September 29, 2023

Alberta Environment and Protected Areas (AEPA)
Monitoring Branch
11th Floor Oxbridge Place
9820-106 Street
Edmonton, Alberta
T5K 2J6

RE: Monthly Ambient Air Monitoring Report
August 2023
Clean Harbors Canada, Inc. Approval 10348-03-01

To whom it may concern:

Clean Harbors Canada, Inc. (Clean Harbors) is presenting this Monthly Ambient Air Monitoring Report, which was prepared by GHD Limited (Consultant), for the reporting period of August 2023, to Alberta Environment and Protected Areas (AEPA). The Clean Harbors Ryley Industrial Waste Management Facility (Facility) is located in SE 09-050-17 W4M near Ryley, Alberta.

This ambient air monitoring program is conducted in accordance with the requirements outlined in the facility's amended Environmental Protection and Enhancement Act (EPEA) Approval, Approval No. 10348-03-01 (Approval). Clean Harbors' original Ambient Air Monitoring Program for Approval No. 10348-03-00 was initially approved on June 24, 2009. As part of the amended Approval requirements, the Facility submitted an Enhanced Ambient Air Quality Monitoring Program to AEPA (formerly AEP) on September 14, 2022 (no formal approval has been provided by AEPA). Operating under the Approval and the submitted program, Clean Harbors operates the following ambient air monitoring stations:

- Wind
  - Facility Meteorological Station – AEPA Station ID 00010348-C-1
  - Facility Site Station – AEPA Station ID 00010348-C-2
  - Ryley School Station – AEPA Station ID 00010348-C-3
- TSP
  - Facility Site Station – AEPA Station ID 00010348-I-2
  - Ryley School Station – AEPA Station ID 00010348-I-3
  - Highway 854 Lift Station – AEPA Station ID 00010348-I-1
- PM_{10}
  - Highway 854 Lift Station – AEPA Station ID 00010348-I-1

Included in this report are the following:

- Summary of the ambient air monitoring program for August 2023
- Summary of AMD Electronic Transfer System submittals
- Results for Total Suspended Particulate Matter (TSP) reported in µg/m^3
- Results for Particulate Matter $\leq$ 10 microns (PM_{10}) reported in µg/m^3
- Results for metals if the TSP or PM_{10} results were >50 µg/m^3
- Results for Total Non-Methane Organic Compounds (TNMOC) and Volatile Organic Compounds (VOC)
- Wind frequency distribution tables, wind rose and monthly uptime

Should there be any questions and comments regarding this report, please do not hesitate to contact the undersigned.

Yours truly,

CLEAN HARBORS CANADA INC.

Stan Yuha

Stan Yuha

Facility Manager
Ryley Facility

Alberta Environment and Protected Areas (AEPA)
Monthly Ambient Air Monitoring Report
August 2023
Report Completed on September 29, 2023

Clean Harbors Environmental Services Inc.

Approval Number: 10348-03-01

Ryley Facility, Alberta

CLEAN HARBORS CANADA, INC.
P.O. Box 390, Ryley, Alberta T0B 4A0 Telephone (780) 663-3828

