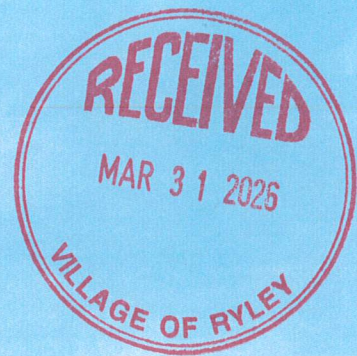


2025 Annual Air Monitoring Report

Village of Ryley



Clean Harbors Canada
Ryley, Alberta

about Clean Harbors

Clean Harbors is one of North America's leading providers of environmental, energy and industrial services, serving a diverse customer base that includes many of North America's leading companies and numerous federal and provincial government agencies. Services that Clean Harbors provides include hazardous material management and disposal, industrial cleaning, used oil recycling and re-refining, and various other technical and environmental services.

The Clean Harbors facility in Ryley, Alberta is classified as a hazardous waste transfer station and landfill. This Facility receives waste from

a variety of customers, including oil companies, chemical producers, and other manufacturers. The materials received at the landfill include oils, spent solvents, paint residues, process fluids, and various other types of materials. The materials are stored on-site, and then disposed within the landfill.

Environmental and Social Commitment

Clean Harbors is committed to providing services in a safe and environmentally and socially responsible way. As part of this commitment, Clean Harbors has developed and implemented several programs to ensure that the Facility is compliant with all regulatory requirements.

These programs include:

- Village of Ryley Air Monitoring Program
- Odour Response Program
- Groundwater Monitoring Program
- Health and Safety Program
- Emergency Response Program
- Dust Suppression Program

As an active member of the Ryley community, we provide annual updates on the Air Monitoring Program that is conducted and reach out to community members who are interested in learning more or have any questions about the Facility.



overview

Ryley Community Air Monitoring Program

Clean Harbors is required by Alberta Environment and Parks (EPA) to conduct ambient air monitoring to measure the concentration of key compounds off-site such as particulate matter, metals, and volatile organic compounds (VOCs). Currently, Alberta EPA requires the monitoring to be conducted at three monitoring stations located at the Facility, along Highway 854 (southeast of the Facility), and at the Ryley School.

Clean Harbors' community Air Monitoring Program is designed specifically to evaluate the ambient air impacts of Facility operations on the Village of Ryley. The details of this program are presented in the Air Monitoring Program for the Village of Ryley (June 2013).

