



MONTANA RESOURCES LLP

DATA REPORT FOR TSP AND PM₁₀ MONITORING STATION AT GREELEY SCHOOL IN BUTTE, MONTANA QUARTER 3, 2024

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CERTIFICATION OF DATA INTEGRITY

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

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1.0 INTRODUCTION

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

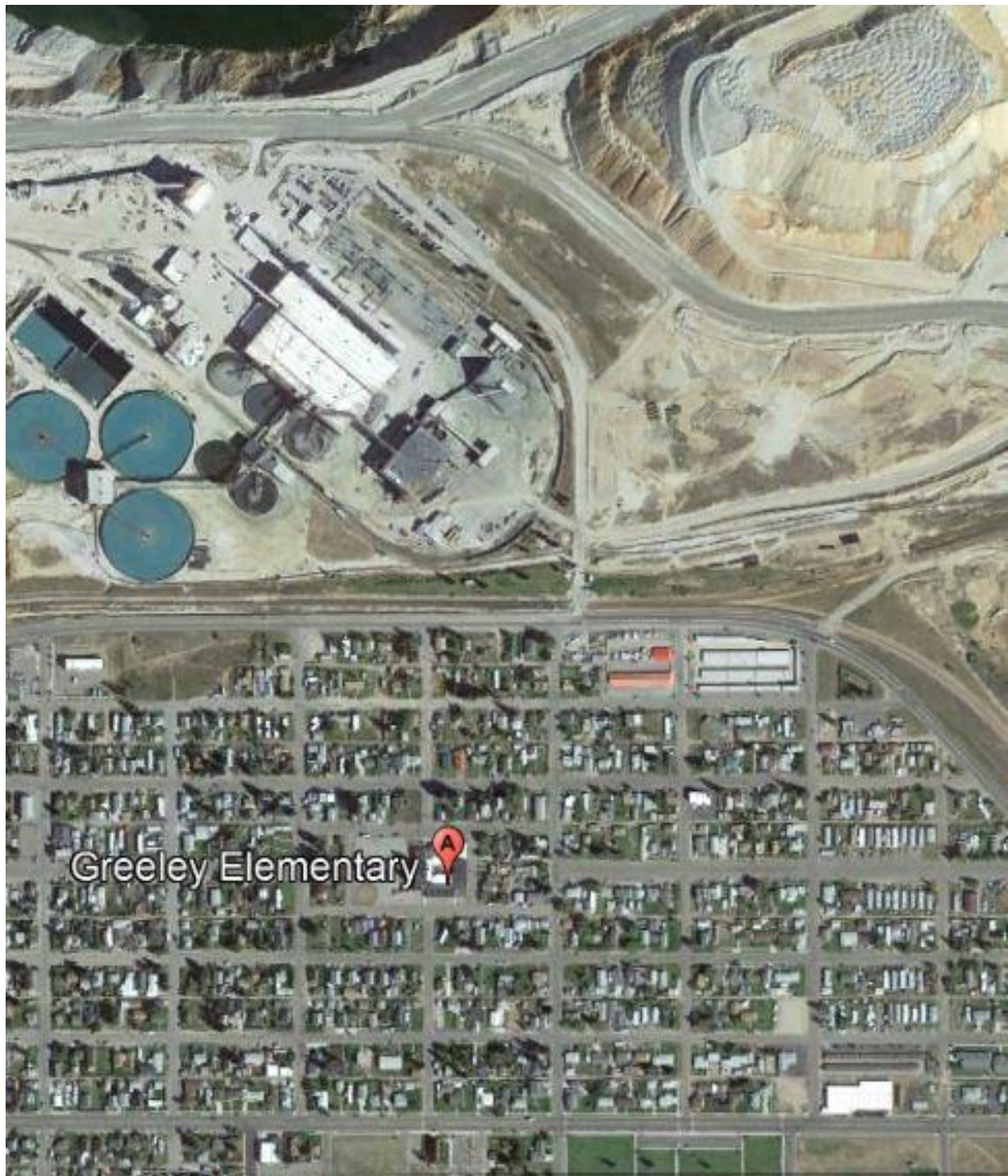
- Continuous monitoring for PM₁₀ using a Met One Model 1020 Beta Attenuation Monitor (BAM-1020).
- Continuous monitoring for PM_{2.5} using a second Met One BAM-1020.
- Episodic monitoring for PM_{2.5} using a BGI Model PQ-200 sampler. This sampler collects particulate matter on a filter over a 24-hour period, which is subsequently analyzed gravimetrically to determine the average airborne PM_{2.5} concentration during the sampling period. The filter is then analyzed by an EPA laboratory for trace elements and mineralized compounds. This episodic sampling is performed every six days, concurrent with EPA's national one-in-six-day sampling schedule.
- The Greeley School site includes meteorological instruments that measure wind speed, wind direction and temperature.

MDEQ/BSB's monitoring provides continuous, real-time hourly PM_{2.5} and PM₁₀ concentrations, as well as PM_{2.5} chemical composition data. In March 2019 and at Montana Resources' (MR) request, Bison Engineering Inc. (Bison) installed additional collocated monitoring equipment at the Greeley School:

- Total Suspended Particulate Sampler: A Met One E-Sampler that continuously measures hourly total suspended particulate (TSP) concentrations using a nephelometric technique that relates light scattering to ambient particulate concentration. Additionally, the sampler includes a filter that is analyzed for total particulate mass and trace elements. Prior to this study, no ongoing TSP monitoring was being performed,
- PM₁₀ Particulate Sampler: A BGI Model PQ-200 sampler that collects 24-hour inhalable particulate (PM₁₀) samples on a filter, concurrent with the EPA one-in-six-day sampling schedule. The filter is analyzed for particulate mass and for selected trace elements. The MDEQ BAM-1020 that is used for PM₁₀ hourly monitoring does not produce a filter suitable for chemical analysis.

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

Figure 1: Greeley School / Montana Resources LLP Vicinity



2.0 MONITORING SYSTEM OPERATIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

3.0 PM₁₀ SAMPLING DATA

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

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

Although not the focus of this study, these results show that the maximum 24-hour PM₁₀ concentrations (80 µg/m³ for the BGI sampler and 82 µg/m³ for the BAM-1020 monitor, both on September 9) were well below the 24-hour standard of 150 µg/m³.⁴ The quarterly PM₁₀ averages from both samplers (26 µg/m³ and 27 µg/m³) were well below the Montana Annual PM₁₀ standard of 50 µg/m³.⁵ During most of the third quarter – including on September 9 – southwestern Montana was impacted by persistent regional wildfire smoke.

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

⁴ 40 CFR 50.6.

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

Table 1: Summary of PM₁₀ Monitoring Data for Quarter 3, 2024

Sample Collection Date (2024)	BGI PM10¹ (µg/m³)	BAM-1020¹ PM10 (µg/m³)	Arithmetic Difference (µg/m³)	Relative Difference (%)		BAM-1020¹ PM2.5 (µg/m³)
Jul 05	16.7	21.9	-5.2	27		8.7
Jul 11	31.6	32.6	-1.0	3		13.9
Jul 17	36.9	38.3	-1.4	4		20.5
Jul 23	29.4	29.1	0.3	1		15.2
Jul 29	46.8	47.8	-1.0	2		31.3
Aug 04	27.6	26.7	0.9	3		15.5
Aug 10	19.4	20.0	-0.6	3		13.9
Aug 16	11.1	11.0	0.1	1		4.9
Aug 22	19.4	22.3	-2.9	14		6.6
Aug 28	7.9	11.6	-3.7	38		3.9
Sep 03	17.5	19.0	-1.5	8		11.8
Sep 09	80.3	81.7	-1.4	2		68.2
Sep 15	13.2	13.9	-0.7	5		4.8
Sep 21	10.6	9.7	0.9	9		3.0
Sep 27	21.5	23.8	-2.3	10		6.2
Average	26.0	27.3	-1.3	5²		15.2

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

²Denotes 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 third quarter of 2024.

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

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

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

One limitation of this nephelometric method is that false high TSP readings can occur during periods of fog. For this reason, all hourly data collected during periods with an ambient relative humidity above 90 percent of the possible value⁶ have been excluded from the reported data. A total of 40 hours of E-Sampler data were excluded from analysis during the third 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 third 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 virtually equal to the PM₁₀ values from the BAM-1020 PM₁₀ monitor. This indicates that most of the airborne particulate was smaller than 10 microns. It should be noted that the TSP measurements are made using a nephelometric technique while the hourly PM₁₀ measurements are made using beta attenuation. On average, the monthly fraction of PM_{2.5} was approximately 50 percent in all three months. It has been noted that the PM_{2.5} fraction tends to increase during wildfire smoke episodes. On September 9, when the maximum average PM₁₀ concentration of 80 µg/m³ was observed, the PM_{2.5} fraction increased to approximately 85 percent of the total particulate.

Average temperatures were slightly above normal in July, near normal in August and well above normal in September. Precipitation was below normal in all three months, but not exceptionally so. However, the summer was preceded by an unusually dry spring which contributed to an unusually early start to the wildfire season.

Table 2: TSP, PM₁₀ and PM_{2.5} Averages for Quarter 3, 2024

Period 2024	TSP (µg/m ³)	PM ₁₀ (µg/m ³)	PM _{2.5} (µg/m ³)
July	32	31	15.9
August	20	21	9.8
September	28	26	14.0
Quarter 3	27	26	13.3

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 July 2024

Date 2024	TSP (µg/m³)	PM₁₀ (µg/m³)	PM_{2.5} (µg/m³)
Jul 1	11	8	3.0
Jul 2	15	11	4.3
Jul 3	18	17	5.6
Jul 4	40	27	16.1
Jul 5	27	22	8.7
Jul 6	26	20	8.5
Jul 7	14	14	7.8
Jul 8	22	19	8.9
Jul 9	28	23	10.4
Jul 10	28	34	11.9
Jul 11	39	33	13.9
Jul 12	27	28	10.9
Jul 13	31	30	11.3
Jul 14	27	40	10.1
Jul 15	48	44	19.7
Jul 16	36	37	19.6
Jul 17	30	38	20.5
Jul 18	28	39	16.5
Jul 19	31	40	18.6
Jul 20	24	33	14.6
Jul 21	51	34	22.9
Jul 22	53	43	25.3
Jul 23	22	29	15.2
Jul 24	18	30	12.1
Jul 25	17	29	14.3
Jul 26	56	46	37.5
Jul 27	68	51	37.9
Jul 28	65	41	32.7
Jul 29	58	48	31.3
Jul 30	27	28	16.4
Jul 31	6	10	3.5
Average	32	31	15.9

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

Date 2024	TSP (µg/m³)	PM₁₀ (µg/m³)	PM_{2.5} (µg/m³)
Aug 1	16	20	7.8
Aug 2	34	30	12.8
Aug 3	46	32	16.8
Aug 4	40	27	15.5
Aug 5	27	22	11.2
Aug 6	16	19	9.3
Aug 7	15	18	8.5
Aug 8	11	14	7.1
Aug 9	24	26	13.9
Aug 10	21	20	13.9
Aug 11	27	25	16.3
Aug 12	26	25	15.3
Aug 13	13	16	7.0
Aug 14	12	14	6.8
Aug 15	14	15	6.8
Aug 16	9	11	4.9
Aug 17	12	16	6.2
Aug 18	10	23	6.3
Aug 19	4	13	2.6
Aug 20	10	17	5.2
Aug 21	15	20	6.4
Aug 22	17	22	6.6
Aug 23	11	19	5.3
Aug 24	47	34	19.2
Aug 25	39	26	15.7
Aug 26	15	16	6.3
Aug 27	26	25	9.0
Aug 28	No Data	N/A	N/A
Aug 29	5	12	2.9
Aug 30	13	20	8.2
Aug 31	28	29	16.2
Average	20	21	9.8

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

Date 2024	TSP (µg/m³)	PM₁₀ (µg/m³)	PM_{2.5} (µg/m³)
Sep 1	39	34	20.3
Sep 2	65	50	31.4
Sep 3	17	19	11.8
Sep 4	13	18	9.7
Sep 5	10	20	10.1
Sep 6	19	32	17.0
Sep 7	32	42	27.8
Sep 8	38	47	31.5
Sep 9	80	82	68.2
Sep 10	102	99	80.4
Sep 11	60	48	31.8
Sep 12	10	6	3.9
Sep 13	6	6	3.5
Sep 14	22	13	6.2
Sep 15	20	14	4.8
Sep 16	13	9	3.4
Sep 17	9	6	2.0
Sep 18	10	7	3.2
Sep 19	18	12	3.3
Sep 20	21	18	3.5
Sep 21	15	10	3.0
Sep 22	17	11	2.7
Sep 23	15	14	1.9
Sep 24	15	13	2.3
Sep 25	17	17	2.8
Sep 26	22	21	4.2
Sep 27	33	24	6.2
Sep 28	27	18	5.6
Sep 29	31	30	6.3
Sep 30	20	21	3.6
Average	28	26	14.0

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 third quarter.
- Figure 3 presents a wind rose for only those periods when the reported hourly TSP concentration was above $44 \mu\text{g}/\text{m}^3$; 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 $14 \mu\text{g}/\text{m}^3$; this represents the lower 29 percent of valid TSP values.
- Appendix C presents the corresponding tables for these wind roses, which show exact numerical frequencies and averages. The discussions below rely on data from those tables.

Figure 2 shows a strong emphasis for south-southwest through southeast winds, with roughly 40 percent of all winds blowing from those directions. A secondary maximum was observed for winds from the northwest quadrant. The average wind speed was 1.4 m/s (3.1 mph).

Figure 3 shows a wind rose for high⁸ ($>44 \mu\text{g}/\text{m}^3$) TSP concentrations. Wind directions during these periods showed a slightly stronger emphasis from the south-southwest through northeast, but the overall distribution was not greatly different from that shown in Figure 2. Wind speeds were similar, averaging 1.3 m/s (2.9 mph).

Figure 4 shows a wind rose for low ($<14 \mu\text{g}/\text{m}^3$) TSP concentrations. Wind directions during those periods were very similar to those for the quarter overall, with a strong emphasis for winds from the south-southwest through southeast. Wind speeds during low-TSP periods were similar to those for the quarter overall, averaging 1.5 m/s (3.4 mph).

In general, TSP levels showed little correlation with either wind speed or wind direction. This indicates that TSP concentrations during the third quarter were dominated by regional wildfire smoke rather than local particulate sources.

4.2 TSP vs PM₁₀

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

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

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

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

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

Sampling Period (2024)	Average Gravimetric TSP (µg/m³)	Average BAM-1020 PM₁₀ (µg/m³)
06/24-07/02	13.2	13.0
07/02-07/09	24.8	19.7
07/09-07/16	33.4	34.0
07/16-07/22	35.6	37.8
07/22-07/31	40.1	36.0
07/31-08/06	28.7	23.7
08/06-08/13	19.7	20.7
08/13-08/20	9.9	14.7
08/20-08/27	23.5	22.9
08/27-08/29	68.3**	15.1**
08/29-09/04	29.7	28.2
09/04-09/11	45.7	52.5
09/11-09/16	17.8	11.5
09/16-09/23	15.2	10.8
Average	25.9	25.0

**Not included in average, TSP results considered suspect

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

Third Quarter 2024 (direction wind was from)

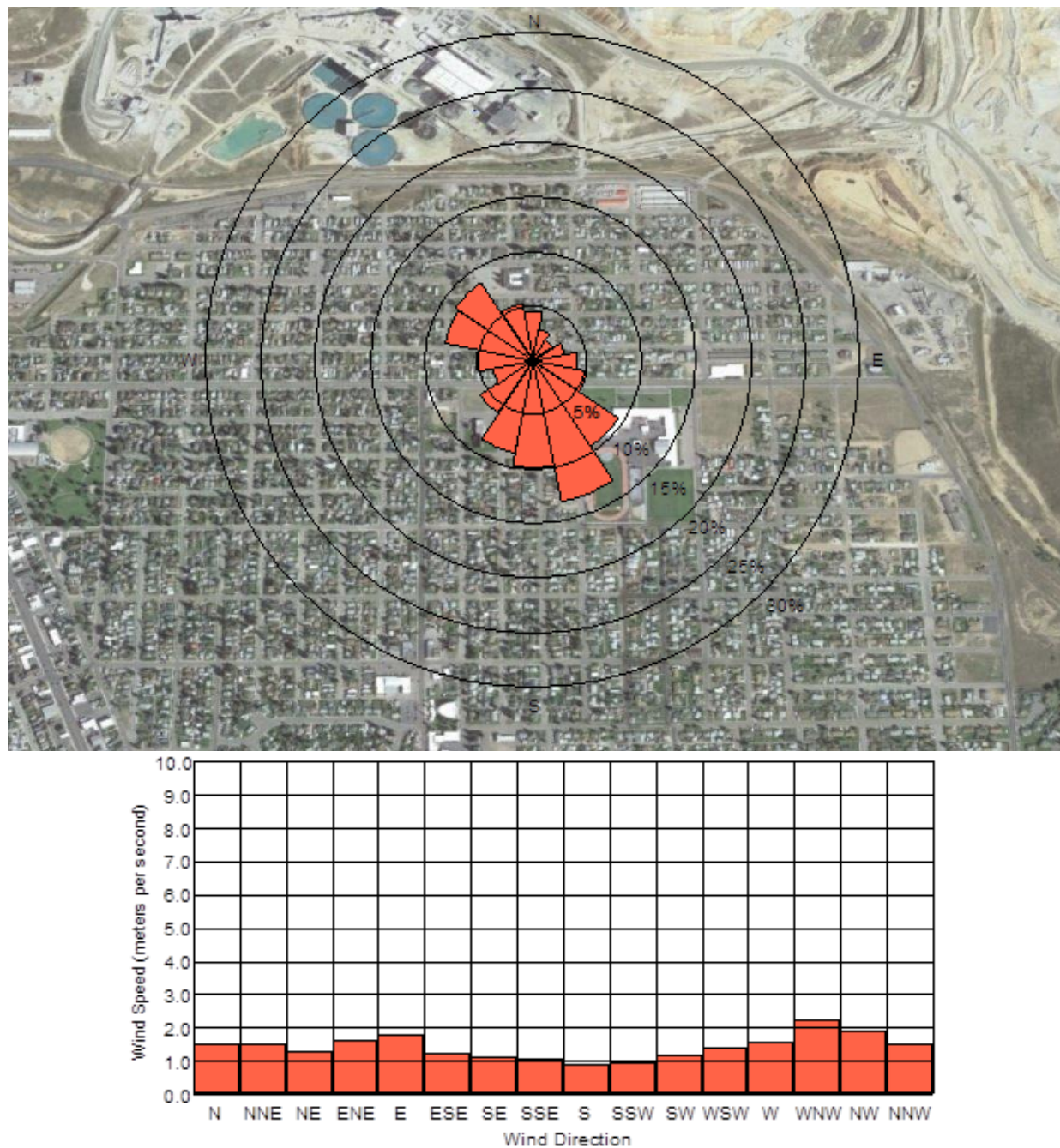


Figure 3. Quarterly Wind Rose, Greeley School (TSP >44 $\mu\text{g}/\text{m}^3$)

Third Quarter 2024 (direction wind was from)

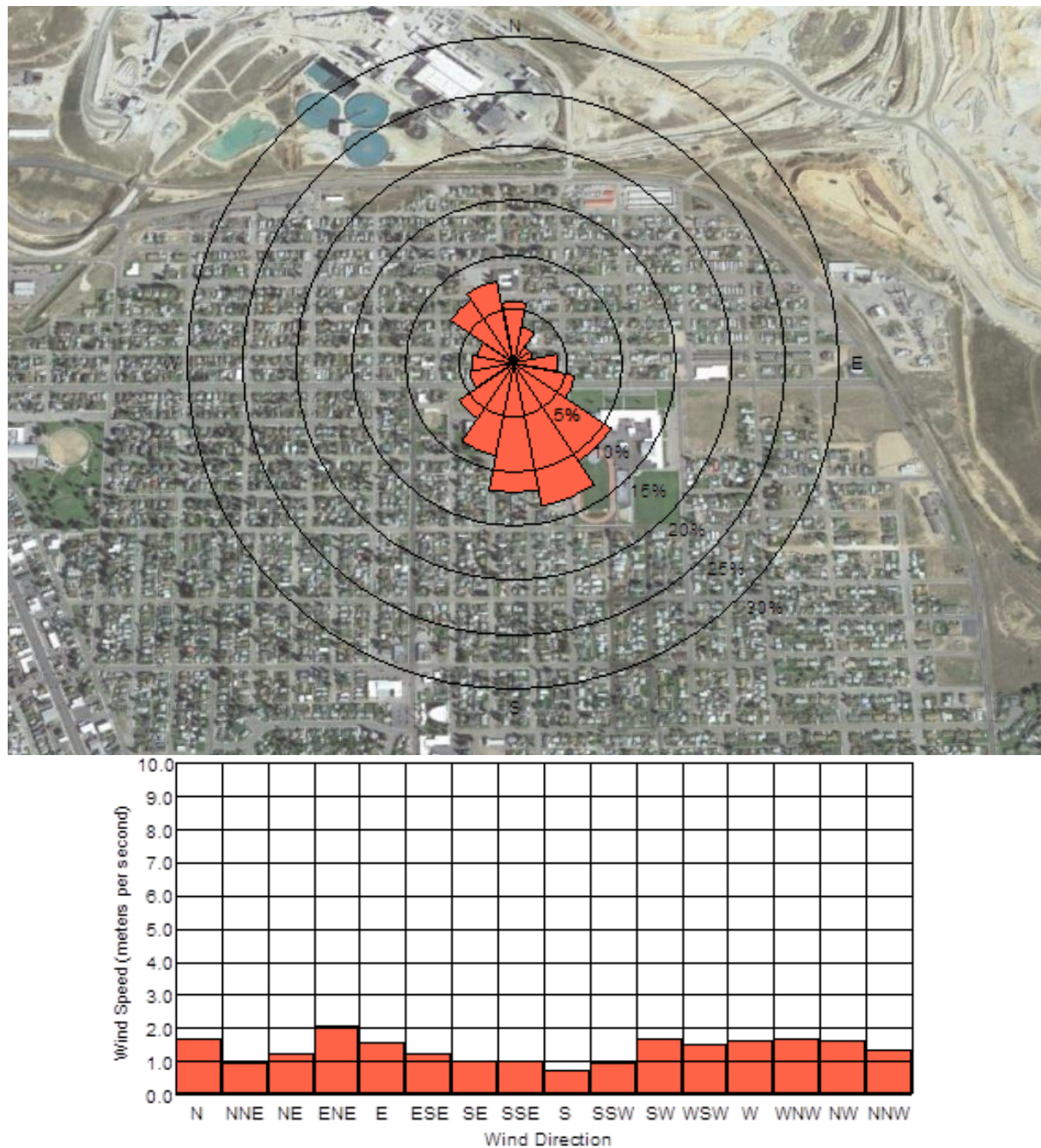
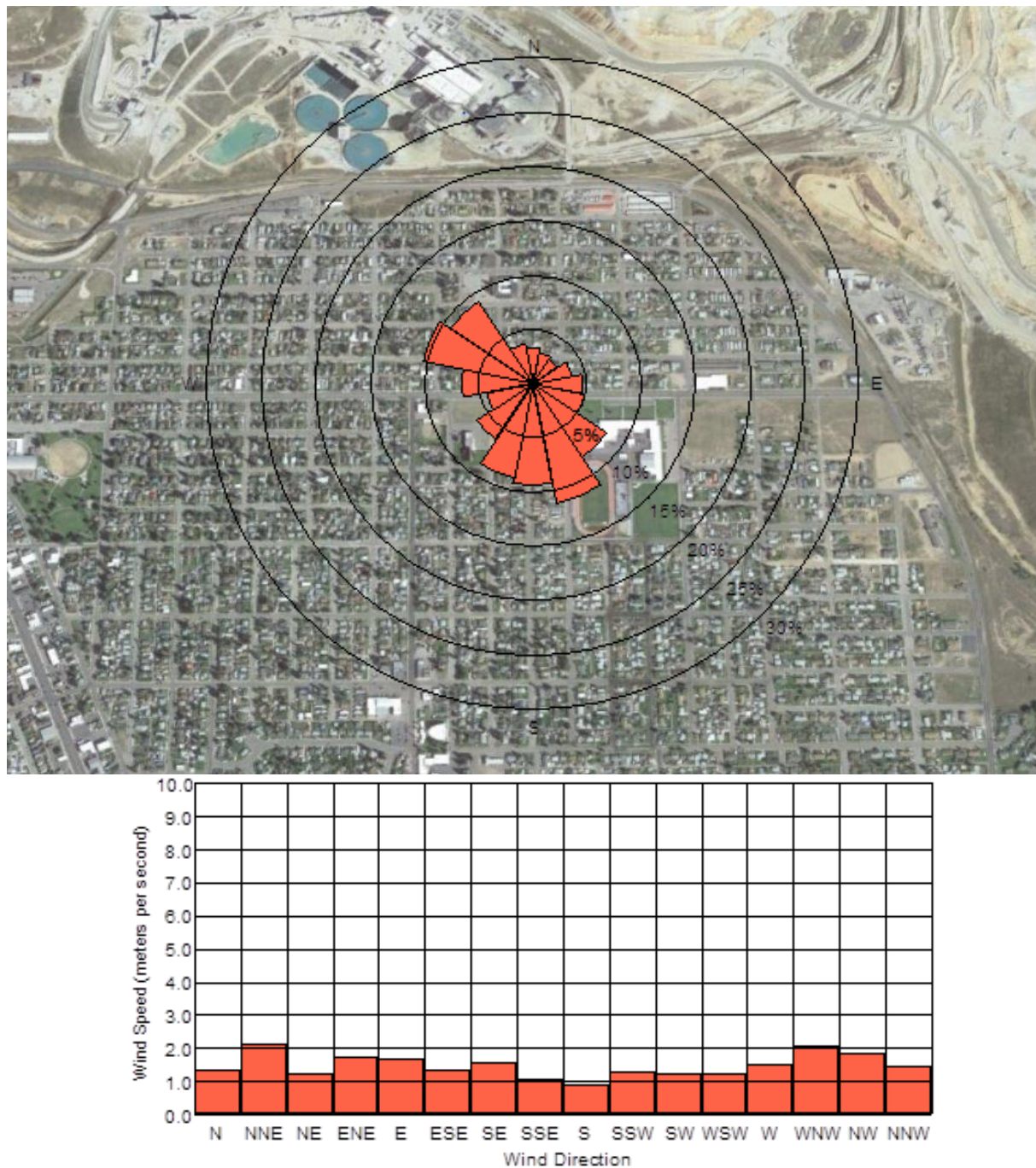


Figure 4. Quarterly Wind Rose, Greeley School (TSP <14 $\mu\text{g}/\text{m}^3$)

Third Quarter 2024 (direction wind was from)



5.0 CHEMICAL ANALYSIS DATA

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

All samples were digested and then analyzed by ICP-MS using EPA Method E200.8. Laboratory results are presented in Appendix D and are reported in units of micrograms (µg) per filter. Fourteen TSP samples and fifteen PM₁₀ samples collected during the third quarter were analyzed for trace elements, as well as three Field Blanks and four filter lot blanks (Lab Blanks). All samples were successfully collected in the normal manner. However, the particulate mass for the TSP sample collected August 27-29 was inconsistent with the PM₁₀ and PM_{2.5} data from the same period; this is discussed in greater detail in Section 8.0. The trace element data from that sample are reported herein but were not included in the statistical averages.

Tables 4a and 4b summarize the total particulate mass and ELI analytical results for samples collected during the third quarter. Detectable concentrations of copper and molybdenum were found in all samples, while arsenic was only detected in one sample, and cadmium in two samples. Manganese, lead and zinc were detected in most, but not all samples. Table 4c shows the Field Blank and Lab Blank results associated with the third 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 third quarter were non-detectable, with the following exceptions:

- Copper, lead and zinc were (all) detected in the Lab blank for analysis batch B24081674. The zinc result of 2.3 µg/filter was actually higher in the Lab blank than in any of the field samples in that same analysis batch. No obvious explanation could be found for this behavior; the net particulate mass for the Lab Blank filter (0.005 mg, or 5 µg) was typical for a Lab Blank. The Field Blank results for this batch were non-detectable for all analytes. Finally, there are no indications from the results that the Lab Blank filter somehow got switched with a sample filter prior to analysis. The filter sample results for this batch were all within normal ranges and are reported. herein.⁹
- Low levels of molybdenum (just above the laboratory MDL) were detected in the Lab blanks for analysis batches B24091987 and BB24102438.

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

⁹ Note that two of the field samples for this batch were collected in the second quarter of 2024; six samples were collected in the third quarter.

the results has been minimized by expressing results in units of *nanograms* (ng) per cubic meter rather than micrograms.

- All trace element concentrations in the individual TSP samples were well below the applicable Guideline values. The closest approach to a Guideline was for manganese in the sample collected from August 27-29, with a concentration of 35 ng/m³, or 70% of the lifetime exposure Guideline value of 50 ng/m³. However, the August 27-29 sample was considered suspect as noted previously. The next highest result was for manganese in the sample collected from September 23 – October 1, with a concentration of 23 ng/m³, or 46% of the lifetime exposure value. All quarterly averages were far below the applicable Guideline values.
- All trace element concentrations in the individual PM₁₀ samples were also below the applicable Guideline values. The closest approach to a Guideline was for manganese in the sample collected on September 9, with a concentration of 37 ng/m³, or 74% of the lifetime exposure Guideline value of 50 ng/m³. All quarterly averages were far below the applicable Guideline values.

Table 6 shows the sources of the “Guideline” values used for these analyses, and their derivations.¹⁰ 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.

¹⁰ 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)
07/02-07/09	485	ND	ND	2.1	0.31	0.30	0.10	0.57
07/09-07/16	642	ND	ND	1.9	0.41	0.079	0.12	0.71
07/16-07/22	583	ND	ND	1.1	0.30	0.051	0.075	0.67
07/22-07/31	977	ND	ND	0.63	0.25	0.060	0.065	0.41
07/31-08/06	482	ND	0.010	1.5	0.31	0.15	0.080	0.61
08/06-08/13	381	ND	ND	0.39	ND	0.038	ND	ND
08/13-08/20	190	ND	ND	0.32	ND	0.055	ND	ND
08/20-08/27	451	ND	ND	0.56	0.25	0.097	0.043	0.37
08/27-08/29	375 ¹	ND	ND	0.22	0.19	0.020	ND	0.77
08/29-09/04	475	ND	ND	0.82	0.25	0.13	0.052	0.62
09/04-09/11	883	ND	ND	0.43	0.19	0.031	ND	0.71
09/11-09/16	250	ND	ND	0.37	ND	0.048	ND	ND
09/16-09/23	292	ND	ND	0.70	0.18	0.23	0.049	0.46
09/23-10-01	515	ND	ND	1.1	0.50	0.19	0.097	0.57

¹Denotes questionable gravimetric results.