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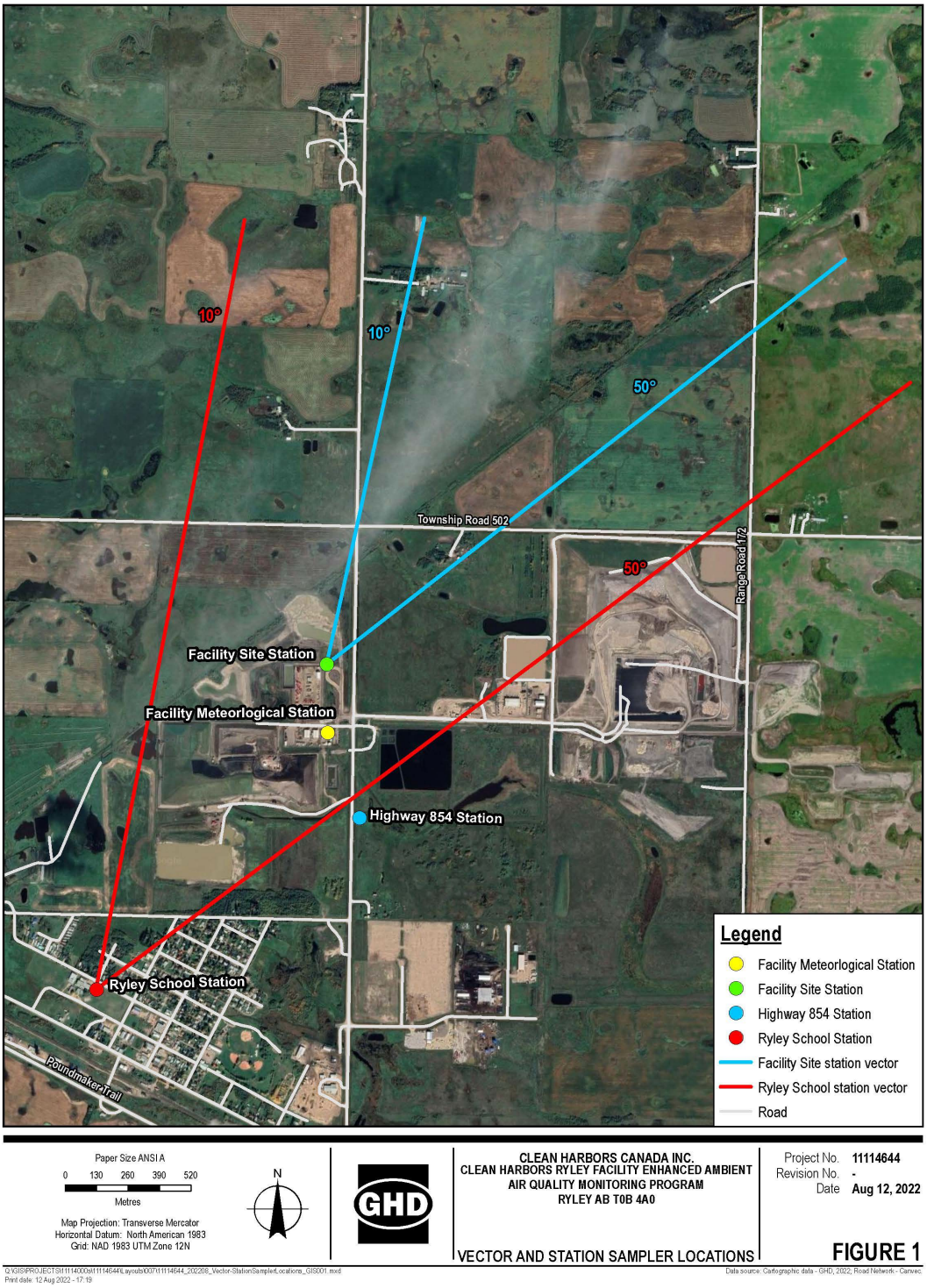
1. Introduction

The Facility operates the following ambient air monitoring stations to assess ambient air quality at and around the Facility as shown in Figure 1.



1. Upwind intermittent ambient air quality monitoring station, known as the Facility Site Station (AEPA Station ID 00010348-I-2), located at 50114 Range Road 173, Ryley, Alberta (53°18'13.11"N and 112°25'5.81"W). At this location, a Tisch TE-5170V VFC High Volume TSP Sampler (TSP Hi-Vol Sampler) is located against the Facility perimeter fence, north of the vehicle staging road.
2. Downwind intermittent ambient air quality monitoring station, known as the Ryley School Station (AEPA Station ID 00010348-I-3), located at 5211 52 Avenue, Ryley, Alberta (53°17'28.99"N and 112°25'55.81"W). At this location, a TSP Hi-Vol Sampler is located on the roof of the Ryley School.