- **FACILITY AIR MONITORING STATION**

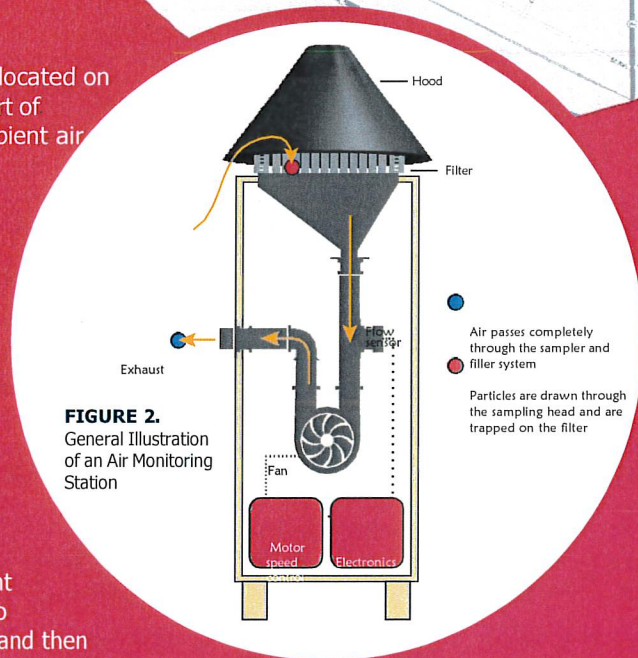
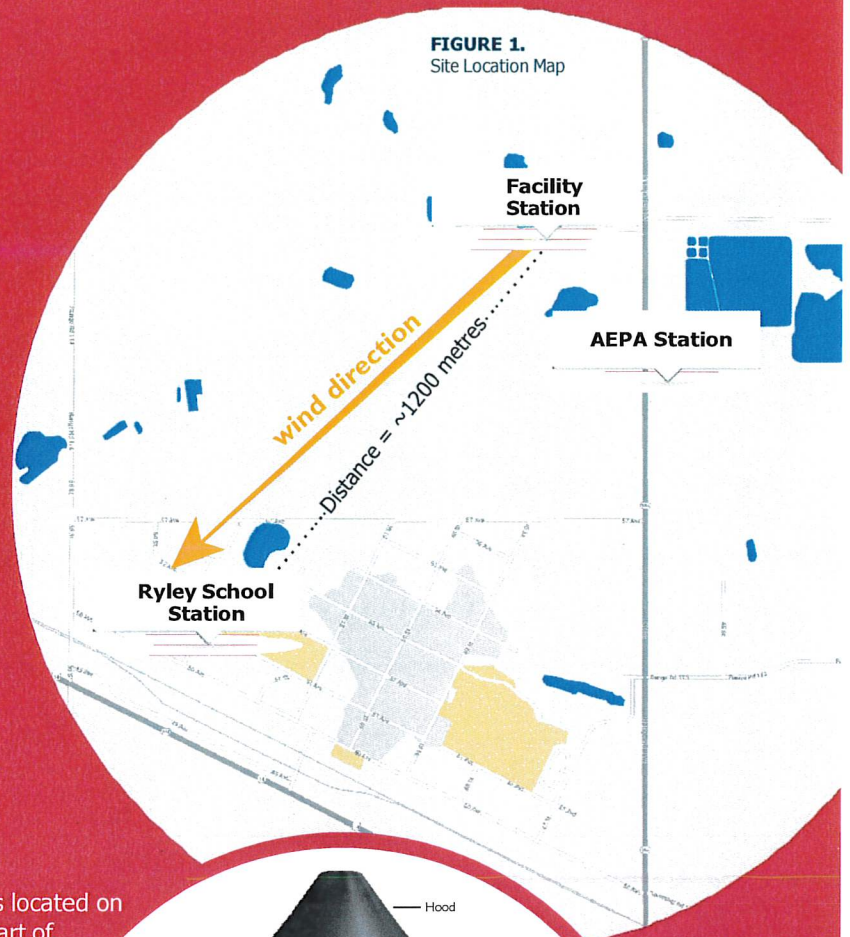
(BACKGROUND): This air monitoring station is located on the Facility's administration building (northeast part of Facility) and is intended to collect background ambient air data.

- **RYLEY SCHOOL:** This air monitoring station is located at the Ryley School and is intended to collect data when the wind is blowing directly from the Facility towards the Village of Ryley (i.e. from the northeast to southwest).

Air Sampling Methodology

A sample of ambient air is drawn into the air monitoring station at a certain flow rate and time period, in this case, 24-hours. A specially designed filter installed in the air monitoring station collects the particulates in the air sample. The filter is then sent to a local laboratory for analysis. The filter is weighed to determine the amount of particulates in the air sample and then analysed for metals.

The two air monitoring stations are linked such that the stations only collect air samples when the wind direction is oriented in a northeast to southwest direction and the wind speed is greater than 5 km/hour. This is the only situation when airborne particulates from landfill operations could potentially impact the Village of Ryley (i.e. source-receptor relationship). This is illustrated on Figure 1.



results

2025 Air Monitoring Data

The results from the air monitoring program conducted in 2025 are presented as follows:

