1 - 2.0	4.2	0.8	1.2	1.2	0.0	0.0	0.4	1.5	0.8	1.2	0.0	0.0	0.8	1.9	5.0	2.3	21.2
	2.1 - 3.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.8	0.8	0.4	2.7	0.8	6.2
	3.1 - 4.0	0.4	0.0	0.4	0.0	0.0	0.0	0.0	0.8	0.4	0.0	0.4	0.0	0.0	0.8	1.5	1.2	5.8
	4.1 - 5.0	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	2.7
	5.1 - 6.0	0.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2
	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		10.4	7.7	5.0	4.2	3.5	2.7	6.9	12.3	10.8	3.5	3.5	1.5	1.5	4.6	13.1	8.8	100.0
Average Speed		1.7	1.2	1.1	0.8	0.6	0.6	0.6	1.0	0.7	0.8	0.9	1.4	2.0	1.5	2.3	1.4	1.2

Table C-3. Quarterly Wind Rose Summary, Greeley School TSP < 11

Second Quarter 2025 (TSP <11 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	0.5	0.3	0.3	0.3	1.0	0.5	1.7	2.6	3.8	3.3	0.2	1.4	1.9	0.5	0.3	0.3	19.3
	1.1 - 2.0	2.3	1.4	1.9	1.0	1.2	1.4	2.1	1.6	1.7	2.1	2.4	1.6	3.1	3.3	4.3	2.6	34.1
	2.1 - 3.0	0.9	1.0	0.3	0.5	0.9	0.9	1.0	1.4	0.7	0.9	0.7	1.9	1.4	6.1	5.6	3.0	27.1
	3.1 - 4.0	1.0	0.3	0.3	0.2	1.2	0.0	0.2	0.0	0.2	0.2	0.2	0.7	0.0	1.9	5.6	1.7	13.7
	4.1 - 5.0	1.7	0.3	0.0	0.0	0.0	0.2	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	1.2	0.5	4.3
	5.1 - 6.0	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	1.2
	6.1 - 7.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
	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		7.1	3.7	3.0	2.1	4.3	3.0	5.0	5.9	6.6	6.4	3.5	5.6	6.4	11.8	17.2	8.3	100.0
Average Speed		3.1	2.4	1.8	1.9	2.2	1.8	1.5	1.6	1.3	1.3	1.8	1.9	1.5	2.3	2.8	2.6	2.1

APPENDIX D: LABORATORY ANALYSIS REPORTS



ANALYTICAL SUMMARY REPORT

May 05, 2025

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

Work Order: B25041678 Quote ID: B4795

Project Name: Montana Resources/Greely School DH

Energy Laboratories Inc Billings MT received the following 10 samples for Bison Engineering on 4/22/2025 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B25041678-001	Particulate filter C1104706 Lab Blank	03/10/25 14:00	04/22/25	Air	Metals on air filter by ICP/ICPMS Nitric acid-extraction by 40CFR50G
B25041678-002	Particulate filter C1104707 TSP 3/18- 3/25	03/25/25 00:00	04/22/25	Air	Same As Above
B25041678-003	Particulate filter C1104708 PM10	03/20/25 00:00	04/22/25	Air	Same As Above
B25041678-004	Particulate filter C1104709 TSP 3/25- 3/31	03/31/25 00:00	04/22/25	Air	Same As Above
B25041678-005	Particulate filter C1104710 PM10	03/26/25 00:00	04/22/25	Air	Same As Above
B25041678-006	Particulate filter C1104711 TSP 3/31-4/2	04/02/25 00:00	04/22/25	Air	Same As Above
B25041678-007	Particulate filter C1104712 PM10	04/01/25 00:00	04/22/25	Air	Same As Above
B25041678-008	Particulate filter C1104713 TSP 4/2-4/8	04/08/25 00:00	04/22/25	Air	Same As Above
B25041678-009	Particulate filter C1104714 PM10	04/07/25 00:00	04/22/25	Air	Same As Above
B25041678-010	Particulate filter C1104715 Field Blank	04/14/25 15:23	04/22/25	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.



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1104706 Lab Blank
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25041678-001
Collection Date: 03/10/25 14:00
Date Received: 04/22/25
Report Date: 05/05/25

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	0.065	ug/filter	J	1.0	0.058	E200.8	05/02/25 03:45 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 414		199348
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	05/01/25 08:36 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 208		199348
Copper	ND	ug/filter		1.0	0.16	E200.8	05/01/25 08:36 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 208		199348
Lead	ND	ug/filter		1.0	0.042	E200.8	05/01/25 08:36 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 208		199348
Manganese	ND	ug/filter		1.0	0.18	E200.8	05/01/25 08:36 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 208		199348
Molybdenum	ND	ug/filter		1.0	0.0050	E200.8	05/02/25 22:09 / ae	04/29/25 10:48	40CFR50	ICPMS207-B_250502A : 119		199348
Zinc	ND	ug/filter		1.0	0.30	E200.8	05/01/25 08:36 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 208		199348

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 C1104707 TSP 3/18-3/25
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25041678-002
Collection Date: 03/25/25
Date Received: 04/22/25
Report Date: 05/05/25

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	0.065	ug/filter	J	1.0	0.058	E200.8	05/02/25 03:50 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 415		199348
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	05/01/25 08:42 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 209		199348
Copper	0.42	ug/filter	J	1.0	0.16	E200.8	05/02/25 03:50 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 415		199348
Lead	ND	ug/filter		1.0	0.042	E200.8	05/01/25 08:42 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 209		199348
Manganese	ND	ug/filter		1.0	0.18	E200.8	05/01/25 08:42 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 209		199348
Molybdenum	0.026	ug/filter	J	1.0	0.0050	E200.8	05/02/25 03:50 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 415		199348
Zinc	0.34	ug/filter	J	1.0	0.30	E200.8	05/02/25 03:50 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 415		199348

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 C1104708 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25041678-003
Collection Date: 03/20/25
Date Received: 04/22/25
Report Date: 05/05/25

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	0.070	ug/filter	J	1.0	0.058	E200.8	05/02/25 03:56 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 416		199348
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	05/01/25 08:48 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 210		199348
Copper	0.37	ug/filter	J	1.0	0.16	E200.8	05/02/25 03:56 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 416		199348
Lead	ND	ug/filter		1.0	0.042	E200.8	05/01/25 08:48 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 210		199348
Manganese	0.27	ug/filter	J	1.0	0.18	E200.8	05/02/25 03:56 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 416		199348
Molybdenum	0.030	ug/filter	J	1.0	0.0050	E200.8	05/02/25 03:56 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 416		199348
Zinc	0.44	ug/filter	J	1.0	0.30	E200.8	05/02/25 03:56 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 416		199348

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 C1104709 TSP 3/25-3/31
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25041678-004
Collection Date: 03/31/25
Date Received: 04/22/25
Report Date: 05/05/25

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	0.070	ug/filter	J	1.0	0.058	E200.8	05/02/25 04:02 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 417		199348
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	05/01/25 08:54 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 211		199348
Copper	0.76	ug/filter	J	1.0	0.16	E200.8	05/02/25 04:02 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 417		199348
Lead	0.047	ug/filter	J	1.0	0.042	E200.8	05/02/25 04:02 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 417		199348
Manganese	0.21	ug/filter	J	1.0	0.18	E200.8	05/02/25 04:02 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 417		199348
Molybdenum	0.050	ug/filter	J	1.0	0.0050	E200.8	05/02/25 04:02 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 417		199348
Zinc	0.45	ug/filter	J	1.0	0.30	E200.8	05/02/25 04:02 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 417		199348

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 C1104710 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25041678-005
Collection Date: 03/26/25
Date Received: 04/22/25
Report Date: 05/05/25

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	0.080	ug/filter	J	1.0	0.058	E200.8	05/02/25 04:08 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 418		199348
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	05/01/25 09:00 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 212		199348
Copper	1.7	ug/filter		1.0	0.16	E200.8	05/01/25 09:00 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 212		199348
Lead	0.080	ug/filter	J	1.0	0.042	E200.8	05/02/25 04:08 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 418		199348
Manganese	0.31	ug/filter	J	1.0	0.18	E200.8	05/02/25 04:08 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 418		199348
Molybdenum	0.039	ug/filter	J	1.0	0.0050	E200.8	05/02/25 04:08 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 418		199348
Zinc	0.67	ug/filter	J	1.0	0.30	E200.8	05/02/25 04:08 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 418		199348

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 C1104711 TSP 3/31-4/2
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25041678-006
Collection Date: 04/02/25
Date Received: 04/22/25
Report Date: 05/05/25

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	0.063	ug/filter	J	1.0	0.058	E200.8	05/02/25 04:14 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 419		199348
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	05/01/25 09:05 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 213		199348
Copper	ND	ug/filter		1.0	0.16	E200.8	05/01/25 09:05 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 213		199348
Lead	ND	ug/filter		1.0	0.042	E200.8	05/01/25 09:05 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 213		199348
Manganese	ND	ug/filter		1.0	0.18	E200.8	05/01/25 09:05 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 213		199348
Molybdenum	0.024	ug/filter	J	1.0	0.0050	E200.8	05/02/25 04:14 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 419		199348
Zinc	ND	ug/filter		1.0	0.30	E200.8	05/01/25 09:05 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 213		199348

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 C1104712 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25041678-007
Collection Date: 04/01/25
Date Received: 04/22/25
Report Date: 05/05/25

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	0.071	ug/filter	J	1.0	0.058	E200.8	05/02/25 04:20 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 420		199348
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	05/01/25 09:23 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 216		199348
Copper	0.43	ug/filter	J	1.0	0.16	E200.8	05/02/25 04:20 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 420		199348
Lead	ND	ug/filter		1.0	0.042	E200.8	05/01/25 09:23 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 216		199348
Manganese	ND	ug/filter		1.0	0.18	E200.8	05/01/25 09:23 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 216		199348
Molybdenum	0.016	ug/filter	J	1.0	0.0050	E200.8	05/02/25 04:20 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 420		199348
Zinc	0.32	ug/filter	J	1.0	0.30	E200.8	05/02/25 04:20 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 420		199348

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 C1104713 TSP 4/2-4/8
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25041678-008
Collection Date: 04/08/25
Date Received: 04/22/25
Report Date: 05/05/25

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	0.070	ug/filter	J	1.0	0.058	E200.8	05/02/25 04:37 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 423		199348
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	05/01/25 09:29 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 217		199348
Copper	0.49	ug/filter	J	1.0	0.16	E200.8	05/02/25 04:37 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 423		199348
Lead	ND	ug/filter		1.0	0.042	E200.8	05/01/25 09:29 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 217		199348
Manganese	0.20	ug/filter	J	1.0	0.18	E200.8	05/02/25 04:37 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 423		199348
Molybdenum	0.091	ug/filter	J	1.0	0.0050	E200.8	05/02/25 04:37 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 423		199348
Zinc	0.45	ug/filter	J	1.0	0.30	E200.8	05/02/25 04:37 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 423		199348

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 C1104714 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25041678-009
Collection Date: 04/07/25
Date Received: 04/22/25
Report Date: 05/05/25

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	0.077	ug/filter	J	1.0	0.058	E200.8	05/02/25 04:43 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 424		199348
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	05/01/25 09:34 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 218		199348
Copper	1.2	ug/filter		1.0	0.16	E200.8	05/01/25 09:34 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 218		199348
Lead	0.065	ug/filter	J	1.0	0.042	E200.8	05/02/25 04:43 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 424		199348
Manganese	0.31	ug/filter	J	1.0	0.18	E200.8	05/02/25 04:43 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 424		199348
Molybdenum	0.12	ug/filter	J	1.0	0.0050	E200.8	05/02/25 04:43 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 424		199348
Zinc	0.55	ug/filter	J	1.0	0.30	E200.8	05/02/25 04:43 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 424		199348