All values expressed as 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)
07/05	401	ND	ND	1.9	0.29	0.21	0.094	0.84
07/11	760	0.063	ND	2.8	0.50	0.25	0.15	0.89
07/17	887	ND	ND	2.8	0.52	0.48	0.14	0.96
07/23	706	ND	ND	1.1	0.25	0.063	0.082	0.45
07/29	1124	ND	ND	0.62	0.45	0.032	0.069	0.41
08/04	663	ND	ND	0.91	0.33	0.084	0.052	0.35
08/10	466	ND	ND	0.35	ND	0.024	ND	0.32
08/16	266	ND	ND	0.54	ND	0.025	0.54	0.33
08/22	467	ND	ND	1.0	0.27	0.081	0.062	0.41
08/28	189	ND	ND	0.51	ND	0.020	ND	ND
09/03	421	ND	ND	0.62	0.21	0.049	0.059	0.48
09/09	1929	ND	0.0092	1.0	0.90	0.035	0.083	0.83
09/15	318	ND	ND	0.74	ND	0.63	0.043	0.44
09/21	255	ND	ND	0.30	ND	0.024	ND	ND
09/27	517	ND	ND	1.0	0.30	0.14	0.079	0.52

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

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)
08/26-LB	5	ND	ND	0.73	ND	ND	0.12	2.3
07/22-FB	16	ND	ND	ND	ND	ND	ND	ND
10/04-LB	3	ND	ND	ND	ND	0.0054	ND	ND
10/04-LB	4	ND	ND	ND	ND	ND	ND	ND
09/11-FB	11	ND	ND	ND	ND	ND	ND	ND
11/11-LB	5	ND	ND	ND	ND	0.0073	ND	ND
10/07-FB	16	ND	ND	ND	ND	ND	ND	ND
Lab Method Blank MDL		0.06	0.006	0.2	0.2	0.005- 0.006	0.04	0.3

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

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)
07/02-07/09	19.56	ND	ND	110	16	15	5.1	29
07/09-07/16	19.22	ND	ND	99	21	4.1	6.2	37
07/16-07/22	16.36	ND	ND	67	18	3.1	4.6	41
07/22-07/31	24.37	ND	ND	26	10	2.5	2.7	17
07/31-08/06	16.82	ND	0.59	89	18	8.9	4.8	36
08/06-08/13	19.33	ND	ND	20	ND	2.0	ND	ND
08/13-08/20	19.22	ND	ND	17	ND	2.9	ND	ND
08/20-08/27	19.22	ND	ND	29	13	5.0	2.2	19
08/27-08/29	5.49	ND ¹	ND ¹	40 ¹	35 ¹	3.6 ¹	ND ¹	140 ¹
08/29-09/04	16.02	ND	ND	51	16	8.1	3.2	39
09/04-09/11	19.33	ND	ND	22	9.8	1.6	ND	37
09/11-09/16	14.07	ND	ND	26	ND	3.4	ND	ND
09/16-09/23	19.22	ND	ND	36	9.4	12	2.5	24
09/23-10-01	21.96	ND	ND	50	23	8.7	4.4	26
Average (ng/m ³) *		1.8	0.21	49	13	5.7	3.0	26
Guideline (ng/m ³) **		15	10	2,000	50	400	150	47,619

¹Results not incorporated into averages due to questionable gravimetric results.

* 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 3.0 ng/m³ was 2 percent of the guideline value; non-detect lead concentrations were set at ½ of the lead detection limit for the sample group in question.

Table 5b: Summary of Airborne Trace Element Concentrations – PM₁₀

DATE	Sample Volume (m³)	As (ng/m³)	Cd (ng/m³)	Cu (ng/m³)	Mn (ng/m³)	Mo (ng/m³)	Pb (ng/m³)	Zn (ng/m³)
07/05	24.02	ND	ND	79	12	8.7	3.9	35
07/11	24.03	2.6	ND	120	21	10	6.2	37
07/17	24.03	ND	ND	120	22	20	5.8	40
07/23	24.03	ND	ND	46	10	2.6	3.4	19
07/29	24.03	ND	ND	26	19	1.3	2.9	17
08/04	24.03	ND	ND	38	14	3.5	2.2	15
08/10	24.03	ND	ND	15	ND	1.0	ND	13
08/16	24.03	ND	ND	22	ND	1.0	22	14
08/22	24.03	ND	ND	42	11	3.4	2.6	17
08/28	24.03	ND	ND	21	ND	0.83	ND	ND
09/03	24.03	ND	ND	26	8.7	2.0	2.5	20
09/09	24.03	ND	0.38	42	37	1.5	3.5	35
09/15	24.03	ND	ND	31	ND	26	1.8	18
09/21	24.03	ND	ND	12	ND	1.0	ND	ND
09/27	24.02	ND	ND	42	12	5.8	3.3	22
Average (ng/m ³) *		1.3	0.14	45	12.5	5.9	4.2	21
Guideline (ng/m ³) **		15	10	2,000	50	400	150	47,619

* Rather than treat non detectable (ND) data as zero, the mean was calculated using ½ of the detectable value (Table 6) for the parameter and date in question.

**The guideline values, except lead (Pb), are applicable to a lifetime or chronic exposure. The lead (Pb) guideline is an ambient air quality standard applicable to a 3-month average.

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

Analyte	Dose/ Risk ^A	Source	Description	Time Period	Detectable TSP ^D	Detectable PM ₁₀ ^E
Arsenic (inorganic)	15	EPA / DPHHS ^G	RfC ^B	Lifetime	3.64	2.50
Cadmium	10	ATSDR / DPHHS ^G	Non-cancer / CV ^G	Chronic	0.36	0.25
	200	IRIS	Cancer	Chronic		
Copper	2,000	DPHHS ^G / Michigan DEQ	RfC ^B	Chronic	12.1	8.33
Lead	150	EPA / ATSDR / DPHHS ^G	National Ambient Air Quality Standard ^C	3-month	2.43	1.67
Manganese	50	EPA	RfC ^B	Lifetime	12.1	8.33
Molybdenum	11,905 (=500,000/42) ^F	CAL/OSHA, ACGIH	CAL/OSHA, ACGIH	Chronic ^F	0.30-0.36	0.21-0.25
	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 Q3 2024.

^E Based on 24-hour sampling period and total sample volume of 24 m³. Range reflects maximum and minimum laboratory MDLs during Q3 2024.

^F This value derived by dividing the OSHA/NIOSH exposure limit by 42. This was done to include a factor of 10 to account for a general population, not just healthy adults and then including another factor of 4.2 to include a year-long exposure as opposed to 8 hours per day, 5 days a week and 52 weeks per year.

^G Reference information from letter and analysis by DPHHS (regarding Greeley School ambient data) to Butte-Silver Bow Health Department dated October 28,2020.

EPA = Environmental Protection Agency

ATSDR = Agency for Toxic Substances & Disease Registry

CV = "Comparison Value" – a term used by DPHHS (10/28/20 letter) to indicate an ATSDR (or other) guideline or reference value

DPHHS = Montana Department of Health and Human Services

RfC = Reference Concentration (see above)

RSL = EPA Regional Screening Levels (<https://www.epa.gov.gov/risk/regional-screening-levels-rsls-generic-tables>)

OSHA = Occupational Safety and Health Administration

ACGIH = American Congress of Governmental Industrial Hygienists

NIOSH= National Institute of Occupational Safety and Health

TLV = Threshold limit value

6.0 CALIBRATION DATA

Calibration checks of the BGI PM₁₀ sampler and the Met One E-Sampler are performed in at least two months of each quarter. In the third month, an audit is performed by a different person using different calibration standards. Monthly verification checks were performed on both samplers on July 18, August 20 and September 30.¹¹

Table 7 summarizes the verification checks performed each month and the applicable acceptance criteria. In the event of unsatisfactory results, corrective actions are performed as specified in the rightmost column 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 third 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	

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

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

Date	Calibration Check	Results	Limits	Actions
07/18/2024	BGI PM ₁₀ Flow Verification (A)	+1.2%	±4%	
	BGI PM ₁₀ Flow Verification (B)	-1.2%	±4%	
	BGI Ambient Temperature	-0.1°C	±2.0°C	
	BGI Filter Temperature	-0.6°C	±2.0°C	
	BGI Ambient Pressure	-2.9 mm Hg	±10 mmHg	
	BGI Leak Test (pressure drop)	2 cm H ₂ O	≤4 cm H ₂ O	
	E-Sampler Flow Verification (A)	+2.0%	±5%	
	E-Sampler Flow Verification (B)	-2.0%	±5%	
	E-Sampler Ambient Temperature	+0.8°C	±2.0°C	
	E-Sampler Ambient Pressure	+133 Pa	±1333 Pa	
	E-Sampler Leak Test	0.0 LPM	≤0.3 LPM	
	E-Sampler Relative Humidity	-3.1% RH	±7% RH	
08/20/2024	BGI PM ₁₀ Flow Verification (A)	+1.3%	±4%	
	BGI PM ₁₀ Flow Verification (B)	-1.2%	±4%	
	BGI Ambient Temperature	-0.7°C	±2.0°C	
	BGI Filter Temperature	-0.8°C	±2.0°C	
	BGI Ambient Pressure	-2.9 mm Hg	±10 mmHg	
	BGI Leak Test (pressure drop)	2 cm H ₂ O	≤4 cm H ₂ O	
	E-Sampler Flow Verification (A)	+4.2%	±5%	C
	E-Sampler Flow Verification (B)	-4.0%	±5%	C
	E-Sampler Ambient Temperature	+1.5°C	±2.0°C	
	E-Sampler Ambient Pressure	+128 Pa	±1333 Pa	
	E-Sampler Leak Test	0.0 LPM	≤0.3 LPM	
	E-Sampler Relative Humidity	-3.5% RH	±7% RH	
09/30/2024	BGI PM ₁₀ Flow Verification (A)	+0.2%	±4%	
	BGI PM ₁₀ Flow Verification (B)	-0.1%	±4%	
	BGI Ambient Temperature	+0.3°C	±2.0°C	
	BGI Filter Temperature	+0.6°C	±2.0°C	
	BGI Ambient Pressure	-2.4 mm Hg	±10 mmHg	
	BGI Leak Test (pressure drop)	2 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	+1.1°C	±2.0°C	
	E-Sampler Ambient Pressure	+76 Pa	±1333 Pa	
	E-Sampler Leak Test	0.0 LPM	≤0.3 LPM	
	E-Sampler Relative Humidity	+1.7% RH	±7% RH	

Date	Calibration Check	Results	Limits	Actions
10/11/2024	BGI PM ₁₀ Flow Verification (A)	+1.5%	±4%	
	BGI PM ₁₀ Flow Verification (B)	-1.6%	±4%	
	BGI Ambient Temperature	+0.4°C	±2.0°C	
	BGI Filter Temperature	-0.3°C	±2.0°C	
	BGI Ambient Pressure	-3.4 mm Hg	±10 mmHg	
	BGI Leak Test (pressure drop)	1 cm H ₂ O	≤4 cm H ₂ O	
	E-Sampler Flow Verification (A)	+1.0%	±5%	
	E-Sampler Flow Verification (B)	-1.0%	±5%	
	E-Sampler Ambient Temperature	+0.4°C	±2.0°C	
	E-Sampler Ambient Pressure	-89 Pa	±1333 Pa	
	E-Sampler Leak Test	0.0 LPM	≤0.3 LPM	
	E-Sampler Relative Humidity	+0.7% RH	±7% RH	
Codes: A = Difference of reported flow from reference standard flow. B = Difference of reference standard flow from design flow (16.7 LPM for BGI, 2.0 LPM for E-Sampler). C = Flow adjusted to 1.97 LPM.				

7.0 QUARTERLY AUDIT/CALIBRATION RESULTS

An audit is performed once in each full calendar quarter. The checks and acceptance criteria are identical to those for monthly calibrations (see Table 7). The primary difference is that the audits are performed by a different person, using different calibration standards. Calibration adjustments then are made as necessary, based on the as-found audit results. The third quarter audit was performed on September 30, 2024. All audit results were satisfactory.

Table 9: Quarter 3, 2024 Audit Results

BGI PQ200 PM10 / TSP Sampler – Performance Audit			
Date: 09/30/2024	Time: 1350-1418 MST	Sampler Serial Number: 1622 (Greeley)	
Performed By: Daniel Bitz		Observer: Steve Heck	
1) Swift 25.0 SN D16202		Certification Date: 1) 07/15/2024	
Barometric Pressure Sensor Verification			
Reading (mm Hg)	Sampler (a)	Audit (b)	Difference (a - b) (must be $\leq \pm 10$)
Ambient Pressure	626.0	840.2 mb = 630.2 mm	-4.2
Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Audit (b)	Difference (a - b) (must be $\leq \pm 2^{\circ}\text{C}$)
Ambient Temperature	13.2	13.3	-0.1
Filter Temperature	14.5	14.6	-0.1
Leak Check			
Vacuum Readings (cm H ₂ O)	Start 110	End 108	Pass Fail
Flow Rate Verification			
Reading (liters per minute)	Sampler (a)	Audit (b)	% Difference 100*(a – b)/b (must be $\leq \pm 4\%$)
Operating flow rate check	16.70	16.42	+1.7%
Reading (liters per minute)	Audit (b)	Design Flow Rate Standard (c)	% Difference 100*(b–16.7)/16.7 (must be $\leq \pm 5\%$)
Design flow rate calculation	16.42	16.70	-1.7 %
Comments:			
Swift read 14.06 SLPM, converted to 16.42 ALPM			

Met One E-Sampler – Monthly Calibration Check / Quarterly Audit			
Date: 09/30/2024	Time: 1410-1434 MST	Sampler Serial Number: X24429	
Performed By: Daniel Bitz		Location (field or lab): Greeley School	
Ref Standard & S/N: 1) Delta Cal SN 1288 (Temp) 2) Tetra Cal S/N 149645 (flow & BP)		Certification Date: 1) 01-03-2024 2) 12-04-2023	
Barometric Pressure Sensor Verification			
Reading (Pascals)	Sampler (a)	Reference Standard (b)	Difference (a - b) (limit $\leq \pm 1333$ Pa)
Ambient Pressure	84,056 Pa	630.2 mmHg =84,020 Pa	+36 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	15.7 C	14.3 C	+1.4 C
Leak Check			
Leak Check Flow Rate	0.0 LPM	(must be < 0.4 LPM)	Pass Fail
Flow Rate Verification			
Reading (liters per minute)	Sampler (a)	Reference Standard (b)	% Difference $100 \cdot (a - b) / b$ (must be $\leq \pm 5\%$)
Audit standard flow rate check	2.0	1.99	+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	1.99	2.0	-0.5%
Relative Humidity Verification (checked with Assmann Psychrometer)			
Dry Bulb Temp. $^{\circ}\text{C}$	N/A	Calculated RH (a)	N/A
Wet Bulb Temp. $^{\circ}\text{C}$	N/A	Sampler RH (b)	N/A
BP Inches Hg	N/A	Difference = a - b (must be $\leq 7\%$ RH)	N/A

Relative humidity checked just prior to audit. Sensor Read 16% vs known of 14.3%

8.0 DATA COMPLETENESS

The percentages of data recovery for each Greeley School monitoring parameter reported by MR during the third quarter of 2024 are given in Table 10. The quarterly data recovery goal for hourly TSP is ≥ 80 percent,¹² and for relative humidity is ≥ 90 percent. The net data recovery was 97.8 percent for TSP and 100.0 percent for relative humidity. TSP data loss was caused by invalidation of the August 27-29 sample, due to highly suspect gravimetric analysis results. The reported net particulate mass of 0.375 milligrams resulted in a calculated TSP concentration of $68.3 \mu\text{g}/\text{m}^3$, compared to a BAM-1020 PM_{10} concentration of only $15.1 \mu\text{g}/\text{m}^3$. The $\text{PM}_{2.5}$ concentration over that same period was $5.4 \mu\text{g}/\text{m}^3$. Results for the August 27-29 sample were reported in Section 5.0 but were not incorporated into the statistical averages. No identifiable reason could be found for the seemingly excessive mass.

Data recovery statistics for the particulate filter samples are presented in Table 11. The quarterly data recovery goal for TSP and PM_{10} filter samples is ≥ 80 percent for both the gravimetric and trace element analyses. The actual data recovery was 100.0 percent for PM_{10} but only 92.9 percent for TSP, due to invalidation of the August 27-29 sample as discussed above.¹³

¹² 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.

¹³ Note that the August 27-29 TSP sample comprised one of fourteen ($\sim 7\%$) TSP samples collected during the quarter, but only 48 of 2168 hours ($\sim 2\%$) of possible data during the quarter.

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
July 2024					
TSP	734	728	99.2	6	100.0
Relative Humidity	744	744	100.0	0	100.0
Total	1478	1472	99.6	6	100.0
August 2024					
TSP	730	676	92.6	6	93.4
Relative Humidity	744	744	100.0	0	100.0
Total	1474	1420	96.3	6	96.7
September 2024					
TSP	704	698	99.1	6	100.0
Relative Humidity	720	720	100.0	0	100.0
Total	1424	1418	99.6	6	100.0
Quarter 3, 2024					
TSP	2168	2102	97.0	18	97.8
Relative Humidity	2208	2208	100.0	0	100.0
Total	4376	4310	98.5	18	98.9
^A Only hours with relative humidity <90 percent of maximum value are counted as <i>possible</i> TSP data hours. See discussion in Section 4.1. ^B Includes hours affected by filter changes, which usually occur every 5 to 7 days.					

Table 11: Quarterly Data Completeness Summary – Filter Analysis Data

Montana Resources LLP – Greeley School			
Parameter	Readings Possible	Valid Readings	Percent Recovery
July 2024			
TSP – Gravimetric	4	4	100.0
TSP – Trace Elements	28	28	100.0
PM ₁₀ – Gravimetric	5	5	100.0
PM ₁₀ – Trace Elements	35	35	100.0
Total	72	72	100.0
August 2024			
TSP – Gravimetric	5	4	80.0
TSP – Trace Elements	35	28	80.0
PM ₁₀ – Gravimetric	5	5	100.0
PM ₁₀ – Trace Elements	35	35	100.0
Total	80	72	90.0
September 2024			
TSP – Gravimetric	5	5	100.0
TSP – Trace Elements	35	35	100.0
PM ₁₀ – Gravimetric	5	5	100.0
PM ₁₀ – Trace Elements	35	35	100.0
Total	80	80	100.0
Quarter 3, 2024			
TSP – Gravimetric	14	13	92.9
TSP – Trace Elements	98	91	92.9
PM ₁₀ – Gravimetric	15	15	100.0
PM ₁₀ – Trace Elements	105	105	100.0
Total	232	224	96.6
Note: The TSP sample collected from Jun 24 to Jul 02, 2024, is not included in this tabulation because it was collected primarily in June, and was included in the Quarter 2, 2024 report.			

9.0 COMPARISON TO AMBIENT AIR QUALITY STANDARDS

This study is not intended to determine compliance with the NAAQS¹⁴ or the Montana ambient air quality standards¹⁵ (MAAQS). Nonetheless, a generalized comparison is possible. The filter-based PM₁₀ data collected by MR indicate ambient PM₁₀ concentrations far below the 24-hour standard of 150 µg/m³ that otherwise applies to the NAAQS and MAAQS.

Similarly, the lead concentrations analyzed from the exposed TSP filters indicate quarterly average airborne concentrations well below the 0.15 µg/m³ ambient NAAQS based on a 3-month average of the 24-hour samples. The MAAQS is 1.5 µg/m³ and is based on a 90-day rolling average of 24-hour samples. The TSP samples presented herein were typically collected over 5- to 8-day periods, at a much lower sampling rate (2.0 liters per minute) compared to the standard method (≥40 standard cubic feet per minute). Nonetheless, the results indicate quarterly average ambient lead concentrations below the MAAQS and NAAQS. Table 12 summarizes these comparisons through the third quarter of 2024.

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

Table 12: Summary of Airborne Concentration vs. NAAQS

Analyte	Observed Concentration (µg/m ³)	Averaging Period	Ambient Standard (µg/m ³)	Authority
PM ₁₀	80 ¹	24-hour (max)	150	NAAQS & MAAQS
Pb	0.006 ² 0.003 ³	90-day	1.50	MAAQS
		3-month	0.15	NAAQS
TSP	26 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 82 µg/m³.

² This value was the maximum from the filter-based TSP sampler, collected over a 7-day sampling period.

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 3, 2024, based on gravimetric filter analysis.

¹⁴ 40 CFR 50 *et seq.*

¹⁵ ARM 17.8.223

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

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

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

A-2

Day	<< Hour >>																								Avg	Max	Min
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	9	8	9	AO	AO	AO	11	17	7	8	12	16	16	13	9	13	9	8	12	13	13	12	12	11	11	17	7
2	12	16	15	15	16	16	33	32	20	16	BA	19	13	8	7	11	11	12	13	13	9	13	18	17	15	33	7
3	12	12	12	12	11	15	15	23	11	13	15	14	12	13	13	17	13	12	14	17	18	20	61	45	18	61	11
4	24	25	26	26	18	19	22	33	27	13	10	8	28	9	18	12	13	15	14	24	20	182	335	50	40	335	8
5	66	68	45	22	18	24	26	48	48	20	13	10	10	12	16	18	13	15	10	12	15	34	61	24	27	68	10
6	31	18	16	19	14	22	20	38	36	14	15	14	31	49	44	32	50	54	32	15	12	12	12	13	26	54	12
7	13	11	14	15	13	14	17	24	19	12	11	10	10	10	9	8	10	12	11	13	13	29	13	17	14	29	8
8	16	15	14	19	24	28	27	37	51	23	19	16	16	14	15	14	12	14	20	18	28	43	28	27	22	51	12
9	31	32	29	31	36	46	46	56	80	47	36	25	18	BA	11	9	11	12	11	11	19	12	12	17	28	80	9
10	17	17	18	20	20	27	33	37	32	42	26	33	24	31	29	27	27	24	24	30	30	35	35	37	28	42	17
11	40	40	46	44	48	53	60	81	69	56	47	46	39	33	31	30	30	35	33	21	19	15	13	15	39	81	13
12	16	16	18	24	19	26	24	40	44	28	19	15	29	35	33	35	32	30	29	29	26	22	33	37	27	44	15
13	35	35	33	33	29	31	31	42	45	44	32	31	26	40	38	42	34	26	19	22	14	25	19	24	31	45	14
14	22	20	22	21	26	22	21	29	33	32	35	20	16	19	97	19	24	26	22	20	27	26	25	24	27	97	16
15	31	29	32	37	37	41	38	51	55	37	39	34	32	27	31	32	36	24	71	98	100	66	84	89	48	100	24
16	87	73	58	63	47	53	40	48	61	45	19	16	19	BA	11	15	29	18	15	19	20	26	23	23	36	87	11
17	24	24	24	25	26	27	26	30	38	32	22	21	30	32	38	38	33	29	30	29	33	35	34	34	30	38	21
18	34	31	27	25	26	29	30	29	38	34	BF	24	26	19	19	19	22	25	25	25	33	33	32	28	28	38	19
19	29	31	31	32	33	34	39	38	38	41	34	28	32	25	24	29	23	25	32	30	24	28	30	30	31	41	23
20	31	35	33	30	28	29	28	37	32	32	34	23	25	23	23	23	15	14	15	15	15	16	14	15	24	37	14
21	16	16	14	15	17	19	22	23	22	24	21	25	39	61	77	62	62	81	96	99	106	110	102	91	51	110	14
22	82	80	77	76	71	78	81	94	90	76	66	50	BA	41	38	36	27	22	22	21	21	23	24	22	53	94	21
23	23	24	22	23	22	22	21	23	27	27	20	26	29	27	27	24	15	17	19	21	23	20	17	18	22	29	15
24	19	18	18	19	18	20	21	26	30	39	29	21	19	17	14	20	16	15	10	13	15	9	7	7	18	39	7
25	8	9	6	6	6	6	8	7	7	8	9	8	9	8	7	10	17	20	26	39	47	41	40	50	17	50	6
26	55	46	41	53	59	56	54	59	79	103	94	72	54	34	33	32	36	36	36	51	66	69	69	64	56	103	32
27	64	64	63	61	58	56	55	58	61	58	59	74	109	92	80	69	63	63	66	66	68	72	78	81	68	109	55
28	82	83	80	72	102	93	109	111	112	84	64	61	87	59	50	40	35	30	28	28	33	43	39	35	65	112	28
29	35	36	35	39	41	43	46	47	55	49	66	86	83	69	61	56	58	66	80	75	64	62	66	64	58	86	35
30	65	43	41	55	56	46	40	36	36	38	43	43	32	6	5	5	4	4	4	2	3	2	3	AO	27	65	2
31	AO	AO	AO	AO	AO	AO	5	7	13	BA	3	4	6	5	4	4	4	5	4	10	6	8	7	6	6	13	3
Avg	34	33	31	32	32	34	34	41	42	37	31	29	31	29	29	26	25	25	27	29	30	37	43	34	32	71	16
Max	87	83	80	76	102	93	109	111	112	103	94	86	109	92	97	69	63	81	96	99	106	182	335	91	68	335	55
Min	8	8	6	6	6	6	5	7	7	8	3	4	6	5	4	4	4	4	4	2	3	2	3	6	6	13	2

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

Day	<< Hour >>																								Avg	Max	Min
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	6	6	7	7	7	10	13	21	19	15	12	16	17	16	13	16	23	32	34	18	19	26	17	18	16	34	6
2	15	17	17	14	15	20	18	19	32	33	40	53	46	39	39	42	43	39	41	42	47	48	47	52	34	53	14
3	53	47	45	43	43	42	44	50	56	42	40	35	35	34	32	38	53	71	52	56	51	46	43	45	46	71	32
4	45	44	46	46	46	46	48	50	46	45	42	40	44	53	39	26	31	36	34	31	31	30	33	32	40	53	26
5	30	29	29	29	30	28	27	28	35	40	32	33	30	30	22	26	29	25	20	18	23	17	19	12	27	40	12
6	13	12	13	13	13	15	20	21	21	20	19	19	BA	12	11	14	15	13	15	15	18	20	15	20	16	21	11
7	19	18	18	19	18	19	20	18	18	22	20	16	15	11	12	12	11	10	9	10	10	10	7	7	15	22	7
8	7	7	7	8	7	7	7	9	10	11	12	11	11	12	11	12	11	10	11	12	14	15	19	21	11	21	7
9	20	21	22	23	24	26	35	32	27	24	18	18	20	24	24	23	23	22	22	24	25	22	23	24	24	35	18
10	23	23	22	20	21	21	21	21	20	23	26	28	25	28	27	26	17	17	19	20	14	15	16	17	21	28	14
11	14	13	AO	AO	AO	AO	AO	14	17	24	26	33	35	33	32	30	29	30	30	32	32	30	32	30	27	35	13
12	29	30	30	30	30	33	28	30	35	31	32	30	26	25	25	26	25	22	18	20	19	18	18	18	26	35	18
13	18	18	18	17	15	16	16	17	22	19	18	13	8	BA	10	4	4	5	6	7	9	10	9	11	13	22	4
14	AO	11	AO	11	11	AO	AO	14	17	13	11	14	12	14	13	13	12	11	12	11	13	12	12	11	12	17	11
15	11	11	11	11	11	11	13	17	20	20	17	16	18	22	23	19	18	22	12	8	8	7	3	4	14	23	3
16	4	4	4	5	6	8	6	6	10	9	8	13	12	13	14	14	17	17	13	10	8	8	6	6	9	17	4
17	7	6	8	7	AO	AO	AO	15	24	22	14	14	13	12	11	10	10	10	9	11	11	10	11	17	12	24	6
18	20	23	25	19	18	15	17	22	17	10	6	4	4	4	3	5	5	6	5	7	3	3	3	5	10	25	3
19	3	3	3	4	6	13	7	6	9	6	6	2	2	2	2	8	3	3	2	3	3	4	3	3	4	13	2
20	3	3	3	3	3	AO	AO	8	8	12	11	BF	BF	BA	7	4	6	14	25	19	16	13	14	14	10	25	3
21	14	13	13	12	11	12	13	15	18	22	14	20	15	15	13	12	19	20	16	13	15	15	14	13	15	22	11
22	13	11	11	11	13	13	17	11	28	20	15	24	24	26	24	14	16	19	19	15	17	14	14	15	17	28	11
23	19	18	14	13	15	18	10	10	8	8	6	7	7	10	12	3	4	4	5	8	13	15	15	19	11	19	3
24	24	25	31	32	34	39	43	42	43	42	48	52	43	53	42	28	50	83	78	68	62	53	55	55	47	83	24
25	55	54	57	57	59	61	65	68	71	64	38	35	33	31	25	26	28	27	23	17	14	9	8	7	39	71	7
26	7	7	6	6	7	7	7	11	10	10	12	18	20	18	18	19	20	23	21	26	26	24	22	22	15	26	6
27	18	19	21	19	23	26	26	26	38	44	33	26	22	BA	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	26	44	18
28	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM
29	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	BA	5	5	4	5	6	6	5	5	6	5	5	6	4
30	5	6	5	6	7	8	11	14	17	24	25	23	21	14	10	9	9	14	10	11	15	15	14	15	13	25	5
31	16	16	16	18	19	20	21	22	24	22	23	25	50	34	48	36	36	27	35	33	35	34	32	33	28	50	16
Avg	18	18	19	18	19	21	22	22	25	24	22	23	23	23	20	18	20	22	21	20	20	19	18	19	20	33	11
Max	55	54	57	57	59	61	65	68	71	64	48	53	50	53	48	42	53	83	78	68	62	53	55	55	47	83	32
Min	3	3	3	3	3	7	6	6	8	6	6	2	2	2	2	3	3	3	2	3	3	3	3	3	4	6	2