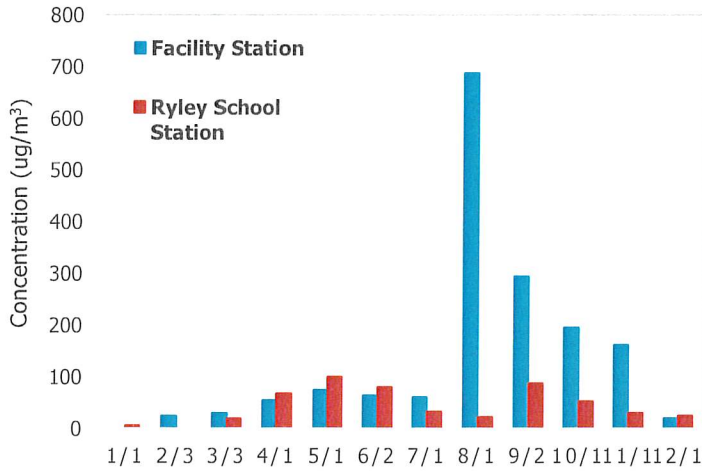


FIGURE 3. 2025 Particulate Concentrations

Date	Facility Station		Ryley School Station	
	Total Suspended Particles ^{2,3}	Total Metals ^{2,4}	Total Suspended Particles ^{2,3}	Total Metals ^{2,4}
1-Jan-25	NA	NA	4.86	5.75
3-Feb-25	23.91	7.16	NA	NA
3-Mar-25	29.51	13.84	18.72	17.83
1-Apr-25	54.80	2.12	67.14	6.96
1-May-25	74.08	5.37	99.53	9.37
2-Jun-25	64.42	3.07	79.88	6.06
1-Jul-25	60.44	5.85	31.80	8.21
1-Aug-25	687.88	47.22	21.74	12.99
2-Sep-25	294.25	17.54	86.71	5.21
1-Oct-25	194.89	6.14	52.49	2.28
1-Nov-25	161.34	17.04	29.35	4.80
1-Dec-25	20.23	0.42	24.00	0.83

1. Appendix A provides a detailed table with the particulate and metal results
 2. Measured in $\mu\text{g}/\text{m}^3$ - micrograms per cubic meters
 3. Measured data has been converted from the measured averaging periods to a 24-hour averaging period based on the Alberta's Air Quality Model Guideline Section 7.1.2
 4. Measured data has been converted from the measured averaging periods to a 1-hour averaging period based on the Alberta's Air Quality Guideline Section 7.1.2
- NA: data not available.

FIGURE 4. Summary of Analytical Results

Localized Wind Trends

Wind direction and wind data is collected to assess how airborne particulates migrate from one location to another. The data collected in 2025 is presented in the illustration to the left called a "Wind Rose" diagram.

In 2025, the prevailing wind direction around the Facility and Village of Ryley is from the northwest to the southeast.

The data suggests that winds from the northeast to southwest occur less frequently and therefore, less potential for particulates from the Facility operations to migrate to the Village of Ryley.

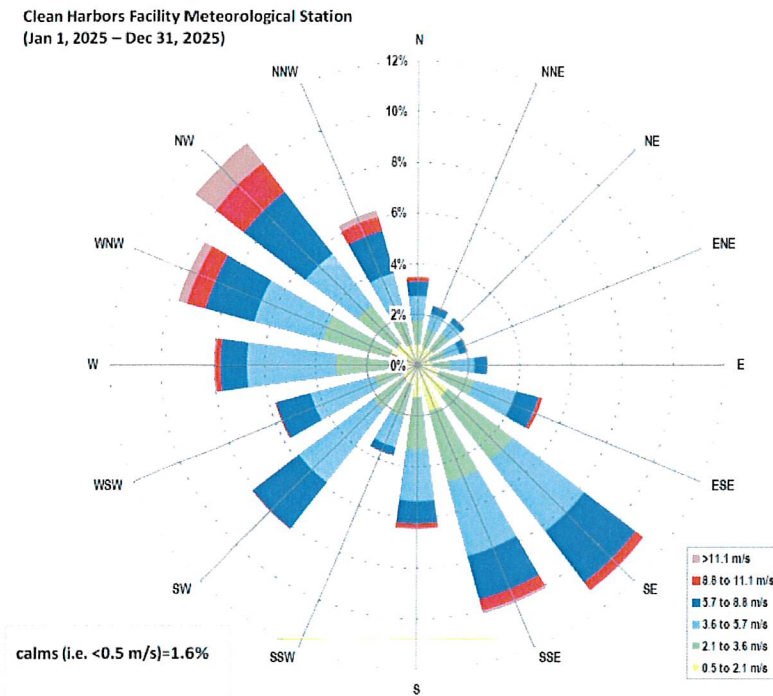


FIGURE 5. Wind Rose for 2025 Calendar Year

what do the results mean?