For these two locations, samples are collected and analyzed for the following: total suspended particulate matter (TSP) (typically with diameter less than 35 microns (µm)). Additionally, TSP samples that exceed 50 micrograms per cubic metre (50 µg/m^3) are analyzed for a target list of metals. The samplers are programmed to run for approximately 24-hours. All samples are collected for a total of 24-hours by intermittent sampling when the wind speed is greater than 5 km/hr and wind direction is blowing from the northeast towards the southwest.

3. Intermittent monitoring station, known as the Highway 854 Lift Station (AEPA Station ID 00010348-I-1), located on Secondary Road 854, approximately 350 metres southeast of the Facility (Latitude: 53°17'52.66"N, Longitude: 112°24'57.87"W). At this location, a TSP Hi-Vol Sampler and a Partisol FRM 2000 PM_{10} Sampler (PM_{10} Sampler) will be located on the roof of the lift station. Samples are collected and analyzed for the following: TSP, particulate matter less than or equal to 10 µm in diameter (PM_{10}), volatile organic compounds (VOCs), and total non-methane organic compounds (TNMOC). Additionally, TSP or PM_{10} samples that exceed 50 µg/m^3 are analyzed for a target list of metals. Sampling is conducted once every 6-days for a 24-hour sampling period (midnight to midnight) as required by the Facility's Approval. The 6-day sampling frequency will be in alignment with the Government of Canada, National Air Pollution Surveillance Program (National Air Pollution Surveillance Program – Canada.ca). To correlate PM_{10} data with TSP data, Clean Harbors will continue PM_{10} sampling at the station for a two-year period.

4. Continuous meteorological stations that collect wind speed and wind direction data are also located at the Facility Meteorological Station (AEPA Station ID 00010348-C-1), Upwind Facility Site Station (AEPA Station ID 00010348-C-2), and Downwind Ryley School Station (AEPA Station ID 00010348-C-3). The anemometer equipment used to measure this data includes three R. M. Young 05305-10A Wind Monitor-Aqs.

All sampling and monitoring is conducted in accordance with the Facility's amended Approval (Approval No. 10348-03-01) and the Alberta Air Monitoring Directive, 2016 (AMD).

1.1 Contact Information

As required by AMD Chapter 9, Section 2, contact information is provided for the following Facility personnel and Contractors that assisted with the performance of the Facility's Air Monitoring Program.

Contact Information	
Name	**Mr. Stan Yuha**
Title	Plant Manager
Company	Clean Harbors
Responsibilities	Report Certifier/ETS Submitter
Address	PO Box 390, Ryley, AB T0B 4A0
Phone	780-663-2509
Email	yuha.stan@cleanharbors.com
Name	**Mr. Todd Webb**
Title	Laboratory Chemist
Company	Clean Harbors
Responsibilities	Station Field Operator and Field Sampler
Address	PO Box 390, Ryley, AB T0B 4A0
Phone	780-663-2513
Email	webb.todd@cleanharbors.com
Name	**Mr. Pooya Shariaty**
Title	Senior Air Quality Engineer/Project Manager
Company	GHD Limited
Responsibilities	Senior QA/QC
Address	3445-114th Ave. SE, Suite 103 Calgary, AB
Phone	403-538-7479
Email	Pooya.shariaty@ghd.com
Name	**Ms. Stepheney Davey**
Title	Air Quality Engineer in Training
Company	GHD Limited
Responsibilities	Maintenance/Calibration Services/Report Preparer/ETS Submitter
Address	10250 101 Street NW, Suite 640, Edmonton, AB
Phone	780-229-3687
Email	Stepheney.davey@ghd.com
Company	**Innotech**
Responsibilities	Laboratory Analytical Services
Address	PO Bag 4000, Vegreville, Alberta
Phone	780-632-8211
Email	EAS.Results@albertainnovates.ca

2. Summary of Ambient Air Monitoring Activities

The following ambient air monitoring activities were conducted during the month of August 2023.