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 C1104715 Field Blank
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25041678-010
Collection Date: 04/14/25 15:23
Date Received: 04/22/25
Report Date: 05/05/25

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	0.074	ug/filter	J	1.0	0.058	E200.8	05/02/25 04:49 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 425		199348
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	05/01/25 09:40 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 219		199348
Copper	0.65	ug/filter	J	1.0	0.16	E200.8	05/02/25 04:49 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 425		199348
Lead	0.050	ug/filter	J	1.0	0.042	E200.8	05/02/25 04:49 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 425		199348
Manganese	0.25	ug/filter	J	1.0	0.18	E200.8	05/02/25 04:49 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 425		199348
Molybdenum	0.094	ug/filter	J	1.0	0.0050	E200.8	05/02/25 04:49 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 425		199348
Zinc	0.69	ug/filter	J	1.0	0.30	E200.8	05/02/25 04:49 / jks	04/29/25 10:48	40CFR50	ICPMS207-B_250430A : 425		199348

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: B25041678

Report Date: 05/05/25

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8							Analytical Run: ICPMS207-B_250430A			
Lab ID: QCS	7	Initial Calibration Verification Standard							05/01/25 05:18	
Arsenic		0.0401	mg/L	0.0050	100	90	110			
Cadmium		0.0200	mg/L	0.0010	100	90	110			
Copper		0.0393	mg/L	0.010	98	90	110			
Lead		0.0386	mg/L	0.0010	97	90	110			
Manganese		0.199	mg/L	0.0050	100	90	110			
Molybdenum		0.0399	mg/L	0.0050	100	90	110			
Zinc		0.0400	mg/L	0.0050	100	90	110			
Lab ID: CCV	7	Continuing Calibration Verification Standard							05/01/25 07:50	
Arsenic		0.0506	mg/L	0.0050	101	90	110			
Cadmium		0.0497	mg/L	0.0010	99	90	110			
Copper		0.0490	mg/L	0.010	98	90	110			
Lead		0.0495	mg/L	0.0010	99	90	110			
Manganese		0.0500	mg/L	0.0050	100	90	110			
Molybdenum		0.0503	mg/L	0.0050	101	90	110			
Zinc		0.0503	mg/L	0.0050	101	90	110			
Lab ID: CCV	7	Continuing Calibration Verification Standard							05/01/25 09:11	
Arsenic		0.0512	mg/L	0.0050	102	90	110			
Cadmium		0.0496	mg/L	0.0010	99	90	110			
Copper		0.0492	mg/L	0.010	98	90	110			
Lead		0.0494	mg/L	0.0010	99	90	110			
Manganese		0.0500	mg/L	0.0050	100	90	110			
Molybdenum		0.0503	mg/L	0.0050	101	90	110			
Zinc		0.0507	mg/L	0.0050	101	90	110			
Lab ID: QCS	7	Initial Calibration Verification Standard							05/02/25 03:10	
Arsenic		0.0392	mg/L	0.0050	98	90	110			
Cadmium		0.0204	mg/L	0.0010	102	90	110			
Copper		0.0387	mg/L	0.010	97	90	110			
Lead		0.0390	mg/L	0.0010	98	90	110			
Manganese		0.196	mg/L	0.0050	98	90	110			
Molybdenum		0.0408	mg/L	0.0050	102	90	110			
Zinc		0.0397	mg/L	0.0050	99	90	110			
Lab ID: CCV	7	Continuing Calibration Verification Standard							05/02/25 03:15	
Arsenic		0.0507	mg/L	0.0050	101	90	110			
Cadmium		0.0521	mg/L	0.0010	104	90	110			
Copper		0.0493	mg/L	0.010	99	90	110			
Lead		0.0504	mg/L	0.0010	101	90	110			
Manganese		0.0504	mg/L	0.0050	101	90	110			
Molybdenum		0.0529	mg/L	0.0050	106	90	110			
Zinc		0.0498	mg/L	0.0050	100	90	110			
Lab ID: CCV	7	Continuing Calibration Verification Standard							05/02/25 04:26	
Arsenic		0.0508	mg/L	0.0050	102	90	110			
Cadmium		0.0517	mg/L	0.0010	103	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: B25041678

Report Date: 05/05/25

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8						Analytical Run: ICPMS207-B_250430A				
Lab ID: CCV	7	Continuing Calibration Verification Standard							05/02/25 04:26	
Copper		0.0494	mg/L	0.010	99	90	110			
Lead		0.0504	mg/L	0.0010	101	90	110			
Manganese		0.0502	mg/L	0.0050	100	90	110			
Molybdenum		0.0524	mg/L	0.0050	105	90	110			
Zinc		0.0505	mg/L	0.0050	101	90	110			
Method: E200.8						Batch: 199348				
Lab ID: MB-199348	7	Method Blank							Run: ICPMS207-B_250430A 05/01/25 08:13	
Arsenic		0.09	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		0.006	ug/filter	0.005						
Zinc		ND	ug/filter	0.3						
Lab ID: LCS-199348	7	Laboratory Control Sample							Run: ICPMS207-B_250430A 05/01/25 08:19	
Arsenic		104	ug/filter	1.0	104	85	115			
Cadmium		52.8	ug/filter	1.0	106	85	115			
Copper		102	ug/filter	5.0	102	85	115			
Lead		105	ug/filter	1.0	105	85	115			
Manganese		531	ug/filter	5.0	106	85	115			
Molybdenum		105	ug/filter	1.0	105	85	115			
Zinc		104	ug/filter	5.0	104	85	115			
Lab ID: LCSD-199348	7	Laboratory Control Sample Duplicate							Run: ICPMS207-B_250430A 05/01/25 08:25	
Arsenic		104	ug/filter	1.0	104	85	115	0.6	20	
Cadmium		52.4	ug/filter	1.0	105	85	115	0.7	20	
Copper		100	ug/filter	5.0	100	85	115	1.6	20	
Lead		102	ug/filter	1.0	102	85	115	2.4	20	
Manganese		524	ug/filter	5.0	105	85	115	1.3	20	
Molybdenum		104	ug/filter	1.0	104	85	115	0.3	20	
Zinc		103	ug/filter	5.0	103	85	115	1.0	20	
Lab ID: MB-199348	6	Method Blank							Run: ICPMS207-B_250430A 05/02/25 03:39	
Arsenic		0.06	ug/filter	0.06						
Copper		ND	ug/filter	0.2						
Lead		ND	ug/filter	0.04						
Manganese		ND	ug/filter	0.2						
Molybdenum		0.006	ug/filter	0.005						
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: B25041678

Report Date: 05/05/25

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS207-B_250502A		
Lab ID: QCS	Initial Calibration Verification Standard									05/02/25 17:28
Molybdenum		0.0408	mg/L	0.0050	102	90	110			
Lab ID: CCV	Continuing Calibration Verification Standard									05/02/25 21:22
Molybdenum		0.0527	mg/L	0.0050	105	90	110			
Method: E200.8								Batch: 199348		
Lab ID: MB-199348	Method Blank									05/02/25 22:03
						Run: ICPMS207-B_250502A				
Molybdenum		0.01	ug/filter	0.005						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



Work Order Receipt Checklist

Bison Engineering

B25041678

Login completed by: Kyelie L. Pflock

Date Received: 4/22/2025

Reviewed by: cjones

Received by: DNH

Reviewed Date: 4/25/2025

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:	0.7°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



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	Melissa Young	Receive Report	☐ Hard Copy ☐ Email
Phone	(406) 442-5768	Purchase Order	MTR225018
Mailing Address	3143 E Lyndale Avenue		
City, State, Zip	Helena MT, 59601		
Email	myyoung@bison-eng.com		
Quote			
Bottle Order			

Report Information (if different than Account information)

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

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
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Analysis Requested

Asenic	Cadmium	Copper	Lead	Manganese	Molybdenum	Zinc
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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)	Received by (print)	Date/Time	Signature	Signature
1 Particulate filter C1104706 Lab Blank	3/10/25	1400	1	on filter	Don V. Milimine	4/2/25 1030	Signature	Signature
2 Particulate filter C1104707 TSP 3/18 - 3/25	3/18 - 3/25	continuous	1	on filter				
3 Particulate filter C1104708 PM10	3/20/25	24 hr Composite	1	on filter				
4 Particulate filter C1104709 TSP 3/25 - 3/31	3/25 - 3/31	continuous	1	on filter				
5 Particulate filter C1104710 PM10	3/26/25	24 hr Composite	1	on filter				
6 Particulate filter C1104711 TSP 3/31 - 4/2	3/31 - 4/2	continuous	1	on filter				
7 Particulate filter C1104712 PM10	4/1/25	24 hr Composite	1	on filter				
8 Particulate filter C1104713 TSP 4/2 - 4/8	4/2 - 4/8	continuous	1	on filter				
9 Particulate filter C1104714 PM10	4/7/25	24 hr Composite	1	on filter				
10 Particulate filter C1104715 Field blank	4/14/25	1523	1	on filter				

Custody Record MUST be signed	Relinquished by (print)	Relinquished by (signature)	Signature
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)	

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

May 29, 2025

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

Work Order: B25051430 Quote ID: B4795

Project Name: Montana Resources/Greely School DH

Energy Laboratories Inc Billings MT received the following 10 samples for Bison Engineering on 5/16/2025 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B25051430-001	Particulate Filter C1104736 TSP 4/14-4/23	04/23/25 0:00	05/16/25	Air	Metals on air filter by ICP/ICPMS Nitric acid-extraction by 40CFR50G
B25051430-002	Particulate Filter C1104737 PM10	04/19/25 0:00	05/16/25	Air	Same As Above
B25051430-003	Particulate Filter C1104738 PM10 Field Blank	04/23/25 0:00	05/16/25	Air	Same As Above
B25051430-004	Particulate Filter C1104739 TSP 4/8-4/14	04/14/25 0:00	05/16/25	Air	Same As Above
B25051430-005	Particulate Filter C1104740 TSP 4/23-4/28	04/28/25 0:00	05/16/25	Air	Same As Above
B25051430-006	Particulate Filter C1104741 PM10	04/25/25 0:00	05/16/25	Air	Same As Above
B25051430-007	Particulate Filter C1104742 TSP 4/28-5/6	05/06/25 0:00	05/16/25	Air	Same As Above
B25051430-008	Particulate Filter C1104743 PM10	05/01/25 0:00	05/16/25	Air	Same As Above
B25051430-009	Particulate Filter C1104744 TSP Field Blank	05/06/25 9:36	05/16/25	Air	Same As Above
B25051430-010	Particulate Filter C1104745 Lab Blank	04/01/25 16:55	05/16/25	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: B25051430

Report Date: 05/29/25

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 C1104736 TSP 4/14-4/23
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25051430-001
Collection Date: 04/23/25
Date Received: 05/16/25
Report Date: 05/29/25

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	05/23/25 15:38 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 52		199964
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	05/23/25 15:38 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 52		199964
Copper	1.4	ug/filter		1.0	0.16	E200.8	05/23/25 15:38 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 52		199964
Lead	0.073	ug/filter	J	1.0	0.042	E200.8	05/25/25 03:33 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 430		199964
Manganese	0.31	ug/filter	J	1.0	0.18	E200.8	05/25/25 03:33 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 430		199964
Molybdenum	0.091	ug/filter	J	1.0	0.0050	E200.8	05/25/25 03:33 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 430		199964
Zinc	0.75	ug/filter	J	1.0	0.30	E200.8	05/25/25 03:33 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 430		199964