- 1 In Alberta, when evaluating ambient air quality, concentrations of airborne contaminants are compared with the Alberta Ambient Air Quality Objectives (AAAQO). AAAQO provides objectives or guidelines on what is an acceptable limit for various airborne contaminants. For example, the limit for TSP is 100 micrograms per cubic metre ($\mu\text{g}/\text{m}^3$) over a 24-hour averaging period.
- 2 In 2025, eleven (11) samples were collected at each the Facility and at the Ryley School. There were no periods where the TSP concentrations were over 100 $\mu\text{g}/\text{m}^3$ at the Ryley School. The concentrations ranged from 4.86 $\mu\text{g}/\text{m}^3$ to 99.53 $\mu\text{g}/\text{m}^3$.
- 3 There were Four (4) periods in August, September, October and November where the TSP concentrations were over 100 $\mu\text{g}/\text{m}^3$ at the Facility (background location). This suggests that the background concentrations are being impacted by sources both on-site and off-site (i.e. construction, major road, agricultural land, etc.). The concentrations ranged from 20.23 $\mu\text{g}/\text{m}^3$ to 687.88 $\mu\text{g}/\text{m}^3$.
- 4 A trend is observed between the background TSP concentrations measured at the Facility and the TSP concentrations measured at the Ryley School. In Figure 3, generally the concentrations measured at the Ryley School follow the same pattern as the background concentrations. This shows that the Facility is not contributing significant additional TSP concentrations at the Ryley School.
- 5 There are also AAAQO limits for certain airborne metals including arsenic, chromium, lead, manganese, and nickel. However, these limits are provided for annual averaging periods or averaging periods of 1-hour instead of 24-hours (which the samples were collected over). For comparison purposes, the concentrations of these metals measured at the Ryley School were below the AAAQO limits for these metals.

Clean Harbors would like to thank the Village of Ryley for reviewing this annual report. Please check back regularly for updates and information about our Facility.

For more information:

Stan Yuha

Facility Manager, Clean Harbors
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phone: 780-663-2509

Appendix A

**Appendix A
2025 Analytical Results**

Analytical results are reported to a varying degree of significant figures. The table aligns results with the AAQO limits.

Test Number	Test 124		Test 125		Test 126		Test 127	
	3-Mar-25	3-Mar-25	3-Mar-25	3-Mar-25	1-Apr-25	1-Apr-25	1-Apr-25	1-May-25
Starting Date	3-Mar-25		3-Mar-25		1-Apr-25		1-Apr-25	
Location	Ryley Facility		Ryley School		Ryley Facility		Ryley Facility	
Run Time In Hours	45.77		22.20		28.28		25.93	
Flow Rate in m ³ /hour	1.24		1.25		1.24		1.24	
Volume in m ³	5611		2763		3502		3210	
Parameter	AAQO Limit (µg/m ³) ⁽¹⁾	(µg/m ³) ⁽²⁾	(µg/m ³) ⁽²⁾	(µg/m ³) ⁽²⁾	(µg/m ³) ⁽²⁾	(µg/m ³) ⁽²⁾	(µg/m ³) ⁽²⁾	(µg/m ³) ⁽²⁾
Arsenic	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average	0.1 (0.01 Annual Average)	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Barium	NA	0.57	1.35	0.54	1.18	0.00	0.00	0.00
Beryllium	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Boron	NA	2.84	8.41	5.15	12.26	0.00	0.00	0.00
Cadmium	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chromium	1.0	0.00	0.01	0.00	0.00	0.01	0.00	0.00
Cobalt	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Copper	NA	0.10	0.18	0.35	0.84	0.14	0.35	0.34
Particulate Weight	NA (100 24-hour Average)	24.03	19.31	19.13	18.72	33.34	34.80	37.62
Iron	NA	0.18	1.12	0.25	0.60	0.63	1.66	1.23
Lead	1.5	0.00	0.01	0.00	0.00	0.01	0.00	0.00
Manganese	2.0 (0.2 Annual Average)	0.02	0.06	0.01	0.02	0.03	0.07	0.03
Mercury	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nickel	6.0 (0.53 Annual Average)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Selenium	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Silver	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Thallium	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tin	NA	NA	NA	0.00	0.00	0.00	0.00	0.00
Uranium	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vanadium	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zinc	NA	0.84	2.41	1.19	2.83	0.60	0.00	0.00
Zirconium	NA	N/A	NA	N/A	NA	N/A	N/A	N/A
Sum of Metals		4.74	13.84	7.48	17.83	0.83	2.12	2.80
Total Suspended Particulates (TSP) ⁽³⁾		24.63	19.31	19.13	18.72	33.34	34.80	37.62