Activity	*Completed (Y/N)*	*Date(s)*
Wind – Facility Meteorological Station		
Wind Speed/Direction Sensor Calibration	N	June 30, 2023[(1)]
Changes to the Wind Speed/Direction Sensor	N	-
Wind – Facility Site Station		
Wind Speed/Direction Sensor Calibration	N	Anemometer Error[(2)]
Changes to the Wind Speed/Direction Sensor	N	-
Wind – Ryley School Station		
Wind Speed/Direction Sensor Calibration	N	June 30, 2023
Changes to the Wind Speed/Direction Sensor	N	-
TSP – Facility Site Station		
TSP Hi-Vol Sampler Calibration	N	-
Changes to the TSP Hi-Vol Sampler	N	-
TSP Samples Collected	Y	August 1 – September 1, 2023
TSP Metal Analysis Conducted	**Not Available**	
TSP Sampler Maintenance Activities	Y	September 1, 2023
TSP – Ryley School Station		
TSP Hi-Vol Sampler Calibration	N	-
Changes to the TSP Hi-Vol Sampler	N	-
TSP Samples Collected	Y	August 1 – September 1, 2023
TSP Metal Analysis Conducted	**Not Available**	
TSP Sampler Maintenance Activities	Y	September 1, 2023
TSP, PM_{10}, VOC and TNMOC – Highway 854 Lift Station		
TSP Hi-Vol Sampler Calibration	N	-
PM_{10} Sampler Calibration	N	-
Changes to the TSP Hi-Vol Sampler	N	-
Changes to the PM_{10} Sampling Station	N	-
TSP Samples Collected	Y	August 4, 2023 August 10, 2023 August 16, 2023 August 22, 2023 August 28, 2023
PM_{10} Samples Collected	Y	August 4, 2023 August 10, 2023

Activity	*Completed (Y/N)*	*Date(s)*
		August 16, 2023 August 22, 2023 August 28, 2023
VOC and TNMOC Samples Collected	Y	August 4, 2023 August 10, 2023 August 16, 2023 August 22, 2023 August 28, 2023
TSP Metal Analysis Conducted	Y	August 4, 2023 August 10, 2023 August 16, 2023 August 28, 2023
PM_{10} Metal Analysis Conducted	Y	August 4, 2023 August 10, 2023 August 16, 2023 August 28, 2023
TSP Sampler Maintenance Activities	Y	August 4, 2023 August 10, 2023 August 16, 2023 August 22, 2023 August 28, 2023
PM_{10} Sampler Maintenance Activities	Y	August 4, 2023 August 10, 2023 August 16, 2023 August 22, 2023 August 28, 2023
Other		
Dust Suppression Activities	N	-

Note: (1) The wind speed/direction sensor on the Facility Site Meteorological Station was checked for calibration on June 30, 2023 and was shown to be within the allowable tolerances and was then re-installed after calibration.

(2) Instrument is not currently reporting due to anemometer program corruption. The instrument was calibrated prior to install in the Fall of 2014 for voluntary reporting.

3. Summary of Electronic Transfer System (ETS) Submittals

In addition to the August 2023 monthly report, the following summarized items were submitted to the ETS:

3.1 AMD XML Schema

An XML formatted Schema file was submitted to the AEPA via the ETS portal. The XML Schema file contains the results from:

- Wind
  - Facility Meteorological Station – AEPA Station ID 00010348-C-1.
  - Facility Site Station – AEPA Station ID 00010348-C-2.
  - Ryley School Station – AEPA Station ID 00010348-C-3.
- TSP
  - Facility Site Station – AEPA Station ID 00010348-I-2.
  - Ryley School Station – AEPA Station ID 00010348-I-3.
  - Highway 854 Lift Station – AEPA Station ID 00010348-I-1.
- PM_{10}
  - Highway 854 Lift Station – AEPA Station ID 00010348-I-1.

3.2 Ambient Air Monitoring Program Laboratory Reports

One laboratory report in PDF file format was submitted to the AEPA via the ETS portal. The PDF file contains the results from AEPA Station ID 00010348-I-1, AEPA Station ID 00010348-I-2, and AEPA Station ID 00010348-I-3.