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 C1104737 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25051430-002
Collection Date: 04/19/25
Date Received: 05/16/25
Report Date: 05/29/25

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	05/23/25 15:44 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 53		199964
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	05/23/25 15:44 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 53		199964
Copper	0.48	ug/filter	J	1.0	0.16	E200.8	05/25/25 03:39 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 431		199964
Lead	ND	ug/filter		1.0	0.042	E200.8	05/23/25 15:44 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 53		199964
Manganese	ND	ug/filter		1.0	0.18	E200.8	05/23/25 15:44 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 53		199964
Molybdenum	0.017	ug/filter	J	1.0	0.0050	E200.8	05/25/25 03:39 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 431		199964
Zinc	0.49	ug/filter	J	1.0	0.30	E200.8	05/25/25 03:39 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 431		199964

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 C1104738 PM10 Field Blank
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25051430-003
Collection Date: 04/23/25
Date Received: 05/16/25
Report Date: 05/29/25

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	05/23/25 15:50 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 54		199964
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	05/23/25 15:50 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 54		199964
Copper	ND	ug/filter		1.0	0.16	E200.8	05/23/25 15:50 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 54		199964
Lead	ND	ug/filter		1.0	0.042	E200.8	05/23/25 15:50 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 54		199964
Manganese	ND	ug/filter		1.0	0.18	E200.8	05/23/25 15:50 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 54		199964
Molybdenum	ND	ug/filter		1.0	0.0050	E200.8	05/23/25 15:50 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 54		199964
Zinc	ND	ug/filter		1.0	0.30	E200.8	05/23/25 15:50 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 54		199964

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 C1104739 TSP 4/8-4/14
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25051430-004
Collection Date: 04/14/25
Date Received: 05/16/25
Report Date: 05/29/25

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	05/23/25 15:56 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 55		199964
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	05/23/25 15:56 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 55		199964
Copper	1.4	ug/filter		1.0	0.16	E200.8	05/23/25 15:56 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 55		199964
Lead	0.073	ug/filter	J	1.0	0.042	E200.8	05/25/25 03:51 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 433		199964
Manganese	0.33	ug/filter	J	1.0	0.18	E200.8	05/25/25 03:51 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 433		199964
Molybdenum	0.28	ug/filter	J	1.0	0.0050	E200.8	05/25/25 03:51 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 433		199964
Zinc	0.79	ug/filter	J	1.0	0.30	E200.8	05/25/25 03:51 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 433		199964

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 C1104740 TSP 4/23-4/28
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25051430-005
Collection Date: 04/28/25
Date Received: 05/16/25
Report Date: 05/29/25

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	05/23/25 16:02 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 56		199964
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	05/23/25 16:02 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 56		199964
Copper	0.55	ug/filter	J	1.0	0.16	E200.8	05/25/25 03:56 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 434		199964
Lead	ND	ug/filter		1.0	0.042	E200.8	05/23/25 16:02 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 56		199964
Manganese	ND	ug/filter		1.0	0.18	E200.8	05/23/25 16:02 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 56		199964
Molybdenum	0.030	ug/filter	J	1.0	0.0050	E200.8	05/25/25 03:56 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 434		199964
Zinc	ND	ug/filter		1.0	0.30	E200.8	05/23/25 16:02 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 56		199964

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 C1104741 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25051430-006
Collection Date: 04/25/25
Date Received: 05/16/25
Report Date: 05/29/25

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	05/23/25 16:19 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 59		199964
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	05/23/25 16:19 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 59		199964
Copper	0.96	ug/filter	J	1.0	0.16	E200.8	05/25/25 04:14 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 437		199964
Lead	0.046	ug/filter	J	1.0	0.042	E200.8	05/25/25 04:14 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 437		199964
Manganese	0.21	ug/filter	J	1.0	0.18	E200.8	05/25/25 04:14 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 437		199964
Molybdenum	0.031	ug/filter	J	1.0	0.0050	E200.8	05/25/25 04:14 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 437		199964
Zinc	0.42	ug/filter	J	1.0	0.30	E200.8	05/25/25 04:14 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 437		199964

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 C1104742 TSP 4/28-5/6
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25051430-007
Collection Date: 05/06/25
Date Received: 05/16/25
Report Date: 05/29/25

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	05/23/25 16:25 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 60		199964
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	05/23/25 16:25 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 60		199964
Copper	1.3	ug/filter		1.0	0.16	E200.8	05/23/25 16:25 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 60		199964
Lead	0.069	ug/filter	J	1.0	0.042	E200.8	05/25/25 04:20 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 438		199964
Manganese	0.30	ug/filter	J	1.0	0.18	E200.8	05/25/25 04:20 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 438		199964
Molybdenum	0.099	ug/filter	J	1.0	0.0050	E200.8	05/25/25 04:20 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 438		199964
Zinc	0.46	ug/filter	J	1.0	0.30	E200.8	05/25/25 04:20 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 438		199964

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 C1104743 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25051430-008
Collection Date: 05/01/25
Date Received: 05/16/25
Report Date: 05/29/25

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	05/23/25 16:31 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 61		199964
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	05/23/25 16:31 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 61		199964
Copper	0.59	ug/filter	J	1.0	0.16	E200.8	05/25/25 04:26 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 439		199964
Lead	ND	ug/filter		1.0	0.042	E200.8	05/23/25 16:31 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 61		199964
Manganese	0.22	ug/filter	J	1.0	0.18	E200.8	05/25/25 04:26 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 439		199964
Molybdenum	0.039	ug/filter	J	1.0	0.0050	E200.8	05/25/25 04:26 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 439		199964
Zinc	0.84	ug/filter	J	1.0	0.30	E200.8	05/25/25 04:26 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 439		199964

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 C1104744 TSP Field Blank
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25051430-009
Collection Date: 05/06/25 09:36
Date Received: 05/16/25
Report Date: 05/29/25

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	05/23/25 16:37 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 62		199964
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	05/23/25 16:37 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 62		199964
Copper	ND	ug/filter		1.0	0.16	E200.8	05/23/25 16:37 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 62		199964
Lead	ND	ug/filter		1.0	0.042	E200.8	05/23/25 16:37 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 62		199964
Manganese	ND	ug/filter		1.0	0.18	E200.8	05/23/25 16:37 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 62		199964
Molybdenum	ND	ug/filter		1.0	0.0050	E200.8	05/23/25 16:37 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 62		199964
Zinc	ND	ug/filter		1.0	0.30	E200.8	05/23/25 16:37 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 62		199964

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 C1104745 Lab Blank
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25051430-010
Collection Date: 04/01/25 16:55
Date Received: 05/16/25
Report Date: 05/29/25

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	05/23/25 16:43 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 63		199964
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	05/23/25 16:43 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 63		199964
Copper	0.59	ug/filter	J	1.0	0.16	E200.8	05/25/25 04:37 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 441		199964
Lead	0.10	ug/filter	J	1.0	0.042	E200.8	05/25/25 04:37 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 441		199964
Manganese	ND	ug/filter		1.0	0.18	E200.8	05/23/25 16:43 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 63		199964
Molybdenum	ND	ug/filter		1.0	0.0050	E200.8	05/23/25 16:43 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 63		199964
Zinc	0.50	ug/filter	J	1.0	0.30	E200.8	05/25/25 04:37 / jks	05/21/25 10:21	40CFR50	ICPMS207-B_250523A : 441		199964

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: B25051430

Report Date: 05/29/25

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8							Analytical Run: ICPMS207-B_250523A		
Lab ID: QCS	Initial Calibration Verification Standard							05/23/25 11:44	
Arsenic	0.0374	mg/L	0.0050	94	90	110			
Cadmium	0.0193	mg/L	0.0010	97	90	110			
Copper	0.0373	mg/L	0.010	93	90	110			
Lead	0.0375	mg/L	0.0010	94	90	110			
Manganese	0.188	mg/L	0.0050	94	90	110			
Molybdenum	0.0389	mg/L	0.0050	97	90	110			
Zinc	0.0376	mg/L	0.0050	94	90	110			
Lab ID: CCV	Continuing Calibration Verification Standard							05/23/25 14:46	
Arsenic	0.0468	mg/L	0.0050	94	90	110			
Cadmium	0.0489	mg/L	0.0010	98	90	110			
Copper	0.0464	mg/L	0.010	93	90	110			
Lead	0.0477	mg/L	0.0010	95	90	110			
Manganese	0.0455	mg/L	0.0050	91	90	110			
Molybdenum	0.0508	mg/L	0.0050	101	90	110			
Zinc	0.0481	mg/L	0.0050	96	90	110			
Lab ID: CCV	Continuing Calibration Verification Standard							05/23/25 16:08	
Arsenic	0.0466	mg/L	0.0050	93	90	110			
Cadmium	0.0489	mg/L	0.0010	98	90	110			
Copper	0.0462	mg/L	0.010	92	90	110			
Lead	0.0483	mg/L	0.0010	97	90	110			
Manganese	0.0454	mg/L	0.0050	91	90	110			
Molybdenum	0.0514	mg/L	0.0050	103	90	110			
Zinc	0.0486	mg/L	0.0050	97	90	110			
Lab ID: QCS	Initial Calibration Verification Standard							05/24/25 23:51	
Arsenic	0.0386	mg/L	0.0050	96	90	110			
Cadmium	0.0196	mg/L	0.0010	98	90	110			
Copper	0.0381	mg/L	0.010	95	90	110			
Lead	0.0380	mg/L	0.0010	95	90	110			
Manganese	0.193	mg/L	0.0050	97	90	110			
Molybdenum	0.0394	mg/L	0.0050	99	90	110			
Zinc	0.0387	mg/L	0.0050	97	90	110			
Lab ID: CCV	Continuing Calibration Verification Standard							05/25/25 02:46	
Arsenic	0.0494	mg/L	0.0050	99	90	110			
Cadmium	0.0493	mg/L	0.0010	99	90	110			
Copper	0.0482	mg/L	0.010	96	90	110			
Lead	0.0481	mg/L	0.0010	96	90	110			
Manganese	0.0493	mg/L	0.0050	99	90	110			
Molybdenum	0.0506	mg/L	0.0050	101	90	110			
Zinc	0.0489	mg/L	0.0050	98	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: B25051430