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

Day	<< Hour >>																								Avg	Max	Min
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	32	32	26	24	24	23	23	21	13	12	16	20	29	71	50	37	30	38	45	59	70	74	82	76	39	82	12
2	71	71	72	76	76	78	91	97	104	105	107	123	88	64	50	53	41	14	14	16	25	45	44	41	65	123	14
3	28	19	20	21	18	17	10	15	13	5	6	7	7	11	32	18	18	18	17	19	19	19	21	20	17	32	5
4	19	19	19	19	20	AO	AO	23	25	BA	16	14	13	9	8	8	7	8	8	9	8	8	9	9	13	25	7
5	9	9	8	10	11	9	11	10	15	14	10	10	10	10	9	9	9	8	9	10	11	11	12	12	10	15	8
6	11	10	11	11	11	11	13	15	18	17	13	10	11	17	22	23	24	28	31	32	30	29	29	28	19	32	10
7	28	28	28	27	26	26	27	34	34	34	34	29	24	37	38	41	41	32	32	36	40	35	31	29	32	41	24
8	29	30	31	32	32	32	33	37	43	42	39	23	32	58	58	54	38	22	8	12	27	26	29	143	38	143	8
9	141	93	102	97	88	99	115	120	128	120	67	59	58	58	47	47	47	44	52	84	62	63	71	65	80	141	44
10	68	73	86	99	102	106	110	117	118	122	124	119	108	81	69	92	96	92	113	115	114	108	107	102	102	124	68
11	97	93	90	87	87	84	85	85	78	22	BA	53	50	38	24	77	66	56	69	77	21	15	13	14	60	97	13
12	21	20	22	22	21	AO	AO	AO	28	22	22	13	2	1	1	1	1	1	1	1	1	2	1	1	10	28	1
13	1	1	1	1	2	1	5	5	8	6	4	4	6	7	5	4	7	6	5	7	13	12	10	13	6	13	1
14	13	11	7	6	7	12	9	19	20	25	23	20	23	21	16	13	25	32	42	42	37	34	37	35	22	42	6
15	35	25	23	20	25	22	27	25	31	32	31	23	15	12	13	13	13	16	19	16	13	10	13	11	20	35	10
16	12	13	14	13	12	21	16	19	16	14	13	10	7	BA	13	11	14	13	17	15	13	4	4	6	13	21	4
17	AO	AO	AO	AO	AO	AO	AO	10	11	15	22	15	10	8	4	7	7	8	8	4	1	11	4	7	9	22	1
18	6	3	3	3	3	1	3	1	3	6	10	17	15	15	15	14	13	14	15	18	14	13	13	17	10	18	1
19	24	14	14	AO	AO	AO	AO	47	32	52	14	13	11	7	6	7	7	8	14	8	22	18	25	25	18	52	6
20	18	15	11	10	35	45	50	53	29	24	24	17	14	8	22	22	15	14	15	13	11	11	10	13	21	53	8
21	10	8	8	21	14	22	18	21	20	26	15	17	13	10	8	8	6	13	11	14	14	17	25	20	15	26	6
22	17	15	11	10	11	17	14	25	31	50	56	18	13	10	6	6	7	7	8	15	14	14	13	15	17	56	6
23	7	11	11	11	18	26	42	46	29	22	7	13	8	BA	11	12	10	10	6	7	9	7	9	5	15	46	5
24	28	24	8	14	9	16	14	30	18	24	17	8	AV	7	7	8	6	5	11	9	17	20	18	34	15	34	5
25	16	14	15	10	39	15	19	29	29	71	20	11	9	12	9	9	7	9	14	19	8	10	14	9	17	71	7
26	19	37	30	33	64	25	21	34	21	17	16	16	16	14	10	8	11	18	24	17	12	21	25	21	22	64	8
27	23	23	27	32	19	36	41	68	79	100	88	34	17	14	15	15	17	27	12	26	16	21	25	19	33	100	12
28	25	24	21	15	15	64	33	23	32	49	35	20	19	18	14	24	18	15	32	36	39	29	21	28	27	64	14
29	21	20	18	19	15	17	24	28	21	44	37	63	41	47	47	39	33	38	23	27	36	39	29	21	31	63	15
30	17	23	27	24	23	25	33	32	33	17	11	7	7	8	AZ	11	12	21	16	19	21	23	25	17	20	33	7
Avg	29	27	26	27	30	33	34	38	36	38	31	27	23	24	22	23	22	21	23	26	25	25	26	29	28	57	11
Max	141	93	102	99	102	106	115	120	128	122	124	123	108	81	69	92	96	92	113	115	114	108	107	143	102	143	68
Min	1	1	1	1	2	1	3	1	3	5	4	4	2	1	1	1	1	1	1	1	1	2	1	1	6	13	1

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

A-5

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	83	86	89	92	92	91	78	70	57	45	34	36	43	46	35	44	51	44	46	49	59	63	61	66	61	92	34
2	71	76	79	80	82	81	69	62	59	55	44	36	50	35	37	29	23	21	23	25	28	31	38	49	49	82	21
3	57	63	68	73	77	79	62	48	46	35	35	38	41	35	32	39	35	35	37	40	44	49	53	66	49	79	32
4	71	77	80	81	82	84	69	59	46	33	28	24	24	24	21	20	20	23	23	25	28	37	42	47	45	84	20
5	56	62	67	69	73	72	54	48	41	30	25	19	20	19	17	18	19	19	19	22	26	31	39	45	38	73	17
6	53	56	60	65	69	69	54	47	32	24	20	17	15	16	16	17	18	20	24	30	35	39	38	40	36	69	15
7	42	49	56	63	68	69	56	49	39	30	27	24	22	21	19	18	15	18	20	22	26	32	38	44	36	69	15
8	49	56	60	65	67	69	52	44	36	27	21	18	16	16	15	15	15	16	17	20	26	32	35	40	34	69	15
9	47	52	55	59	64	65	49	41	34	24	21	17	16	12	13	11	11	14	17	18	20	21	25	32	31	65	11
10	37	43	49	54	59	60	44	40	36	25	17	10	10	10	9	9	9	10	10	13	17	25	27	32	27	60	9
11	35	38	42	46	50	53	41	35	29	22	18	15	13	12	13	13	14	14	16	13	14	15	17	25	25	53	12
12	30	33	42	46	49	50	43	34	28	18	14	12	12	11	12	14	14	15	16	18	19	17	28	34	25	50	11
13	39	44	48	51	51	54	44	34	31	20	18	14	10	11	11	11	9	9	9	12	14	15	25	32	26	54	9
14	35	38	43	47	49	50	40	36	29	23	16	13	14	14	15	18	19	20	17	19	22	27	28	27	27	50	13
15	31	41	46	51	53	57	44	38	27	18	16	14	12	10	9	8	7	8	13	15	17	17	24	29	25	57	7
16	34	37	41	48	53	56	43	33	29	20	11	9	9	8	7	7	7	11	13	16	16	21	28	33	25	56	7
17	37	40	46	49	51	54	43	38	30	25	17	13	14	12	13	11	13	14	15	18	20	24	30	32	27	54	11
18	35	40	46	49	53	55	49	39	44	30	22	18	18	21	20	21	22	16	16	18	22	24	32	38	31	55	16
19	43	50	54	55	61	64	52	43	32	27	20	15	13	12	12	11	11	11	11	13	15	16	22	27	29	64	11
20	30	33	37	40	43	52	44	39	32	25	21	18	18	18	13	10	12	14	14	17	22	24	25	32	26	52	10
21	35	41	47	53	58	62	54	46	37	28	21	18	15	16	15	15	14	14	16	19	20	22	26	31	30	62	14
22	36	41	43	49	56	61	53	43	32	27	22	17	18	17	19	30	46	47	42	44	47	55	62	60	40	62	17
23	62	62	67	71	73	70	55	43	37	27	21	16	14	11	11	13	11	12	15	25	35	38	44	46	37	73	11
24	57	57	61	62	62	61	49	40	31	25	20	22	21	15	15	18	19	20	20	24	46	63	71	73	40	73	15
25	74	78	59	66	57	58	59	51	44	36	30	25	20	20	18	15	15	15	27	36	39	41	40	41	40	78	15
26	45	51	58	61	60	59	54	45	38	33	30	27	22	17	16	16	16	17	18	18	18	22	29	34	34	61	16
27	39	43	48	52	55	57	50	39	34	27	22	20	18	16	18	20	30	26	26	32	34	39	40	41	34	57	16
28	49	51	52	58	53	66	68	59	46	35	31	28	19	17	16	16	16	15	18	21	25	25	33	39	36	68	15
29	43	52	55	58	61	63	56	47	36	26	22	17	16	16	15	13	15	15	16	21	26	29	35	37	33	63	13
30	40	42	46	52	55	57	59	66	70	70	62	63	52	50	49	61	59	69	69	69	76	82	86	90	62	90	40
31	90	93	94	95	95	95	87	74	66	44	36	33	30	25	23	18	18	17	20	26	32	37	43	52	52	95	17
Avg	48	52	56	60	62	64	54	46	39	30	25	21	20	19	18	19	19	20	21	24	29	33	38	42	36	67	16
Max	90	93	94	95	95	95	87	74	70	70	62	63	52	50	49	61	59	69	69	69	76	82	86	90	62	95	40
Min	30	33	37	40	43	50	40	33	27	18	11	9	9	8	7	7	7	8	9	12	14	15	17	25	25	50	7

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

A-6

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	59	63	67	70	75	77	66	53	42	32	27	26	20	17	16	15	15	15	15	17	23	29	34	41	38	77	15
2	47	50	54	57	61	63	56	43	35	27	19	15	13	10	10	11	11	11	12	12	18	24	26	31	30	63	10
3	37	41	43	47	50	52	46	37	29	20	17	12	11	10	11	12	12	11	17	21	23	28	32	30	27	52	10
4	30	33	38	44	46	47	45	40	33	34	32	31	29	31	36	36	34	38	39	43	48	51	63	71	41	71	29
5	75	79	81	84	85	87	77	63	52	36	25	23	18	16	18	16	16	29	44	53	60	58	68	59	51	87	16
6	68	78	82	82	83	84	80	69	56	49	39	32	28	27	25	34	47	46	54	58	67	67	64	71	58	84	25
7	75	77	81	85	85	86	81	74	71	63	51	34	30	21	23	34	35	39	45	49	57	62	70	76	59	86	21
8	77	76	75	74	73	75	74	69	64	55	52	50	46	41	38	36	36	36	40	47	53	54	57	57	56	77	36
9	59	67	72	75	78	80	76	63	52	41	35	33	31	28	30	30	33	40	39	38	47	52	54	58	50	80	28
10	64	70	74	78	82	88	85	69	56	43	39	43	62	54	58	63	46	57	70	76	81	86	87	88	67	88	39
11	88	89	92	93	94	95	95	87	73	56	39	33	30	27	22	21	21	21	24	29	35	47	57	63	55	95	21
12	69	73	78	81	84	86	79	67	62	55	49	34	23	21	21	19	19	21	30	57	71	74	79	83	56	86	19
13	86	84	85	87	88	88	85	75	69	55	47	38	35	35	50	66	56	63	60	64	72	72	83	88	68	88	35
14	90	89	91	89	89	92	92	78	65	62	62	43	34	30	28	30	31	30	32	36	43	55	64	69	59	92	28
15	74	78	81	83	85	85	85	67	53	40	33	28	25	23	23	22	22	35	56	57	62	62	46	49	53	85	22
16	58	62	70	74	81	82	78	61	54	41	31	25	22	24	23	23	23	22	28	55	68	77	81	82	52	82	22
17	83	86	87	89	91	92	91	72	59	46	35	26	20	17	14	15	14	14	17	21	21	21	25	31	45	92	14
18	39	47	57	64	71	73	71	52	41	31	27	24	23	20	19	20	17	16	22	25	31	46	52	57	39	73	16
19	61	63	62	66	71	60	66	52	36	29	25	24	19	17	20	30	38	47	54	67	76	75	81	85	51	85	17
20	88	86	86	89	89	91	90	72	62	46	35	25	18	17	15	22	22	25	27	29	31	36	42	50	50	91	15
21	55	62	67	72	73	74	72	64	59	44	35	34	26	20	22	24	23	23	24	28	30	34	41	49	44	74	20
22	58	61	64	71	74	74	74	58	43	35	27	25	19	15	14	12	14	17	19	19	20	23	26	32	37	74	12
23	36	40	38	39	46	44	39	37	34	27	25	20	18	21	36	52	39	33	32	43	43	49	60	67	38	67	18
24	69	76	76	81	80	82	83	73	62	58	47	42	32	33	26	20	24	26	31	38	47	59	65	68	54	83	20
25	73	76	79	83	84	87	85	71	60	55	45	36	29	27	23	23	22	23	28	32	35	38	43	54	50	87	22
26	60	64	67	72	75	78	79	64	50	41	35	30	26	22	21	23	20	19	21	28	34	41	47	54	45	79	19
27	58	63	67	69	74	76	76	60	46	32	23	18	16	14	12	10	11	14	17	17	17	24	37	54	38	76	10
28	62	69	78	84	90	92	90	63	42	36	29	29	28	25	22	21	25	31	34	38	41	43	44	46	48	92	21
29	50	52	63	69	71	76	73	55	46	38	34	29	27	23	21	20	18	20	25	35	39	48	52	60	44	76	18
30	66	70	71	75	78	80	82	60	47	36	23	17	15	10	9	7	8	10	11	19	22	28	34	42	38	82	7
31	48	52	56	58	62	63	62	42	30	25	17	11	8	5	4	4	10	11	12	14	20	25	29	34	29	63	4
Avg	63	67	70	74	76	78	75	62	51	42	34	29	25	23	23	25	25	27	32	38	43	48	53	58	47	80	20
Max	90	89	92	93	94	95	95	87	73	63	62	50	62	54	58	66	56	63	70	76	81	86	87	88	68	95	39
Min	30	33	38	39	46	44	39	37	29	20	17	11	8	5	4	4	8	10	11	12	17	21	25	30	27	52	4

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

Day	<< Hour >>																								Avg	Max	Min
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	38	42	48	50	57	62	63	44	29	24	20	16	12	9	6	4	4	6	8	13	17	22	30	35	27	63	4
2	39	42	48	52	58	64	60	51	38	29	22	14	9	8	8	9	16	23	24	30	34	54	52	59	35	64	8
3	57	73	78	71	76	82	76	71	53	40	38	34	33	33	42	59	63	67	71	59	69	76	81	82	62	82	33
4	83	85	88	88	89	90	91	77	61	54	43	40	35	28	27	24	24	25	27	32	35	40	51	58	54	91	24
5	65	70	74	77	80	82	83	65	50	40	33	27	22	20	18	17	16	17	21	26	31	38	45	52	45	83	16
6	57	63	67	70	71	74	76	60	43	35	28	21	16	14	14	12	10	13	18	24	28	33	42	46	39	76	10
7	51	57	59	64	65	69	69	56	41	35	28	21	18	12	12	10	11	14	17	23	29	34	40	42	37	69	10
8	49	52	56	59	63	65	68	56	40	32	24	16	13	11	10	14	16	17	20	27	33	39	41	47	36	68	10
9	48	65	71	72	78	81	77	71	58	44	30	24	19	15	14	12	12	13	18	24	30	36	39	47	42	81	12
10	53	55	58	60	64	67	68	60	48	38	32	24	19	16	14	15	14	16	22	24	28	32	36	42	38	68	14
11	46	53	59	63	64	65	68	61	47	38	35	32	27	27	29	38	64	75	89	89	66	70	77	80	57	89	27
12	85	89	89	88	88	90	91	90	86	78	68	64	73	67	64	69	70	71	69	68	67	70	78	80	77	91	64
13	79	77	76	77	77	75	75	71	65	59	53	47	41	40	39	36	36	38	40	49	58	67	70	77	59	79	36
14	81	83	79	82	84	85	82	77	68	58	40	33	30	28	25	25	27	28	32	39	45	53	58	63	54	85	25
15	68	69	72	71	70	69	67	60	45	43	38	32	25	18	20	21	23	30	38	41	46	48	56	63	47	72	18
16	68	71	70	73	75	76	77	76	61	47	40	37	31	28	27	26	29	36	52	66	79	74	73	85	57	85	26
17	91	91	91	91	93	93	92	88	84	74	73	63	51	59	73	71	74	81	82	82	79	81	80	82	80	93	51
18	85	78	76	75	79	78	75	76	74	73	71	68	71	66	60	57	54	56	60	63	65	63	66	78	69	85	54
19	84	87	88	90	91	93	92	88	67	57	46	43	37	30	29	26	25	28	35	44	49	61	67	71	60	93	25
20	74	76	78	73	73	74	75	66	52	39	31	27	24	21	21	19	19	30	36	39	40	42	43	48	47	78	19
21	56	62	68	74	78	81	83	74	56	51	42	38	31	29	24	22	23	24	33	40	47	54	62	66	51	83	22
22	70	73	78	79	82	83	82	75	56	45	39	27	22	20	20	21	24	28	37	42	53	57	62	65	52	83	20
23	69	72	75	77	78	77	77	70	54	45	37	35	32	31	31	32	34	36	41	46	50	52	56	62	53	78	31
24	72	75	79	82	84	85	86	79	65	49	40	35	29	26	22	22	22	24	29	37	48	57	63	68	53	86	22
25	70	73	75	76	74	77	79	72	51	36	27	22	18	13	11	11	11	15	19	20	20	23	27	30	40	79	11
26	31	31	38	46	50	42	38	39	33	36	33	30	18	12	12	10	10	10	20	29	32	40	46	45	30	50	10
27	51	54	57	58	63	66	67	59	38	30	24	20	19	17	16	15	17	21	25	32	38	44	50	56	39	67	15
28	62	66	70	71	73	75	77	69	43	36	31	24	19	14	11	10	10	12	20	26	27	27	27	31	39	77	10
29	32	42	49	55	58	58	60	56	35	25	16	13	15	13	14	22	28	34	39	38	35	31	29	27	34	60	13
30	26	28	30	32	37	42	48	45	34	29	22	20	18	15	13	16	17	17	20	27	32	38	43	43	29	48	13
Avg	61	65	68	70	72	74	74	67	53	44	37	32	28	25	24	25	27	30	35	40	44	49	53	58	48	77	22
Max	91	91	91	91	93	93	92	90	86	78	73	68	73	67	73	71	74	81	89	89	79	81	81	85	80	93	64
Min	26	28	30	32	37	42	38	39	29	24	16	13	9	8	6	4	4	6	8	13	17	22	27	27	27	48	4

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

Day	<< Hour >>																								Avg	Max	Min
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	10.8	10.1	9.1	8.5	8.1	7.7	10.3	12.5	14.6	16.1	17.6	16.7	15.9	15.9	18.6	15.8	14.1	15.9	15.0	14.4	13.2	12.6	12.5	11.7	13.2	18.6	7.7
2	10.6	9.1	8.0	7.1	6.9	7.1	10.2	11.5	11.9	12.9	15.3	16.6	14.1	17.0	18.4	20.7	21.1	21.3	20.1	18.7	17.2	16.3	13.7	10.8	14.0	21.3	6.9
3	9.0	7.9	6.9	5.8	5.0	4.8	8.3	12.3	13.9	15.9	15.6	15.7	14.2	16.0	17.5	15.5	17.0	17.2	16.3	15.3	14.1	13.3	12.2	9.4	12.5	17.5	4.8
4	8.0	6.6	5.9	5.7	5.2	4.8	8.0	11.8	14.4	16.7	17.5	19.1	19.3	19.9	20.9	21.1	21.6	20.1	20.1	19.7	18.1	15.6	12.7	10.9	14.3	21.6	4.8
5	9.0	7.8	6.5	5.4	4.6	4.8	8.7	12.1	15.2	19.0	20.9	21.8	22.4	23.5	24.2	24.2	24.1	24.3	23.9	22.5	20.5	18.3	15.2	13.0	16.3	24.3	4.6
6	11.6	10.2	9.1	8.2	7.0	7.2	10.7	14.6	18.8	21.7	23.3	24.7	25.2	24.5	24.3	24.2	23.9	23.3	22.4	21.1	19.4	17.8	17.9	17.5	17.9	25.2	7.0
7	16.6	14.9	12.9	11.3	9.9	9.8	12.4	15.7	17.9	21.0	22.3	23.5	23.8	24.9	26.1	26.0	26.8	26.7	25.8	25.0	23.2	20.1	17.3	15.0	19.5	26.8	9.8
8	13.8	12.3	11.0	9.9	9.2	9.0	12.6	16.3	19.7	23.9	25.9	26.7	27.4	28.2	28.7	29.5	29.4	29.4	28.3	27.1	24.8	21.8	19.4	17.4	20.9	29.5	9.0
9	15.4	13.6	12.9	11.9	10.9	10.6	13.9	17.7	20.8	24.6	27.4	29.4	29.9	30.5	31.3	31.9	32.5	31.7	29.4	28.8	27.2	25.5	23.1	20.4	23.0	32.5	10.6
10	18.2	16.5	14.9	13.8	12.8	12.5	16.3	19.7	22.2	26.5	29.9	31.9	33.2	33.7	33.6	33.5	33.2	32.2	31.5	30.2	27.8	23.8	21.6	19.8	24.6	33.7	12.5
11	18.7	17.5	16.3	14.7	13.8	13.3	16.5	20.8	24.1	27.1	29.8	32.1	32.5	33.1	32.9	32.9	32.7	32.4	30.7	29.1	27.6	26.2	25.2	19.9	25.0	33.1	13.3
12	17.4	15.7	13.7	12.5	11.5	11.3	13.5	17.6	22.2	26.7	28.5	30.1	31.2	31.9	31.6	31.0	30.8	30.5	29.5	28.3	26.7	26.5	22.3	19.5	23.4	31.9	11.3
13	17.1	15.5	14.1	12.9	11.8	11.3	13.9	18.2	21.4	26.4	28.1	30.7	32.0	32.1	32.9	32.7	33.2	32.6	31.6	29.8	27.9	25.9	20.8	18.1	23.8	33.2	11.3
14	16.5	15.4	13.7	12.6	11.7	11.4	14.2	17.0	20.9	25.2	27.5	28.7	28.2	29.1	28.0	27.0	26.2	26.8	27.7	26.6	24.9	22.8	22.4	19.9	21.8	29.1	11.4
15	18.1	14.9	13.2	12.0	11.5	10.9	13.6	17.3	22.5	25.9	27.2	28.8	30.4	30.5	30.3	30.2	29.8	29.5	27.3	25.9	24.6	23.8	19.4	16.9	22.3	30.5	10.9
16	14.4	12.9	11.6	10.2	9.1	8.4	11.6	16.1	19.0	23.7	26.9	27.3	28.9	30.3	30.8	31.8	30.9	29.2	27.7	26.4	25.3	22.7	19.2	16.8	21.3	31.8	8.4
17	14.9	13.8	12.4	11.5	10.9	10.4	13.1	16.7	20.4	23.9	27.4	29.9	30.2	31.6	31.5	31.3	30.9	30.6	29.3	27.9	26.5	24.8	21.5	20.2	22.6	31.6	10.4
18	20.5	18.0	16.0	14.9	13.7	13.7	15.1	19.2	18.9	24.6	27.5	29.9	30.2	29.3	30.1	30.1	30.1	30.9	30.4	28.6	27.0	25.5	22.7	20.8	23.7	30.9	13.7
19	19.2	17.6	16.0	14.6	13.7	12.8	14.9	18.1	21.7	24.8	27.8	29.1	30.2	30.3	30.9	31.3	31.1	30.5	29.6	28.5	27.0	25.6	22.8	20.7	23.7	31.3	12.8
20	19.7	18.6	17.5	17.0	16.1	14.2	15.9	19.1	22.0	25.2	28.3	30.4	29.7	30.2	30.4	31.3	30.5	29.6	28.8	27.7	26.2	25.3	23.9	20.8	24.1	31.3	14.2
21	19.8	17.9	15.9	14.3	13.0	12.2	13.5	16.5	20.4	24.1	26.8	27.7	28.9	29.1	29.8	30.0	29.8	29.4	28.3	27.0	26.0	25.5	23.3	21.1	22.9	30.0	12.2
22	18.8	17.2	16.5	15.0	13.4	12.5	14.2	17.7	22.0	24.7	28.3	30.5	31.6	32.4	30.1	25.2	21.6	21.2	21.9	21.3	20.0	18.6	17.3	16.8	21.2	32.4	12.5
23	16.5	16.2	15.0	13.8	12.7	12.2	14.2	18.1	21.6	25.9	29.0	31.4	33.4	33.8	34.2	33.5	34.2	33.1	32.2	28.5	25.5	22.9	19.7	17.9	24.0	34.2	12.2
24	16.1	15.1	13.6	12.9	12.3	12.1	13.8	17.3	21.3	25.1	28.2	27.6	28.4	32.3	32.0	30.4	30.3	29.9	28.8	27.3	22.6	19.6	18.5	18.2	22.2	32.3	12.1
25	17.8	17.1	18.8	17.7	18.3	18.3	18.7	20.0	21.9	24.3	27.5	29.1	30.0	30.6	31.0	31.3	30.8	30.0	26.8	23.2	21.0	18.9	17.8	17.2	23.3	31.3	17.1
26	16.2	13.7	11.7	10.7	9.6	9.4	10.0	12.1	14.6	17.0	20.0	22.2	24.4	26.5	27.4	27.4	27.2	26.1	25.2	23.3	21.4	20.0	16.5	14.2	18.6	27.4	9.4
27	12.6	11.2	9.7	8.6	7.8	7.4	8.5	12.1	15.5	19.3	22.0	24.5	26.1	26.6	25.9	24.5	21.4	22.8	22.5	20.5	19.4	17.3	16.4	15.8	17.4	26.6	7.4
28	14.2	13.5	14.1	14.0	14.7	12.7	12.2	13.7	17.1	18.9	21.4	22.4	23.8	24.8	25.5	25.1	24.9	25.0	24.0	22.6	20.9	19.6	16.6	13.9	19.0	25.5	12.2
29	12.4	10.8	9.6	9.0	8.3	8.1	9.9	12.6	17.6	21.5	23.8	25.6	26.4	26.8	27.3	28.4	27.6	27.8	26.8	24.5	22.4	21.4	18.9	17.5	19.4	28.4	8.1
30	16.5	17.2	16.0	13.7	13.5	13.7	14.0	13.7	13.7	14.4	15.8	15.8	17.2	17.1	17.5	15.9	16.6	15.5	15.1	14.5	13.7	12.7	11.2	10.0	14.8	17.5	10.0
31	9.1	8.3	7.5	6.9	6.3	5.8	7.1	10.7	14.4	17.8	20.0	21.1	22.4	24.9	25.9	27.6	27.8	28.1	26.9	25.0	22.8	20.4	18.0	15.3	17.5	28.1	5.8
Avg	15.1	13.8	12.6	11.5	10.8	10.3	12.6	15.8	18.8	22.1	24.4	25.8	26.5	27.3	27.7	27.5	27.2	26.9	25.9	24.5	22.7	21.0	18.7	16.7	20.3	28.4	10.1
Max	20.5	18.6	18.8	17.7	18.3	18.3	18.7	20.8	24.1	27.1	29.9	32.1	33.4	33.8	34.2	33.5	34.2	33.1	32.2	30.2	27.9	26.5	25.2	21.1	25.0	34.2	17.1
Min	8.0	6.6	5.9	5.4	4.6	4.8	7.1	10.7	11.9	12.9	15.3	15.7	14.1	15.9	17.5	15.5	14.1	15.5	15.0	14.4	13.2	12.6	11.2	9.4	12.5	17.5	4.6

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

Day	<< Hour >>																								Avg	Max	Min
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	13.5	12.2	11.1	10.3	9.2	8.6	10.4	14.8	19.0	22.1	24.7	26.4	28.7	29.8	31.2	32.1	32.0	32.4	31.8	29.3	26.1	23.0	20.7	18.2	21.6	32.4	8.6
2	16.2	14.9	13.8	12.8	11.9	11.5	12.7	16.7	21.0	26.2	29.7	31.7	32.3	33.2	34.3	33.9	33.6	32.7	31.4	30.0	27.9	24.1	20.9	18.7	23.8	34.3	11.5
3	16.7	15.3	14.3	13.4	12.3	11.9	13.5	17.3	21.7	26.4	29.7	31.8	32.6	34.0	33.6	33.0	32.8	31.8	29.7	28.0	26.7	24.7	23.3	23.5	24.1	34.0	11.9
4	22.7	21.4	19.1	17.5	17.1	16.9	17.4	19.4	21.6	21.8	23.2	23.1	24.6	24.8	23.8	23.9	25.6	23.7	22.9	21.4	19.8	18.6	16.0	14.0	20.8	25.6	14.0
5	12.6	11.5	10.4	9.5	8.6	8.2	9.1	13.0	16.5	21.7	25.5	26.6	28.7	30.2	29.5	30.5	30.7	25.7	21.0	19.5	18.4	18.5	16.9	17.3	19.2	30.7	8.2
6	15.4	13.5	12.3	11.6	11.1	10.8	11.9	14.4	18.3	19.5	22.7	25.5	28.4	29.3	29.3	26.0	22.2	22.3	21.2	20.2	18.7	17.6	17.5	15.6	19.0	29.3	10.8
7	14.1	13.2	12.3	11.2	10.3	9.4	10.0	12.8	14.7	16.4	19.0	22.0	22.8	23.9	24.1	22.7	21.9	20.9	19.4	17.6	15.5	14.2	12.5	11.5	16.3	24.1	9.4
8	11.3	11.4	11.5	11.8	12.0	11.8	12.1	12.7	13.7	16.1	16.3	16.7	17.8	19.6	20.7	21.1	20.8	19.9	18.8	17.6	16.3	15.5	14.5	13.9	15.6	21.1	11.3
9	13.1	11.2	10.0	9.4	8.3	7.8	9.0	12.0	14.6	17.7	19.6	21.5	22.4	23.7	23.7	23.4	21.8	19.8	19.4	19.2	16.7	15.3	15.5	14.2	16.2	23.7	7.8
10	12.7	11.9	11.3	11.1	11.2	10.0	10.6	13.3	16.1	18.6	20.1	20.4	17.9	19.5	17.8	17.2	19.4	18.2	16.4	14.0	12.3	11.6	11.7	11.3	14.8	20.4	10.0
11	10.2	9.2	8.2	7.4	6.8	6.3	6.8	8.8	12.4	16.6	19.1	21.2	23.4	23.9	24.7	25.2	24.6	24.9	23.4	21.3	19.1	16.3	14.6	12.9	16.1	25.2	6.3
12	11.8	11.2	10.1	9.5	8.5	8.0	9.1	11.7	13.7	15.9	17.9	20.6	23.6	24.9	25.4	26.9	26.7	26.4	23.2	15.7	13.8	13.4	12.5	11.7	16.3	26.9	8.0
13	10.8	10.5	9.7	8.9	8.5	8.1	8.7	11.3	13.8	17.2	20.0	22.0	23.5	22.4	17.4	14.2	16.2	15.6	15.7	15.3	14.1	13.7	11.1	9.8	14.1	23.5	8.1
14	9.0	8.6	8.2	8.1	7.5	6.7	7.1	10.0	13.9	14.0	14.7	17.8	21.0	22.4	22.5	21.9	21.4	21.2	21.3	19.7	17.8	14.9	12.8	11.3	14.7	22.5	6.7
15	10.2	9.1	8.3	7.6	6.9	6.5	6.9	10.6	14.8	18.8	21.5	23.7	25.0	25.7	25.2	25.6	25.1	20.6	15.3	15.0	14.3	14.2	15.8	15.4	15.9	25.7	6.5
16	13.6	12.9	11.5	10.8	9.6	8.6	8.7	12.2	15.1	18.1	21.5	23.1	24.3	23.8	24.0	23.8	24.3	24.9	21.9	16.2	14.5	12.8	11.2	10.4	16.6	24.9	8.6
17	9.4	8.4	7.6	6.9	6.3	5.9	6.2	9.6	14.2	17.6	21.1	24.1	25.6	26.7	27.6	28.7	28.8	28.4	27.0	25.1	23.7	23.3	21.8	20.6	18.5	28.8	5.9
18	18.3	16.3	14.3	12.9	11.5	10.8	11.6	16.2	20.3	23.9	26.1	28.0	29.4	30.4	31.2	30.3	28.7	27.3	25.0	24.0	21.6	19.0	17.5	16.4	21.3	31.2	10.8
19	15.4	14.6	14.1	13.7	13.0	14.6	13.1	15.8	20.7	23.8	25.7	27.0	29.5	29.7	28.0	23.2	20.0	18.5	17.6	16.2	14.5	13.4	12.4	11.4	18.6	29.7	11.4
20	10.4	9.7	9.1	8.3	7.7	7.1	7.2	10.8	14.2	18.5	22.0	26.2	28.2	28.3	29.2	26.9	26.1	25.0	23.7	22.1	20.7	18.4	16.4	14.1	17.9	29.2	7.1
21	12.7	11.0	9.9	8.8	8.0	7.3	7.6	9.4	11.3	15.3	18.4	18.5	21.9	24.6	22.9	22.8	22.5	22.8	22.0	20.5	19.0	16.7	14.4	12.3	15.9	24.6	7.3
22	10.1	9.1	8.1	6.9	6.1	5.7	5.9	9.2	13.6	17.7	21.8	22.9	25.1	26.6	27.0	28.1	27.6	25.5	24.3	23.4	23.2	22.6	22.1	20.8	18.1	28.1	5.7
23	19.6	18.7	18.7	18.0	15.9	16.1	16.1	18.6	20.3	23.9	25.2	26.1	26.5	25.6	20.3	17.1	20.0	22.1	21.6	18.4	17.5	15.4	13.0	11.2	19.4	26.5	11.2
24	10.3	8.9	8.3	7.2	7.0	6.5	6.5	8.7	11.9	13.5	16.3	17.4	18.5	18.6	19.4	20.4	19.5	18.5	17.7	16.2	14.0	11.1	9.5	8.5	13.1	20.4	6.5
25	7.4	6.1	5.4	4.7	4.2	3.4	3.6	6.4	9.7	11.6	14.3	16.7	18.6	20.0	21.6	21.5	21.6	21.2	19.5	17.7	16.5	14.9	13.1	10.7	12.9	21.6	3.4
26	9.2	8.0	7.4	6.2	5.4	4.9	4.6	7.7	11.9	14.7	16.6	18.6	20.3	22.0	23.6	22.8	24.1	23.9	23.1	19.3	16.4	14.5	12.4	10.7	14.5	24.1	4.6
27	9.7	8.4	7.4	6.6	5.8	5.4	5.4	8.5	13.6	18.4	22.4	24.1	25.5	26.7	27.6	27.5	27.6	26.4	25.0	23.5	22.5	20.5	17.9	13.2	17.5	27.6	5.4
28	9.5	6.7	4.5	4.0	3.0	2.7	2.4	5.7	8.6	10.4	12.3	13.0	13.9	15.3	16.3	17.0	15.9	13.8	12.5	11.2	10.4	10.2	10.1	9.4	10.0	17.0	2.4
29	8.9	8.1	6.1	4.8	4.0	3.0	2.6	6.0	10.1	12.9	14.8	16.7	18.6	20.6	21.8	23.3	23.9	23.8	22.0	18.0	15.8	13.3	11.6	9.5	13.3	23.9	2.6
30	8.0	6.7	6.0	5.0	4.2	3.4	3.5	7.3	12.6	16.4	21.1	23.6	25.4	27.6	28.7	29.6	29.2	28.4	26.6	22.2	20.0	16.8	14.2	11.7	16.6	29.6	3.4
31	10.0	8.6	7.5	6.7	6.0	5.1	4.9	9.1	15.3	18.6	22.0	25.3	27.2	28.5	29.9	30.7	29.2	27.7	26.0	23.6	20.1	17.4	15.2	14.0	17.9	30.7	4.9
Avg	12.3	11.2	10.2	9.4	8.6	8.2	8.6	11.6	15.1	18.2	20.8	22.7	24.2	25.2	25.2	24.9	24.6	23.7	22.1	20.0	18.3	16.6	15.1	13.7	17.1	26.4	7.8
Max	22.7	21.4	19.1	18.0	17.1	16.9	17.4	19.4	21.7	26.4	29.7	31.8	32.6	34.0	34.3	33.9	33.6	32.7	31.8	30.0	27.9	24.7	23.3	23.5	24.1	34.3	14.0
Min	7.4	6.1	4.5	4.0	3.0	2.7	2.4	5.7	8.6	10.4	12.3	13.0	13.9	15.3	16.3	14.2	15.9	13.8	12.5	11.2	10.4	10.2	9.5	8.5	10.0	17.0	2.4