3.3 Ambient Air Monitoring Program Calibration Reports

One calibration report in PDF file format was submitted to the AEPA via the ETS portal. The PDF file contains the results from AEPA Station ID 00010348-C-1 and AEPA Station ID 00010348-I-3.

4. Calibration and Operation & Maintenance (O&M) Activities

4.1 Facility Meteorological Station for Wind Speed and Direction (AEPA Station ID 00010348-C-1)

The Facility Meteorological Station was taken down and calibrated on June 30, 2023. The station was shown to be within all allowable tolerances, as required by the manufacturer, and was then re-installed after calibration. Provided in Appendix A is the calibration report and record of installation.

There were no changes to the meteorological station during August 2023.

4.2 Facility Site Station for Wind Speed and Direction (AEPA Station ID 00010348-C-2)

The Facility Site Station was last calibrated upon installation. When installed, the station was shown to be within all allowable tolerances, as required by the manufacturer.

During May 2023, Clean Harbors chose to swap the Ryley School Station (AEPA Station ID 00010348-C-3) anemometer with the Facility Site Station (AEPA Station ID 00010348-C-2)

anemometer due to AEPA Station ID 00010348-C-3 anemometer program corruption. Per Approval No. 10348-03-01, Clean Harbors is only required to report "a minimum of one (1) meteorological station in each of the Ryley School and Facility Site intermittent ambient air quality monitoring stations" thus, reporting from Station ID 00010348-C-2 is not required as Clean Harbors reports from the Facility Meteorological Station (Station ID 00010348-C-1).

4.3 Ryley School Station for Wind Speed and Direction (AEPA Station ID 00010348-C-3)

The Ryley School Station was taken down and calibrated on June 30, 2023. The station was shown to be within all allowable tolerances, as required by the manufacturer, and was then re-installed after calibration. Provided in Appendix A is the calibration report.

There were no changes to the meteorological station during August 2023.

4.4 Facility Site Station TSP Hi-Vol Sampler (AEPA Station ID 00010348-I-2)

The sampling activities for the Tisch TE-5170V VFC High Volume TSP Sampler (TSP Hi-Vol Sampler) are recorded in the field sampling sheets provided in Appendix B.

On a quarterly basis, performance audits are completed on the TSP Hi-Vol Sampler. A quarterly audit was performed on June 30, 2023.

4.5 Ryley School Station TSP Hi-Vol Sampler (AEPA Station ID 00010348-I-3)

The sampling activities for the TSP Hi-Vol Sampler are recorded in the field sampling sheets provided in Appendix B.

On a quarterly basis, performance audits are completed on the TSP Hi-Vol Sampler. A quarterly audit was performed on June 30, 2023.

4.6 Highway 854 Lift Station TSP Hi-Vol Sampler (AEPA Station ID 00010348-I-1)

The sampling activities for the TSP Hi-Vol Sampler are recorded in the field sampling sheets provided in Appendix B.

On a quarterly basis, performance audits are completed on the TSP Hi-Vol Sampler. A quarterly audit was performed on June 30, 2023.

4.7 Highway 854 Lift Station PM_{10} Sampler (AEPA Station ID 00010348-I-1)

Maintenance activities for the Thermo Scientific™ Partisol 2000i-Federal Reference Method (FRM) PM_{10} Sampler included inlet cleaning and leak checks that were conducted before each sampling event in August 2023. The pre-sampling maintenance activities are recorded in the field sampling sheets provided in Appendix B.

On a quarterly basis, performance audits are completed on the TSP Hi-Vol Sampler. A quarterly audit was performed on June 30, 2023.