Report Date: 05/29/25

Analyte		Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	E200.8	Analytical Run: ICPMS207-B_250523A								
Lab ID:	CCV	Continuing Calibration Verification Standard								05/25/25 04:02
Arsenic		0.0488	mg/L	0.0050	98	90	110			
Cadmium		0.0488	mg/L	0.0010	98	90	110			
Copper		0.0475	mg/L	0.010	95	90	110			
Lead		0.0477	mg/L	0.0010	95	90	110			
Manganese		0.0483	mg/L	0.0050	97	90	110			
Molybdenum		0.0504	mg/L	0.0050	101	90	110			
Zinc		0.0481	mg/L	0.0050	96	90	110			
Method:	E200.8									Batch: 199964
Lab ID:	MB-199964	Method Blank				Run: ICPMS207-B_250523A				05/23/25 15:15
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-199964	Laboratory Control Sample				Run: ICPMS207-B_250523A				05/23/25 15:21
Arsenic		95.0	ug/filter	1.0	95	85	115			
Cadmium		51.7	ug/filter	1.0	103	85	115			
Copper		95.1	ug/filter	5.0	95	85	115			
Lead		97.8	ug/filter	1.0	98	85	115			
Manganese		459	ug/filter	5.0	92	85	115			
Molybdenum		105	ug/filter	1.0	105	85	115			
Zinc		97.6	ug/filter	5.0	98	85	115			
Lab ID:	LCS-199964DUP	Laboratory Control Sample Duplicate				Run: ICPMS207-B_250523A				05/23/25 15:27
Arsenic		95.5	ug/filter	1.0	96	85	115	0.6	20	
Cadmium		51.9	ug/filter	1.0	104	85	115	0.4	20	
Copper		95.8	ug/filter	5.0	96	85	115	0.7	20	
Lead		94.9	ug/filter	1.0	95	85	115	3.0	20	
Manganese		463	ug/filter	5.0	93	85	115	0.8	20	
Molybdenum		106	ug/filter	1.0	106	85	115	0.9	20	
Zinc		98.0	ug/filter	5.0	98	85	115	0.5	20	
Lab ID:	MB-199964	Method Blank				Run: ICPMS207-B_250523A				05/25/25 03:27
Arsenic		ND	ug/filter	0.06						
Cadmium		ND	ug/filter	0.006						
Copper		ND	ug/filter	0.2						
Lead		ND	ug/filter	0.04						
Manganese		ND	ug/filter	0.2						
Molybdenum		ND	ug/filter	0.005						
Zinc		ND	ug/filter	0.3						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



Work Order Receipt Checklist

Bison Engineering

B25051430

Login completed by: Kyelie L. Pflock

Date Received: 5/16/2025

Reviewed by: cindy

Received by: CMJ

Reviewed Date: 5/23/2025

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:	2.2°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

Trust our People. Trust our Data.

Account Information (Billing Information)

Company/Name **Bison Engineering, Inc.**

Contact **Melissa Young**

Phone **(406) 442-5768**

Mailing Address **3143 E Lyndale Avenue**

City, State, Zip **Helena MT, 59601**

Email **myoung@bison-eng.com**

Receive Invoice ☒ Hard Copy ☒ Email ☐ Hard Copy ☐ Email ☐

Purchase Order **MTR225018** 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 **Montana** EPA/State Compliance ☒ Yes ☐ No

Sample Origin State **Montana**

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

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)	Received by Laboratory (print)	Signature	Date/Time	Amount	Payment Type - Check	Receipt Number (cash/check only)
1 Particulate filter C1104736 TSP 4/14 - 4/23	4/14 - 4/23	continuous	1	on filter	Don Milimine	Signature	5/16/25 10:51			
2 Particulate filter C1104737 PM10	4/19/25	24 hr composite	1	on filter	Don Milimine	Signature	5/16/25 10:51			
3 Particulate filter C1104738 PM10 Field Blank	4/23/25	1:51 pm	1	on filter	Don Milimine	Signature	5/16/25 10:51			
4 Particulate filter C1104739 TSP 4/8 - 4/14	4/8 - 4/14	continuous	1	on filter	Don Milimine	Signature	5/16/25 10:51			
5 Particulate filter C1104740 TSP 4/23 - 4/28	4/23 - 4/28	continuous	1	on filter	Don Milimine	Signature	5/16/25 10:51			
6 Particulate filter C1104741 PM10	4/25/25	24 hr composite	1	on filter	Don Milimine	Signature	5/16/25 10:51			
7 Particulate filter C1104742 TSP 4/28 - 5/6	4/28 - 5/6	continuous	1	on filter	Don Milimine	Signature	5/16/25 10:51			
8 Particulate filter C1104743 PM10	5/1/25	24 hr composite	1	on filter	Don Milimine	Signature	5/16/25 10:51			
9 Particulate filter C1104744 TSP Field Blank	5/6/25	9:36 am	1	on filter	Don Milimine	Signature	5/16/25 10:51			
10 Particulate filter C1104745 Lab Blank	4/1/25	4:55 pm	1	on filter	Don Milimine	Signature	5/16/25 10:51			

Custody Record MUST be signed

Relinquished by (print) **Don Milimine** Signature **Don Milimine** Date/Time **5/16/25 10:51**

Relinquished by (print) **Don Milimine** Signature **Don Milimine** Date/Time **5/16/25 10:51**

Shipped By **Don Milimine** Cooler ID(s) **Don Milimine** Custody Seals **Don Milimine** Intact **Y** Receipt Temp **Y** Temp Blank **Y** On Ice **Y** Payment Type - **CC** Cash **Y** Check **Y** Amount **\$** Receipt Number (cash/check only) **1051**

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

July 01, 2025

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

Work Order: B25061675 Quote ID: B4795

Project Name: Montana Resources/Greely School DH

Energy Laboratories Inc Billings MT received the following 10 samples for Bison Engineering on 6/18/2025 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B25061675-001	Particulate filter C108791 TSP	05/12/25 0:00	06/18/25	Air	Metals on air filter by ICP/ICPMS Nitric acid-extraction by 40CFR50G
B25061675-002	Particulate filter C1108792 PM10	05/07/25 0:00	06/18/25	Air	Same As Above
B25061675-003	Particulate filter C1108793 TSP	05/16/25 0:00	06/18/25	Air	Same As Above
B25061675-004	Particulate filter C1108794 PM10	05/13/25 0:00	06/18/25	Air	Same As Above
B25061675-005	Particulate filter C1108795 TSP	05/20/25 0:00	06/18/25	Air	Same As Above
B25061675-006	Particulate filter C1108796 PM10	05/19/25 0:00	06/18/25	Air	Same As Above
B25061675-007	Particulate filter C1108797 TSP	06/04/25 0:00	06/18/25	Air	Same As Above
B25061675-008	Particulate filter C1108798 PM10	05/25/25 0:00	06/18/25	Air	Same As Above
B25061675-009	Particulate filter C1108799 PM10	05/31/25 0:00	06/18/25	Air	Same As Above
B25061675-010	Particulate filter C1108800 Lab Blank	05/02/25 10:45	06/18/25	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.



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C108791 TSP
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25061675-001
Collection Date: 05/12/25
Date Received: 06/18/25
Report Date: 07/01/25

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	06/25/25 01:36 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 409		200818
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	06/25/25 01:36 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 409		200818
Copper	0.37	ug/filter	J	1.0	0.16	E200.8	06/25/25 01:36 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 409		200818
Lead	ND	ug/filter		1.0	0.042	E200.8	06/25/25 01:36 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 409		200818
Manganese	ND	ug/filter		1.0	0.18	E200.8	06/25/25 01:36 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 409		200818
Molybdenum	0.012	ug/filter	J	1.0	0.0050	E200.8	06/25/25 01:36 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 409		200818
Zinc	ND	ug/filter		1.0	0.30	E200.8	06/25/25 01:36 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 409		200818

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 C1108792 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25061675-002
Collection Date: 05/07/25
Date Received: 06/18/25
Report Date: 07/01/25

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	06/25/25 01:42 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 410		200818
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	06/25/25 01:42 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 410		200818
Copper	0.51	ug/filter	J	1.0	0.16	E200.8	06/25/25 01:42 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 410		200818
Lead	ND	ug/filter		1.0	0.042	E200.8	06/26/25 19:36 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250625A : 334		200818
Manganese	ND	ug/filter		1.0	0.18	E200.8	06/25/25 01:42 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 410		200818
Molybdenum	0.019	ug/filter	J	1.0	0.0050	E200.8	06/25/25 01:42 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 410		200818
Zinc	ND	ug/filter		1.0	0.30	E200.8	06/25/25 01:42 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 410		200818

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LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1108793 TSP
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25061675-003
Collection Date: 05/16/25
Date Received: 06/18/25
Report Date: 07/01/25

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	06/25/25 01:48 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 411		200818
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	06/25/25 01:48 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 411		200818
Copper	0.22	ug/filter	J	1.0	0.16	E200.8	06/25/25 01:48 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 411		200818
Lead	ND	ug/filter		1.0	0.042	E200.8	06/25/25 01:48 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 411		200818
Manganese	ND	ug/filter		1.0	0.18	E200.8	06/25/25 01:48 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 411		200818
Molybdenum	0.0079	ug/filter	J	1.0	0.0050	E200.8	06/25/25 01:48 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 411		200818
Zinc	ND	ug/filter		1.0	0.30	E200.8	06/25/25 01:48 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 411		200818

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LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1108794 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25061675-004
Collection Date: 05/13/25
Date Received: 06/18/25
Report Date: 07/01/25

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	06/25/25 01:54 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 412		200818
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	06/25/25 01:54 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 412		200818
Copper	0.22	ug/filter	J	1.0	0.16	E200.8	06/25/25 01:54 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 412		200818
Lead	ND	ug/filter		1.0	0.042	E200.8	06/25/25 01:54 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 412		200818
Manganese	ND	ug/filter		1.0	0.18	E200.8	06/25/25 01:54 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 412		200818
Molybdenum	0.010	ug/filter	J	1.0	0.0050	E200.8	06/25/25 01:54 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 412		200818
Zinc	ND	ug/filter		1.0	0.30	E200.8	06/25/25 01:54 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 412		200818

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LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1108795 TSP
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25061675-005
Collection Date: 05/20/25
Date Received: 06/18/25
Report Date: 07/01/25

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	06/25/25 02:00 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 413		200818
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	06/25/25 02:00 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 413		200818
Copper	0.25	ug/filter	J	1.0	0.16	E200.8	06/25/25 02:00 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 413		200818
Lead	ND	ug/filter		1.0	0.042	E200.8	06/25/25 02:00 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 413		200818
Manganese	ND	ug/filter		1.0	0.18	E200.8	06/25/25 02:00 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 413		200818
Molybdenum	0.0089	ug/filter	J	1.0	0.0050	E200.8	06/25/25 02:00 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 413		200818
Zinc	ND	ug/filter		1.0	0.30	E200.8	06/25/25 02:00 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 413		200818

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LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1108796 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25061675-006
Collection Date: 05/19/25
Date Received: 06/18/25
Report Date: 07/01/25

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	06/25/25 02:05 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 414		200818
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	06/25/25 02:05 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 414		200818
Copper	0.22	ug/filter	J	1.0	0.16	E200.8	06/25/25 02:05 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 414		200818
Lead	ND	ug/filter		1.0	0.042	E200.8	06/25/25 02:05 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 414		200818
Manganese	ND	ug/filter		1.0	0.18	E200.8	06/25/25 02:05 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 414		200818
Molybdenum	0.012	ug/filter	J	1.0	0.0050	E200.8	06/25/25 02:05 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 414		200818
Zinc	ND	ug/filter		1.0	0.30	E200.8	06/25/25 02:05 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 414		200818

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LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1108797 TSP
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25061675-007
Collection Date: 06/04/25
Date Received: 06/18/25
Report Date: 07/01/25

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	06/25/25 02:11 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 415		200818
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	06/25/25 02:11 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 415		200818
Copper	2.3	ug/filter		1.0	0.16	E200.8	06/25/25 02:11 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 415		200818
Lead	0.11	ug/filter	J	1.0	0.042	E200.8	06/26/25 03:25 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250625A : 163		200818
Manganese	0.45	ug/filter	J	1.0	0.18	E200.8	06/25/25 02:11 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 415		200818
Molybdenum	0.14	ug/filter	J	1.0	0.0050	E200.8	06/25/25 02:11 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 415		200818
Zinc	0.62	ug/filter	J	1.0	0.30	E200.8	06/25/25 02:11 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 415		200818