Notes

- (1) TSP is a generic term for airborne particles including smoke, dust, fly ash, and pollen. Concentration varies with place and season but normally includes soil and dust particles, soot, organic matter and inorganic sulfates and nitrogen compounds. Their diameter range varies in size from approximately 0.1 to 100 microns (millionths of a metre).
- (2) µg/m³ = micrograms per cubic meter
- (3) NA = Not Applicable
- (4) Minimum values are the smallest values above the detection limit
- (5) Averages are taken with the assumption that any values below the detection limit are reported as the detection limit, as per the AAQO
- (6) Alberta Ambient Air Quality Objectives based on a 1-hour averaging period
- (7) These results are from the measured averaging period for the month
- (8) Measured metals analysis data has been converted from the measured averaging period to a 1-hour averaging period based on Alberta's Air Quality Model Guideline Section 7.1.2
- (9) Measured Particulate Weight has been converted from the measured averaging period to a 24-hour averaging period based on the Alberta's Air Quality Guideline Section 7.1.2

Appendix A 2025 Analytical Results

Analytical results are reported to a varying degree of significant figures. This table aligns results with the AAQO limits.

Test Number	Test 126				Test 127				Test 128			
Starting Date	3-May-25				2-Jun-25				3-Jul-25			
Location	Ryley School				Ryley Facility				Ryley School			
Run Time in hours	25.42				27.03				23.20			
Flow Rate in m ³ /hour	1.25				1.28				1.29			
Volume in m ³	1909				4811				2166			
Parameter	AAQO Limit (µg/m ³) ⁽¹⁾	(µg/m ³) ⁽²⁾	(µg/m ³) ⁽³⁾	(µg/m ³) ⁽⁴⁾	(µg/m ³) ⁽⁵⁾	(µg/m ³) ⁽⁶⁾	(µg/m ³) ⁽⁷⁾	(µg/m ³) ⁽⁸⁾	(µg/m ³) ⁽⁹⁾	(µg/m ³) ⁽¹⁰⁾	(µg/m ³) ⁽¹¹⁾	(µg/m ³) ⁽¹²⁾
Antimony	NA ⁽³⁾	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arsenic	0.1 (0.03 Annual Average)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barium	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Beryllium	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Boron	NA	1.71	4.16	0.28	0.88	1.34	3.41	1.16	3.58	2.67	6.64	0.00
Cadmium	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chromium	1.0	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cobalt	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Copper	NA	0.32	0.55	0.15	0.48	0.22	0.33	0.18	0.56	0.26	0.66	0.00
Particulate Weight	NA (0.00 24-Hour Average)	97.94	99.23	50.56	64.42	76.64	79.88	48.97	60.44	31.16	31.80	0.00
Iron	NA	1.77	4.38	0.51	1.62	0.76	1.29	0.55	1.68	0.35	0.87	0.00
Lead	1.5	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Manganese	2.0 (0.2 Annual Average)	0.06	0.13	0.03	0.08	0.04	0.09	0.02	0.06	0.01	0.03	0.00
Mercury	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nickel	6.0 (0.05 Annual Average)	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Selenium	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Silver	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Thallium	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tin	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vanadium	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vanadium	NA	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zinc	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zirconium	NA	N/A	N/A	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sum of Metals		3.79	9.37	0.89	3.07	2.39	6.06	1.92	3.55	3.90	8.21	0.00
Total suspended Particulates (TSP) ⁽¹³⁾		97.94	99.23	50.56	64.42	76.64	79.88	48.97	60.44	31.16	31.80	0.00

Notes

(1) TSP is a generic term for all-borne particles including smoke, dust, fly ash, and pollen. Composition varies with place and season but normally includes soil and dust particles, organic matter and nonorganic sulfur and nitrogen compounds. Their diameter range varies in size from approximately 0.1 to 100 microns (a millionth of a meter).