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

Day	<< Hour >>																								Avg	Max	Min
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	12.5	11.4	10.4	10.0	8.5	7.7	7.6	12.1	18.2	22.0	24.5	27.2	29.6	30.2	32.0	32.3	32.0	30.3	28.5	25.9	23.3	20.3	17.2	14.9	20.4	32.3	7.6
2	13.2	12.1	10.9	9.8	8.5	7.7	8.6	10.6	14.8	19.5	24.1	27.4	30.1	30.5	30.2	29.2	26.3	24.1	23.4	20.6	19.6	17.3	16.9	15.4	18.8	30.5	7.7
3	16.1	13.8	13.0	13.8	13.0	11.4	12.4	12.9	17.0	19.1	21.2	22.7	22.3	21.6	19.0	15.7	15.2	14.6	13.6	14.9	12.7	10.8	9.5	8.5	15.2	22.7	8.5
4	7.8	6.8	6.1	5.7	5.5	5.2	5.2	7.8	12.4	14.9	18.5	20.6	23.0	24.1	24.1	24.4	24.5	24.0	22.8	20.5	19.1	17.7	14.8	13.0	15.4	24.5	5.2
5	11.4	10.0	9.1	8.1	7.3	6.9	6.7	9.9	14.7	18.4	20.9	23.6	26.2	26.9	27.7	28.6	28.3	27.9	25.6	22.7	20.8	18.0	15.8	14.2	17.9	28.6	6.7
6	12.7	11.1	9.9	9.0	8.4	7.7	7.3	10.3	15.7	18.8	22.4	25.3	27.4	28.6	28.8	29.8	29.8	28.7	26.4	23.2	20.3	18.3	15.4	13.7	18.7	29.8	7.3
7	12.3	11.0	9.8	8.9	8.4	7.4	7.3	9.8	15.0	17.8	21.0	24.0	26.6	28.8	29.5	29.4	29.4	28.0	25.2	21.8	19.4	17.0	14.4	12.8	18.1	29.5	7.3
8	11.2	10.4	9.2	8.8	7.7	7.2	6.8	9.2	14.5	18.1	22.8	26.5	28.6	29.4	29.3	27.6	25.8	25.2	23.4	20.1	17.6	15.9	17.6	16.8	17.9	29.4	6.8
9	16.0	13.1	12.0	11.4	9.9	9.1	8.6	10.0	13.4	17.6	21.1	23.0	25.3	26.2	27.0	27.0	26.9	25.7	23.5	20.7	17.1	14.6	13.1	11.3	17.7	27.0	8.6
10	10.1	9.1	8.3	7.5	6.9	6.4	6.3	8.1	11.2	15.0	18.1	21.4	25.3	26.1	26.5	26.4	26.3	24.9	22.3	21.2	19.4	17.6	15.3	13.2	16.4	26.5	6.3
11	11.7	10.1	8.9	8.1	7.7	7.8	7.5	9.3	14.3	18.4	19.6	20.3	22.2	23.0	21.9	19.0	12.7	11.0	9.2	9.8	10.7	10.0	9.0	8.1	12.9	23.0	7.5
12	7.9	7.1	7.2	7.2	7.0	7.1	6.9	7.4	8.0	8.8	10.1	11.0	9.1	10.5	11.0	9.6	9.1	9.1	8.7	8.4	8.4	8.2	7.4	7.2	8.4	11.0	6.9
13	7.4	7.6	7.6	7.6	7.8	8.1	8.4	8.9	9.6	10.9	12.0	12.6	13.7	13.8	14.6	15.3	14.8	14.7	13.9	11.4	9.4	7.7	7.1	5.5	10.4	15.3	5.5
14	4.6	4.3	4.4	3.4	2.9	2.6	3.2	4.8	7.4	10.6	14.1	16.6	18.2	19.1	21.1	19.9	19.2	18.7	17.3	15.4	13.5	11.5	10.5	9.6	11.4	21.1	2.6
15	8.6	8.1	7.5	7.3	7.7	8.0	8.9	10.1	13.5	14.8	17.1	19.2	21.9	24.3	24.3	23.5	22.5	20.2	18.4	16.7	15.2	14.0	12.5	10.9	14.8	24.3	7.3
16	9.7	9.0	9.9	8.8	8.5	8.9	9.4	9.7	12.5	16.1	18.6	19.9	22.4	22.8	23.3	23.6	22.2	19.9	16.3	14.2	12.1	12.2	11.8	9.9	14.7	23.6	8.5
17	9.0	8.6	7.8	7.1	6.8	7.0	7.4	8.1	9.2	11.5	11.9	13.5	15.5	14.1	12.8	12.5	12.0	11.1	10.8	10.6	10.5	10.4	10.4	10.2	10.4	15.5	6.8
18	10.0	10.5	10.3	10.3	9.5	9.3	9.2	8.9	9.2	9.7	10.3	10.8	10.5	11.2	12.2	12.7	13.1	12.8	12.5	11.8	11.1	11.0	10.1	7.6	10.6	13.1	7.6
19	5.8	4.6	3.8	2.9	2.0	1.8	1.4	3.0	8.2	11.2	14.0	15.4	17.1	18.7	19.4	20.1	20.2	19.0	16.6	13.8	12.0	9.5	8.1	6.7	10.6	20.2	1.4
20	5.8	4.9	4.9	6.3	7.2	7.6	7.7	9.9	12.8	15.9	17.5	18.7	19.2	19.7	19.0	18.1	17.2	14.7	12.2	10.8	10.1	9.6	9.2	8.3	12.0	19.7	4.9
21	5.8	4.3	2.9	1.4	0.8	0.1	-0.4	1.4	5.7	7.9	10.2	12.1	14.1	14.7	16.6	18.0	17.7	16.4	13.5	11.3	9.5	7.5	5.4	4.0	8.4	18.0	-0.4
22	2.9	2.0	1.1	0.4	-0.3	-0.8	-0.8	0.8	6.7	9.8	13.2	16.6	19.5	21.1	21.8	21.4	19.9	18.7	16.3	14.2	11.8	10.3	8.9	8.0	10.1	21.8	-0.8
23	6.6	5.9	5.0	4.7	4.4	5.0	5.0	6.9	11.2	13.1	16.2	17.7	19.0	19.6	19.4	19.5	19.1	18.2	16.8	15.2	14.4	14.1	13.5	11.8	12.6	19.6	4.4
24	9.1	8.4	7.5	6.6	5.7	5.1	4.5	6.2	10.6	14.7	17.5	20.1	22.6	24.7	25.7	26.1	26.8	26.2	22.4	18.7	15.3	13.4	11.7	10.4	15.0	26.8	4.5
25	9.6	8.8	8.3	7.9	8.5	7.1	6.7	8.5	14.0	19.2	22.3	25.1	27.0	28.4	28.8	29.0	29.0	27.6	24.6	23.4	22.5	20.5	17.8	15.6	18.3	29.0	6.7
26	14.9	16.0	13.8	11.7	11.9	14.1	14.9	14.9	17.5	17.3	18.1	19.3	21.6	23.2	23.0	23.6	24.0	23.1	18.8	15.1	13.0	10.6	8.6	7.3	16.5	24.0	7.3
27	6.2	5.6	4.7	4.4	3.4	2.8	2.6	4.6	11.0	15.1	19.4	22.1	24.7	25.1	25.8	26.3	26.1	24.0	21.3	18.0	15.3	13.0	11.0	9.3	14.2	26.3	2.6
28	7.8	6.6	5.7	5.1	4.4	3.8	3.4	5.4	12.1	15.6	18.5	22.2	24.7	27.7	28.9	29.1	28.8	27.4	22.2	19.0	18.5	16.6	15.7	13.9	16.0	29.1	3.4
29	13.9	10.7	8.9	7.8	6.9	6.4	6.0	7.1	13.4	18.8	23.5	24.3	23.7	24.4	24.0	21.9	19.5	16.8	14.0	12.1	10.6	9.4	8.3	7.5	14.2	24.4	6.0
30	6.5	5.7	5.1	4.4	2.9	1.9	-0.6	-0.1	4.5	6.9	8.8	10.0	11.2	12.8	13.5	13.9	13.7	12.3	10.4	8.2	5.6	3.4	2.1	1.1	6.8	13.9	-0.6
Avg	9.6	8.6	7.8	7.2	6.7	6.3	6.3	7.9	11.9	14.9	17.6	19.6	21.4	22.4	22.7	22.4	21.7	20.5	18.4	16.3	14.6	13.0	11.6	10.2	14.2	23.4	5.5
Max	16.1	16.0	13.8	13.8	13.0	14.1	14.9	14.9	18.2	22.0	24.5	27.4	30.1	30.5	32.0	32.3	32.0	30.3	28.5	25.9	23.3	20.5	17.8	16.8	20.4	32.3	8.6
Min	2.9	2.0	1.1	0.4	-0.3	-0.8	-0.8	-0.1	4.5	6.9	8.8	10.0	9.1	10.5	11.0	9.6	9.1	9.1	8.7	8.2	5.6	3.4	2.1	1.1	6.8	11.0	-0.8

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

Day	<< Hour >>																								Avg	Max	Min
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	0.8	0.6	0.7	0.6	0.7	0.7	0.6	0.6	1.0	1.8	2.9	2.9	3.6	2.5	1.5	2.5	1.3	1.5	1.7	2.3	2.1	1.7	1.2	0.8	1.5	3.6	0.6
2	0.6	0.5	0.7	0.5	0.6	0.5	0.4	0.4	0.9	0.8	1.7	3.3	2.6	2.1	2.2	2.3	2.3	2.0	2.5	3.0	2.8	2.5	1.2	0.6	1.5	3.3	0.4
3	0.4	0.5	0.6	0.8	0.7	0.7	0.8	0.6	1.1	2.5	2.4	2.6	3.9	3.3	2.0	3.6	3.1	3.2	3.2	2.3	2.3	2.2	1.6	1.5	1.9	3.9	0.4
4	1.0	0.7	0.6	0.6	0.6	0.4	0.6	0.5	1.0	1.5	2.2	2.0	1.7	1.9	2.1	2.5	2.9	2.7	2.9	2.7	1.5	0.8	1.2	0.7	1.5	2.9	0.4
5	0.7	0.5	0.5	0.4	0.3	0.5	0.4	0.6	0.8	1.1	1.5	2.5	2.5	2.6	3.2	4.3	3.3	3.5	2.6	1.9	1.4	0.9	0.5	0.4	1.5	4.3	0.3
6	0.6	0.4	0.7	0.6	0.4	0.5	0.6	0.6	1.5	1.6	1.9	2.3	2.9	3.7	3.0	3.5	3.6	3.0	3.0	3.0	3.0	2.0	2.3	2.6	2.0	3.7	0.4
7	1.7	0.7	0.6	0.8	0.6	0.7	0.9	0.6	1.3	1.2	1.5	1.6	1.8	1.7	1.4	1.4	1.9	1.8	2.0	2.0	1.3	0.7	0.5	0.5	1.2	2.0	0.5
8	0.6	0.5	0.4	0.5	0.5	0.4	0.6	0.5	0.6	1.0	1.3	2.2	2.2	2.1	2.3	2.1	2.1	1.9	2.4	1.9	1.5	0.7	1.5	0.8	1.3	2.4	0.4
9	0.6	0.4	0.8	0.4	0.4	0.5	0.6	0.5	0.8	1.0	1.2	1.5	1.9	1.9	1.9	1.8	1.2	2.3	1.5	2.6	2.1	1.1	0.9	1.0	1.2	2.6	0.4
10	0.9	0.6	0.6	0.5	0.7	0.8	0.4	1.0	0.8	1.0	1.3	2.3	2.2	2.3	3.3	3.3	3.1	3.8	2.9	2.5	1.2	1.1	1.0	0.6	1.6	3.8	0.4
11	0.7	0.5	0.6	0.7	0.8	0.5	0.3	0.5	0.7	0.9	1.1	1.2	1.6	1.9	1.7	1.7	2.0	3.2	3.4	3.2	2.4	2.2	2.2	1.2	1.5	3.4	0.3
12	0.6	0.5	0.5	0.6	0.7	0.7	0.9	0.6	0.7	1.2	1.4	1.7	2.1	2.1	2.6	3.0	2.7	2.9	2.8	2.5	2.0	2.6	1.0	0.7	1.5	3.0	0.5
13	0.6	0.6	0.5	0.7	0.7	0.6	0.6	0.5	0.7	1.0	1.5	1.7	2.2	2.6	2.1	2.4	2.3	2.3	2.5	2.8	2.1	1.4	1.1	0.6	1.4	2.8	0.5
14	0.6	0.7	0.5	0.4	0.4	0.5	0.7	0.6	0.6	0.6	0.9	1.1	1.3	1.6	5.0	2.3	1.1	1.3	1.7	1.1	0.6	0.5	1.1	1.0	1.1	5.0	0.4
15	1.0	0.4	0.4	0.4	0.4	0.6	0.6	0.8	0.6	1.3	1.8	2.4	2.4	2.5	3.2	4.3	4.7	3.9	3.8	3.2	2.5	2.3	1.3	0.9	1.9	4.7	0.4
16	1.1	0.6	0.6	0.6	0.5	0.4	0.7	0.5	1.3	1.2	1.5	2.2	1.9	1.6	1.8	1.6	1.8	2.7	2.3	2.0	1.9	1.2	1.0	0.8	1.3	2.7	0.4
17	0.7	0.6	0.5	0.5	0.5	0.6	0.6	0.6	0.7	1.3	1.3	1.6	2.4	1.8	3.7	2.4	2.8	1.8	2.1	1.2	1.4	1.1	1.4	1.1	1.4	3.7	0.5
18	0.8	0.7	0.7	0.6	0.9	0.8	0.9	0.8	0.8	0.9	1.2	1.3	1.8	2.7	2.3	1.8	2.1	2.3	2.7	2.6	2.4	1.7	1.4	1.4	1.5	2.7	0.6
19	0.6	0.6	0.4	0.5	0.4	0.4	0.7	0.7	0.6	0.9	1.2	1.9	2.2	2.6	3.2	3.5	3.2	3.3	3.4	2.9	2.5	1.3	1.3	0.9	1.6	3.5	0.4
20	1.4	0.8	0.8	1.3	1.2	0.6	0.3	0.6	0.9	1.3	1.2	1.6	2.1	2.4	2.0	3.1	3.0	3.2	4.2	3.4	3.3	2.9	1.3	0.6	1.8	4.2	0.3
21	1.0	0.9	0.6	0.7	0.6	0.6	0.4	0.7	0.7	0.9	2.8	2.9	2.9	3.3	2.8	3.4	3.4	3.9	3.5	3.0	3.1	3.1	1.3	0.9	2.0	3.9	0.4
22	0.9	1.0	1.1	0.9	0.7	0.5	0.5	0.7	0.6	1.5	1.1	1.7	1.8	2.1	3.4	2.6	2.4	2.9	1.3	1.8	1.1	0.8	0.8	0.6	1.4	3.4	0.5
23	0.6	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.6	0.9	1.5	1.7	1.5	2.2	1.9	2.4	1.2	1.4	1.0	1.6	0.6	1.2	0.6	0.4	1.0	2.4	0.4
24	0.5	0.6	0.4	0.4	0.5	0.8	0.4	0.6	0.5	1.0	1.5	1.4	2.0	3.9	4.1	4.1	3.2	2.0	1.2	0.9	1.9	2.0	1.0	1.0	1.5	4.1	0.4
25	0.8	1.3	1.6	1.1	1.8	0.9	0.5	0.9	1.3	1.8	2.4	3.5	4.4	4.1	3.7	3.8	3.5	3.2	3.6	2.6	2.5	3.2	2.5	2.1	2.4	4.4	0.5
26	1.5	0.7	0.7	1.1	1.1	1.0	1.1	0.8	0.8	0.9	1.2	1.4	1.7	2.2	2.3	2.3	3.0	3.1	2.6	2.3	1.4	1.0	1.3	1.1	1.5	3.1	0.7
27	1.0	0.7	0.5	0.5	0.5	0.5	0.8	0.5	0.6	0.8	1.0	1.3	1.9	2.1	2.2	2.1	2.8	1.5	1.1	1.5	1.6	0.8	0.8	0.8	1.2	2.8	0.5
28	0.6	1.1	1.1	2.0	1.1	0.6	0.6	0.7	0.6	0.8	1.0	1.6	2.3	2.5	2.8	2.2	2.4	1.7	2.5	1.6	1.2	1.0	0.9	0.7	1.4	2.8	0.6
29	0.5	0.4	0.4	0.5	0.5	0.3	0.8	0.8	0.5	0.9	1.9	2.5	2.7	3.1	2.8	2.7	2.3	2.0	2.0	2.8	3.5	1.5	0.8	1.0	1.5	3.5	0.3
30	0.6	1.5	1.0	0.9	0.5	0.8	0.8	0.9	0.6	0.8	0.8	0.9	1.5	2.6	2.4	1.4	1.2	1.4	1.3	1.4	0.7	1.2	0.8	0.6	1.1	2.6	0.5
31	0.7	0.4	0.4	0.5	0.6	0.3	0.5	0.4	0.6	1.2	1.3	2.0	2.3	1.5	1.5	1.7	1.9	1.7	1.8	1.8	1.6	1.0	1.5	0.6	1.2	2.3	0.3
Avg	0.8	0.7	0.6	0.7	0.7	0.6	0.6	0.6	0.8	1.1	1.5	2.0	2.3	2.4	2.6	2.6	2.5	2.5	2.4	2.3	1.9	1.5	1.2	0.9	1.5	3.3	0.4
Max	1.7	1.5	1.6	2.0	1.8	1.0	1.1	1.0	1.5	2.5	2.9	3.5	4.4	4.1	5.0	4.3	4.7	3.9	4.2	3.4	3.5	3.2	2.5	2.6	2.4	5.0	0.7
Min	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.4	0.5	0.6	0.8	0.9	1.3	1.5	1.4	1.4	1.1	1.3	1.0	0.9	0.6	0.5	0.5	0.4	1.0	2.0	0.3

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

Day	<< Hour >>																								Avg	Max	Min
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	0.5	0.5	0.7	0.7	0.4	0.5	0.5	0.4	0.7	1.1	1.7	2.5	2.0	2.6	2.0	1.9	2.0	1.5	1.2	1.1	1.0	0.7	1.1	0.5	1.2	2.6	0.4
2	0.4	0.5	0.5	0.4	0.3	0.4	0.6	0.6	0.5	0.6	1.6	1.2	1.8	2.3	2.0	2.2	2.9	3.4	3.0	2.5	1.3	1.2	1.0	0.7	1.3	3.4	0.3
3	0.6	0.5	0.7	0.9	0.6	0.6	0.5	0.6	0.6	0.7	0.9	1.8	2.7	3.0	3.1	2.0	1.7	1.8	3.1	3.4	2.2	1.4	1.0	1.5	1.5	3.4	0.5
4	2.1	2.4	0.8	0.7	0.8	0.9	0.7	1.4	0.8	0.9	0.9	1.2	1.8	1.3	1.9	2.0	2.2	3.2	2.8	1.9	1.0	1.0	0.8	0.7	1.4	3.2	0.7
5	0.7	0.6	0.5	0.4	0.5	0.7	0.6	0.6	0.7	0.7	1.1	2.0	1.6	2.1	2.6	2.1	1.4	2.2	4.1	2.7	1.3	1.6	1.6	1.5	1.4	4.1	0.4
6	2.0	0.5	0.5	0.8	0.9	0.7	0.6	0.5	0.6	1.0	0.8	1.5	1.5	2.8	2.2	3.5	2.4	1.7	1.0	1.0	1.0	1.1	2.3	1.3	1.3	3.5	0.5
7	1.0	1.4	0.7	0.7	0.9	0.5	0.7	1.1	1.2	1.2	1.1	1.3	1.7	2.4	2.0	3.3	2.7	2.6	3.4	3.2	3.7	3.3	1.2	0.7	1.8	3.7	0.5
8	0.7	0.7	0.8	1.1	0.8	0.9	1.0	0.7	0.5	0.8	2.2	2.6	2.5	2.5	2.4	2.6	3.0	3.1	2.9	3.0	3.3	2.4	1.4	2.6	1.9	3.3	0.5
9	1.5	0.6	0.5	0.4	0.5	0.4	0.4	0.9	0.7	1.2	1.6	1.7	1.9	1.3	2.4	3.2	3.2	2.3	2.3	1.5	0.8	0.9	0.9	0.7	1.3	3.2	0.4
10	0.5	0.7	0.6	1.6	0.8	0.6	0.6	0.9	0.9	1.0	1.9	2.2	1.6	1.2	1.5	2.7	1.1	0.9	1.4	2.6	0.9	0.8	0.8	0.7	1.2	2.7	0.5
11	1.0	0.7	0.7	0.4	0.5	0.6	0.4	0.8	0.6	0.7	1.6	1.6	2.0	2.1	1.2	1.6	1.3	1.2	1.1	1.0	1.5	0.7	0.7	0.5	1.0	2.1	0.4
12	0.6	0.7	0.5	0.6	0.4	0.4	0.5	0.7	1.3	1.3	1.0	2.2	2.3	2.4	1.9	1.4	1.9	1.9	3.3	2.5	2.1	1.0	0.5	0.6	1.3	3.3	0.4
13	0.7	0.7	0.5	0.8	0.6	0.6	0.5	0.9	1.3	1.2	1.0	1.1	1.4	1.4	2.9	3.1	1.5	1.6	1.1	1.2	0.9	1.2	0.8	0.5	1.1	3.1	0.5
14	0.6	0.7	0.6	0.6	0.5	0.5	0.5	0.6	1.1	2.7	1.8	1.6	1.4	1.9	2.4	2.4	1.6	1.2	1.6	1.7	1.8	1.1	0.9	0.6	1.3	2.7	0.5
15	0.5	0.5	0.5	0.6	0.4	0.5	0.4	0.8	0.8	0.9	1.2	1.6	1.8	2.4	3.0	3.1	4.5	3.0	1.6	1.2	0.7	0.9	2.1	1.1	1.4	4.5	0.4
16	0.5	0.7	1.0	0.5	0.5	0.7	0.6	0.7	0.9	1.1	1.3	2.5	2.9	2.0	1.5	1.4	1.7	1.4	3.2	1.5	1.0	0.9	1.1	0.9	1.3	3.2	0.5
17	0.7	0.5	0.4	0.3	0.4	0.4	0.5	0.5	0.5	1.0	1.2	1.2	1.7	1.8	1.8	2.6	2.4	3.1	2.8	3.3	2.3	2.2	1.2	1.3	1.4	3.3	0.3
18	0.9	0.7	0.7	0.6	0.5	0.5	1.0	0.8	1.1	1.4	1.5	1.9	1.6	2.3	2.4	2.8	2.4	2.5	2.0	2.0	1.2	1.3	1.3	0.6	1.4	2.8	0.5
19	0.7	0.9	0.7	0.8	0.7	1.1	0.8	1.0	0.8	1.2	1.3	1.5	2.7	2.9	1.6	3.2	2.8	2.3	1.0	1.4	0.9	0.7	0.8	0.5	1.3	3.2	0.5
20	0.5	0.6	0.5	0.5	0.5	0.5	0.5	0.8	0.8	0.7	1.1	1.1	1.5	1.8	1.8	2.6	2.2	1.9	3.9	3.2	1.8	0.8	0.9	0.9	1.3	3.9	0.5
21	0.7	0.5	0.6	0.6	0.7	0.6	0.5	0.4	0.8	0.9	1.1	1.1	1.0	2.0	3.6	2.8	2.1	1.8	2.3	2.2	1.8	1.4	2.1	1.1	1.4	3.6	0.4
22	0.7	0.6	0.5	0.4	0.5	0.5	0.9	0.9	0.8	1.2	1.0	1.9	2.0	2.5	3.2	2.6	3.5	4.1	4.2	3.6	4.5	4.0	2.8	2.1	2.0	4.5	0.4
23	1.5	1.2	1.5	1.0	0.8	1.0	1.0	1.0	1.2	2.8	5.6	5.8	5.1	5.6	4.5	2.6	3.3	1.2	1.0	0.6	1.2	0.9	0.7	1.0	2.2	5.8	0.6
24	0.8	0.8	0.7	0.7	0.8	0.6	0.6	0.8	0.8	0.8	0.9	1.2	3.2	1.7	1.6	3.0	1.4	1.4	1.3	1.3	1.0	0.9	0.8	0.8	1.2	3.2	0.6
25	0.7	0.6	0.7	0.5	0.8	0.6	0.8	0.5	0.7	0.8	1.0	1.3	1.6	1.4	1.8	1.7	1.4	1.0	1.9	2.6	1.3	1.0	1.2	1.4	1.1	2.6	0.5
26	0.8	0.5	0.8	0.6	0.6	0.9	0.4	0.7	0.7	0.9	1.3	1.6	1.9	1.7	1.5	1.1	1.8	1.4	1.3	0.6	0.9	0.7	0.8	0.7	1.0	1.9	0.4
27	0.6	0.6	0.6	0.4	0.4	0.6	0.5	0.7	0.7	1.0	2.0	2.8	2.5	3.0	3.9	4.1	4.2	3.6	4.3	3.3	2.3	1.3	2.8	5.2	2.1	5.2	0.4
28	4.4	3.9	1.9	0.9	0.6	0.8	0.7	0.8	1.2	1.8	2.3	2.5	3.1	3.0	3.4	2.9	3.3	4.7	4.8	4.2	3.2	2.5	1.5	1.1	2.5	4.8	0.6
29	0.8	0.9	0.5	0.5	0.8	0.7	0.7	0.4	0.9	1.2	1.4	1.5	1.9	1.7	1.5	1.7	1.5	1.1	1.2	1.3	1.3	1.0	0.7	0.5	1.1	1.9	0.4
30	0.3	0.4	0.5	0.5	0.4	0.4	0.4	0.3	0.5	0.7	1.1	1.4	1.5	1.3	1.6	1.5	1.8	2.0	1.6	0.8	1.0	0.9	0.7	0.4	0.9	2.0	0.3
31	0.5	0.3	0.4	0.4	0.5	0.4	0.4	0.3	0.5	0.8	1.3	1.2	1.5	1.5	1.1	1.5	3.2	3.2	2.7	1.1	0.7	0.8	0.8	0.9	1.1	3.2	0.3
Avg	0.9	0.8	0.7	0.6	0.6	0.6	0.6	0.7	0.8	1.1	1.5	1.8	2.1	2.2	2.3	2.4	2.3	2.2	2.4	2.0	1.6	1.3	1.2	1.1	1.4	3.4	0.5
Max	4.4	3.9	1.9	1.6	0.9	1.1	1.0	1.4	1.3	2.8	5.6	5.8	5.1	5.6	4.5	4.1	4.5	4.7	4.8	4.2	4.5	4.0	2.8	5.2	2.5	5.8	0.7
Min	0.3	0.3	0.4	0.3	0.3	0.4	0.4	0.3	0.5	0.6	0.8	1.1	1.0	1.2	1.1	1.1	1.1	0.9	1.0	0.6	0.7	0.7	0.5	0.4	0.9	1.9	0.3