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LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1108798 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25061675-008
Collection Date: 05/25/25
Date Received: 06/18/25
Report Date: 07/01/25

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	06/25/25 02:17 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 416		200818
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	06/25/25 02:17 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 416		200818
Copper	0.72	ug/filter	J	1.0	0.16	E200.8	06/25/25 02:17 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 416		200818
Lead	ND	ug/filter		1.0	0.042	E200.8	06/26/25 19:42 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250625A : 335		200818
Manganese	0.23	ug/filter	J	1.0	0.18	E200.8	06/25/25 02:17 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 416		200818
Molybdenum	0.14	ug/filter	J	1.0	0.0050	E200.8	06/25/25 02:17 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 416		200818
Zinc	ND	ug/filter		1.0	0.30	E200.8	06/25/25 02:17 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 416		200818

Report RL - Analyte Reporting Limit
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ND - Not detected at the Reporting Limit (RL)



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1108799 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25061675-009
Collection Date: 05/31/25
Date Received: 06/18/25
Report Date: 07/01/25

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	06/26/25 19:47 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250625A : 336		200818
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	06/25/25 02:35 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 419		200818
Copper	1.1	ug/filter		1.0	0.16	E200.8	06/25/25 02:35 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 419		200818
Lead	0.053	ug/filter	J	1.0	0.0080	E200.8	06/26/25 03:37 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250625A : 165		200818
Manganese	0.22	ug/filter	J	1.0	0.18	E200.8	06/25/25 02:35 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 419		200818
Molybdenum	0.039	ug/filter	J	1.0	0.0050	E200.8	06/25/25 02:35 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 419		200818
Zinc	0.31	ug/filter	J	1.0	0.30	E200.8	06/25/25 02:35 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 419		200818

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 C1108800 Lab Blank
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25061675-010
Collection Date: 05/02/25 10:45
Date Received: 06/18/25
Report Date: 07/01/25

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	06/25/25 02:40 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 420		200818
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	06/25/25 02:40 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 420		200818
Copper	ND	ug/filter		1.0	0.16	E200.8	06/25/25 02:40 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 420		200818
Lead	ND	ug/filter		1.0	0.042	E200.8	06/25/25 02:40 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 420		200818
Manganese	ND	ug/filter		1.0	0.18	E200.8	06/25/25 02:40 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 420		200818
Molybdenum	ND	ug/filter		1.0	0.0050	E200.8	06/25/25 02:40 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 420		200818
Zinc	ND	ug/filter		1.0	0.30	E200.8	06/25/25 02:40 / ae	06/20/25 12:07	40CFR50	ICPMS207-B_250623A : 420		200818

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: B25061675

Report Date: 07/01/25

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Analytical Run: ICPMS207-B_250623A
Lab ID: QCS	7	Initial Calibration Verification Standard								06/24/25 19:29
Arsenic		0.0390	mg/L	0.0050	98	90	110			
Cadmium		0.0203	mg/L	0.0010	102	90	110			
Copper		0.0387	mg/L	0.010	97	90	110			
Lead		0.0409	mg/L	0.0010	102	90	110			
Manganese		0.199	mg/L	0.0050	99	90	110			
Molybdenum		0.0416	mg/L	0.0050	104	90	110			
Zinc		0.0394	mg/L	0.0050	99	90	110			
Lab ID: CCV	7	Continuing Calibration Verification Standard								06/25/25 01:13
Arsenic		0.0482	mg/L	0.0050	96	90	110			
Cadmium		0.0482	mg/L	0.0010	96	90	110			
Copper		0.0470	mg/L	0.010	94	90	110			
Lead		0.0496	mg/L	0.0010	99	90	110			
Manganese		0.0481	mg/L	0.0050	96	90	110			
Molybdenum		0.0505	mg/L	0.0050	101	90	110			
Zinc		0.0469	mg/L	0.0050	94	90	110			
Lab ID: CCV	7	Continuing Calibration Verification Standard								06/25/25 02:23
Arsenic		0.0480	mg/L	0.0050	96	90	110			
Cadmium		0.0487	mg/L	0.0010	97	90	110			
Copper		0.0463	mg/L	0.010	93	90	110			
Lead		0.0494	mg/L	0.0010	99	90	110			
Manganese		0.0479	mg/L	0.0050	96	90	110			
Molybdenum		0.0506	mg/L	0.0050	101	90	110			
Zinc		0.0477	mg/L	0.0050	95	90	110			
Method: E200.8										Batch: 200818
Lab ID: MB-200818	7	Method Blank								Run: ICPMS207-B_250623A 06/25/25 00:38
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-200818	7	Laboratory Control Sample								Run: ICPMS207-B_250623A 06/25/25 00:44
Arsenic		97.4	ug/filter	1.0	97	85	115			
Cadmium		49.7	ug/filter	1.0	99	85	115			
Copper		95.4	ug/filter	5.0	95	85	115			
Lead		101	ug/filter	1.0	101	85	115			
Manganese		482	ug/filter	5.0	96	85	115			
Molybdenum		103	ug/filter	1.0	103	85	115			
Zinc		97.8	ug/filter	5.0	98	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: B25061675

Report Date: 07/01/25

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 200818
Lab ID: LCSD-200818	7	Laboratory Control Sample Duplicate				Run: ICPMS207-B_250623A				06/25/25 00:50
Arsenic		98.5	ug/filter	1.0	98	85	115	1.1	20	
Cadmium		50.1	ug/filter	1.0	100	85	115	0.9	20	
Copper		97.0	ug/filter	5.0	97	85	115	1.6	20	
Lead		99.7	ug/filter	1.0	100	85	115	1.3	20	
Manganese		483	ug/filter	5.0	97	85	115	0.2	20	
Molybdenum		104	ug/filter	1.0	104	85	115	1.0	20	
Zinc		99.1	ug/filter	5.0	99	85	115	1.3	20	
Method: E200.8										Analytical Run: ICPMS207-B_250625A
Lab ID: QCS	2	Initial Calibration Verification Standard								06/25/25 21:53
Arsenic		0.0392	mg/L	0.0050	98	90	110			
Lead		0.0395	mg/L	0.0010	99	90	110			
Lab ID: CCV	2	Continuing Calibration Verification Standard								06/26/25 01:46
Arsenic		0.0474	mg/L	0.0050	95	90	110			
Lead		0.0474	mg/L	0.0010	95	90	110			
Lab ID: CCV	2	Continuing Calibration Verification Standard								06/26/25 03:08
Arsenic		0.0474	mg/L	0.0050	95	90	110			
Lead		0.0486	mg/L	0.0010	97	90	110			
Lab ID: QCS	2	Initial Calibration Verification Standard								06/26/25 13:34
Arsenic		0.0392	mg/L	0.0050	98	90	110			
Lead		0.0388	mg/L	0.0010	97	90	110			
Lab ID: CCV	2	Continuing Calibration Verification Standard								06/26/25 19:24
Arsenic		0.0473	mg/L	0.0050	95	90	110			
Lead		0.0478	mg/L	0.0010	96	90	110			
Method: E200.8										Batch: 200818
Lab ID: MB-200818	2	Method Blank				Run: ICPMS207-B_250625A				06/26/25 02:33
Arsenic		ND	ug/filter	0.06						
Lead		ND	ug/filter	0.04						
Lab ID: MB-200818	2	Method Blank				Run: ICPMS207-B_250625A				06/26/25 19:18
Arsenic		ND	ug/filter	0.06						
Lead		ND	ug/filter	0.04						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



Work Order Receipt Checklist

Bison Engineering

B25061675

Login completed by: Lorie D. Snider

Date Received: 6/18/2025

Reviewed by: gmccartney

Received by: DNH

Reviewed Date: 6/27/2025

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:	2.5°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: **Melissa Young**

Phone: **(406) 442-5768**

Mailing Address: **3143 E Lyndale Avenue**

City, State, Zip: **Helena MT, 59601**

Email: **myoung@bison-eng.com**

Receive Invoice: ☒ Hard Copy ☐ Email ☐ Hard Copy ☐ Email

Purchase Order: **MTR225018**

Quote: **Bottle Order**

Report Information (If different than Account Information)

Company/Name: **Bison Engineering, Inc.**

Contact: **Don Milmine**

Phone: **(406) 208-4833**

Mailing Address: **2751 Enterprise Avenue Suite 2**

City, State, Zip: **Billings, MT 59102**

Email: **dmilmine@bison-eng.com**

Receive Report: ☒ Hard Copy ☐ Email

Special Report/Format: ☐ 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: **Montana**

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

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	ELI LAB ID Laboratory Use Only
1 Particulate filter C108791 TSP 5/6 - 5/12	5/6 - 5/12	continuous	1	on filter	☒	☒	025061675
2 Particulate filter C1108792 PM10	5/7/25	24 hr Composite	1	on filter	☒	☒	
3 Particulate filter C1108793 TSP 5/12 - 5/16	5/12 - 5/16	continuous	1	on filter	☒	☒	
4 Particulate filter C1108794 PM10	5/13/25	24 hr Composite	1	on filter	☒	☒	
5 Particulate filter C1108795 TSP 5/16 - 5/20	5/16 - 5/20	continuous	1	on filter	☒	☒	
6 Particulate filter C1108796 PM10	5/19/25	24 hr Composite	1	on filter	☒	☒	
7 Particulate filter C1108797 TSP 5/20 - 6/4	5/20 - 6/4	continuous	1	on filter	☒	☒	
8 Particulate filter C1108798 PM10	5/25/25	24 hr Composite	1	on filter	☒	☒	
9 Particulate filter C1108799 PM10	5/31/25	24 hr Composite	1	on filter	☒	☒	
10 Particulate filter C1108800 Lab Blank	5/02/25	1045	1	on filter	☒	☒	

Custody Record MUST be signed: **Don Milmine** Date/Time: **6/19/25 1600** Signature: **Don Milmine**

Received by (print): **Don Milmine** Date/Time: **6/19/25 1600** Signature: **Don Milmine**

Received by Laboratory (print): **Don Milmine** Date/Time: **6/19/25 1600** Signature: **Don Milmine**

Shipped By: **Don Milmine** Cooler ID(s): **Y N C B** Custody Seals: **Y N C B** Receipt Temp: **°C** Intact: **Y N** Receipt Number: **1600**

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

August 14, 2025

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

Work Order: B25080087 Quote ID: B4795

Project Name: Montana Resources/Greely School DH

Energy Laboratories Inc Billings MT received the following 10 samples for Bison Engineering on 8/1/2025 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B25080087-001	Particulate Filter C1108781 PM10	06/06/25 0:00	08/01/25	Air	Metals on air filter by ICP/ICPMS Nitric acid-extraction by 40CFR50G
B25080087-002	Particulate Filter C1108782 TSP 6/4-6/10	06/10/25 0:00	08/01/25	Air	Same As Above
B25080087-003	Particulate Filter C1108783 PM10	06/12/25 0:00	08/01/25	Air	Same As Above
B25080087-004	Particulate Filter C1108784 TSP 6/10- 6/17	06/17/25 0:00	08/01/25	Air	Same As Above
B25080087-005	Particulate Filter C1108785 PM10	06/18/25 0:00	08/01/25	Air	Same As Above
B25080087-006	Particulate Filter C1108786 TSP 6/17- 6/23	06/23/25 0:00	08/01/25	Air	Same As Above
B25080087-007	Particulate Filter C1108787 PM10	06/24/25 0:00	08/01/25	Air	Same As Above
B25080087-008	Particulate Filter C21108788 TSP 6/23- 7/1	07/01/25 0:00	08/01/25	Air	Same As Above
B25080087-009	Particulate Filter C1108789 PM10	06/30/25 0:00	08/01/25	Air	Same As Above
B25080087-010	Particulate Filter C1108790 PM10 Lab Blank	05/30/25 0:00	08/01/25	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.