(2) µg/m³ = micrograms per cubic meter

(3) NA = Not Applicable

(4) Minimum values are the smallest values above the detection limit.

(5) Averages are taken with the assumption that any values below the detection limit are reported as the detection limit, as per the AQO.

(6) Alberta Ambient Air Quality Objectives based on a 1-hour averaging period.

(7) These results are from the measured averaging period for the month.

(8) Measured metals analysis data has been converted from the measured averaging period to a 1-hour averaging period based on Alberta's Air Quality Model Guideline Section 7.1.2.

(9) Measured Particulate Weight has been converted from the measured averaging period to a 24-hour averaging period based on the Alberta's Air Quality Guidelines Section 7.1.2.

**Appendix A
2025 Analytical Results**

Analytical results are reported to a varying degree of significant figures. This table edges results with the AAQOQ limits.

Parameter	AAQOQ Limit (µg/m ³) ⁽¹⁾⁽²⁾	Test 129		Test 130		Test 131		Test 132	
		1-Aug-25	1-Aug-25	2-Sep-25	2-Sep-25	1-Oct-25			
Starting Date		1-Aug-25	1-Aug-25	2-Sep-25	2-Sep-25	1-Oct-25			
Location		Ryhy Facility	Ryhy School	Ryhy Facility	Ryhy School	Ryhy Facility			
Run Time in hours		3.01	25.15	35.02	27.12	8.28			
Flow Rate in m ³ /hour		1.29	1.30	1.28	1.29	1.18			
Volume in m ³		240	1957	2758	3100	615			
Parameter	AAQOQ Limit (µg/m ³) ⁽¹⁾⁽²⁾	(µg/m ³) ⁽³⁾⁽⁴⁾	(µg/m ³) ⁽³⁾⁽⁴⁾	(µg/m ³) ⁽³⁾⁽⁴⁾	(µg/m ³) ⁽³⁾⁽⁴⁾	(µg/m ³) ⁽³⁾⁽⁴⁾	(µg/m ³) ⁽³⁾⁽⁴⁾	(µg/m ³) ⁽³⁾⁽⁴⁾	(µg/m ³) ⁽³⁾⁽⁴⁾
Antimony	NA ⁽⁵⁾	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arsenic	0.1 (0.01 Annual Average)	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Barium	NA	0.00	0.00	0.61	1.30	0.00	0.00	0.00	0.00
Beryllium	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Boron	NA	18.14	24.75	3.45	8.52	0.00	0.00	0.00	0.00
Cadmium	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chromium	1.0	0.03	0.04	0.00	0.00	0.00	0.01	0.00	0.01
Cobalt	NA	0.03	0.04	0.00	0.00	0.00	0.01	0.00	0.00
Copper	NA	0.36	0.49	0.03	0.03	0.25	0.70	0.13	0.32
Particulate Weight	NA (100 24-Hour Average)	1250.19	697.88	21.46	21.74	262.85	294.25	63.79	66.71
Iron	NA	13.47	21.05	0.28	0.28	3.99	16.51	1.87	4.70
Lead	1.5	0.05	0.08	0.00	0.00	0.01	0.02	0.00	0.01
Magnesium	2.0 (0.2 Annual Average)	0.43	0.61	0.01	0.02	0.16	0.41	0.06	0.16
Manganese	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nickel	6.0 (0.65 Annual Average)	0.05	0.07	0.00	0.00	0.01	0.01	0.00	0.01
Selenium	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Silver	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Thallium	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Th	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uranium	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vanadium	NA	0.04	0.06	0.00	0.00	0.01	0.03	0.00	0.01
Zinc	NA	0.50	0.61	0.88	2.18	0.20	0.00	0.00	0.00
Zirconium	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sum of Metals		34.69	47.32	5.37	12.59	6.44	17.54	2.07	5.21
Total suspended Particulates (TSP) ⁽⁶⁾		1250.19	697.88	21.46	21.74	263.29	294.25	63.79	66.71