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

Day	<< Hour >>																								Avg	Max	Min
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
1	0.6	0.5	0.6	0.6	0.4	0.3	0.3	0.6	1.1	0.9	1.5	1.6	1.4	2.1	1.6	2.1	1.4	1.2	1.5	1.1	1.4	1.1	0.7	0.6	1.1	2.1	0.3
2	0.5	0.6	0.5	0.5	0.3	0.4	0.7	0.5	0.6	0.6	0.7	1.1	1.4	1.8	1.8	2.1	4.5	3.1	0.7	0.6	1.6	1.0	1.7	1.4	1.2	4.5	0.3
3	1.7	1.6	1.3	1.2	0.8	1.1	1.0	0.9	0.7	1.3	1.4	1.8	2.1	2.3	4.5	1.8	1.9	1.8	1.0	2.0	1.1	0.5	0.6	1.0	1.5	4.5	0.5
4	0.6	0.4	0.3	0.5	0.4	0.2	0.4	0.5	0.5	0.9	0.8	1.4	1.6	1.3	1.4	1.5	1.4	1.9	1.5	0.9	1.7	1.2	0.8	0.7	0.9	1.9	0.2
5	0.6	0.6	0.6	0.4	0.4	0.4	0.5	0.4	0.6	0.9	1.6	1.2	1.6	1.7	2.0	1.6	1.7	0.9	1.8	1.0	0.9	0.6	0.5	0.7	1.0	2.0	0.4
6	0.6	0.5	0.4	0.5	0.5	0.5	0.5	0.4	0.5	1.0	1.1	1.4	1.6	1.9	1.7	1.6	1.3	1.6	1.4	0.8	1.2	1.0	0.5	0.6	1.0	1.9	0.4
7	0.4	0.5	0.4	0.5	0.5	0.4	0.4	0.3	0.4	0.6	0.6	1.1	1.3	1.3	1.7	1.6	1.2	1.5	1.0	0.8	0.8	0.8	0.7	0.5	0.8	1.7	0.3
8	0.6	0.6	0.4	0.5	0.3	0.5	0.4	0.4	0.4	0.7	0.9	1.2	1.8	2.1	1.8	2.8	1.8	1.7	1.1	0.5	0.6	1.1	2.0	2.1	1.1	2.8	0.3
9	2.3	0.7	0.8	0.6	0.5	1.0	0.5	0.5	0.5	0.6	1.1	1.2	2.0	3.0	2.4	2.1	1.9	1.6	1.9	1.1	0.9	0.6	0.5	0.4	1.2	3.0	0.4
10	0.4	0.5	0.5	0.3	0.5	0.4	0.4	0.5	0.4	0.5	0.8	1.3	1.6	2.5	2.1	2.3	1.3	0.8	0.8	1.4	0.9	1.3	0.8	0.7	1.0	2.5	0.3
11	0.8	0.6	0.7	0.6	0.7	0.5	0.9	0.8	0.8	1.3	2.0	1.6	1.1	2.3	4.1	3.9	5.5	2.6	1.4	1.5	4.4	1.0	1.1	1.6	1.7	5.5	0.5
12	0.9	0.8	0.9	1.0	0.7	0.7	0.8	0.8	0.9	0.7	0.7	2.0	1.9	2.3	2.7	3.4	2.5	2.1	1.6	1.2	1.3	0.8	0.7	0.6	1.3	3.4	0.6
13	0.6	0.4	0.4	0.4	0.5	0.4	0.5	0.5	0.7	0.8	0.9	1.9	1.3	1.4	1.9	1.8	1.7	1.5	1.2	0.3	0.5	0.5	0.5	0.6	0.9	1.9	0.3
14	0.4	0.3	0.4	0.4	0.4	0.5	0.6	0.6	0.9	1.0	1.5	1.9	1.8	1.5	2.3	2.4	1.5	1.2	0.6	0.7	0.9	0.8	0.4	0.6	1.0	2.4	0.3
15	0.5	0.5	0.7	0.4	0.6	0.9	1.2	1.0	1.2	1.1	0.8	1.1	1.1	1.6	1.8	1.3	1.4	1.7	2.0	3.0	2.3	2.5	2.0	1.5	1.3	3.0	0.4
16	0.9	1.4	1.0	0.9	0.7	1.1	1.4	0.7	1.1	0.8	1.0	1.2	1.8	1.9	2.1	1.9	2.5	2.3	2.1	1.5	1.9	1.5	1.5	0.9	1.4	2.5	0.7
17	0.5	0.6	1.4	0.4	1.0	0.5	0.7	0.7	0.5	0.5	1.0	1.0	1.2	1.3	1.7	1.0	0.8	0.7	0.6	1.0	0.6	0.5	0.4	0.6	0.8	1.7	0.4
18	0.9	1.0	1.9	2.8	2.7	1.9	1.9	1.2	0.9	1.7	1.9	2.6	2.4	2.4	2.7	2.7	2.1	1.8	1.5	0.9	1.4	1.8	0.9	0.4	1.8	2.8	0.4
19	0.4	0.4	0.5	0.4	0.3	0.5	0.4	0.6	0.6	1.2	1.5	1.8	1.8	2.1	1.9	1.9	2.1	1.7	1.1	0.6	0.6	0.3	0.6	0.5	1.0	2.1	0.3
20	0.6	0.6	0.7	0.6	0.7	0.7	0.5	0.6	1.0	2.1	3.6	3.6	3.4	3.0	3.7	4.5	4.7	3.9	3.4	3.4	2.5	2.0	2.3	1.8	2.2	4.7	0.5
21	1.3	1.0	0.8	0.5	0.6	0.8	0.5	0.8	0.8	1.2	1.4	1.4	1.4	1.5	1.6	1.3	1.5	1.6	1.2	1.2	1.0	0.7	0.7	0.5	1.1	1.6	0.5
22	0.3	0.5	0.4	0.5	0.4	0.5	0.5	0.7	0.7	0.8	1.1	1.5	1.4	1.5	1.9	2.1	2.3	1.6	1.2	0.8	0.7	0.9	0.6	0.6	1.0	2.3	0.3
23	0.7	0.5	0.6	0.4	0.4	0.5	0.4	0.6	0.6	1.1	1.5	3.1	2.7	3.1	3.9	3.5	3.4	2.9	2.9	1.5	1.9	2.2	1.8	1.0	1.7	3.9	0.4
24	0.6	0.8	1.0	0.5	0.9	0.6	0.4	0.4	1.3	0.7	1.4	1.3	1.2	1.2	1.7	2.1	1.4	1.5	0.8	0.5	0.3	0.4	0.3	0.4	0.9	2.1	0.3
25	0.7	0.6	0.8	0.8	0.8	0.7	0.7	0.7	0.8	0.9	1.3	2.0	2.6	2.7	2.9	2.4	2.3	3.1	4.4	4.5	3.1	2.2	1.0	0.6	1.8	4.5	0.6
26	0.8	1.1	0.9	0.8	0.7	1.0	1.1	0.7	1.9	2.1	1.6	1.9	2.3	2.3	2.3	1.6	1.6	1.3	1.2	1.3	0.6	0.6	0.7	0.6	1.3	2.3	0.6
27	0.7	0.8	0.7	1.0	0.6	0.5	0.6	0.6	0.5	0.7	1.1	1.6	1.6	1.6	1.8	1.6	1.6	1.9	1.1	1.4	1.3	0.7	0.7	0.6	1.1	1.9	0.5
28	0.4	0.3	0.4	0.4	0.5	0.4	0.5	0.4	0.4	0.8	1.1	1.3	1.7	1.4	2.6	2.5	2.3	1.4	0.6	0.7	0.9	0.7	0.7	0.8	1.0	2.6	0.3
29	0.9	0.7	0.6	0.6	0.6	0.7	0.7	0.9	0.8	0.7	1.2	2.3	2.2	3.2	2.5	3.2	4.2	4.7	3.2	3.4	5.1	5.6	4.5	3.8	2.3	5.6	0.6
30	2.9	3.3	4.7	2.6	1.0	0.8	1.1	0.9	0.7	1.4	1.6	1.8	1.9	1.4	1.6	1.3	2.0	2.2	1.0	0.9	1.2	0.4	0.5	0.9	1.6	4.7	0.4
Avg	0.8	0.8	0.8	0.7	0.6	0.6	0.7	0.6	0.8	1.0	1.3	1.7	1.8	2.0	2.3	2.2	2.2	1.9	1.5	1.3	1.5	1.2	1.0	0.9	1.3	2.9	0.4
Max	2.9	3.3	4.7	2.8	2.7	1.9	1.9	1.2	1.9	2.1	3.6	3.6	3.4	3.2	4.5	4.5	5.5	4.7	4.4	4.5	5.1	5.6	4.5	3.8	2.3	5.6	0.7
Min	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.4	0.5	0.6	1.0	1.1	1.2	1.4	1.0	0.8	0.7	0.6	0.3	0.3	0.3	0.3	0.4	0.8	1.6	0.2

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

Day	<< Hour >>																								Prev
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	147	144	154	114	168	149	119	288	239	303	291	288	326	282	298	250	303	326	266	297	308	315	295	179	266
2	163	143	151	174	176	207	336	303	232	201	338	278	320	277	163	245	276	271	285	295	292	294	160	139	242
3	97	127	193	138	202	170	150	122	124	284	257	287	297	323	234	330	332	324	329	333	331	326	191	132	256
4	149	141	158	180	174	196	148	21	282	351	280	281	270	288	275	291	284	306	311	310	327	263	148	104	260
5	194	212	202	163	202	162	171	135	357	86	171	302	308	293	297	298	297	290	276	271	284	212	94	173	234
6	176	272	149	175	175	170	131	46	322	358	295	238	269	300	294	317	319	322	323	3	32	27	14	39	321
7	105	154	54	155	164	181	325	252	317	65	315	324	342	309	352	283	292	307	315	311	359	231	109	143	314
8	177	208	175	165	204	201	153	229	16	128	266	352	316	341	318	304	316	326	318	314	327	248	169	194	259
9	190	173	203	218	213	190	149	249	327	312	282	295	22	307	328	307	223	169	110	86	74	173	114	193	214
10	168	114	141	194	205	147	3	162	49	303	109	278	252	262	285	281	290	308	304	322	356	176	151	201	237
11	169	200	193	222	208	186	290	154	346	329	284	117	223	242	252	241	257	289	294	302	320	339	313	140	251
12	154	157	210	182	161	30	134	325	297	22	280	257	236	266	279	306	317	317	322	331	358	360	143	169	280
13	181	176	210	196	194	159	146	74	339	322	343	234	241	277	259	282	275	284	295	304	299	245	167	235	247
14	208	221	174	220	230	197	86	230	142	132	349	336	306	261	299	270	202	190	231	230	271	129	304	156	224
15	177	253	160	259	193	162	212	4	306	360	75	204	246	264	288	297	299	297	331	334	327	322	155	6	279
16	162	109	174	172	235	156	161	89	305	353	310	330	332	224	321	104	284	295	308	339	351	154	174	205	248
17	199	172	179	227	209	162	172	29	343	310	323	253	313	291	165	111	78	82	101	161	178	143	143	68	164
18	316	95	167	153	152	359	139	130	164	157	297	301	215	141	160	171	157	312	327	324	351	358	151	142	161
19	180	164	235	158	230	200	145	135	360	116	197	290	260	310	306	304	305	324	327	328	1	11	116	202	256
20	139	32	95	30	162	223	210	203	338	334	142	174	43	64	7	348	30	32	353	36	48	46	67	68	51
21	80	146	145	162	208	230	215	201	203	310	97	108	109	112	90	106	102	101	85	76	73	64	138	133	124
22	134	140	198	147	188	159	136	22	338	7	322	143	167	140	154	276	352	82	108	16	166	164	129	73	130
23	134	223	169	5	175	166	162	181	255	341	357	352	58	270	252	302	257	270	226	203	322	132	166	160	221
24	231	211	186	131	218	166	172	216	33	325	253	150	123	145	164	152	151	170	170	72	285	359	41	34	166
25	192	148	126	166	112	1	285	334	23	319	199	208	214	207	205	212	208	210	300	334	311	328	328	312	250
26	300	213	137	141	134	157	158	93	46	21	123	323	356	241	263	265	292	307	309	342	350	322	147	160	279
27	171	178	194	220	211	209	159	170	185	206	295	341	253	259	269	263	316	116	155	150	138	173	115	13	199
28	121	187	98	129	148	135	175	89	107	78	158	354	244	247	221	250	290	251	296	300	329	53	172	164	174
29	130	218	192	179	178	329	169	129	155	10	337	203	227	226	224	234	259	268	271	311	349	332	157	147	220
30	180	300	134	148	179	160	199	176	206	164	34	148	311	307	313	284	113	122	166	282	188	139	152	222	183
31	165	177	185	210	174	202	160	71	6	20	6	354	325	147	235	239	255	260	280	292	309	215	155	196	225
Prev	165	175	168	173	187	177	163	141	330	352	302	281	284	266	267	274	285	293	299	321	333	305	142	152	227

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

Day	<< Hour >>																								Prev
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	207	221	185	157	234	204	153	53	144	317	306	320	321	314	327	322	326	109	123	130	176	197	158	218	212
2	226	271	150	221	283	151	168	128	330	44	157	215	329	302	271	303	313	328	324	330	331	159	121	141	261
3	202	223	150	175	194	221	113	190	308	22	268	52	106	95	98	76	159	65	358	2	45	175	109	92	120
4	50	69	200	225	180	157	320	133	332	182	161	288	298	277	259	319	245	297	293	291	274	296	160	156	252
5	162	162	222	207	158	180	136	157	325	298	302	313	358	356	309	306	274	223	35	96	359	75	71	34	307
6	81	212	144	163	158	262	134	135	168	345	350	323	343	135	166	9	16	18	118	84	64	154	65	147	107
7	154	148	225	152	166	197	154	170	198	314	17	356	18	318	10	14	38	67	14	26	32	31	220	192	68
8	207	176	187	138	197	186	199	211	225	158	64	74	66	85	92	77	70	79	70	32	5	14	166	119	120
9	141	268	251	18	133	137	154	11	302	1	100	94	60	3	133	87	88	132	101	332	199	163	157	270	108
10	109	152	189	159	203	168	15	44	269	303	304	207	107	319	143	142	147	160	141	2	105	125	58	161	143
11	124	185	147	189	148	170	226	158	29	358	309	357	113	136	266	243	210	19	52	49	92	159	250	179	156
12	232	165	147	135	114	186	192	220	146	109	264	345	325	301	314	7	328	308	127	86	129	101	156	134	156
13	187	155	246	168	108	182	213	206	3	333	53	107	118	174	157	134	207	122	123	119	317	308	158	194	160
14	140	185	141	154	71	119	198	150	187	126	173	305	152	180	192	275	247	237	349	19	64	158	181	153	166
15	225	182	252	162	227	184	173	139	351	1	315	95	126	106	103	87	94	174	334	283	117	117	123	266	149
16	276	249	141	182	241	146	163	161	14	331	327	188	205	225	234	299	282	266	160	188	185	167	164	100	207
17	166	269	179	174	198	218	195	118	338	328	343	8	342	329	312	97	58	79	73	79	80	91	175	175	102
18	288	61	119	151	174	340	132	152	162	49	89	125	145	100	119	80	124	299	304	62	146	209	160	172	128
19	133	139	132	161	56	45	133	123	1	318	298	221	118	139	189	195	311	137	146	145	169	109	185	203	147
20	182	148	213	157	238	153	164	153	15	353	310	69	121	308	234	99	96	203	312	316	311	269	139	109	177
21	193	135	180	216	204	173	180	188	146	303	104	352	11	126	289	329	333	6	356	343	353	140	101	166	166
22	185	125	198	223	160	272	162	135	325	346	277	306	25	128	68	114	83	84	68	76	72	79	82	163	108
23	177	230	133	180	42	304	50	175	147	115	124	126	143	154	142	154	136	210	183	219	211	182	134	152	158
24	174	150	149	138	140	120	194	179	128	58	153	153	178	233	212	185	243	272	245	254	260	174	126	134	176
25	139	180	165	188	142	180	169	151	1	33	73	353	18	27	120	180	287	302	306	338	308	348	149	143	126
26	151	162	156	169	171	173	174	150	192	292	316	310	303	329	210	332	111	277	229	204	150	149	164	164	192
27	97	201	184	227	177	200	215	136	95	303	161	162	194	173	163	162	169	162	153	170	166	181	289	315	178
28	318	316	329	183	182	144	138	31	152	191	241	232	221	245	224	237	283	296	298	304	300	289	274	272	255
29	263	295	231	146	150	164	171	141	135	66	137	345	34	82	46	120	19	272	250	203	141	159	126	205	151
30	233	182	220	169	207	189	221	157	106	342	350	356	349	68	353	236	308	288	288	232	156	176	151	201	221
31	236	249	178	243	185	204	178	102	226	339	309	286	310	326	213	163	117	85	96	271	201	205	232	289	225
Prev	181	187	181	175	173	180	170	147	75	352	326	345	50	67	194	114	2	266	44	12	118	155	150	169	167

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

Day	<< Hour >>																								Prev
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	194	105	117	71	142	174	166	128	1	328	304	355	18	316	183	161	227	259	296	35	106	152	166	10	132
2	229	169	213	236	140	165	144	169	109	303	280	339	289	155	93	165	176	154	235	335	190	357	68	154	182
3	238	41	108	332	14	80	346	147	299	339	40	3	294	294	296	257	302	163	348	287	132	210	171	148	319
4	186	104	136	178	186	221	201	125	150	335	110	123	133	181	309	332	354	57	42	2	62	64	161	157	127
5	144	195	188	237	115	92	186	85	340	283	304	306	169	76	134	131	112	309	99	156	152	90	100	201	143
6	237	198	202	154	198	136	172	157	254	312	311	297	316	17	53	117	136	252	309	173	132	192	213	185	201
7	194	249	141	235	145	208	204	155	161	312	326	326	315	39	105	79	92	148	169	212	170	206	181	168	179
8	197	165	245	157	216	84	235	171	134	322	4	321	130	201	225	204	207	172	100	67	108	139	321	26	173
9	92	67	131	191	92	149	116	190	91	348	24	340	234	213	224	249	232	257	295	221	164	193	103	208	181
10	200	153	191	208	202	196	241	169	147	107	321	351	125	195	173	141	127	293	174	323	346	147	141	137	174
11	142	239	145	199	129	180	136	307	340	208	207	323	345	115	98	158	357	248	138	12	300	254	147	162	182
12	161	190	71	138	159	177	198	155	169	190	76	261	314	287	301	307	301	298	300	319	319	268	217	161	233
13	93	158	193	44	87	75	96	117	117	273	276	291	265	251	211	199	207	216	214	335	230	53	170	152	184
14	144	208	196	167	246	182	157	176	174	27	12	9	80	264	195	192	202	209	153	21	131	129	323	128	170
15	150	118	125	289	166	82	104	87	269	330	8	277	231	280	214	248	243	260	133	28	32	16	107	183	183
16	150	122	228	129	163	24	136	34	40	152	84	332	125	164	119	134	97	237	168	200	270	357	263	168	141
17	108	188	125	76	169	210	200	147	169	268	359	318	221	69	200	276	349	227	192	137	182	247	261	208	197
18	227	267	289	298	305	309	302	305	286	286	286	286	296	305	290	297	296	291	296	273	285	311	262	121	289
19	125	113	154	82	132	154	199	171	131	350	31	35	300	269	274	249	231	267	209	38	128	76	129	305	153
20	164	120	165	14	355	258	18	16	2	219	224	220	225	255	292	296	296	319	332	326	326	316	325	292	300
21	119	138	164	198	236	164	203	213	194	332	335	321	283	332	80	175	278	274	202	143	146	126	148	194	193
22	196	201	237	178	188	158	166	145	130	345	330	324	335	266	278	291	287	285	220	152	138	163	240	183	218
23	145	234	127	46	137	105	104	113	87	63	231	276	281	287	300	297	293	297	302	321	333	316	316	241	297
24	88	263	158	130	132	161	223	69	121	321	334	322	339	332	7	303	294	69	191	267	336	96	116	133	47
25	154	136	161	22	74	128	220	136	102	18	356	269	197	215	215	230	217	178	149	153	160	156	49	343	160
26	342	337	121	101	37	176	186	262	284	281	238	229	250	258	289	242	199	204	220	170	151	148	163	190	217
27	202	196	196	162	156	132	244	154	145	40	345	6	231	268	258	272	272	292	315	168	152	162	144	244	208
28	188	39	175	240	138	172	178	133	323	321	341	321	305	188	161	179	169	176	133	342	346	32	340	48	183
29	55	125	63	179	268	156	112	160	94	349	293	264	262	231	252	281	293	295	282	287	296	299	292	291	273
30	295	296	298	288	259	212	146	147	360	265	250	207	203	192	309	263	288	300	282	224	151	159	144	171	240
Prev	166	166	165	169	157	157	176	145	123	319	328	312	268	251	236	232	251	251	221	298	153	148	170	177	201

Montana Resources LLP
Greeley School Air Monitoring Summary
Standard Deviation of Wind Direction - MDEQ monitor (degrees)
July 2024

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

Montana Resources LLP
Greeley School Air Monitoring Summary
Standard Deviation of Wind Direction - MDEQ monitor (degrees)
August 2024

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

Montana Resources LLP
Greeley School Air Monitoring Summary
Standard Deviation of Wind Direction - MDEQ monitor (degrees)
September 2024

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

APPENDIX B: GRAVIMETRIC ANALYSIS DATA

Quarter 3, 2024 Filter Analysis Results - PM10 - Greeley

FILTER	DATE	AVG FLOW LPM	HOURS	SAMPLE VOLUME (M3)	PRE WEIGHT (MG)	PRE-WEIGHT DATE	POST WEIGHT (MG)	POST-WEIGHT DATE	PART MASS (MG)	CONC (UG/M3)	DEQ (UG/M3)
C1759053	07/05	16.70	24:00	24.02	121.225	14-Jun	121.626	14-Aug	0.401	16.7	21.9
C1759056	07/11	16.70	24:00	24.03	117.347	14-Jun	118.107	14-Aug	0.760	31.6	32.6
C1759058	07/17	16.71	23:59	24.03	117.569	14-Jun	118.456	14-Aug	0.887	36.9	38.3
C1812151	07/23	16.70	24:00	24.03	118.520	12-Jul	119.226	19-Sep	0.706	29.4	29.1
C1812153	07/29	16.70	24:00	24.03	118.625	12-Jul	119.749	19-Sep	1.124	46.8	47.8
C1812196	08/04	16.70	23:59	24.03	117.172	12-Jul	117.835	19-Sep	0.663	27.6	26.7
C1812198	08/10	16.70	24:00	24.03	116.045	12-Jul	116.511	19-Sep	0.466	19.4	20.0
C1812200	08/16	16.70	24:00	24.03	117.020	12-Jul	117.286	19-Sep	0.266	11.1	11.0
C1812176	08/22	16.70	24:00	24.03	119.271	16-Aug	119.738	19-Sep	0.467	19.4	22.3
C1812179	08/28	16.70	24:00	24.03	120.495	16-Aug	120.684	19-Sep	0.189	7.9	11.6
C1812181	09/03	16.70	24:00	24.03	120.046	16-Aug	120.467	19-Sep	0.421	17.5	19.0
C1812183	09/09	16.71	23:59	24.03	121.451	16-Aug	123.380	19-Sep	1.929	80.3	81.7
C1103516	09/15	16.70	24:00	24.03	119.706	9-Sep	120.024	25-Oct	0.318	13.2	13.9
C1103519	09/21	16.70	24:00	24.03	121.390	9-Sep	121.645	25-Oct	0.255	10.6	9.7
C1103521	09/27	16.71	23:59	24.02	123.932	9-Sep	124.449	25-Oct	0.517	21.5	23.8

Quarter 3, 2024 Filter Analysis Results - TSP Greeley

FILTER	START	END	HOURS	FLOW LPM	SAMPLE VOLUME (M3)	PRE WEIGHT (MG)	PRE-WEIGHT DATE	POST WEIGHT (MG)	POST-WEIGHT DATE	PART MASS (MG)	CONC (UG/M3)
C1759052	06/24 @ 15	07/02 @ 11	189	2.0	21.62	118.473	14-Jun	118.759	14-Aug	0.286	13.2
C1759054	07/02 @ 12	07/09 @ 14	171	2.0	19.56	121.500	14-Jun	121.985	14-Aug	0.485	24.8
C1759057	07/09 @ 15	07/16 @ 14	168	2.0	19.22	116.606	14-Jun	117.248	14-Aug	0.642	33.4
C1759059	07/16 @ 15	07/22 @ 13	143	2.0	16.36	117.105	14-Jun	117.688	14-Aug	0.583	35.6
C1812152	07/22 @ 14	07/31 @ 10	213	2.0	24.37	117.442	12-Jul	118.419	19-Sep	0.977	40.1
C1812154	07/31 @ 11	08/06 @ 13	147	2.0	16.82	117.002	12-Jul	117.484	19-Sep	0.482	28.7
C1812197	08/06 @ 14	08/13 @ 14	169	2.0	19.33	116.758	12-Jul	117.139	19-Sep	0.381	19.7
C1812199	08/13 @ 15	08/20 @ 14	168	2.0	19.22	116.894	12-Jul	117.084	19-Sep	0.190	9.9
C1812178	08/20 @ 15	08/27 @ 14	168	2.0	19.22	120.418	16-Aug	120.869	19-Sep	0.451	23.5
C1812180	08/27 @ 15	08/29 @ 14	48	2.0	5.49	121.376	16-Aug	121.751	19-Sep	0.375	68.3
C1812182	08/29 @ 15	09/04 @ 10	140	2.0	16.02	121.604	16-Aug	122.079	19-Sep	0.475	29.7
C1812184	09/04 @ 11	09/11 @ 11	169	2.0	19.33	119.663	16-Aug	120.546	19-Sep	0.883	45.7
C1103518	09/11 @ 12	09/16 @ 14	123	2.0	14.07	120.682	9-Sep	120.932	25-Oct	0.250	17.8
C1103520	09/16 @ 15	09/23 @ 14	168	2.0	19.22	119.360	9-Sep	119.652	25-Oct	0.292	15.2
C1103522	09/23 @ 15	10/01 @ 14	192	2.0	21.96	120.023	9-Sep	120.538	25-Oct	0.515	23.4

Unrealistic gravimetric results - will call these TSP data Miscellaneous Void (AM)

Quarter 3, 2024 Filter Analysis Results - Blanks - Greeley

FILTER	TYPE	DATE*	PRE WEIGHT (MG)	PRE-WEIGHT DATE	POST WEIGHT (MG)	POST-WEIGHT DATE	PART MASS (MG)
C1759055	Lab	26-Aug	118.526	14-Jun	118.531	14-Aug	0.005
C1759060	Field	22-Jul	120.698	14-Jun	120.714	14-Aug	0.016
C1812155	Lab	4-Oct	118.531	12-Jul	118.534	19-Sep	0.003
C1812177	Lab	4-Oct	122.047	16-Aug	122.049	19-Sep	0.002
C1812185	Field	11-Sep	119.284	16-Aug	119.291	19-Sep	0.007
C1103517	Lab	11-Nov	118.337	9-Sep	118.341	25-Oct	0.004
C1103525	Field	7-Oct	122.570	9-Sep	122.581	25-Oct	0.011

*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)

Third Quarter 2024 (All Data)																		
Direction>>>		N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	Total
Wind Speed (meters per second)	0.1 - 1.0	1.4	1.2	1.2	1.0	1.5	2.5	6.0	9.2	7.6	6.2	3.3	1.4	1.5	1.2	1.3	1.7	48.4
	1.1 - 2.0	2.3	1.0	0.7	1.0	0.9	1.8	2.4	2.6	1.7	1.4	1.5	1.5	2.2	2.8	3.9	2.4	30.1
	2.1 - 3.0	0.4	0.5	0.3	0.7	1.0	0.6	0.6	0.6	0.4	0.6	0.6	1.0	1.4	2.4	2.4	0.8	14.3
	3.1 - 4.0	0.2	0.3	0.1	0.2	0.5	0.2	0.2	0.4	0.1	0.3	0.3	0.0	0.2	1.2	0.8	0.5	5.4
	4.1 - 5.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.6	0.1	0.0	1.5
	5.1 - 6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.4
	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		4.4	2.9	2.3	3.0	4.1	5.1	9.4	13.2	9.8	8.6	5.8	3.9	5.3	8.2	8.5	5.3	100.0
Average Speed		1.5	1.5	1.3	1.6	1.8	1.3	1.1	1.1	0.9	1.0	1.2	1.4	1.6	2.3	1.9	1.5	1.4

Table C-2. Wind Rose Summary, Greeley School TSP > 44

Third Quarter, 2024 (TSP >44 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	2.2	2.6	1.0	0.6	1.9	3.5	7.0	8.0	10.2	6.4	1.9	1.3	1.0	1.3	2.6	3.2	54.6
	1.1 - 2.0	2.2	0.6	0.3	0.3	1.0	1.3	3.5	4.8	1.3	0.6	1.9	1.3	1.3	1.6	1.9	3.2	27.2
	2.1 - 3.0	0.0	0.3	0.6	0.3	0.6	0.0	0.3	0.3	0.3	1.6	1.6	1.6	1.6	0.0	2.2	0.6	12.1
	3.1 - 4.0	1.0	0.0	0.0	0.6	0.6	1.0	0.0	0.3	0.0	0.0	0.6	0.0	0.0	0.3	0.3	0.6	5.4
	4.1 - 5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.3
	5.1 - 6.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
	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		5.8	3.5	1.9	1.9	4.2	5.8	10.9	13.4	11.8	8.6	6.1	4.2	3.8	3.5	7.0	7.7	100.0
Average Speed		1.7	1.0	1.3	2.1	1.6	1.2	1.0	1.0	0.8	1.0	1.7	1.5	1.7	1.7	1.6	1.4	1.3

Table C-3. Wind Rose Summary, Greeley School TSP < 14

Third Quarter, 2024 (TSP <14 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	1.0	0.6	1.3	0.8	1.6	1.6	3.9	7.8	7.1	4.9	2.9	1.9	1.9	0.6	0.3	1.0	39.4
	1.1 - 2.0	2.3	0.8	1.1	1.5	0.8	2.4	2.4	2.1	1.8	2.3	2.3	1.8	3.4	4.2	5.8	2.4	37.4
	2.1 - 3.0	0.0	0.8	0.3	1.5	1.6	0.8	0.8	0.8	0.3	0.8	0.8	0.6	1.1	4.4	2.3	0.3	17.3
	3.1 - 4.0	0.0	0.8	0.0	0.0	0.5	0.0	0.3	0.3	0.2	0.6	0.0	0.0	0.2	1.0	0.6	0.2	4.7
	4.1 - 5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.5
	5.1 - 6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.2	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		3.2	3.1	2.8	3.7	4.5	4.9	8.1	11.2	9.4	8.8	6.2	4.4	6.6	10.2	9.1	3.9	100.0
Average Speed		1.3	2.2	1.2	1.8	1.7	1.4	1.6	1.1	0.9	1.3	1.3	1.3	1.5	2.1	1.9	1.5	1.5