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate Filter C1108781 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25080087-001
Collection Date: 06/06/25
Date Received: 08/01/25
Report Date: 08/14/25

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	08/11/25 16:31 / jks	08/05/25 12:20	40CFR50	ICPMS208-B_250811A : 61		202141
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	08/08/25 04:29 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 444		202141
Copper	0.86	ug/filter	J	1.0	0.16	E200.8	08/07/25 03:02 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 179		202141
Lead	0.053	ug/filter	J	1.0	0.042	E200.8	08/07/25 03:02 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 179		202141
Manganese	ND	ug/filter		1.0	0.18	E200.8	08/07/25 03:02 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 179		202141
Molybdenum	0.033	ug/filter	J	1.0	0.0050	E200.8	08/07/25 03:02 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 179		202141
Zinc	0.34	ug/filter	J	1.0	0.30	E200.8	08/07/25 03:02 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 179		202141

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 C1108782 TSP 6/4-6/10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25080087-002
Collection Date: 06/10/25
Date Received: 08/01/25
Report Date: 08/14/25

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	08/11/25 16:37 / jks	08/05/25 12:20	40CFR50	ICPMS208-B_250811A : 62		202141
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	08/08/25 04:35 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 445		202141
Copper	0.33	ug/filter	J	1.0	0.16	E200.8	08/07/25 03:08 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 180		202141
Lead	ND	ug/filter		1.0	0.042	E200.8	08/07/25 03:08 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 180		202141
Manganese	ND	ug/filter		1.0	0.18	E200.8	08/07/25 03:08 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 180		202141
Molybdenum	0.0073	ug/filter	J	1.0	0.0050	E200.8	08/07/25 03:08 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 180		202141
Zinc	ND	ug/filter		1.0	0.30	E200.8	08/07/25 03:08 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 180		202141

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 C1108783 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25080087-003
Collection Date: 06/12/25
Date Received: 08/01/25
Report Date: 08/14/25

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	08/11/25 16:43 / jks	08/05/25 12:20	40CFR50	ICPMS208-B_250811A : 63		202141
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	08/08/25 04:41 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 446		202141
Copper	0.68	ug/filter	J	1.0	0.16	E200.8	08/07/25 03:14 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 181		202141
Lead	ND	ug/filter		1.0	0.042	E200.8	08/07/25 03:14 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 181		202141
Manganese	ND	ug/filter		1.0	0.18	E200.8	08/07/25 03:14 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 181		202141
Molybdenum	0.021	ug/filter	J	1.0	0.0050	E200.8	08/07/25 03:14 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 181		202141
Zinc	0.30	ug/filter	J	1.0	0.30	E200.8	08/08/25 16:51 / jks	08/05/25 12:20	40CFR50	ICPMS208-B_250808A : 47		202141

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 C1108784 TSP 6/10-6/17
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25080087-004
Collection Date: 06/17/25
Date Received: 08/01/25
Report Date: 08/14/25

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	08/11/25 16:49 / jks	08/05/25 12:20	40CFR50	ICPMS208-B_250811A : 64		202141
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	08/08/25 04:47 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 447		202141
Copper	0.67	ug/filter	J	1.0	0.16	E200.8	08/07/25 03:20 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 182		202141
Lead	ND	ug/filter		1.0	0.042	E200.8	08/07/25 03:20 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 182		202141
Manganese	ND	ug/filter		1.0	0.18	E200.8	08/07/25 03:20 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 182		202141
Molybdenum	0.038	ug/filter	J	1.0	0.0050	E200.8	08/07/25 03:20 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 182		202141
Zinc	ND	ug/filter		1.0	0.30	E200.8	08/07/25 03:20 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 182		202141

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 C1108785 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25080087-005
Collection Date: 06/18/25
Date Received: 08/01/25
Report Date: 08/14/25

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	08/11/25 16:55 / jks	08/05/25 12:20	40CFR50	ICPMS208-B_250811A : 65		202141
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	08/08/25 04:53 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 448		202141
Copper	0.48	ug/filter	J	1.0	0.16	E200.8	08/07/25 03:26 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 183		202141
Lead	0.065	ug/filter	J	1.0	0.042	E200.8	08/07/25 03:26 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 183		202141
Manganese	0.20	ug/filter	J	1.0	0.18	E200.8	08/07/25 03:26 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 183		202141
Molybdenum	0.018	ug/filter	J	1.0	0.0050	E200.8	08/07/25 03:26 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 183		202141
Zinc	0.42	ug/filter	J	1.0	0.30	E200.8	08/07/25 03:26 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 183		202141

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 C1108786 TSP 6/17-6/23
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25080087-006
Collection Date: 06/23/25
Date Received: 08/01/25
Report Date: 08/14/25

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	08/11/25 17:01 / jks	08/05/25 12:20	40CFR50	ICPMS208-B_250811A : 66		202141
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	08/08/25 04:59 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 449		202141
Copper	0.33	ug/filter	J	1.0	0.16	E200.8	08/07/25 03:32 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 184		202141
Lead	ND	ug/filter		1.0	0.042	E200.8	08/07/25 03:32 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 184		202141
Manganese	ND	ug/filter		1.0	0.18	E200.8	08/07/25 03:32 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 184		202141
Molybdenum	0.016	ug/filter	J	1.0	0.0050	E200.8	08/07/25 03:32 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 184		202141
Zinc	ND	ug/filter		1.0	0.30	E200.8	08/07/25 03:32 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 184		202141

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 C1108787 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25080087-007
Collection Date: 06/24/25
Date Received: 08/01/25
Report Date: 08/14/25

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	08/11/25 17:07 / jks	08/05/25 12:20	40CFR50	ICPMS208-B_250811A : 67		202141
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	08/08/25 05:04 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 450		202141
Copper	0.99	ug/filter	J	1.0	0.16	E200.8	08/07/25 03:37 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 185		202141
Lead	0.094	ug/filter	J	1.0	0.042	E200.8	08/07/25 03:37 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 185		202141
Manganese	ND	ug/filter		1.0	0.18	E200.8	08/07/25 03:37 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 185		202141
Molybdenum	0.024	ug/filter	J	1.0	0.0050	E200.8	08/07/25 03:37 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 185		202141
Zinc	0.41	ug/filter	J	1.0	0.30	E200.8	08/07/25 03:37 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 185		202141

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 C21108788 TSP 6/23-7/1
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25080087-008
Collection Date: 07/01/25
Date Received: 08/01/25
Report Date: 08/14/25

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	08/11/25 17:25 / jks	08/05/25 12:20	40CFR50	ICPMS208-B_250811A : 70		202141
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	08/08/25 05:10 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 451		202141
Copper	1.3	ug/filter		1.0	0.16	E200.8	08/07/25 03:55 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 188		202141
Lead	0.085	ug/filter	J	1.0	0.042	E200.8	08/07/25 03:55 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 188		202141
Manganese	0.28	ug/filter	J	1.0	0.18	E200.8	08/07/25 03:55 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 188		202141
Molybdenum	0.087	ug/filter	J	1.0	0.0050	E200.8	08/07/25 03:55 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 188		202141
Zinc	0.62	ug/filter	J	1.0	0.30	E200.8	08/07/25 03:55 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 188		202141

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 C1108789 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25080087-009
Collection Date: 06/30/25
Date Received: 08/01/25
Report Date: 08/14/25

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	08/08/25 05:16 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 452		202141
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	08/08/25 05:16 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 452		202141
Copper	0.85	ug/filter	J	1.0	0.16	E200.8	08/07/25 04:01 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 189		202141
Lead	0.053	ug/filter	J	1.0	0.042	E200.8	08/07/25 04:01 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 189		202141
Manganese	0.20	ug/filter	J	1.0	0.18	E200.8	08/07/25 04:01 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 189		202141
Molybdenum	0.026	ug/filter	J	1.0	0.0050	E200.8	08/07/25 04:01 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 189		202141
Zinc	0.36	ug/filter	J	1.0	0.30	E200.8	08/07/25 04:01 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 189		202141

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 C1108790 PM10 Lab Blank
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B25080087-010
Collection Date: 05/30/25
Date Received: 08/01/25
Report Date: 08/14/25

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	08/08/25 05:34 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 455		202141
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	08/08/25 05:34 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 455		202141
Copper	ND	ug/filter		1.0	0.16	E200.8	08/07/25 04:42 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 196		202141
Lead	ND	ug/filter		1.0	0.042	E200.8	08/07/25 04:42 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 196		202141
Manganese	ND	ug/filter		1.0	0.18	E200.8	08/07/25 04:42 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 196		202141
Molybdenum	ND	ug/filter		1.0	0.0050	E200.8	08/07/25 04:42 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 196		202141
Zinc	ND	ug/filter		1.0	0.30	E200.8	08/07/25 04:42 / ae	08/05/25 12:20	40CFR50	ICPMS207-B_250806A : 196		202141

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: B25080087

Report Date: 08/14/25

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS207-B_250806A		
Lab ID: QCS	7	Initial Calibration Verification Standard							08/07/25 01:00	
Arsenic		0.0381	mg/L	0.0050	95	90	110			
Cadmium		0.0197	mg/L	0.0010	98	90	110			
Copper		0.0377	mg/L	0.010	94	90	110			
Lead		0.0380	mg/L	0.0010	95	90	110			
Manganese		0.191	mg/L	0.0050	95	90	110			
Molybdenum		0.0391	mg/L	0.0050	98	90	110			
Zinc		0.0386	mg/L	0.0050	97	90	110			
Lab ID: CCV	7	Continuing Calibration Verification Standard							08/07/25 02:33	
Arsenic		0.0481	mg/L	0.0050	96	90	110			
Cadmium		0.0489	mg/L	0.0010	98	90	110			
Copper		0.0465	mg/L	0.010	93	90	110			
Lead		0.0489	mg/L	0.0010	98	90	110			
Manganese		0.0472	mg/L	0.0050	94	90	110			
Molybdenum		0.0502	mg/L	0.0050	100	90	110			
Zinc		0.0489	mg/L	0.0050	98	90	110			
Lab ID: CCV	7	Continuing Calibration Verification Standard							08/07/25 03:43	
Arsenic		0.0478	mg/L	0.0050	96	90	110			
Cadmium		0.0486	mg/L	0.0010	97	90	110			
Copper		0.0463	mg/L	0.010	93	90	110			
Lead		0.0496	mg/L	0.0010	99	90	110			
Manganese		0.0464	mg/L	0.0050	93	90	110			
Molybdenum		0.0496	mg/L	0.0050	99	90	110			
Zinc		0.0476	mg/L	0.0050	95	90	110			
Lab ID: CCV	7	Continuing Calibration Verification Standard							08/07/25 04:30	
Arsenic		0.0475	mg/L	0.0050	95	90	110			
Cadmium		0.0484	mg/L	0.0010	97	90	110			
Copper		0.0457	mg/L	0.010	91	90	110			
Lead		0.0493	mg/L	0.0010	99	90	110			
Manganese		0.0462	mg/L	0.0050	92	90	110			
Molybdenum		0.0491	mg/L	0.0050	98	90	110			
Zinc		0.0463	mg/L	0.0050	93	90	110			
Lab ID: QCS	7	Initial Calibration Verification Standard							08/08/25 02:45	
Arsenic		0.0376	mg/L	0.0050	94	90	110			
Cadmium		0.0195	mg/L	0.0010	97	90	110			
Copper		0.0372	mg/L	0.010	93	90	110			
Lead		0.0381	mg/L	0.0010	95	90	110			
Manganese		0.187	mg/L	0.0050	94	90	110			
Molybdenum		0.0391	mg/L	0.0050	98	90	110			
Zinc		0.0378	mg/L	0.0050	94	90	110			
Lab ID: CCV	7	Continuing Calibration Verification Standard							08/08/25 04:12	
Arsenic		0.0469	mg/L	0.0050	94	90	110			
Cadmium		0.0476	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: B25080087