Notes

- (1) TSP is a generic term for airborne particles including smoke, dust, fly ash, and pollen. Composition varies with place and season but normally includes soil and dust particles, organic matter and inorganic sulfur and nitrogen compounds. Their diameter range varies in size from approximately 0.1 to 100 microns (millionths of a meter).
- (2) µg/m³ = micrograms per cubic meter
- (3) NA = Not Applicable
- (4) Minimum values are the smallest values above the detection limit
- (5) Averages are taken with the assumption that any values below the detection limit are reported as the detection limit, as per the AQP
- (6) Alberta Ambient Air Quality Objectives based on a 1-hour averaging period
- (7) These results are from the measured averaging period for the month.
- (8) Measured metals analysis data has been converted from the measured averaging period to a 1-hour averaging period based on Alberta's Air Quality Model GAS5ive Section 7.1.2
- (9) Measured Particulate Weight has been converted from the measured averaging period to a 24-hour averaging period based on Alberta's Air Quality Model GAS5ive Section 7.1.2

Appendix A 2025 Analytical Results

Analytical results are reported to a varying degree of significant figures. This table aligns results with the AAQD limits.

Test Number	Test 151		Test 152		Test 153		Test 154	
Sampling Date	1-Oct-25		1-Nov-25		1-Nov-25		1-Dec-25	
Location	Ryley School		Ryley Facility		Ryley School		Ryley Facility	
Run Time in hours	13.87		17.00		14.70		28.27	
Flow Rate in m ³ /hour	1.28		1.25		1.28		1.24	
Volume in m ³	897		1306		1913		2179	
Parameter	AAQD Limit (µg/hour) ⁽¹⁾	(µg/m ³) ⁽²⁾	(µg/m ³) ⁽²⁾	(µg/m ³) ⁽²⁾	(µg/m ³) ⁽²⁾	(µg/m ³) ⁽²⁾	(µg/m ³) ⁽²⁾	(µg/m ³) ⁽²⁾
Antimony	NA ⁽³⁾	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arsenic	0.1 (0.01 Annual Average)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Berilium	NA	0.00	0.00	0.46	1.01	0.00	0.00	0.00
Beryllium	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Boron	NA	0.00	0.00	4.44	8.82	1.39	3.41	0.00
Cadmium	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chromium	3.0	0.00	0.00	0.01	0.02	0.00	0.00	0.00
Cobalt	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Copper	NA	0.15	0.30	0.74	1.64	0.17	0.41	0.08
Particulate Weight	NA 300 24-Hour Average	63.51	51.49	177.70	161.34	293.11	263.35	19.14
Flux	NA	0.87	1.89	1.82	6.61	0.88	0.33	0.07
Lead	1.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Manganese	2.0 (0.2 Annual Average)	0.00	0.00	0.00	0.11	0.00	0.00	0.00
Mercury	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nickel	6.0 (0.05 Annual Average)	0.00	0.01	0.01	0.02	0.00	0.00	0.00
Selenium	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Silver	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Thallium	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tin	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vanadium	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zinc	NA	0.00	0.00	0.14	0.30	0.00	0.00	0.00
Zirconium	NA	NA	NA	NA	NA	NA	NA	NA
Sum of Metals		1.11	2.28	7.71	17.04	1.56	4.50	0.16
Total Suspended Particulate (TSP) ⁽⁴⁾		62.51	51.49	177.70	161.34	263.11	293.35	19.14

Notes:

- (1) TSP is a generic term for airborne particles including smoke, dust, fog, and pollen. Composition varies with place and season but normally includes soil and dust particles, organic matter and nitrogenous sulphur and hydrogen compounds. Their diameter range varies in size from approximately 0.1 to 100 microns (millionths of a meter).
- (2) µg/m³ = micrograms per cubic meter
- (3) NA = Non Applicable
- (4) Stratum values are the smallest values above the detection limit
- (5) Averages are taken with the assumption that any values below the detection limit are reported as the detection limit, as per the AQD
- (6) Alberta Ambient Air Quality Objectives based on a 1-hour averaging period
- (7) These results are from the measured averaging period for the month.
- (8) Measured metals analysis data has been converted from the measured averaging period to a 1-hour averaging period based on Alberta Air Quality Guideline Section 7.1.2
- (9) Measured Particulate Weight has been converted from the measured averaging period to a 24-hour averaging period based on the Alberta Air Quality Guideline Section 7.1.2

Appendix A 2025 Analytical Results

Analyst results are reported to a varying degree of significant figures. This table aligns results with the AAQO units.