APPENDIX D: LABORATORY ANALYSIS REPORTS



ANALYTICAL SUMMARY REPORT

September 04, 2024

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

Work Order: B24081674 Quote ID: B4795

Project Name: Montana Resources/Greely School DH

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

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B24081674-001	Particulate Filter C1759051 PM10 Composite	06/29/24 00:00	08/15/24	Air	Metals on air filter by ICP/ICPMS Nitric acid-extraction by 40CFR50G
B24081674-002	Particulate Filter C1759052 TSP 6/24-7/2	06/24/24 00:00	08/15/24	Air	Same As Above
B24081674-003	Particulate Filter C1759053 PM10 Composite	07/05/24 00:00	08/15/24	Air	Same As Above
B24081674-004	Particulate Filter C1759054 TSP 7/4-7/9	07/04/24 00:00	08/15/24	Air	Same As Above
B24081674-005	Particulate Filter C1759055 Lab Blank	06/17/24 17:15	08/15/24	Air	Same As Above
B24081674-006	Particulate Filter C1759056 PM10 Composite	07/11/24 00:00	08/15/24	Air	Same As Above
B24081674-007	Particulate Filter C1759057 TSP 7/9-7/16	07/09/24 00:00	08/15/24	Air	Same As Above
B24081674-008	Particulate Filter C1759058 PM10 Composite	07/17/24 00:00	08/15/24	Air	Same As Above
B24081674-009	Particulate Filter C1759059 TSP 7/16- 7/22	07/16/24 00:00	08/15/24	Air	Same As Above
B24081674-010	Particulate Filter C1759060 PM10 Field Blank	07/22/24 11:02	08/15/24	Air	Same As Above

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

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

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

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



CLIENT: Bison Engineering
Project: Montana Resources/Greely School DH
Work Order: B24081674

Report Date: 09/04/24

CASE NARRATIVE

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

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



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate Filter C1759051 PM10 Composite
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24081674-001
Collection Date: 06/29/24
Date Received: 08/15/24
Report Date: 09/04/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	08/28/24 22:54 / ae	08/23/24 11:13	40CFR50	ICPMS208-B_240828A : 117		192528
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	08/26/24 20:37 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 101		192528
Copper	1.6	ug/filter		1.0	0.16	E200.8	08/26/24 20:37 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 101		192528
Lead	0.044	ug/filter	J	1.0	0.042	E200.8	08/26/24 20:37 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 101		192528
Manganese	0.20	ug/filter	J	1.0	0.18	E200.8	08/26/24 20:37 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 101		192528
Molybdenum	0.090	ug/filter	J	1.0	0.0050	E200.8	08/26/24 20:37 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 101		192528
Zinc	0.69	ug/filter	J	1.0	0.30	E200.8	08/26/24 20:37 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 101		192528

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 C1759052 TSP 6/24-7/2
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24081674-002
Collection Date: 06/24/24
Date Received: 08/15/24
Report Date: 09/04/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	08/28/24 23:00 / ae	08/23/24 11:13	40CFR50	ICPMS208-B_240828A : 118		192528
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	08/26/24 20:43 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 102		192528
Copper	0.83	ug/filter	J	1.0	0.16	E200.8	08/26/24 20:43 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 102		192528
Lead	0.044	ug/filter	J	1.0	0.042	E200.8	08/26/24 20:43 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 102		192528
Manganese	0.20	ug/filter	J	1.0	0.18	E200.8	08/26/24 20:43 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 102		192528
Molybdenum	0.045	ug/filter	J	1.0	0.0050	E200.8	08/26/24 20:43 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 102		192528
Zinc	0.42	ug/filter	J	1.0	0.30	E200.8	08/26/24 20:43 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 102		192528

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 C1759053 PM10 Composite
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24081674-003
Collection Date: 07/05/24
Date Received: 08/15/24
Report Date: 09/04/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	08/28/24 23:06 / ae	08/23/24 11:13	40CFR50	ICPMS208-B_240828A : 119		192528
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	08/26/24 20:48 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 103		192528
Copper	1.9	ug/filter		1.0	0.16	E200.8	08/26/24 20:48 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 103		192528
Lead	0.094	ug/filter	J	1.0	0.042	E200.8	08/26/24 20:48 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 103		192528
Manganese	0.29	ug/filter	J	1.0	0.18	E200.8	08/26/24 20:48 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 103		192528
Molybdenum	0.21	ug/filter	J	1.0	0.0050	E200.8	08/26/24 20:48 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 103		192528
Zinc	0.84	ug/filter	J	1.0	0.30	E200.8	08/26/24 20:48 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 103		192528

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 C1759054 TSP 7/4-7/9
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24081674-004
Collection Date: 07/04/24
Date Received: 08/15/24
Report Date: 09/04/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	08/28/24 23:12 / ae	08/23/24 11:13	40CFR50	ICPMS208-B_240828A : 120		192528
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	08/26/24 20:54 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 104		192528
Copper	2.1	ug/filter		1.0	0.16	E200.8	08/26/24 20:54 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 104		192528
Lead	0.10	ug/filter	J	1.0	0.042	E200.8	08/26/24 20:54 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 104		192528
Manganese	0.31	ug/filter	J	1.0	0.18	E200.8	08/26/24 20:54 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 104		192528
Molybdenum	0.30	ug/filter	J	1.0	0.0050	E200.8	08/26/24 20:54 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 104		192528
Zinc	0.57	ug/filter	J	1.0	0.30	E200.8	08/26/24 20:54 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 104		192528

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 C1759055 Lab Blank
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24081674-005
Collection Date: 06/17/24 17:15
Date Received: 08/15/24
Report Date: 09/04/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	08/28/24 23:18 / ae	08/23/24 11:13	40CFR50	ICPMS208-B_240828A : 121		192528
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	08/26/24 21:00 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 105		192528
Copper	0.73	ug/filter	J	1.0	0.16	E200.8	08/26/24 21:00 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 105		192528
Lead	0.12	ug/filter	J	1.0	0.042	E200.8	08/26/24 21:00 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 105		192528
Manganese	ND	ug/filter		1.0	0.18	E200.8	08/26/24 21:00 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 105		192528
Molybdenum	ND	ug/filter		1.0	0.0050	E200.8	08/26/24 21:00 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 105		192528
Zinc	2.3	ug/filter		1.0	0.30	E200.8	08/26/24 21:00 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 105		192528

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 C1759056 PM10 Composite
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24081674-006
Collection Date: 07/11/24
Date Received: 08/15/24
Report Date: 09/04/24

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	08/28/24 23:24 / ae	08/23/24 11:13	40CFR50	ICPMS208-B_240828A : 122		192528
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	08/26/24 21:06 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 106		192528
Copper	2.8	ug/filter		1.0	0.16	E200.8	08/26/24 21:06 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 106		192528
Lead	0.15	ug/filter	J	1.0	0.042	E200.8	08/26/24 21:06 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 106		192528
Manganese	0.50	ug/filter	J	1.0	0.18	E200.8	08/26/24 21:06 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 106		192528
Molybdenum	0.25	ug/filter	J	1.0	0.0050	E200.8	08/26/24 21:06 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 106		192528
Zinc	0.89	ug/filter	J	1.0	0.30	E200.8	08/26/24 21:06 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 106		192528

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 C1759057 TSP 7/9-7/16
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24081674-007
Collection Date: 07/09/24
Date Received: 08/15/24
Report Date: 09/04/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	08/28/24 23:41 / ae	08/23/24 11:13	40CFR50	ICPMS208-B_240828A : 125		192528
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	08/26/24 21:12 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 107		192528
Copper	1.9	ug/filter		1.0	0.16	E200.8	08/26/24 21:12 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 107		192528
Lead	0.12	ug/filter	J	1.0	0.042	E200.8	08/26/24 21:12 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 107		192528
Manganese	0.41	ug/filter	J	1.0	0.18	E200.8	08/26/24 21:12 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 107		192528
Molybdenum	0.079	ug/filter	J	1.0	0.0050	E200.8	08/26/24 21:12 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 107		192528
Zinc	0.71	ug/filter	J	1.0	0.30	E200.8	08/26/24 21:12 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 107		192528

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 C1759058 PM10 Composite
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24081674-008
Collection Date: 07/17/24
Date Received: 08/15/24
Report Date: 09/04/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	08/28/24 23:47 / ae	08/23/24 11:13	40CFR50	ICPMS208-B_240828A : 126		192528
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	08/26/24 21:29 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 110		192528
Copper	2.8	ug/filter		1.0	0.16	E200.8	08/26/24 21:29 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 110		192528
Lead	0.14	ug/filter	J	1.0	0.042	E200.8	08/26/24 21:29 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 110		192528
Manganese	0.52	ug/filter	J	1.0	0.18	E200.8	08/26/24 21:29 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 110		192528
Molybdenum	0.48	ug/filter	J	1.0	0.0050	E200.8	08/26/24 21:29 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 110		192528
Zinc	0.96	ug/filter	J	1.0	0.30	E200.8	08/26/24 21:29 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 110		192528

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 C1759059 TSP 7/16-7/22
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24081674-009
Collection Date: 07/16/24
Date Received: 08/15/24
Report Date: 09/04/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	08/28/24 23:53 / ae	08/23/24 11:13	40CFR50	ICPMS208-B_240828A : 127		192528
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	08/26/24 21:36 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 111		192528
Copper	1.1	ug/filter		1.0	0.16	E200.8	08/26/24 21:36 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 111		192528
Lead	0.075	ug/filter	J	1.0	0.042	E200.8	08/26/24 21:36 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 111		192528
Manganese	0.30	ug/filter	J	1.0	0.18	E200.8	08/26/24 21:36 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 111		192528
Molybdenum	0.051	ug/filter	J	1.0	0.0050	E200.8	08/26/24 21:36 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 111		192528
Zinc	0.67	ug/filter	J	1.0	0.30	E200.8	08/26/24 21:36 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 111		192528

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 C1759060 PM10 Field Blank
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24081674-010
Collection Date: 07/22/24 11:02
Date Received: 08/15/24
Report Date: 09/04/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	08/28/24 23:59 / ae	08/23/24 11:13	40CFR50	ICPMS208-B_240828A : 128		192528
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	08/26/24 21:42 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 112		192528
Copper	ND	ug/filter		1.0	0.16	E200.8	08/26/24 21:42 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 112		192528
Lead	ND	ug/filter		1.0	0.042	E200.8	08/26/24 21:42 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 112		192528
Manganese	ND	ug/filter		1.0	0.18	E200.8	08/26/24 21:42 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 112		192528
Molybdenum	ND	ug/filter		1.0	0.0059	E200.8	09/03/24 16:58 / jks	08/23/24 11:13	40CFR50	ICPMS208-B_240903A : 42		192528
Zinc	ND	ug/filter		1.0	0.30	E200.8	08/26/24 21:42 / ae	08/23/24 11:13	40CFR50	ICPMS207-B_240826A : 112		192528

Report RL - Analyte Reporting Limit
Definitions:

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Bison Engineering

Work Order: B24081674

Report Date: 09/04/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8		Analytical Run: ICPMS207-B_240826A								
Lab ID: QCS	6	Initial Calibration Verification Standard								08/26/24 17:23
Cadmium		0.0258	mg/L	0.0010	103	90	110			
Copper		0.0523	mg/L	0.010	105	90	110			
Lead		0.0516	mg/L	0.0010	103	90	110			
Manganese		0.259	mg/L	0.0050	103	90	110			
Molybdenum		0.0494	mg/L	0.0050	99	90	110			
Zinc		0.0520	mg/L	0.0050	104	90	110			
Lab ID: CCV	6	Continuing Calibration Verification Standard								08/26/24 20:07
Cadmium		0.0509	mg/L	0.0010	102	90	110			
Copper		0.0519	mg/L	0.010	104	90	110			
Lead		0.0500	mg/L	0.0010	100	90	110			
Manganese		0.0518	mg/L	0.0050	103	90	110			
Molybdenum		0.0500	mg/L	0.0050	100	90	110			
Zinc		0.0517	mg/L	0.0050	103	90	110			
Lab ID: CCV	6	Continuing Calibration Verification Standard								08/26/24 21:18
Cadmium		0.0513	mg/L	0.0010	103	90	110			
Copper		0.0515	mg/L	0.010	103	90	110			
Lead		0.0506	mg/L	0.0010	101	90	110			
Manganese		0.0513	mg/L	0.0050	103	90	110			
Molybdenum		0.0505	mg/L	0.0050	101	90	110			
Zinc		0.0523	mg/L	0.0050	105	90	110			
Method: E200.8		Batch: 192528								
Lab ID: MB-192528	7	Method Blank								Run: ICPMS207-B_240826A 08/26/24 19:03
Arsenic		0.1	ug/filter	0.06						
Cadmium		ND	ug/filter	0.006						
Copper		0.5	ug/filter	0.2						
Lead		0.05	ug/filter	0.04						
Manganese		ND	ug/filter	0.2						
Molybdenum		ND	ug/filter	0.005						
Zinc		0.4	ug/filter	0.3						
Lab ID: LCS-192528	7	Laboratory Control Sample								Run: ICPMS207-B_240826A 08/26/24 19:09
Arsenic		100	ug/filter	1.0	100	85	115			
Cadmium		50.6	ug/filter	1.0	101	85	115			
Copper		102	ug/filter	5.0	102	85	115			
Lead		98.6	ug/filter	1.0	99	85	115			
Manganese		508	ug/filter	5.0	102	85	115			
Molybdenum		101	ug/filter	1.0	101	85	115			
Zinc		102	ug/filter	5.0	103	85	115			
Lab ID: LCSD-192528	7	Laboratory Control Sample Duplicate								Run: ICPMS207-B_240826A 08/26/24 19:15
Arsenic		103	ug/filter	1.0	103	85	115			
Cadmium		52.5	ug/filter	1.0	105	85	115			
Copper		105	ug/filter	5.0	105	85	115			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Bison Engineering

Work Order: B24081674

Report Date: 09/04/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 192528
Lab ID: LCSD-192528	7	Laboratory Control Sample Duplicate				Run: ICPMS207-B_240826A			08/26/24 19:15	
Lead		102	ug/filter	1.0	102	85	115			
Manganese		520	ug/filter	5.0	104	85	115			
Molybdenum		103	ug/filter	1.0	103	85	115			
Zinc		105	ug/filter	5.0	105	85	115			
Method: E200.8										Analytical Run: ICPMS208-B_240828A
Lab ID: QCS		Initial Calibration Verification Standard							08/28/24 20:54	
Arsenic		0.0506	mg/L	0.0050	101	90	110			
Lab ID: CCV										08/28/24 22:18
Arsenic		0.0506	mg/L	0.0050	101	90	110			
Lab ID: CCV										08/28/24 23:30
Arsenic		0.0507	mg/L	0.0050	101	90	110			
Method: E200.8										Batch: 192528
Lab ID: MB-192528		Method Blank				Run: ICPMS208-B_240828A			08/28/24 21:30	
Arsenic		ND	ug/filter	0.06						
Method: E200.8										Analytical Run: ICPMS208-B_240903A
Lab ID: QCS		Initial Calibration Verification Standard							09/03/24 14:17	
Molybdenum		0.0484	mg/L	0.0050	97	90	110			
Lab ID: CCV										09/03/24 15:46
Molybdenum		0.0485	mg/L	0.0050	97	90	110			
Method: E200.8										Batch: 192528
Lab ID: MB-192528		Method Blank				Run: ICPMS208-B_240903A			09/03/24 16:10	
Molybdenum		ND	ug/filter	0.006						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



Work Order Receipt Checklist

Bison Engineering

B24081674

Login completed by: Gina McCartney

Date Received: 8/15/2024

Reviewed by: cindy

Received by: KLP

Reviewed Date: 8/22/2024

Carrier name: Hand Deliver

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

Standard Reporting Procedures:

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

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

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

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

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

Contact and Corrective Action Comments:

None



Chain of Custody & Analytical Request Record

www.energylab.com

Account Information (Billing Information)

Company/Name		Bison Engineering, Inc.	
Contact	Shelley Argott-Brown		
Phone	(406) 442-5768		
Mailing Address		3143 E Lyndale Avenue	
City, State, Zip	Helena MT, 59601		
Email	sbrown-argott@bison-eng.com		
Receive Invoice	☐ Hard Copy ☒ Email	Receive Report	☐ Hard Copy ☒ Email
Purchase Order	Quote	Bottle Order	
MTR228018			

Report Information (If different than Account Information)

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

Comments

Analyze per history

Project Information

Project Name, PWSID, Permit, etc.		Montana Resources/Greely School DH	
Sampler Name		Sampler Phone	
Sample Origin State	Montana	EPA/State Compliance	☒ Yes ☐ No
URANIUM MINING CLIENTS MUST indicate sample type.			
☐ NOT Source or Byproduct Material			
☐ Source/Processed Ore (Ground or Refined) **CALL BEFORE SENDING			
☐ 11e, (2) Byproduct Material (Can ONLY be Submitted to ELI Casper Location)			

Analysis Requested

Matrix Codes	Number of Containers	Matrix (See Codes Above)	Asenium	Cadmium	Copper	Lead	Manganese	Molybdenum	Zinc
A - Air									
W - Water									
S - Solids									
V - Vegetation									
B - Bioassay									
O - Other									
DW - Drinking Water									

Sample Identification (Name, Location, Interval, etc.)	Collection Date	Time
1 Particulate filter C1759051 PM10	6/29/24	24 hr Composite
2 Particulate filter C1759052 TSP 6/24-7/2	6/24-7/2	Continuous
3 Particulate filter C1759053 PM10	7/5/24	24 hr Composite
4 Particulate filter C1759054 TSP 7/4-7/9	7/4-7/9	Continuous
5 Particulate filter C1759055 Lab Blank	6/17/24	17/5
6 Particulate filter C1759056 PM10	7/11/24	24 hr Composite
7 Particulate filter C1759057 TSP 7/9-7/16	7/9-7/16	Continuous
8 Particulate filter C1759058 PM10	7/17/24	24 hr Composite
9 Particulate filter C1759059 TSP 7/16-7/22	7/16-7/22	Continuous
10 Particulate filter C1759060 PM10 field blank	7/22/24	11/02

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

ELI LAB ID	B24081674
RUSH TAT	

Custody Record MUST be signed

Relinquished by (print)	Don Milimine
Relinquished by (signature)	<i>Don Milimine</i>

Received by (print)	Don Milimine
Received by (signature)	<i>Don Milimine</i>

Date/Time	8/15/24 1312
Signature	<i>Don Milimine</i>

Shipped By	
Cooler ID(s)	
Custody Seals	Y N C B
Intact	Y N
Receipt Temp °C	
Temp Blank	Y N
On Ice	Y N

Payment Type	Cash
Check	
Amount	\$
Receipt Number (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

October 08, 2024

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

Work Order: B24091987 Quote ID: B4795

Project Name: Montana Resources/Greely School DH

Energy Laboratories Inc Billings MT received the following 20 samples for Bison Engineering on 9/20/2024 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B24091987-001	Particulate Filter C1812151 PM10	07/23/24 00:00	09/20/24	Air	Metals on air filter by ICP/ICPMS Nitric acid-extraction by 40CFR50G
B24091987-002	Particulate Filter C1812522 TSP 7/22- 7/31	07/31/24 00:00	09/20/24	Air	Same As Above
B24091987-003	Particulate Filter C1812153 PM10	07/27/24 00:00	09/20/24	Air	Same As Above
B24091987-004	Particulate Filter C1812154 TSP 7/31-8/6	08/06/24 00:00	09/20/24	Air	Same As Above
B24091987-005	Particulate Filter C1812155 TSP Lab Blank	07/12/24 17:40	09/20/24	Air	Same As Above
B24091987-006	Particulate Filter C1812196 PM10	08/04/24 00:00	09/20/24	Air	Same As Above
B24091987-007	Particulate Filter C1812197 TSP 8/6-8/13	08/13/24 00:00	09/20/24	Air	Same As Above
B24091987-008	Particulate Filter C1812198 PM10	08/10/24 00:00	09/20/24	Air	Same As Above
B24091987-009	Particulate Filter C1812199 TSP 8/13- 8/20	08/20/24 00:00	09/20/24	Air	Same As Above
B24091987-010	Particulate Filter C1812200 PM10	08/16/24 00:00	09/20/24	Air	Same As Above
B24091987-011	Particulate Filter C1812176 PM10	08/22/24 00:00	09/20/24	Air	Same As Above
B24091987-012	Particulate Filter C1812177 Lab Blank	08/14/24 12:30	09/20/24	Air	Same As Above
B24091987-013	Particulate Filter C1812178 TSP 8/20- 8/27	08/27/24 00:00	09/20/24	Air	Same As Above
B24091987-014	Particulate Filter C1812179 PM10	08/28/24 00:00	09/20/24	Air	Same As Above
B24091987-015	Particulate Filter C1812180 TSP 8/27- 8/29	08/29/24 00:00	09/20/24	Air	Same As Above
B24091987-016	Particulate Filter C1812181 PM10	09/03/24 00:00	09/20/24	Air	Same As Above
B24091987-017	Particulate Filter C1812182 TSP 8/29-9/4	09/04/24 00:00	09/20/24	Air	Same As Above



ANALYTICAL SUMMARY REPORT

B24091987-018	Particulate Filter C1812183 PM10	09/09/24 00:00	09/20/24	Air	Same As Above
B24091987-019	Particulate Filter C1812184 TSP 9/4-9/11	09/11/24 00:00	09/20/24	Air	Same As Above
B24091987-020	Particulate Filter C1812185 TSP Field Blank	09/11/24 10:46	09/20/24	Air	Same As Above

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

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

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

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



CLIENT: Bison Engineering
Project: Montana Resources/Greely School DH
Work Order: B24091987

Report Date: 10/08/24

CASE NARRATIVE

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

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



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate Filter C1812151 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24091987-001
Collection Date: 07/23/24
Date Received: 09/20/24
Report Date: 10/08/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	10/04/24 03:27 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 431		193707
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	10/04/24 03:27 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 431		193707
Copper	1.1	ug/filter		1.0	0.16	E200.8	10/04/24 03:27 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 431		193707
Lead	0.082	ug/filter	J	1.0	0.042	E200.8	10/05/24 03:35 / ae	10/01/24 13:29	40CFR50	ICPMS207-B_241004A : 178		193707
Manganese	0.25	ug/filter	J	1.0	0.18	E200.8	10/04/24 03:27 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 431		193707
Molybdenum	0.063	ug/filter	J	1.0	0.0059	E200.8	10/07/24 14:31 / ae	10/01/24 13:29	40CFR50	ICPMS208-B_241007A : 44		193707
Zinc	0.45	ug/filter	J	1.0	0.30	E200.8	10/04/24 03:27 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 431		193707

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 C1812522 TSP 7/22-7/31
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24091987-002
Collection Date: 07/31/24
Date Received: 09/20/24
Report Date: 10/08/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	10/04/24 03:33 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 432		193707
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	10/04/24 03:33 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 432		193707
Copper	0.63	ug/filter	J	1.0	0.16	E200.8	10/04/24 03:33 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 432		193707
Lead	0.065	ug/filter	J	1.0	0.042	E200.8	10/05/24 03:41 / ae	10/01/24 13:29	40CFR50	ICPMS207-B_241004A : 179		193707
Manganese	0.25	ug/filter	J	1.0	0.18	E200.8	10/04/24 03:33 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 432		193707
Molybdenum	0.060	ug/filter	J	1.0	0.0059	E200.8	10/07/24 14:37 / ae	10/01/24 13:29	40CFR50	ICPMS208-B_241007A : 45		193707
Zinc	0.41	ug/filter	J	1.0	0.30	E200.8	10/04/24 03:33 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 432		193707

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 C1812153 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24091987-003
Collection Date: 07/27/24
Date Received: 09/20/24
Report Date: 10/08/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	10/04/24 03:39 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 433		193707
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	10/04/24 03:39 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 433		193707
Copper	0.62	ug/filter	J	1.0	0.16	E200.8	10/04/24 03:39 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 433		193707
Lead	0.069	ug/filter	J	1.0	0.042	E200.8	10/05/24 03:47 / ae	10/01/24 13:29	40CFR50	ICPMS207-B_241004A : 180		193707
Manganese	0.45	ug/filter	J	1.0	0.18	E200.8	10/04/24 03:39 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 433		193707
Molybdenum	0.032	ug/filter	J	1.0	0.0059	E200.8	10/07/24 14:43 / ae	10/01/24 13:29	40CFR50	ICPMS208-B_241007A : 46		193707
Zinc	0.41	ug/filter	J	1.0	0.30	E200.8	10/04/24 03:39 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 433		193707

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 C1812154 TSP 7/31-8/6
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24091987-004
Collection Date: 08/06/24
Date Received: 09/20/24
Report Date: 10/08/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	10/04/24 03:56 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 436		193707
Cadmium	0.010	ug/filter	J	1.0	0.0063	E200.8	10/04/24 03:56 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 436		193707
Copper	1.5	ug/filter		1.0	0.16	E200.8	10/04/24 03:56 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 436		193707
Lead	0.080	ug/filter	J	1.0	0.042	E200.8	10/05/24 03:52 / ae	10/01/24 13:29	40CFR50	ICPMS207-B_241004A : 181		193707
Manganese	0.31	ug/filter	J	1.0	0.18	E200.8	10/04/24 03:56 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 436		193707
Molybdenum	0.15	ug/filter	J	1.0	0.0059	E200.8	10/07/24 14:49 / ae	10/01/24 13:29	40CFR50	ICPMS208-B_241007A : 47		193707
Zinc	0.61	ug/filter	J	1.0	0.30	E200.8	10/04/24 03:56 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 436		193707

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 C1812155 TSP Lab Blank
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24091987-005
Collection Date: 07/12/24 17:40
Date Received: 09/20/24
Report Date: 10/08/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	10/04/24 04:02 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 437		193707
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	10/04/24 04:02 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 437		193707
Copper	ND	ug/filter		1.0	0.16	E200.8	10/04/24 04:02 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 437		193707
Lead	ND	ug/filter		1.0	0.042	E200.8	10/04/24 04:02 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 437		193707
Manganese	ND	ug/filter		1.0	0.18	E200.8	10/04/24 04:02 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 437		193707
Molybdenum	0.0054	ug/filter	J	1.0	0.0050	E200.8	10/04/24 04:02 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 437		193707
Zinc	ND	ug/filter		1.0	0.30	E200.8	10/04/24 04:02 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 437		193707

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 C1812196 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24091987-006
Collection Date: 08/04/24
Date Received: 09/20/24
Report Date: 10/08/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	10/04/24 04:08 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 438		193707
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	10/04/24 04:08 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 438		193707
Copper	0.91	ug/filter	J	1.0	0.16	E200.8	10/04/24 04:08 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 438		193707
Lead	0.052	ug/filter	J	1.0	0.042	E200.8	10/04/24 04:08 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 438		193707
Manganese	0.33	ug/filter	J	1.0	0.18	E200.8	10/04/24 04:08 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 438		193707
Molybdenum	0.084	ug/filter	J	1.0	0.0059	E200.8	10/07/24 15:12 / ae	10/01/24 13:29	40CFR50	ICPMS208-B_241007A : 51		193707
Zinc	0.35	ug/filter	J	1.0	0.30	E200.8	10/04/24 04:08 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 438		193707

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 C1812197 TSP 8/6-8/13
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24091987-007
Collection Date: 08/13/24
Date Received: 09/20/24
Report Date: 10/08/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	10/04/24 04:14 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 439		193707
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	10/04/24 04:14 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 439		193707
Copper	0.39	ug/filter	J	1.0	0.16	E200.8	10/04/24 04:14 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 439		193707
Lead	ND	ug/filter		1.0	0.042	E200.8	10/04/24 04:14 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 439		193707
Manganese	ND	ug/filter		1.0	0.18	E200.8	10/04/24 04:14 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 439		193707
Molybdenum	0.038	ug/filter	J	1.0	0.0059	E200.8	10/07/24 15:18 / ae	10/01/24 13:29	40CFR50	ICPMS208-B_241007A : 52		193707
Zinc	ND	ug/filter		1.0	0.30	E200.8	10/04/24 04:14 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 439		193707

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 C1812198 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24091987-008
Collection Date: 08/10/24
Date Received: 09/20/24
Report Date: 10/08/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	10/04/24 04:20 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 440		193707
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	10/04/24 04:20 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 440		193707
Copper	0.35	ug/filter	J	1.0	0.16	E200.8	10/04/24 04:20 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 440		193707
Lead	ND	ug/filter		1.0	0.042	E200.8	10/04/24 04:20 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 440		193707
Manganese	ND	ug/filter		1.0	0.18	E200.8	10/04/24 04:20 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 440		193707
Molybdenum	0.024	ug/filter	J	1.0	0.0059	E200.8	10/07/24 15:24 / ae	10/01/24 13:29	40CFR50	ICPMS208-B_241007A : 53		193707
Zinc	0.32	ug/filter	J	1.0	0.30	E200.8	10/04/24 04:20 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 440		193707

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 C1812199 TSP 8/13-8/20
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24091987-009
Collection Date: 08/20/24
Date Received: 09/20/24
Report Date: 10/08/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	10/04/24 04:25 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 441		193707
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	10/04/24 04:25 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 441		193707
Copper	0.32	ug/filter	J	1.0	0.16	E200.8	10/04/24 04:25 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 441		193707
Lead	ND	ug/filter		1.0	0.042	E200.8	10/04/24 04:25 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 441		193707
Manganese	ND	ug/filter		1.0	0.18	E200.8	10/04/24 04:25 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 441		193707
Molybdenum	0.055	ug/filter	J	1.0	0.0059	E200.8	10/07/24 15:30 / ae	10/01/24 13:29	40CFR50	ICPMS208-B_241007A : 54		193707
Zinc	ND	ug/filter		1.0	0.30	E200.8	10/04/24 04:25 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 441		193707

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 C1812200 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24091987-010
Collection Date: 08/16/24
Date Received: 09/20/24
Report Date: 10/08/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	10/04/24 04:31 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 442		193707
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	10/04/24 04:31 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 442		193707
Copper	0.54	ug/filter	J	1.0	0.16	E200.8	10/04/24 04:31 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 442		193707
Lead	ND	ug/filter		1.0	0.042	E200.8	10/04/24 04:31 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 442		193707
Manganese	ND	ug/filter		1.0	0.18	E200.8	10/04/24 04:31 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 442		193707
Molybdenum	0.025	ug/filter	J	1.0	0.0059	E200.8	10/07/24 15:36 / ae	10/01/24 13:29	40CFR50	ICPMS208-B_241007A : 55		193707
Zinc	0.33	ug/filter	J	1.0	0.30	E200.8	10/04/24 04:31 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 442		193707

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 C1812176 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24091987-011
Collection Date: 08/22/24
Date Received: 09/20/24
Report Date: 10/08/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	10/04/24 04:37 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 443		193707
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	10/04/24 04:37 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 443		193707
Copper	1.0	ug/filter		1.0	0.16	E200.8	10/05/24 04:45 / ae	10/01/24 13:29	40CFR50	ICPMS207-B_241004A : 190		193707
Lead	0.062	ug/filter	J	1.0	0.042	E200.8	10/04/24 04:37 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 443		193707
Manganese	0.27	ug/filter	J	1.0	0.18	E200.8	10/04/24 04:37 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 443		193707
Molybdenum	0.081	ug/filter	J	1.0	0.0059	E200.8	10/07/24 15:42 / ae	10/01/24 13:29	40CFR50	ICPMS208-B_241007A : 56		193707
Zinc	0.41	ug/filter	J	1.0	0.30	E200.8	10/04/24 04:37 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 443		193707