Report Date: 08/14/25

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8						Analytical Run: ICPMS207-B_250806A				
Lab ID: CCV	7	Continuing Calibration Verification Standard							08/08/25 04:12	
Copper		0.0454	mg/L	0.010	91	90	110			
Lead		0.0475	mg/L	0.0010	95	90	110			
Manganese		0.0458	mg/L	0.0050	92	90	110			
Molybdenum		0.0487	mg/L	0.0050	97	90	110			
Zinc		0.0467	mg/L	0.0050	93	90	110			
Lab ID: CCV	7	Continuing Calibration Verification Standard							08/08/25 05:22	
Arsenic		0.0466	mg/L	0.0050	93	90	110			
Cadmium		0.0485	mg/L	0.0010	97	90	110			
Copper		0.0453	mg/L	0.010	91	90	110			
Lead		0.0465	mg/L	0.0010	93	90	110			
Manganese		0.0452	mg/L	0.0050	90	90	110			
Molybdenum		0.0497	mg/L	0.0050	99	90	110			
Zinc		0.0467	mg/L	0.0050	93	90	110			
Method: E200.8						Batch: 202141				
Lab ID: MB-202141	6	Method Blank				Run: ICPMS207-B_250806A		08/07/25 01:29		
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-202141	7	Laboratory Control Sample				Run: ICPMS207-B_250806A		08/07/25 01:35		
Arsenic		94.8	ug/filter	1.0	95	85	115			
Cadmium		48.4	ug/filter	1.0	97	85	115			
Copper		92.5	ug/filter	5.0	93	85	115			
Lead		98.4	ug/filter	1.0	98	85	115			
Manganese		467	ug/filter	5.0	93	85	115			
Molybdenum		98.3	ug/filter	1.0	98	85	115			
Zinc		96.5	ug/filter	5.0	96	85	115			
Lab ID: LCSD-202141	7	Laboratory Control Sample Duplicate				Run: ICPMS207-B_250806A		08/07/25 01:41		
Arsenic		97.5	ug/filter	1.0	98	85	115	2.9	20	
Cadmium		49.8	ug/filter	1.0	100	85	115	3.0	20	
Copper		94.9	ug/filter	5.0	95	85	115	2.5	20	
Lead		108	ug/filter	1.0	108	85	115	9.6	20	
Manganese		477	ug/filter	5.0	95	85	115	2.0	20	
Molybdenum		99.8	ug/filter	1.0	100	85	115	1.6	20	
Zinc		98.4	ug/filter	5.0	98	85	115	2.0	20	
Lab ID: MB-202141	2	Method Blank				Run: ICPMS207-B_250806A		08/08/25 03:14		
Arsenic		0.07	ug/filter	0.06						
Cadmium		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: B25080087

Report Date: 08/14/25

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8								Analytical Run: ICPMS208-B_250808A		
Lab ID: QCS	2	Initial Calibration Verification Standard								08/08/25 13:10
Molybdenum		0.0403	mg/L	0.0050	101	90	110			
Zinc		0.0372	mg/L	0.0050	93	90	110			
Lab ID: CCV	2	Continuing Calibration Verification Standard								08/08/25 16:27
Molybdenum		0.0481	mg/L	0.0050	96	90	110			
Zinc		0.0471	mg/L	0.0050	94	90	110			
Method: E200.8								Batch: 202141		
Lab ID: MB-202141	2	Method Blank								Run: ICPMS208-B_250808A 08/08/25 15:03
Molybdenum		0.01	ug/filter	0.006						
Zinc		ND	ug/filter	0.3						
Method: E200.8								Analytical Run: ICPMS208-B_250811A		
Lab ID: QCS		Initial Calibration Verification Standard								08/11/25 11:41
Arsenic		0.0390	mg/L	0.0050	98	90	110			
Lab ID: CCV		Continuing Calibration Verification Standard								08/11/25 15:56
Arsenic		0.0488	mg/L	0.0050	98	90	110			
Lab ID: CCV		Continuing Calibration Verification Standard								08/11/25 17:13
Arsenic		0.0482	mg/L	0.0050	96	90	110			
Method: E200.8								Batch: 202141		
Lab ID: MB-202141		Method Blank								Run: ICPMS208-B_250811A 08/11/25 16:25
Arsenic		ND	ug/filter	0.06						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



Work Order Receipt Checklist

Bison Engineering

B25080087

Login completed by: Leslie S. Cadreau

Date Received: 8/1/2025

Reviewed by: darcy

Received by: ET

Reviewed Date: 8/12/2025

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:	1.6°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:

The collection indicated on the COC for sample Particulate Filter C1108790 PM10 Lab Blank is 05/30/24 and on the container it is not indicated. The collection date was estimated to be 05/30/25 by laboratory personnel. A voicemail was



Work Order Receipt Checklist - Continued

Bison Engineering

B25080087

left for Don Milmine on 08/01/25.

The sample identification indicated on the container is Particulate Filter C1108788 TSP 6/23-7/1 and on the chain of custody it is Particulate Filter T4195488 TSP 6/23-7/1. Proceeded with the sample identification as indicated on the sample container. LSC 08/01/25

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



www.energylab.com

Report Information (if different than Account Information)

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/F formats:

☐ LEVEL IV ☐ NELAC ☐ EDD/EDT (contact laboratory) ☐ Other _____

Sample Name	Sampler Phone
Sample Origin State Montana	EPA/State Compliance ☐ Yes ☐ No

URANIUM MINING CLIENTS MUST indicate sample type.

☐ NOT Source or Byproduct Material

☐ Source/Processed Ore (Ground or Refined) **CALL BEFORE SENDING

☐ 11e,(2) Byproduct Material (Can ONLY be Submitted to ELI Casper Location)

Matrix Codes

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

[illegible]

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

Custody Record MUST be signed	Relinquished by (print) <i>Don Milimine</i>	Date/Time <i>8/12/5</i>	Signature <i>Don V. Milimine</i>	Received by (print)	Date/Time	Signature
	Relinquished by (print)	Date/Time	Signature	Received by Laboratory (print) <i>Ellye Harrison</i>	Date/Time <i>8/11/5 11:15</i>	Signature <i>Ellye Harrison</i>
LABORATORY USE ONLY						
Shipped By	Cooler ID(s)	Custody Seals			Receipt Number (cash/check only)	
		Y N C B	Intact	Receipt Temp °C		
		Y N C B	Y N	Temp Blank	On Ice	
				Y N	Y N	
					CC	
					Cash	
					Payment Type	
					Check	
					Amount	
					\$	

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

APPENDIX 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	Hl = 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	AELG-1 (8-hr)	Cd Compounds	41	µg/m ³	8-Hour	https://www.epa.gov/sites/production/files/2014-05/documents/table2.pdf
	EPA	RfC	Cd (water)	0.01	µg/m ³	Life-time	https://semspub.epa.gov/work/HQ/401635.pdf - (November, 2021)
	EPA	RSL: TR @ 10 ⁻⁶	Cd (water) (Cancer Risk)	1.60	ng/m ³	Life-time	https://semspub.epa.gov/work/HQ/401635.pdf - (November, 2021)
	EPA	RSL: HI = 1	Cd (water) (Noncancer Risk)	10	ng/m ³	HI=1	https://semspub.epa.gov/work/HQ/401635.pdf - (November, 2021)
Copper							
	ACGIH	TLV (TWA)	(dust & mist)	1,000	µg/m ³	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
	NIOSH	REL (TWA)		1,000	µg/m ³	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
	OSHA	PEL (TWA)		1,000	µg/m ³	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
Lead (Pb)							
	ACGIH	TLV (TWA)	(inorganic)	50	µg/m ³	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
	NIOSH	REL (TWA)	(inorganic+ organic salts)	50	µg/m ³	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
	OSHA	PEL (TWA)	(inorganic)	50	µg/m ³	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
	EPA	NAAQS		0.150	µg/m ³	3-month mean	40 CFR 50.12 (and Appendix R)
	NIOSH	IGHL/10	Lead compounds	10	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

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: 04/29/2025	Time: 1048 – 1117 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	617 mm Hg	620.7 mmHg	-3.7
Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 2^{\circ}\text{C}$)
Ambient Temperature	12.3 C	12.1 C	+0.2 C
Filter Temperature	12.7 C	12.8 C	-0.1 C
Leak Check			
Vacuum Readings (cm H ₂ O)	Start 104	End 104	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	16.70	16.86	-0.9%
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	16.86	16.70	+1.0%
Removed clean filter temporarily. No adjustments			

BGI PQ200 PM10 Sampler – Monthly Calibration Checks			
Date: 05/21/2025	Time: 1119 – 1208 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	622 mm Hg	625.7 mmHg	-3.7
Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 2^{\circ}\text{C}$)
Ambient Temperature	10.4 C	10.6 C	-0.2 C
Filter Temperature	11.1 C	10.9 C	+0.2 C
Leak Check			
Vacuum Readings (cm H ₂ O)	Start 114	End 113	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	16.70	16.97	-1.6%
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			

BGI PQ200 PM10 Sampler – Monthly Calibration Checks			
Date: 06/09/2025	Time: 1125 – 1140 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	621 mm Hg	624.7 mmHg	-3.7
Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 2^{\circ}\text{C}$)
Ambient Temperature	26.6 C	26.5 C	+0.1 C
Filter Temperature	28.0 C	27.7 C	+0.3 C
Leak Check			
Vacuum Readings (cm H ₂ O)	Start 96	End 95	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	16.96	-1.4%
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	16.96	16.70	+1.6%
Removed exposed filter temporarily. No adjustments			

BGI PQ200 PM10 Sampler – Monthly Calibration Checks			
Date: 07/07/2025	Time: 1120 – 1140 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	622 mm Hg	625.7 mmHg	-3.7
Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 2^{\circ}\text{C}$)
Ambient Temperature	24.1 C	24.0 C	+0.1 C
Filter Temperature	24.6 C	24.6 C	0.0 C
Leak Check			
Vacuum Readings (cm H ₂ O)	Start	End	Pass Fail
	118	118	
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	16.83	-0.8%
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	16.83	16.70	+0.8%
Removed exposed filter temporarily. No adjustments			

Met One E-Sampler – Monthly Calibration Check / Quarterly Audit			
Date: 04/29/2025	Time: 1104-1118 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	82,845 Pa	622.4 mm Hg = 82,980 Pa	-135 Pa
Pascals = mmHg * 133.322		Limit of ± 1333 Pascals = ± 10 mmHg	
Temperature Sensor Verification (cloudy, windy)			
Reading (degrees Celsius)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 2^{\circ}\text{C}$)
Ambient Temperature	11.8 C	12.8 C	-1.0 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	2.01	-0.5 %
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	2.01	2.0	+0.5 %
Relative Humidity Verification			
Dry Bulb Temp. $^{\circ}\text{C}$	12.4	Calculated RH (a)	36.8%
Wet Bulb Temp. $^{\circ}\text{C}$	5.6	Sampler RH (b)	37%
BP Inches Hg	24.50	Difference = a - b (must be $\leq 7\%$ RH)	+0.2%