Test Number

Site/ing Date	Maximum				Minimum ⁽¹⁾				Average ⁽²⁾			
	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Location	Bykey Facility	Bykey School	Bykey Facility	Bykey School	Bykey Facility	Bykey School	Bykey Facility	Bykey School	Bykey Facility	Bykey School	Bykey Facility	Bykey School
Run Time in hours	38.87	27.53	3.01	12.87	34.32	24.50						
Flow Rate m ³ /hour	1.29	1.30	1.21	1.21	1.26	1.27						
Volume m ³	4913.00	2166.00	219.90	595.70	2336.19	1813.20						
Parameter	AAQO limit [ug/hour] ⁽³⁾	[ug/m ³] ⁽⁴⁾	[ug/m ³] ⁽⁴⁾	[ug/m ³] ⁽⁴⁾	[ug/m ³] ⁽⁴⁾	[ug/m ³] ⁽⁴⁾	[ug/m ³] ⁽⁴⁾	[ug/m ³] ⁽⁴⁾	[ug/m ³] ⁽⁴⁾	[ug/m ³] ⁽⁴⁾	[ug/m ³] ⁽⁴⁾	[ug/m ³] ⁽⁴⁾
Antimony	NA ⁽⁵⁾	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arsenic	0.1 (20% Annual Average)	0.03	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Beryllium	NA	0.03	1.31	0.01	1.59	0.00	0.00	0.00	0.00	0.11	0.00	0.13
Bismuth	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Boron	NA	18.18	24.75	3.15	12.28	0.00	0.00	0.00	0.00	2.65	4.88	1.67
Cadmium	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chromium	1.0	0.03	0.04	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.00
Cobalt	NA	0.03	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
Copper	NA	0.74	1.64	0.45	1.21	0.08	0.21	0.00	0.01	0.24	0.36	0.21
Particulate Weight	NA (200-24 Hour Average)	123019	63748	97.04	59.53	19.14	23.23	4.69	4.66	100.62	151.43	40.87
Iron	NA	15.47	21.94	1.87	1.97	0.87	0.19	0.01	0.06	2.89	5.14	0.75
Lead	1.5	0.06	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.00
Manganese	2.0 (0.2 Annual Average)	0.43	0.61	0.06	0.16	0.00	0.01	0.00	0.00	0.06	0.17	0.03
Mercury	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nickel	6.0 (0.05 Annual Average)	0.07	0.12	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00
Selenium	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Silver	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Thallium	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tin	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vanadium	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zinc	0.84	0.24	0.66	0.02	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.00
Zirconium	NA	0.84	2.41	1.19	2.83	0.00	0.00	0.00	0.00	0.11	0.32	0.21
Zirconium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sum of Metals		35.45	51.40	9.97	22.20	0.15	0.41	0.03	0.08	5.92	11.43	2.88
Total suspended Particulates (TSP) ⁽⁶⁾		123019	63748	97.04	59.53	19.14	23.23	4.69	4.66	100.66	151.43	40.87

Notes:

(1) TSP is a generic term for airborne particles including smoke, dust, fly ash, and pollen. Composition varies with place and season but normally includes soil and dust particulates, organic matter and non-organic matter and nitrogen compounds. Their diameter range varies in size from approximately 0.1 to 100 microns (millionths of a meter).

(2) ug/m³ = micrograms per cubic meter

(3) NA = Non Applicable

(4) Minimum values are the smallest values above the detection limit

(5) Averages are taken with the assumption that any values below the detection limit are reported as the detection limit, as per the AAQO

(6) Alberta Ambient Air Quality Objectives based on a 3-year averaging period

(7) These results are from the measured averaging period for the month.

(8) Measured metals analysis data has been converted from the measured averaging period to a 1-hour averaging period based on Alberta's Air Quality Model Guidance Section 7.1.2

(9) Measured Particulate Weight has been converted from the measured averaging period to a 24-hour averaging period based on the Alberta's Air Quality Model Guidance Section 7.1.2