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 C1812177 Lab Blank
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24091987-012
Collection Date: 08/14/24 12:30
Date Received: 09/20/24
Report Date: 10/08/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	10/04/24 04:43 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 444		193707
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	10/04/24 04:43 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 444		193707
Copper	ND	ug/filter		1.0	0.16	E200.8	10/04/24 04:43 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 444		193707
Lead	ND	ug/filter		1.0	0.042	E200.8	10/04/24 04:43 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 444		193707
Manganese	ND	ug/filter		1.0	0.18	E200.8	10/04/24 04:43 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 444		193707
Molybdenum	ND	ug/filter		1.0	0.0050	E200.8	10/04/24 04:43 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 444		193707
Zinc	ND	ug/filter		1.0	0.30	E200.8	10/04/24 04:43 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 444		193707

Report RL - Analyte Reporting Limit
Definitions:

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate Filter C1812178 TSP 8/20-8/27
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24091987-013
Collection Date: 08/27/24
Date Received: 09/20/24
Report Date: 10/08/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	10/04/24 04:49 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 445		193707
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	10/04/24 04:49 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 445		193707
Copper	0.56	ug/filter	J	1.0	0.16	E200.8	10/04/24 04:49 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 445		193707
Lead	0.043	ug/filter	J	1.0	0.042	E200.8	10/04/24 04:49 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 445		193707
Manganese	0.25	ug/filter	J	1.0	0.18	E200.8	10/04/24 04:49 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 445		193707
Molybdenum	0.097	ug/filter	J	1.0	0.0059	E200.8	10/07/24 15:48 / ae	10/01/24 13:29	40CFR50	ICPMS208-B_241007A : 57		193707
Zinc	0.37	ug/filter	J	1.0	0.30	E200.8	10/05/24 04:51 / ae	10/01/24 13:29	40CFR50	ICPMS207-B_241004A : 191		193707

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 C1812179 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24091987-014
Collection Date: 08/28/24
Date Received: 09/20/24
Report Date: 10/08/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	10/04/24 05:06 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 448		193707
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	10/04/24 05:06 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 448		193707
Copper	0.51	ug/filter	J	1.0	0.16	E200.8	10/05/24 04:57 / ae	10/01/24 13:29	40CFR50	ICPMS207-B_241004A : 192		193707
Lead	ND	ug/filter		1.0	0.042	E200.8	10/04/24 05:06 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 448		193707
Manganese	ND	ug/filter		1.0	0.18	E200.8	10/04/24 05:06 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 448		193707
Molybdenum	0.020	ug/filter	J	1.0	0.0059	E200.8	10/07/24 15:54 / ae	10/01/24 13:29	40CFR50	ICPMS208-B_241007A : 58		193707
Zinc	ND	ug/filter		1.0	0.30	E200.8	10/04/24 05:06 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 448		193707

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 C1812180 TSP 8/27-8/29
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24091987-015
Collection Date: 08/29/24
Date Received: 09/20/24
Report Date: 10/08/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	10/04/24 05:12 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 449		193707
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	10/04/24 05:12 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 449		193707
Copper	0.22	ug/filter	J	1.0	0.16	E200.8	10/05/24 05:03 / ae	10/01/24 13:29	40CFR50	ICPMS207-B_241004A : 193		193707
Lead	ND	ug/filter		1.0	0.042	E200.8	10/04/24 05:12 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 449		193707
Manganese	0.19	ug/filter	J	1.0	0.18	E200.8	10/04/24 05:12 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 449		193707
Molybdenum	0.020	ug/filter	J	1.0	0.0059	E200.8	10/07/24 16:00 / ae	10/01/24 13:29	40CFR50	ICPMS208-B_241007A : 59		193707
Zinc	0.77	ug/filter	J	1.0	0.30	E200.8	10/04/24 05:12 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 449		193707

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 C1812181 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24091987-016
Collection Date: 09/03/24
Date Received: 09/20/24
Report Date: 10/08/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	10/04/24 05:18 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 450		193707
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	10/04/24 05:18 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 450		193707
Copper	0.62	ug/filter	J	1.0	0.16	E200.8	10/05/24 05:09 / ae	10/01/24 13:29	40CFR50	ICPMS207-B_241004A : 194		193707
Lead	0.059	ug/filter	J	1.0	0.042	E200.8	10/04/24 05:18 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 450		193707
Manganese	0.21	ug/filter	J	1.0	0.18	E200.8	10/04/24 05:18 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 450		193707
Molybdenum	0.049	ug/filter	J	1.0	0.0059	E200.8	10/07/24 16:18 / ae	10/01/24 13:29	40CFR50	ICPMS208-B_241007A : 62		193707
Zinc	0.48	ug/filter	J	1.0	0.30	E200.8	10/04/24 05:18 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 450		193707

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 C1812182 TSP 8/29-9//4
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24091987-017
Collection Date: 09/04/24
Date Received: 09/20/24
Report Date: 10/08/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	10/04/24 05:24 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 451		193707
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	10/04/24 05:24 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 451		193707
Copper	0.82	ug/filter	J	1.0	0.16	E200.8	10/05/24 05:15 / ae	10/01/24 13:29	40CFR50	ICPMS207-B_241004A : 195		193707
Lead	0.052	ug/filter	J	1.0	0.042	E200.8	10/04/24 05:24 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 451		193707
Manganese	0.25	ug/filter	J	1.0	0.18	E200.8	10/04/24 05:24 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 451		193707
Molybdenum	0.13	ug/filter	J	1.0	0.0059	E200.8	10/07/24 16:24 / ae	10/01/24 13:29	40CFR50	ICPMS208-B_241007A : 63		193707
Zinc	0.62	ug/filter	J	1.0	0.30	E200.8	10/04/24 05:24 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 451		193707

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 C1812183 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24091987-018
Collection Date: 09/09/24
Date Received: 09/20/24
Report Date: 10/08/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	10/04/24 05:30 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 452		193707
Cadmium	0.0092	ug/filter	J	1.0	0.0063	E200.8	10/05/24 05:20 / ae	10/01/24 13:29	40CFR50	ICPMS207-B_241004A : 196		193707
Copper	1.0	ug/filter		1.0	0.16	E200.8	10/04/24 05:30 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 452		193707
Lead	0.083	ug/filter	J	1.0	0.042	E200.8	10/04/24 05:30 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 452		193707
Manganese	0.90	ug/filter	J	1.0	0.18	E200.8	10/04/24 05:30 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 452		193707
Molybdenum	0.035	ug/filter	J	1.0	0.0059	E200.8	10/07/24 16:30 / ae	10/01/24 13:29	40CFR50	ICPMS208-B_241007A : 64		193707
Zinc	0.83	ug/filter	J	1.0	0.30	E200.8	10/04/24 05:30 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 452		193707

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 C1812184 TSP 9/4-9/11
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24091987-019
Collection Date: 09/11/24
Date Received: 09/20/24
Report Date: 10/08/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	10/04/24 05:36 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 453		193707
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	10/04/24 05:36 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 453		193707
Copper	0.43	ug/filter	J	1.0	0.16	E200.8	10/05/24 05:38 / ae	10/01/24 13:29	40CFR50	ICPMS207-B_241004A : 199		193707
Lead	ND	ug/filter		1.0	0.042	E200.8	10/04/24 05:36 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 453		193707
Manganese	0.19	ug/filter	J	1.0	0.18	E200.8	10/04/24 05:36 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 453		193707
Molybdenum	0.031	ug/filter	J	1.0	0.0059	E200.8	10/07/24 16:36 / ae	10/01/24 13:29	40CFR50	ICPMS208-B_241007A : 65		193707
Zinc	0.71	ug/filter	J	1.0	0.30	E200.8	10/04/24 05:36 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 453		193707

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 C1812185 TSP Field Blank
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24091987-020
Collection Date: 09/11/24 10:46
Date Received: 09/20/24
Report Date: 10/08/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	10/04/24 05:42 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 454		193707
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	10/04/24 05:42 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 454		193707
Copper	ND	ug/filter		1.0	0.16	E200.8	10/04/24 05:42 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 454		193707
Lead	ND	ug/filter		1.0	0.042	E200.8	10/04/24 05:42 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 454		193707
Manganese	ND	ug/filter		1.0	0.18	E200.8	10/04/24 05:42 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 454		193707
Molybdenum	ND	ug/filter		1.0	0.0050	E200.8	10/04/24 05:42 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 454		193707
Zinc	ND	ug/filter		1.0	0.30	E200.8	10/04/24 05:42 / jks	10/01/24 13:29	40CFR50	ICPMS207-B_241002A : 454		193707

Report RL - Analyte Reporting Limit
Definitions:

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Bison Engineering

Work Order: B24091987

Report Date: 10/08/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8							Analytical Run: ICPMS207-B_241002A			
Lab ID: QCS	7	Initial Calibration Verification Standard							10/04/24 00:07	
Arsenic		0.0502	mg/L	0.0050	100	90	110			
Cadmium		0.0249	mg/L	0.0010	100	90	110			
Copper		0.0514	mg/L	0.010	103	90	110			
Lead		0.0494	mg/L	0.0010	99	90	110			
Manganese		0.253	mg/L	0.0050	101	90	110			
Molybdenum		0.0490	mg/L	0.0050	98	90	110			
Zinc		0.0511	mg/L	0.0050	102	90	110			
Lab ID: CCV	7	Continuing Calibration Verification Standard							10/04/24 02:16	
Arsenic		0.0478	mg/L	0.0050	96	90	110			
Cadmium		0.0473	mg/L	0.0010	95	90	110			
Copper		0.0488	mg/L	0.010	98	90	110			
Lead		0.0462	mg/L	0.0010	92	90	110			
Manganese		0.0485	mg/L	0.0050	97	90	110			
Molybdenum		0.0475	mg/L	0.0050	95	90	110			
Zinc		0.0485	mg/L	0.0050	97	90	110			
Lab ID: CCV	7	Continuing Calibration Verification Standard							10/04/24 03:44	
Arsenic		0.0478	mg/L	0.0050	96	90	110			
Cadmium		0.0477	mg/L	0.0010	95	90	110			
Copper		0.0485	mg/L	0.010	97	90	110			
Lead		0.0462	mg/L	0.0010	92	90	110			
Manganese		0.0478	mg/L	0.0050	96	90	110			
Molybdenum		0.0479	mg/L	0.0050	96	90	110			
Zinc		0.0486	mg/L	0.0050	97	90	110			
Lab ID: CCV	7	Continuing Calibration Verification Standard							10/04/24 04:55	
Arsenic		0.0490	mg/L	0.0050	98	90	110			
Cadmium		0.0494	mg/L	0.0010	99	90	110			
Copper		0.0498	mg/L	0.010	100	90	110			
Lead		0.0468	mg/L	0.0010	94	90	110			
Manganese		0.0493	mg/L	0.0050	99	90	110			
Molybdenum		0.0492	mg/L	0.0050	98	90	110			
Zinc		0.0491	mg/L	0.0050	98	90	110			
Method: E200.8							Batch: 193707			
Lab ID: MB-193707	7	Method Blank							Run: ICPMS207-B_241002A 10/04/24 03:03	
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)



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Bison Engineering

Work Order: B24091987

Report Date: 10/08/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8										Batch: 193707
Lab ID: LCS-193707	7	Laboratory Control Sample			Run: ICPMS207-B_241002A			10/04/24 03:09		
Arsenic		103	ug/filter	1.0	103	85	115			
Cadmium		51.8	ug/filter	1.0	104	85	115			
Copper		106	ug/filter	5.0	106	85	115			
Lead		101	ug/filter	1.0	101	85	115			
Manganese		524	ug/filter	5.0	105	85	115			
Molybdenum		101	ug/filter	1.0	101	85	115			
Zinc		106	ug/filter	5.0	106	85	115			
Lab ID: LCSD-193707	7	Laboratory Control Sample Duplicate			Run: ICPMS207-B_241002A			10/04/24 03:15		
Arsenic		101	ug/filter	1.0	101	85	115			
Cadmium		50.8	ug/filter	1.0	102	85	115			
Copper		103	ug/filter	5.0	103	85	115			
Lead		99.0	ug/filter	1.0	99	85	115			
Manganese		509	ug/filter	5.0	102	85	115			
Molybdenum		99.1	ug/filter	1.0	99	85	115			
Zinc		102	ug/filter	5.0	103	85	115			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Bison Engineering

Work Order: B24091987

Report Date: 10/08/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8 Analytical Run: ICPMS207-B_241004A										
Lab ID: QCS	4	Initial Calibration Verification Standard								10/05/24 02:36
Cadmium		0.0258	mg/L	0.0010	103	90	110			
Copper		0.0518	mg/L	0.010	104	90	110			
Lead		0.0498	mg/L	0.0010	100	90	110			
Zinc		0.0520	mg/L	0.0050	104	90	110			
Lab ID: CCV	4	Continuing Calibration Verification Standard								10/05/24 03:05
Cadmium		0.0491	mg/L	0.0010	98	90	110			
Copper		0.0494	mg/L	0.010	99	90	110			
Lead		0.0477	mg/L	0.0010	95	90	110			
Zinc		0.0492	mg/L	0.0050	98	90	110			
Lab ID: CCV	4	Continuing Calibration Verification Standard								10/05/24 04:16
Cadmium		0.0499	mg/L	0.0010	100	90	110			
Copper		0.0493	mg/L	0.010	99	90	110			
Lead		0.0492	mg/L	0.0010	98	90	110			
Zinc		0.0494	mg/L	0.0050	99	90	110			
Lab ID: CCV	4	Continuing Calibration Verification Standard								10/05/24 05:26
Cadmium		0.0492	mg/L	0.0010	98	90	110			
Copper		0.0493	mg/L	0.010	99	90	110			
Lead		0.0494	mg/L	0.0010	99	90	110			
Zinc		0.0495	mg/L	0.0050	99	90	110			
Method: E200.8 Batch: 193707										
Lab ID: MB-193707	4	Method Blank								Run: ICPMS207-B_241004A 10/05/24 03:29
Cadmium		ND	ug/filter	0.006						
Copper		ND	ug/filter	0.2						
Lead		ND	ug/filter	0.04						
Zinc		ND	ug/filter	0.3						
Method: E200.8 Analytical Run: ICPMS208-B_241007A										
Lab ID: QCS		Initial Calibration Verification Standard								10/07/24 12:09
Molybdenum		0.0485	mg/L	0.0050	97	90	110			
Lab ID: CCV		Continuing Calibration Verification Standard								10/07/24 13:37
Molybdenum		0.0474	mg/L	0.0050	95	90	110			
Lab ID: CCV		Continuing Calibration Verification Standard								10/07/24 14:55
Molybdenum		0.0466	mg/L	0.0050	93	90	110			
Lab ID: CCV		Continuing Calibration Verification Standard								10/07/24 16:06
Molybdenum		0.0472	mg/L	0.0050	94	90	110			
Method: E200.8 Batch: 193707										
Lab ID: MB-193707		Method Blank								Run: ICPMS208-B_241007A 10/07/24 14:25
Molybdenum		0.01	ug/filter	0.006						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



Work Order Receipt Checklist

Bison Engineering

B24091987

Login completed by: Crystal M. Jones

Date Received: 9/20/2024

Reviewed by: gmccartney

Received by: DNH

Reviewed Date: 10/1/2024

Carrier name: Hand Deliver

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☒
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☒	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☒	No ☐	Not Applicable ☐
Container/Temp Blank temperature:	3.7°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:

The sample identification indicated on the container is C1812152 MTRDH and on the chain of custody it is C18121522 TSP 7/22-7/31. Proceeded with the sample identification as indicated on the chain of custody. CMJ 09/23/24



Trust our People. Trust our Data.

Chain of Custody & Analytical Request Record

www.energylab.com

Account Information (Billing Information)

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

Report Information (if different than Account Information)

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

Comments

Analyze per history

Project Information

Project Name, PWSID, Permit, etc. Montana Resources/Greely School DH	
Sampler Name	Sampler Phone
Sample Origin State Montana	EPA/State Compliance ☒ Yes ☐ No
URANIUM MINING CLIENTS MUST indicate sample type.	
☐ NOT Source or Byproduct Material	
☐ Source/Processed Ore (Ground or Refined) **CALL BEFORE SENDING	
☐ 11e.(2) Byproduct Material (Can ONLY be Submitted to ELI Casper Location)	

Matrix Codes

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

Analysis Requested

Sample Identification (Name, Location, Interval, etc.)	Collection Date	Time	Number of Containers	Matrix (See Codes Above)	Arsenic	Cadmium	Copper	Lead	Manganese	Molybdenum	Zinc	See Attached	ELI LAB ID Laboratory Use Only
1 Particulate filter C1812151 PM10	7/23/24	24 hr Composite	1	on 10/24 filter	X	X	X	X	X	X	X		B24091987
2 Particulate filter C1812152 TSP 7/22-7/31	7/22-7/31	continuous	1	on 10/24 filter	X	X	X	X	X	X	X		
3 Particulate filter C1812153 PM10	7/27/24	24 hr Composite	1	on 10/24 filter	X	X	X	X	X	X	X		
4 Particulate filter C1812154 TSP 7/31-8/6	7/31-8/6	continuous	1	on 10/24 filter	X	X	X	X	X	X	X		
5 Particulate filter C1812155 TSP Lab Blank	7/12/24	1740	1	on 10/24 filter	X	X	X	X	X	X	X		
6 Particulate filter C1812196 PM10	8/4/24	24 hr Composite	1	on 10/24 filter	X	X	X	X	X	X	X		
7 Particulate filter C1812197 TSP 8/6-8/13	8/6-8/13	continuous	1	on 10/24 filter	X	X	X	X	X	X	X		
8 Particulate filter C1812198 PM10	8/10/24	24 hr Composite	1	on 10/24 filter	X	X	X	X	X	X	X		
9 Particulate filter C1812199 TSP 8/13-8/20	8/13-8/20	continuous	1	on 10/24 filter	X	X	X	X	X	X	X		
10 Particulate filter C1812200 PM10	8/16/24	24 hr Composite	1	on 10/24 filter	X	X	X	X	X	X	X		

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

Custody Record MUST be signed	Relinquished by (print) Don Milmine	Signature <i>Don Milmine</i>	Date/Time 8/20/24 1456
	Relinquished by (print)	Signature	Date/Time

Received by (print) Don Milmine		Signature <i>Don Milmine</i>	Date/Time 8/20/24 1456
Received by Laboratory (print) Don Milmine		Signature <i>Don Milmine</i>	Date/Time 8/20/24 1456

LABORATORY USE ONLY

Shipped By	Cooler ID(s)	Custody Seals Y N C B	Intact Y N	Receipt Temp °C	Temp Blank Y N	On Ice Y N	CC	Cash	Check	Amount \$	Receipt Number (cash/check only)
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In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All subcontracted data will be clearly notated on your analytical report.



Trust our People. Trust our Data.

Chain of Custody & Analytical Request Record

www.energylab.com

Account Information (Billing Information)

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

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 drmilmine@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	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	Matrix (See Codes Above)
W - Water	
S - Solids	
V - Vegetation	
B - Bioassay	
O - Other	
DW - Drinking Water	

Analysis Requested

Sample Identification (Name, Location, Interval, etc.)	Collection Date	Time	Number of Containers	Matrix (See Codes Above)	Arsenic	Cadmium	Copper	Lead	Manganese	Molybdenum	Zinc	See Attached	ELI LAB ID Laboratory Use Only
1 Particulate filter C1812176 PM10	8/22/24	24 hr composite	1	on nylon filter	x	x	x	x	x	x	x		B2401987
2 Particulate filter C1812177 Lab Blank	8/14/20	1230	1	on nylon filter	x	x	x	x	x	x	x		
3 Particulate filter C1812178 TSP 8/20-8/27	8/20-8/27	continuous	1	on nylon filter	x	x	x	x	x	x	x		
4 Particulate filter C1812179 PM10	8/28/20	24 hr composite	1	on nylon filter	x	x	x	x	x	x	x		
5 Particulate filter C1812180 TSP 8/27-8/29	8/27-8/29	continuous	1	on nylon filter	x	x	x	x	x	x	x		
6 Particulate filter C1812181 PM10	9/3/24	24 hr composite	1	on nylon filter	x	x	x	x	x	x	x		
7 Particulate filter C1812182 TSP 8/29-9/4	8/29-9/4	continuous	1	on nylon filter	x	x	x	x	x	x	x		
8 Particulate filter C1812183 PM10	9/9/24	24 hr composite	1	on nylon filter	x	x	x	x	x	x	x		
9 Particulate filter C1812184 TSP 9/4-9/11	9/4-9/11	continuous	1	on nylon filter	x	x	x	x	x	x	x		
10 Particulate filter C1812185 TSP field blank	9/11/24	1046	1	on nylon filter	x	x	x	x	x	x	x		

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

Custody Record MUST be signed	Relinquished by (print) Don Milmine	Signature	Date/Time 8/20/24 1456
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Received by (print) Don Milmine	Signature	Date/Time 8/20/24 1456
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Shipped By	Cooler ID(s)	Custody Seals Y N C B	Intact Y N	Receipt Temp °C	Temp Blank Y N	On Ice Y N	Payment Type Cash Check	Amount \$	Receipt Number (cash/check only)
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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 noted on your analytical report.



ANALYTICAL SUMMARY REPORT

November 12, 2024

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

Work Order: B24102438 Quote ID: B4795

Project Name: Montana Resources/Greely School DH

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

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

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

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

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

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



CLIENT: Bison Engineering
Project: Montana Resources/Greely School DH
Work Order: B24102438

Report Date: 11/12/24

CASE NARRATIVE

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

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



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1103516 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24102438-001
Collection Date: 09/15/24
Date Received: 10/29/24
Report Date: 11/12/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	11/11/24 18:27 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 82		194924
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/11/24 18:27 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 82		194924
Copper	0.74	ug/filter	J	1.0	0.16	E200.8	11/12/24 12:53 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 282		194924
Lead	0.043	ug/filter	J	1.0	0.042	E200.8	11/12/24 12:53 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 282		194924
Manganese	ND	ug/filter		1.0	0.18	E200.8	11/11/24 18:27 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 82		194924
Molybdenum	0.63	ug/filter	J	1.0	0.0050	E200.8	11/12/24 12:53 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 282		194924
Zinc	0.44	ug/filter	J	1.0	0.30	E200.8	11/12/24 12:53 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 282		194924

Report RL - Analyte Reporting Limit
Definitions: J - Estimated value - analyte was present but less than the Reporting Limit (RL)

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1103517 Lab Blank
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24102438-002
Collection Date: 09/09/24 17:15
Date Received: 10/29/24
Report Date: 11/12/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	11/11/24 18:32 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 83		194924
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/11/24 18:32 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 83		194924
Copper	ND	ug/filter		1.0	0.16	E200.8	11/11/24 18:32 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 83		194924
Lead	ND	ug/filter		1.0	0.042	E200.8	11/11/24 18:32 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 83		194924
Manganese	ND	ug/filter		1.0	0.18	E200.8	11/11/24 18:32 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 83		194924
Molybdenum	0.0073	ug/filter	J	1.0	0.0050	E200.8	11/12/24 12:59 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 283		194924
Zinc	ND	ug/filter		1.0	0.30	E200.8	11/11/24 18:32 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 83		194924

Report RL - Analyte Reporting Limit
Definitions: J - Estimated value - analyte was present but less than the Reporting Limit (RL)

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1103518 TSP 9/11-9/16
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24102438-003
Collection Date: 09/16/24
Date Received: 10/29/24
Report Date: 11/12/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	11/11/24 18:38 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 84		194924
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/11/24 18:38 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 84		194924
Copper	0.37	ug/filter	J	1.0	0.16	E200.8	11/12/24 13:05 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 284		194924
Lead	ND	ug/filter		1.0	0.042	E200.8	11/11/24 18:38 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 84		194924
Manganese	ND	ug/filter		1.0	0.18	E200.8	11/11/24 18:38 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 84		194924
Molybdenum	0.048	ug/filter	J	1.0	0.0050	E200.8	11/12/24 13:05 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 284		194924
Zinc	ND	ug/filter		1.0	0.30	E200.8	11/11/24 18:38 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 84		194924

Report RL - Analyte Reporting Limit
Definitions: J - Estimated value - analyte was present but less than the Reporting Limit (RL)

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1103519 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24102438-004
Collection Date: 09/21/24
Date Received: 10/29/24
Report Date: 11/12/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	11/11/24 18:44 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 85		194924
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/11/24 18:44 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 85		194924
Copper	0.30	ug/filter	J	1.0	0.16	E200.8	11/12/24 13:11 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 285		194924
Lead	ND	ug/filter		1.0	0.042	E200.8	11/11/24 18:44 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 85		194924
Manganese	ND	ug/filter		1.0	0.18	E200.8	11/11/24 18:44 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 85		194924
Molybdenum	0.024	ug/filter	J	1.0	0.0050	E200.8	11/12/24 13:11 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 285		194924
Zinc	ND	ug/filter		1.0	0.30	E200.8	11/11/24 18:44 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 85		194924

Report RL - Analyte Reporting Limit
Definitions: J - Estimated value - analyte was present but less than the Reporting Limit (RL)

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1103520 TSP 9/16-9/23
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24102438-005
Collection Date: 09/23/24
Date Received: 10/29/24
Report Date: 11/12/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	11/11/24 18:50 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 86		194924
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/11/24 18:50 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 86		194924
Copper	0.70	ug/filter	J	1.0	0.16	E200.8	11/12/24 13:17 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 286		194924
Lead	0.049	ug/filter	J	1.0	0.042	E200.8	11/11/24 18:50 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 86		194924
Manganese	0.18	ug/filter	J	1.0	0.18	E200.8	11/12/24 13:17 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 286		194924
Molybdenum	0.23	ug/filter	J	1.0	0.0050	E200.8	11/12/24 13:17 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 286		194924
Zinc	0.46	ug/filter	J	1.0	0.30	E200.8	11/12/24 13:17 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 286		194924

Report RL - Analyte Reporting Limit
Definitions: J - Estimated value - analyte was present but less than the Reporting Limit (RL)

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1103521 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24102438-006
Collection Date: 09/27/24
Date Received: 10/29/24
Report Date: 11/12/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	11/11/24 18:56 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 87		194924
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/11/24 18:56 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 87		194924
Copper	1.0	ug/filter		1.0	0.16	E200.8	11/11/24 18:56 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 87		194924
Lead	0.079	ug/filter	J	1.0	0.042	E200.8	11/12/24 13:23 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 287		194924
Manganese	0.30	ug/filter	J	1.0	0.18	E200.8	11/12/24 13:23 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 287		194924
Molybdenum	0.14	ug/filter	J	1.0	0.0050	E200.8	11/12/24 13:23 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 287		194924
Zinc	0.52	ug/filter	J	1.0	0.30	E200.8	11/12/24 13:23 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 287		194924

Report RL - Analyte Reporting Limit
Definitions: J - Estimated value - analyte was present but less than the Reporting Limit (RL)

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1103522 TSP 9/23-10/1
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24102438-007
Collection Date: 10/01/24
Date Received: 10/29/24
Report Date: 11/12/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	11/11/24 19:02 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 88		194924
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/11/24 19:02 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 88		194924
Copper	1.1	ug/filter		1.0	0.16	E200.8	11/11/24 19:02 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 88		194924
Lead	0.097	ug/filter	J	1.0	0.042	E200.8	11/12/24 13:28 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 288		194924
Manganese	0.50	ug/filter	J	1.0	0.18	E200.8	11/12/24 13:28 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 288		194924
Molybdenum	0.19	ug/filter	J	1.0	0.0050	E200.8	11/12/24 13:28 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 288		194924
Zinc	0.57	ug/filter	J	1.0	0.30	E200.8	11/12/24 13:28 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 288		194924

Report RL - Analyte Reporting Limit
Definitions: J - Estimated value - analyte was present but less than the Reporting Limit (RL)

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1103523 PM10
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24102438-008
Collection Date: 10/03/24
Date Received: 10/29/24
Report Date: 11/12/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	11/11/24 19:19 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 91		194924
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/11/24 19:19 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 91		194924
Copper	0.54	ug/filter	J	1.0	0.16	E200.8	11/12/24 13:46 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 291		194924
Lead	0.050	ug/filter	J	1.0	0.042	E200.8	11/12/24 13:46 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 291		194924
Manganese	0.21	ug/filter	J	1.0	0.18	E200.8	11/12/24 13:46 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 291		194924
Molybdenum	0.012	ug/filter	J	1.0	0.0050	E200.8	11/12/24 13:46 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 291		194924
Zinc	0.34	ug/filter	J	1.0	0.30	E200.8	11/12/24 13:46 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 291		194924

Report RL - Analyte Reporting Limit
Definitions: J - Estimated value - analyte was present but less than the Reporting Limit (RL)

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1103524 TSP 10/1-10/7
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24102438-009
Collection Date: 10/07/24
Date Received: 10/29/24
Report Date: 11/12/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	11/11/24 19:25 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 92		194924
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/11/24 19:25 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 92		194924
Copper	0.69	ug/filter	J	1.0	0.16	E200.8	11/12/24 13:52 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 292		194924
Lead	0.073	ug/filter	J	1.0	0.042	E200.8	11/12/24 13:52 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 292		194924
Manganese	0.46	ug/filter	J	1.0	0.18	E200.8	11/12/24 13:52 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 292		194924
Molybdenum	0.072	ug/filter	J	1.0	0.0050	E200.8	11/12/24 13:52 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 292		194924
Zinc	0.49	ug/filter	J	1.0	0.30	E200.8	11/12/24 13:52 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 292		194924

Report RL - Analyte Reporting Limit
Definitions: J - Estimated value - analyte was present but less than the Reporting Limit (RL)

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)



LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Bison Engineering
Client Sample ID: Particulate filter C1103525 PM10 field blank
Project: Montana Resources/Greely School DH
Matrix: Air

Lab ID: B24102438-010
Collection Date: 10/07/24 14:45
Date Received: 10/29/24
Report Date: 11/12/24

Analyses	Result	Units	QUAL	RL	MDL	Method	Analysis Date / By	Prep Date	Prep Method	RunID	Run Order	BatchID
METALS IN AIR												
Arsenic	ND	ug/filter		1.0	0.058	E200.8	11/11/24 19:31 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 93		194924
Cadmium	ND	ug/filter		1.0	0.0063	E200.8	11/11/24 19:31 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 93		194924
Copper	ND	ug/filter		1.0	0.16	E200.8	11/11/24 19:31 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 93		194924
Lead	ND	ug/filter		1.0	0.042	E200.8	11/11/24 19:31 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 93		194924
Manganese	ND	ug/filter		1.0	0.18	E200.8	11/11/24 19:31 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 93		194924
Molybdenum	ND	ug/filter		1.0	0.0050	E200.8	11/11/24 19:31 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 93		194924
Zinc	ND	ug/filter		1.0	0.30	E200.8	11/11/24 19:31 / jks	11/08/24 11:48	40CFR50	ICPMS207-B_241111A : 93		194924