Met One E-Sampler – Monthly Calibration Check / Quarterly Audit			
Date: 05/21/2025	Time: 1131-1148 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	83,451 Pa	626.7 mm Hg = 83,553 Pa	-102 Pa
Pascals = mmHg * 133.322		Limit of ± 1333 Pascals = ± 10 mmHg	
Temperature Sensor Verification (partly cloudy, calm)			
Reading (degrees Celsius)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 2^{\circ}\text{C}$)
Ambient Temperature	10.6 C	10.8 C	-0.2 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. $^{\circ}\text{C}$	10.4	Calculated RH (a)	29.9%
Wet Bulb Temp. $^{\circ}\text{C}$	3.2	Sampler RH (b)	29%
BP Inches Hg	24.67	Difference = a - b (must be $\leq 7\%$ RH)	-0.9%

Met One E-Sampler – Monthly Calibration Check / Quarterly Audit			
Date: 06/09/2025	Time: 1150-1210 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	83,236 Pa	625.2 mm Hg = 83,393 Pa	-157 Pa
Pascals = mmHg * 133.322		Limit of ± 1333 Pascals = ± 10 mmHg	
Temperature Sensor Verification (sunny, breezy)			
Reading (degrees Celsius)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 2^{\circ}\text{C}$)
Ambient Temperature	28.7 C	29.5 C	-0.8 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. $^{\circ}\text{C}$	25.4	Calculated RH (a)	18.7%
Wet Bulb Temp. $^{\circ}\text{C}$	11.4	Sampler RH (b)	16%
BP Inches Hg	24.61	Difference = a - b (must be $\leq 7\%$ RH)	-2.7%

Met One E-Sampler – Monthly Calibration Check / Quarterly Audit			
Date: 07/07/2025	Time: 1140-1200 MST	Sampler Serial Number: X24429	
Performed By: Steve Heck		Location (field or lab): Greeley School	
Ref Standard & S/N: 1) Tetra Cal SN 149645		Certification Date: 1) 01-13-2025	
Barometric Pressure Sensor Verification			
Reading (Pascals)	Sampler (a)	Reference Standard (b)	Difference (a - b) (limit $\leq \pm 1333$ Pa)
Ambient Pressure	83,431 Pa	625.5 mm Hg = 83,393 Pa	+38 Pa
Pascals = mmHg * 133.322		Limit of ± 1333 Pascals = ± 10 mmHg	
Temperature Sensor Verification (sunny, breezy)			
Reading (degrees Celsius)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 2^\circ\text{C}$)
Ambient Temperature	26.0 C	25.7 C	+0.3 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	2.03	-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	2.03	2.0	+1.5 %
Relative Humidity Verification			
Dry Bulb Temp. °C	24.7	Calculated RH (a)	22.0%
Wet Bulb Temp. °C	11.8	Sampler RH (b)	21%
BP Inches Hg	24.62	Difference = a - b (must be $\leq 7\%$ RH)	-1.0%

**APPENDIX G: CALIBRATION STANDARD
CERTIFICATION SHEETS**



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

CERTIFICATE OF CALIBRATION - NIST TRACEABILITY

Calibration Report #: 1288-19122024
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 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 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 - NIST TRACEABILITY

Calibration Report #: 149645-13012025

TetraCal Serial Number: 149645

Calibration Technician: Elsy Lasky

Date: 13-Jan-2025

Recommended Recal Date: 13-Jan-2026

Critical Venturi Flow Meter

Max Uncertainty = 0.346%

TE20006 1.40 - 6.0 LPM

Calibration Due: 17-Oct-2025

TE20004 6 - 30.00 LPM

Calibration Due: 22-Oct-2025

TE20008 0.40 - 1.20 LPM

Calibration Due: 9-Oct-2025

Room Temperature: $\pm 0.03^{\circ}\text{C}$ from -5°C - 70°C **Room Temperature:** 23.10 $^{\circ}\text{C}$ **Brand:** Eutechnics**TE Number:** TE12312**Serial Number:** 358921**Std Cal Date:** 26-Aug-24**Std Cal Due Date:** 26-Aug-25Ambient Temperature (set): 23.0 $^{\circ}\text{C}$ Aux (filter) Temperature (set): 23.0 $^{\circ}\text{C}$ **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**TetraCal:**

Barometric pressure (set): 619.00 mmHg

0

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

Venturi

TE20006 Q1 = 1.22082 $\Delta P^{\wedge}$ 0.515 Overall Uncertainty: 0.35%TE20004 Q2 = 5.45324 $\Delta P^{\wedge}$ 0.51821 Overall Uncertainty: 0.35%TE20008 Q3 = 0.22238 $\Delta P^{\wedge}$ 0.50444 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
	13Jan2025	Elsy Lasky
	Ambient Pressure:	619.4 mmHg
	Ambient Temperature:	23.1 °C

Range 1: 1.2 - 6.00 LPM		Test #	Static Pressure mmHg	Barometric Pressure mmHg	Venturi Qa LPM	DUT Qa LPM	% error %
Venturi	TE20006	1	112.16	619.0	1.574	1.578	0.254
Type	2A	2	237.62	619.0	3.375	3.383	0.237
Flow range	1.40 - 6.0 LPM	3	421.63	619.0	6.017	6.041	0.399
Maximum allowable error at any flow rate is 0.75%.						Average Result	0.297
							PASS

Range 2: 6.00 - 30.0 LPM		Test #	Static Pressure mmHg	Barometric Pressure mmHg	Venturi Qa LPM	DUT Qa LPM	% error %
Venturi	TE20004	1	124.02	619.7	6.066	6.031	-0.577
Type	1A	2	366.67	619.7	18.189	18.058	-0.720
Flow range	6 - 30.00 LPM	3	599.33	619.7	29.812	30.008	0.657
Maximum allowable error at any flow rate is 0.75%.						Average Result	-0.213
							PASS

Range 3: NP		Test #	Static Pressure mmHg	Barometric Pressure mmHg	Venturi Qa LPM	DUT Qa LPM	% error %
Venturi	TE20008	1	235.80	618.0	0.533	0.532	-0.188
Type	3A	2	381.71	618.0	0.864	0.858	-0.694
Flow range	0.40 - 1.20 LPM	3	554.71	618.0	1.255	1.250	-0.398
Maximum allowable error at any flow rate is 0.75%.						Average Result	-0.427
							PASS

Performed By: Elsy Lasky

Date: 13-Jan-2025

Approved By: Troy Thacker
QC Inspector

Date: 14 JAN 2025



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

NIST Traceable Calibration Facility

As-Found data for TetraCal

Unit Type: TetraCal TC12 Flow Range: 1.20 -30.00 LPM Serial No. : 149645 Firmware Version: 3.41P	Date	Technician
	13Jan2025	Elsy Lasky
Ambient Pressure: 619.4 mmHg Ambient Temperature: 23.1 °C		

	As Received Temp. Press. Calibration				As Shipped Temp. Press. Calibration			
	DUT	Standard	Diff	+/- 1 mmHg	DUT	Standard	Diff	+/- 1 mmHg
Pres_{AMB} mmHg	619.7	619.6	0.1	Pass	619	619.4	-0.4	Pass
	DUT	Standard	Diff	+/- 1 °C	DUT	Standard	Diff	+/- 1 °C
Temp_{AMB} °C	22.9	22.8	0.1	Pass	23	23.1	-0.1	Pass
Temp_{Filter} °C	22.96	22.8	0.16	Pass	23	23.1	-0.1	Pass

	Offset	New Offset
PresAMB	-46.8	-46.9
TempAMB	0.15	0.05
Temp Filter	0.15	-0.01

Range 1: 1.2 - 6.00 LPM		Test #	Static Pressure mmHg	Barometric Pressure mmHg	Venturi Qa LPM	DUT Qa LPM	% error %
Venturi	TE20006	1	113.60	619.7	1.592	1.537	-3.455
Type	2A	2	241.39	619.7	3.425	3.310	-3.358
Flow range	1.40 - 6.0 LPM	3	435.90	619.7	6.215	6.037	-2.864
Maximum allowable error at any flow rate is 0.75%.						Average Result	-3.225
							FAIL

Range 2: 6.00 - 30.0 LPM		Test #	Static Pressure mmHg	Barometric Pressure mmHg	Venturi Qa LPM	DUT Qa LPM	% error %
Venturi	TE20004	1	124.02	619.7	6.066	6.031	-0.577
Type	1A	2	366.67	619.7	18.189	18.058	-0.720
Flow range	6 - 30.00 LPM	3	599.33	619.7	29.812	30.008	0.657
Maximum allowable error at any flow rate is 0.75%.						Average Result	-0.213
							PASS

Range 3: NP		Test #	Static Pressure mmHg	Barometric Pressure mmHg	Venturi Qa LPM	DUT Qa LPM	% error %
Venturi	TE20008	1	243.39	619.7	0.548	0.546	-0.365
Type	3A	2	375.02	619.7	0.845	0.862	2.012
Flow range	0.40 - 1.20 LPM	3	526.16	619.7	1.185	1.231	3.882
Maximum allowable error at any flow rate is 0.75%.						Average Result	1.843
							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

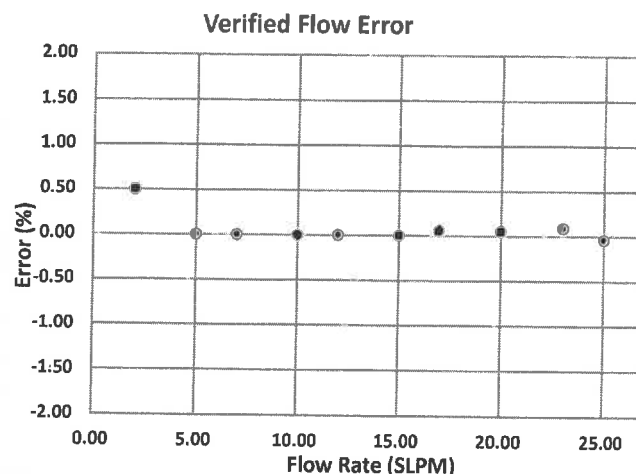
As Left



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.



Met One Instruments, Inc.

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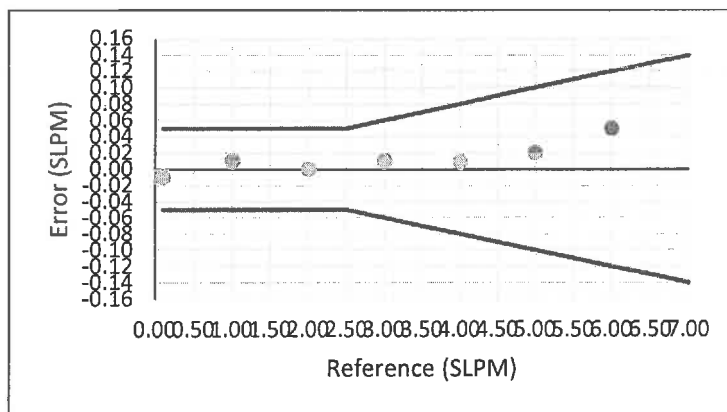
Certificate of Calibration

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.