Report RL - Analyte Reporting Limit
Definitions:

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

QA/QC Summary Report

Prepared by Billings, MT Branch

Work Order: B24102438

Report Date: 11/12/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8						Analytical Run: ICPMS207-B_241111A				
Lab ID: QCS	7	Initial Calibration Verification Standard							11/11/24 12:46	
Arsenic		0.0482	mg/L	0.0050	96	90	110			
Cadmium		0.0240	mg/L	0.0010	96	90	110			
Copper		0.0503	mg/L	0.010	101	90	110			
Lead		0.0521	mg/L	0.0010	104	90	110			
Manganese		0.243	mg/L	0.0050	97	90	110			
Molybdenum		0.0468	mg/L	0.0050	94	90	110			
Zinc		0.0498	mg/L	0.0050	100	90	110			
Lab ID: CCV	7	Continuing Calibration Verification Standard							11/11/24 17:57	
Arsenic		0.0477	mg/L	0.0050	95	90	110			
Cadmium		0.0470	mg/L	0.0010	94	90	110			
Copper		0.0495	mg/L	0.010	99	90	110			
Lead		0.0487	mg/L	0.0010	97	90	110			
Manganese		0.0485	mg/L	0.0050	97	90	110			
Molybdenum		0.0464	mg/L	0.0050	93	90	110			
Zinc		0.0486	mg/L	0.0050	97	90	110			
Lab ID: CCV	7	Continuing Calibration Verification Standard							11/11/24 19:08	
Arsenic		0.0487	mg/L	0.0050	97	90	110			
Cadmium		0.0475	mg/L	0.0010	95	90	110			
Copper		0.0503	mg/L	0.010	101	90	110			
Lead		0.0519	mg/L	0.0010	104	90	110			
Manganese		0.0488	mg/L	0.0050	98	90	110			
Molybdenum		0.0468	mg/L	0.0050	94	90	110			
Zinc		0.0499	mg/L	0.0050	100	90	110			
Lab ID: QCS	7	Initial Calibration Verification Standard							11/12/24 04:52	
Arsenic		0.0494	mg/L	0.0050	99	90	110			
Cadmium		0.0254	mg/L	0.0010	102	90	110			
Copper		0.0512	mg/L	0.010	102	90	110			
Lead		0.0490	mg/L	0.0010	98	90	110			
Manganese		0.248	mg/L	0.0050	99	90	110			
Molybdenum		0.0498	mg/L	0.0050	100	90	110			
Zinc		0.0510	mg/L	0.0050	102	90	110			
Lab ID: CCV	7	Continuing Calibration Verification Standard							11/12/24 12:24	
Arsenic		0.0491	mg/L	0.0050	98	90	110			
Cadmium		0.0493	mg/L	0.0010	99	90	110			
Copper		0.0511	mg/L	0.010	102	90	110			
Lead		0.0487	mg/L	0.0010	97	90	110			
Manganese		0.0492	mg/L	0.0050	98	90	110			
Molybdenum		0.0488	mg/L	0.0050	98	90	110			
Zinc		0.0509	mg/L	0.0050	102	90	110			
Lab ID: CCV	7	Continuing Calibration Verification Standard							11/12/24 13:34	
Arsenic		0.0480	mg/L	0.0050	96	90	110			
Cadmium		0.0477	mg/L	0.0010	95	90	110			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



QA/QC Summary Report

Prepared by Billings, MT Branch

Work Order: B24102438

Report Date: 11/12/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E200.8		Analytical Run: ICPMS207-B_241111A								
Lab ID: CCV	7	Continuing Calibration Verification Standard							11/12/24 13:34	
Copper		0.0501	mg/L	0.010	100	90	110			
Lead		0.0482	mg/L	0.0010	96	90	110			
Manganese		0.0483	mg/L	0.0050	97	90	110			
Molybdenum		0.0482	mg/L	0.0050	96	90	110			
Zinc		0.0499	mg/L	0.0050	100	90	110			
Method: E200.8		Batch: 194924								
Lab ID: MB-194924	7	Method Blank							Run: ICPMS207-B_241111A 11/11/24 16:53	
Arsenic		ND	ug/filter	0.06						
Cadmium		ND	ug/filter	0.006						
Copper		ND	ug/filter	0.2						
Lead		ND	ug/filter	0.04						
Manganese		ND	ug/filter	0.2						
Molybdenum		0.007	ug/filter	0.005						
Zinc		ND	ug/filter	0.3						
Lab ID: LCS-194924	7	Laboratory Control Sample							Run: ICPMS207-B_241111A 11/11/24 16:59	
Arsenic		99.1	ug/filter	1.0	99	85	115			
Cadmium		48.9	ug/filter	1.0	98	85	115			
Copper		104	ug/filter	5.0	104	85	115			
Lead		101	ug/filter	1.0	101	85	115			
Manganese		520	ug/filter	5.0	104	85	115			
Molybdenum		96.8	ug/filter	1.0	97	85	115			
Zinc		103	ug/filter	5.0	103	85	115			
Lab ID: LCSD-194924	7	Laboratory Control Sample Duplicate							Run: ICPMS207-B_241111A 11/11/24 17:05	
Arsenic		102	ug/filter	1.0	102	85	115			
Cadmium		50.2	ug/filter	1.0	100	85	115			
Copper		106	ug/filter	5.0	106	85	115			
Lead		100	ug/filter	1.0	100	85	115			
Manganese		537	ug/filter	5.0	107	85	115			
Molybdenum		97.3	ug/filter	1.0	97	85	115			
Zinc		107	ug/filter	5.0	107	85	115			
Lab ID: MB-194924	5	Method Blank							Run: ICPMS207-B_241111A 11/12/24 11:43	
Copper		ND	ug/filter	0.2						
Lead		ND	ug/filter	0.04						
Manganese		ND	ug/filter	0.2						
Molybdenum		ND	ug/filter	0.005						
Zinc		ND	ug/filter	0.3						

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



Work Order Receipt Checklist

Bison Engineering

B24102438

Login completed by: Danielle N. Harris

Date Received: 10/29/2024

Reviewed by: tjones

Received by: CMJ

Reviewed Date: 10/30/2024

Carrier name: Hand Deliver

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

Standard Reporting Procedures:

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

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

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

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

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

Contact and Corrective Action Comments:

None

Laboratory Certifications and Accreditations

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

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



Trust Our People. Trust Our Data.

Chain of Custody & Analytical Request Record

www.energylab.com

Account Information (Billing Information)

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

Report Information (if different than Account Information)

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

Comments

Analyze per history

Project Information

Project Name, PWSID, Permit, etc.		Montana Resources/Greely School DH	
Sampler Name	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	Matrix (Sample Above)
W - Water	
S - Solids	
V - Vegetation	
B - Bioassay	
O - Other	
DW - Drinking Water	

Analysis Requested

	Arsenic	Cadmium	Copper	Lead	Manganese	Molybdenum	Zinc
1 Particulate filter C1103516 PM10	X	X	X	X	X	X	X
2 Particulate filter C1103517 Lab Blank	X	X	X	X	X	X	X
3 Particulate filter C1103518 TSP 9/11-9/16	X	X	X	X	X	X	X
4 Particulate filter C1103519 PM10	X	X	X	X	X	X	X
5 Particulate filter C1103520 TSP 9/16-9/23	X	X	X	X	X	X	X
6 Particulate filter C1103521 PM10	X	X	X	X	X	X	X
7 Particulate filter C1103522 TSP 9/23-10/1	X	X	X	X	X	X	X
8 Particulate filter C1103523 PM10	X	X	X	X	X	X	X
9 Particulate filter C1103524 TSP 10/1-10/7	X	X	X	X	X	X	X
10 Particulate filter C1103525 PM10 field blank	X	X	X	X	X	X	X

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

ELI LAB ID	RUSH TAT
B24102438	

Custody Record MUST be signed	Relinquished by (print)	Signature	Date/Time	10/24/24	1054
Shipped By	Cooler ID(s)	Custody Seals	Intact	Receipt Temp	°C
		Y N C B	Y N		

Received by (print)	Signature	Date/Time	10/24/24	1054
Received by Laboratory (print)	Signature	Date/Time	10/24/24	1054
Amount	Payment Type	Check	CC	Cash

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	HI = 1	0.016	µg/m ³		https://semspub.epa.gov/work/HQ/401635.pdf - (November, 2021)
Cadmium	ACGIH	TLV (TWA)	(total)	10	µg/m ³	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
	ACGIH	TLV (TWA)	(respirable)	2	µg/m ³	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
	OSHA	PEL (TWA)		5	µg/m ³		https://www.osha.gov/dsg/annotated-pels/tablez-1.html
	EPA	ATSDR	Noncancer - Cd Compounds	0.01	µg/m ³	Chronic	https://www.epa.gov/sites/production/files/2014-05/documents/table1.pdf
	EPA	IRIS	Cancer - Cd Compounds	2	µg/m ³	Chronic	https://www.epa.gov/sites/production/files/2014-05/documents/table1.pdf
	EPA	MRL	Cd Compounds	0.03	µg/m ³	Acute	
	EPA	AEGL-1 (1-hr)	Cd Compounds	100	µg/m ³	1-Hour	https://www.epa.gov/sites/production/files/2014-05/documents/table2.pdf
	EPA	AEGL-1 (8-hr)	Cd Compounds	41	µg/m ³	8-Hour	https://www.epa.gov/sites/production/files/2014-05/documents/table2.pdf
	EPA	RfC	Cd (water)	0.01	µg/m ³	Life-time	https://semspub.epa.gov/work/HQ/401635.pdf - (November, 2021)
	EPA	RSL: TR @ 10 ⁻⁶	Cd (water) (Cancer Risk)	1.60	ng/m ³	Life-time	https://semspub.epa.gov/work/HQ/401635.pdf - (November, 2021)
Copper	EPA	RSL: HI = 1	Cd (water) (Noncancer Risk)	10	ng/m ³	HI=1	https://semspub.epa.gov/work/HQ/401635.pdf - (November, 2021)
	ACGIH	TLV (TWA)	(dust & mist)	1,000	µg/m ³	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
	NIOSH	REL (TWA)		1,000	µg/m ³	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
	OSHA	PEL (TWA)		1,000	µg/m ³	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
	ACGIH	TLV (TWA)	(inorganic)	50	µg/m ³	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
	NIOSH	REL (TWA)	(inorganic+ organic salts)	50	µg/m ³	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
	OSHA	PEL (TWA)	(inorganic)	50	µg/m ³	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
	EPA	NAAQS		0.150	µg/m ³	3-month mean	40 CFR 50.12 (and Appendix R)
	NIOSH	IGHL/10	Lead compounds	10	ng/m ³		https://www.epa.gov/sites/production/files/2014-05/documents/table2.pdf
	EPA	RSL: HI = 1	Pb (Noncancer Risk)	0.15	µg/m ³	HI=1	https://semspub.epa.gov/work/HQ/401635.pdf - (November, 2021)
Manganese	ACGIH	TLV (TWA)	(compounds + fumes)	20	µg/m ³	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html
	NIOSH	REL (TWA)	(compounds + fumes)	1,000	µg/m ³	8-hour	https://www.osha.gov/dsg/annotated-pels/tablez-1.html </

Zinc (Zn)

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

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

APPENDIX F: CALIBRATIONS

BGI PQ200 TSP Sampler – Monthly Calibration Checks			
Date: 07/18/2024	Time: 1026 - 1044 MST	Sampler Serial Number: 90133	
Performed By: Steve Heck		Location (field or lab): Pine St	
Ref Standard & S/N: 1) Delta Cal S/N 1288		Certification Date: 1) 01-03-2024	
Barometric Pressure Sensor Verification			
Reading (mm Hg)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 10$)
Ambient Pressure	627 mm Hg	626.9 mmHg	+0.1
Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 2^{\circ}\text{C}$)
Ambient Temperature	27.3 C	28.1 C	-0.8 C
Filter Temperature	29.5 C	28.8 C	+0.7 C
Leak Check			
Vacuum Readings (cm H ₂ O)	Start 145	End 145	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	16.7	16.87	-1.0%
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	16.87	16.7	+1.0%

BGI PQ200 TSP Sampler – Monthly Calibration Checks			
Date: 08/20/2024	Time: 1215 - 1245 MST	Sampler Serial Number: 90133	
Performed By: Steve Heck		Location (field or lab): Pine St	
Ref Standard & S/N: 1) Delta Cal S/N 1288		Certification Date: 1) 01-03-2024	
Barometric Pressure Sensor Verification			
Reading (mm Hg)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 10$)
Ambient Pressure	624 mm Hg	623.9 mmHg	+0.1
Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 2^{\circ}\text{C}$)
Ambient Temperature	28.2 C	28.8 C	-0.6 C
Filter Temperature	30.8 C	30.3 C	+0.5 C
Leak Check			
Vacuum Readings (cm H ₂ O)	Start	End	Pass Fail
	142	141	
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	16.7	16.82	-0.7%
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	16.82	16.7	+0.7%
No adjustments made			
Checked recertified Swift 25.0 Meter. Flow was 13.57 <u>Standard</u> LPM / 16.74 <u>Actual</u> LPM Assume STP at 760 mmHg and 25.0 deg C			

BGI PQ200 TSP Sampler – Monthly Calibration Checks			
Date: 09/30/2024	Time: 1455 - 1515 MST	Sampler Serial Number: 90133	
Performed By: Steve Heck		Location (field or lab): Pine St	
Ref Standard & S/N: 1) Delta Cal S/N 1288		Certification Date: 1) 01-03-2024	
Barometric Pressure Sensor Verification			
Reading (mm Hg)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 10$)
Ambient Pressure	630 mm Hg	629.4 mmHg	+0.6
Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 2^{\circ}\text{C}$)
Ambient Temperature	12.8 C	12.9 C	-0.1 C
Filter Temperature	15.6 C	16.6 C	-1.0 C
Leak Check			
Vacuum Readings (cm H ₂ O)	Start 140	End 140	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	16.7	16.30	+2.5%
Reading (liters per minute)	Reference Standard (b)	Design Flow Rate Standard (c)	% Difference $100 \cdot (b - 16.7) / 16.7$ (must be $\leq \pm 5\%$)
Design flow rate calculation	16.30	16.7	-2.4%
Performed multipoint calibration following performance audit on same date @ 15.0 LPM = 15.02 @ 18.4 LPM = 18.03 @ 16.7 LPM = 16.69 Operating flow rate verification = 16.67 LPM			

BGI PQ200 TSP Sampler – Monthly Calibration Checks			
Date: 10/11/2024	Time: 1325 - 1400 MST	Sampler Serial Number: 90133	
Performed By: Steve Heck		Location (field or lab): Pine St	
Ref Standard & S/N: 1) Delta Cal S/N 1288		Certification Date: 1) 01-03-2024	
Barometric Pressure Sensor Verification			
Reading (mm Hg)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 10$)
Ambient Pressure	625 mm Hg	624.9 mmHg	+0.1
Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 2^{\circ}\text{C}$)
Ambient Temperature	19.7 C	20.3 C	-0.6 C
Filter Temperature	22.7 C	21.9 C	+0.8 C
Leak Check			
Vacuum Readings (cm H ₂ O)	Start 142	End 142	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	16.7	16.99	-1.7%
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	16.99	16.7	+1.7%

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

BGI PQ200 TSP Sampler – Monthly Calibration Checks			
Date: 08/20/2024	Time: 1337 – 1400 MST	Sampler Serial Number: 90129	
Performed By: Steve Heck		Location (field or lab): Walnut St	
Ref Std: Delta Cal S/N 1288		Certification Date: 01/03/2024	
Barometric Pressure Sensor Verification			
Reading (mm Hg)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 10$)
Ambient Pressure	625	623.9	+1.1
Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 2^{\circ}\text{C}$)
Ambient Temperature	28.1 C	29.4 C	-1.3
Filter Temperature	30.8 C	31.4 C	-0.6
Leak Check			
Vacuum Readings (cm H ₂ O)	Start 140	End 139	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	16.7	16.79	-0.5%
Reading (liters per minute)	Reference Standard (b)	Design Flow Rate Standard (c)	% Difference $100 \cdot (b - 16.7) / 16.7$ (must be $\leq \pm 5\%$)
Design flow rate calculation	16.79	16.7	+0.5%
No adjustments made Checked recertified Swift 25.0 Meter. Flow was 13.50 <u>Standard</u> LPM / 16.62 <u>Actual</u> LPM Assume STP at 760 mmHg and 25.0 deg C			

BGI PQ200 TSP Sampler – Monthly Calibration Checks			
Date: 09/30/2024	Time: 1548 - 1610	Sampler Serial Number: 90129	
Performed By: Steve Heck		Location (field or lab): Walnut St	
Ref Std: Delta Cal S/N 1288		Certification Date: 01/03/2024	
Barometric Pressure Sensor Verification			
Reading (mm Hg)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 10$)
Ambient Pressure	631	630.4	+0.6
Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 2^{\circ}\text{C}$)
Ambient Temperature	13.4 C	13.8 C	-0.4
Filter Temperature	15.0 C	14.7 C	+0.3
Leak Check			
Vacuum Readings (cm H ₂ O)	Start 138	End 137	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	16.7	16.55	+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	16.55	16.7	-0.9%

BGI PQ200 TSP Sampler – Monthly Calibration Checks			
Date: 10/11/2024	Time: 1415 – 1445	Sampler Serial Number: 90129	
Performed By: Steve Heck		Location (field or lab): Walnut St	
Ref Std: Delta Cal S/N 1288		Certification Date: 01/03/2024	
Barometric Pressure Sensor Verification			
Reading (mm Hg)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 10$)
Ambient Pressure	627	625.4	+1.6
Temperature Sensor Verification			
Reading (degrees Celsius)	Sampler (a)	Reference Standard (b)	Difference (a - b) (must be $\leq \pm 2^{\circ}\text{C}$)
Ambient Temperature	20.3 C	20.9 C	-0.6
Filter Temperature	22.0 C	21.6 C	+0.4
Leak Check			
Vacuum Readings (cm H ₂ O)	Start 141	End 139	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	16.7	16.65	+0.3%
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	16.65	16.7	-0.3%

**APPENDIX G: CALIBRATION STANDARD
CERTIFICATION SHEETS**



Met One Instruments, Inc.

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

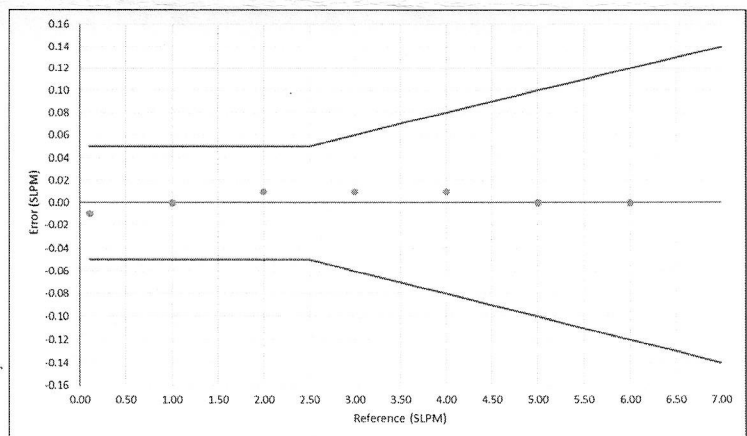
Certificate of Calibration

Model Swift 6.0

Serial Number: C14999
Firmware Version: 83373 Rev 1.0.0
Customer: BISON ENGINEERING INC
As Left ☒ As Found ☐

Calibrated By: H. Duffy 
Calibration Date: 7/28/2023
Next Calibration Date: 7/28/2024

Flow Calibration			
Standard (SLPM)	Swift 6.0 (SLPM)	Acceptable Range	In Tolerance
1.000	1.01	0.95 - 1.05	Yes
2.000	2.01	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
22.6	22.1	Yes
Temperature Accuracy: $\pm 1.0^{\circ}\text{C}$		

Pressure		
Standard (mbar)	Swift (mbar)	In Tolerance
986.1	985.2	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
Air Flow Meter (Flow & Temp)	Alicat	M-50SLPM-D/5M	432090	01/27/24
Temp/Humidity/BP	Met One Instruments	597	Y13061	05/19/24

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.



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Certificate of Calibration

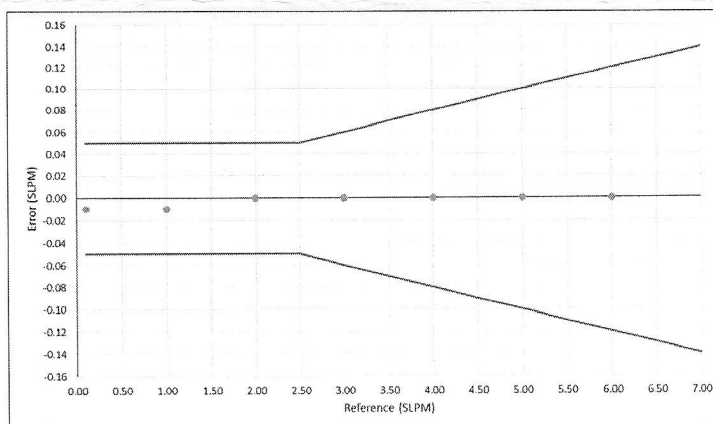
Model Swift 6.0

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

Calibrated By: H. Duffy 
Calibration Date: 7/28/2023
Next Calibration Date: 7/28/2024

Flow Calibration			
Standard (SLPM)	Swift 6.0 (SLPM)	Acceptable Range	In Tolerance
1.000	0.99	0.95 - 1.05	Yes
2.000	2.00	1.95 - 2.05	Yes
3.000	3.00	2.94 - 3.06	Yes
4.000	4.00	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
22.6	22.1	Yes

Temperature Accuracy: $\pm 1.0^{\circ}\text{C}$

Pressure		
Standard (mbar)	Swift (mbar)	In Tolerance
986.1	985.5	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
Air Flow Meter (Flow & Temp)	Alicat	M-50SLPM-D/5M	432090	01/27/24
Temp/Humidity/BP	Met One Instruments	597	Y13061	05/19/24

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.



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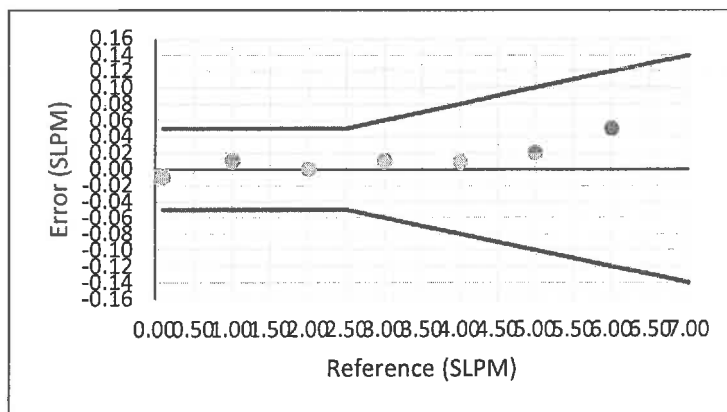
Certificate of Calibration

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.



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

CERTIFICATE OF CALIBRATION - NIST TRACEABILITY

Calibration Report #: 149645-04122023

TetraCal Serial Number: 149645

Calibration Technician: Melissa Sardoni

Date: 4-Dec-2023

Recommended Recal Date: 4-Dec-2024

Critical Venturi Flow Meter

Max Uncertainty = 0.346%

TE20004 6 - 30.00 LPM

Calibration Due: 25-Sep-2024

TE20006 1.40 - 6.0 LPM

Calibration Due: 25-Sep-2024

TE20008 0.40 - 1.20 LPM

Calibration Due: 26-Sep-2024

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

Brand: Eutechnics

TE Number: TE12312

Serial Number: 358921

Std Cal Date: 1-Sep-23

Std Cal Due Date: 1-Sep-24

Ambient Temperature (set): 24.8°C

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

Barometric and Absolute Pressure

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

TE Number: TE20203

Serial Number: U1220936

Std Cal Date: 6-Jun-23

Std Cal Due Date: 6-Jun-24

TetraCal:

Barometric pressure (set): 617.20 mmHg

0

Results of Venturi Calibration

Flow Rate (Q) vs. Pressure Drop (ΔP).

Where: Q=Lpm, ΔP = Cm of H₂O

Venturi

TE20004 Q1 = 5.45324

$\Delta P^{\wedge}$ 0.51821

Overall Uncertainty: 0.35%

TE20006 Q2 = 1.17346

$\Delta P^{\wedge}$ 0.52812

Overall Uncertainty: 0.35%

TE20008 Q3 = 0.21591

$\Delta P^{\wedge}$ 0.52812

Overall Uncertainty: 0.35%



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

NIST Traceable Calibration Facility

As Shipped Calibration Data for TetraCal

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

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

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

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

Performed By: Melissa Sardoni

Date: 4-Dec-2023

Melissa Sardoni
Leonard Reinert

Approved By:

Quality Specialist

Date: 06Dec2023

Leonard Reinert



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

NIST Traceable Calibration Facility

As-Found data for TetraCal

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

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

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

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

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

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



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

CERTIFICATE OF CALIBRATION - NIST TRACEABILITY

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

Critical Venturi Flow Meter

Max Uncertainty = 0.346%

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

Room Temperature: $\pm 0.03^{\circ}\text{C}$ from -5°C - 70°C Room Temperature: 22.90°C

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

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

Barometric and Absolute Pressure

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

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

DeltaCal:

Barometric pressure (set): 616.00 mmHg

Results of Venturi Calibration

Flow Rate (Q) vs. Pressure Drop (ΔP).

Where: Q=Lpm, ΔP = Cm of H₂O

Venturi

TE20005	Q= 4.02226	$\Delta P^{\wedge}$	0.51536	Overall Uncertainty: 0.35%
TE20007	Q= 3.95205	$\Delta P^{\wedge}$	0.52799	Overall Uncertainty: 0.35%



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

NIST Traceable Calibration Facility

As Shipped Calibration Data for DeltaCal

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

Date	Technician
03Jan2024	Elsy Lasky

Ambient Pressure:	616.2	mmHg
Ambient Temperature:	22.9	°C

Range 1		Test #	Static Pressure mmHg	Barometric Pressure mmHg	Venturi Qa LPM	DUT Qa LPM	% error %
Venturi Type	TE20005 1B	1	134.39	615.4	6.530	6.504	-0.398
Flow range	6 - 30.00 LPM	2	205.14	615.4	10.048	10.005	-0.428
		3	267.02	615.4	13.124	13.040	-0.640
		4	326.09	615.4	16.061	15.978	-0.517
		5	368.21	615.4	18.155	18.063	-0.507
		6	403.83	615.4	19.926	19.806	-0.602
Maximum allowable error at any flow rate is 0.75%.						Average Result	-0.515 PASS

Range 2		Test #	Static Pressure mmHg	Barometric Pressure mmHg	Venturi Qa LPM	DUT Qa LPM	% error %
Venturi Type	TE20007 2B	1	139.56	615.9	1.941	1.953	0.618
Flow range	1.40 - 6.0 LPM	2	206.07	615.9	2.895	2.908	0.449
		3	261.31	615.9	3.687	3.713	0.705
		4	322.98	615.9	4.571	4.569	-0.044
		5	371.60	615.9	5.268	5.248	-0.380
		6	417.85	615.9	5.931	5.904	-0.455
Maximum allowable error at any flow rate is 0.75%.						Average Result	0.149 PASS

Performed By: Elsy Lasky

Date: 3-Jan-2024

Approved By:

TROY THACKER

Date: 03JAN2024

Troy Thacker



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

NIST Traceable Calibration Facility

As-Found data for DeltaCal

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

Date	Technician
03Jan2024	Elsy Lasky

Ambient Pressure:	616.2	mmHg
Ambient Temperature:	22.9	°C

As Received Temp. Press. Calibration					As Shipped Temp. Press. Calibration			
	DUT	Standard	Diff	+/- 1 mmHg	DUT	Standard	Diff	+/-1 mmHg
Pres _{AMB} mmHg	618	617.9	0.1	Pass	615.9	616.2	-0.3	Pass
	DUT	Standard	Diff	+/- 1 °C	DUT	Standard	Diff	+/- 1 °C
Temp _{AMB} °C	22.5	22.5	0	Pass	23	22.9	0.1	Pass
Temp _{Filter} °C	22.5	22.5	0	Pass	23	22.9	0.1	Pass
	Offset	New Offset						
Pres _{AMB}	3	2.9						
Temp _{AMB}	0	0						
Temp _{Filter}	0	0						

Range 1		Test #	Static Pressure mmHg	Barometric Pressure mmHg	Venturi Qa LPM	DUT Qa LPM	% error %
Venturi	TE20005	1	134.61	616.0	6.533	6.499	-0.520
Type	1B	2	204.39	616.0	9.997	9.938	-0.590
Flow range	6 - 30.00 LPM	3	264.52	616.0	12.983	12.893	-0.693
		4	326.16	616.0	16.043	15.927	-0.723
		5	369.74	616.0	18.208	18.082	-0.692
		6	404.37	616.0	19.927	19.820	-0.537
Maximum allowable error at any flow rate is 0.75%.						Average Result	-0.626 PASS

Range 2		Test #	Static Pressure mmHg	Barometric Pressure mmHg	Venturi Qa LPM	DUT Qa LPM	% error %
Venturi	TE20007	1	139.22	616.0	1.935	1.952	0.879
Type	2B	2	200.99	616.5	2.818	2.814	-0.142
Flow range	1.40 - 6.0 LPM	3	267.78	616.5	3.775	3.782	0.185
		4	318.96	616.5	4.507	4.505	-0.044
		5	370.03	616.5	5.239	5.244	0.095
		6	422.60	616.5	5.992	5.995	0.050
Maximum allowable error at any flow rate is 0.75%.						Average Result	0.171 FAIL

Certificate of Calibration

Model Swift 25.0

Serial Number : D16202

Calibrated Date: 7/15/2024

Firmware: R0.2.0.5a

Calibrated By: A.Schultz

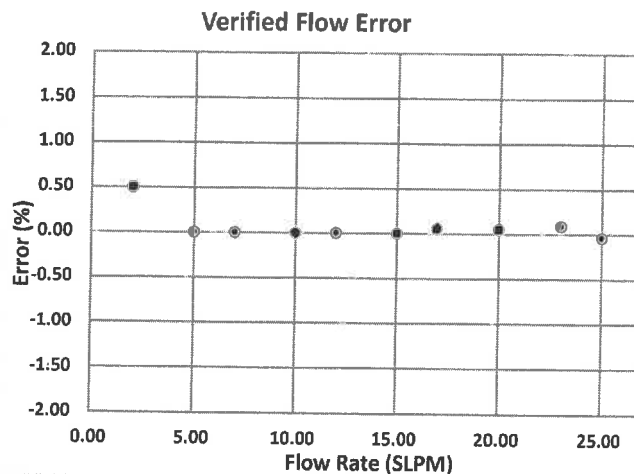
As Left



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.