5. Ambient Air Monitoring Results

The following section presents the results from the ambient air monitoring program for the Facility Meteorological Station (AEPA Station ID 00010348-C-1), Facility Site Station (AEPA Station ID 00010348-C-2), Ryley School Station (AEPA Station ID 00010348-C-3), Highway 854 Lift Station (AEPA Station ID 00010348-I-1), Facility Site Station (AEPA Station ID 00010348-I-2), and Ryley School Station (AEPA Station ID 00010348-I-3) conducted in August 2023. Where applicable, comparisons were made to Alberta Ambient Air Quality Objectives (AAAQO) for parameters that had 24-hour average objectives. These parameters are TSP and some of the VOCs including o,m,p-xylene, hexane, and toluene. For the parameter objectives with averaging periods other than 24-hours, Section 7.1.2 of the Air Quality Model Guideline was used to convert the measured values to the corresponding AAAQO averaging periods prior to comparison. For all other parameters, AAAQO have not been established.

5.1 Meteorological Data for Wind Speed and Direction

In accordance with the Approval and the AMD, the Facility is required to collect wind speed and directional data continuously for the Facility Meteorological Station, Facility Site Station, and Ryley School Station. Tables 1 - 3 present the hourly and 24-hour average wind speeds, Tables 4 - 6 present the hourly and 24-hour most frequent wind direction data (degrees from north), and Tables 7 - 9 present the Wind Class Frequency Distribution for August 2023 from the Facility Meteorological Station, Facility Site Station, and Ryley School Station, respectively. Appendix C provides graphical representations of the Wind Class Frequency Distribution and the Wind Roses based on Tables 1 – 9.

5.1.1 Facility Meteorological Station Data Verification and Validation and Uptime (AEPA Station ID 00010348-C-1)

Based on the verification and validation process conducted for the meteorological data that was collected in August 2023, it was determined that 100.00 percent of the data is valid, which represents 100.00 percent uptime of the meteorological station. This is above the 90 percent uptime limit required for compliance, as per the Approval.

5.1.2 Facility Site Station Data Verification and Validation and Uptime (AEPA Station ID 00010348-C-2)

As noted above, Clean Harbors chose to swap the Ryley School Station (AEPA Station ID 00010348-C-3) anemometer with the Facility Site Station (AEPA Station ID 00010348-C-2) anemometer in May 2023 due to AEPA Station ID 00010348-C-3 anemometer program corruption. Per Approval No. 10348-03-01, Clean Harbors is only required to report "a minimum of one (1) meteorological station in each of the Ryley School and Facility Site intermittent ambient air quality monitoring stations" thus, reporting from Station ID 00010348-C-2 is not required as Clean Harbors reports from the Facility Meteorological Station (Station ID 00010348-C-1).

5.1.3 Ryley School Station Data Verification and Validation and Uptime (AEPA Station ID 00010348-C-3)

Based on the verification and validation process conducted for the meteorological data that was collected in August 2023, it was determined that 100.00 percent of the data is valid, which represents 100.00 percent uptime of the meteorological station. This is above the 90 percent uptime limit required for compliance, as per the Approval.

5.2 TSP Concentrations

AAAQO are specified for TSP at 100 µg/m^3 (24-hour averaging period). In accordance with the Facility's Approval, TSP samples that exceed 50 µg/m^3 are analyzed for a target list of metals. Appendix B provides the field sheets completed for each sampling event. Appendix D provides the chain of custody forms and laboratory analytical reports.

5.2.1 Facility Site Station (AEPA Station ID 00010348-I-2)

Due to a delay in the lab analysis and lab equipment issues, this result is currently unavailable. A revised report will be submitted once the results become available.

5.2.2 Ryley School Station (AEPA Station ID 00010348-I-3)

Due to a delay in the lab analysis and lab equipment issues, this result is currently unavailable. A revised report will be submitted once the results become available.

5.2.3 Highway 854 Lift Station (AEPA Station ID 00010348-I-1)

Table 12 presents the results of the sampling conducted for TSP from the Highway 854 Lift Station. Three out of five samples collected in August 2023 were shown to have an elevated TSP concentration above the 100 µg/m^3 AAAQO threshold. It should be noted that Alberta experienced an unprecedented number of wildfires during this time which led to numerous regional air quality advisories resulting from wildfire smoke. The TSP exceedance for August 2023 is likely a result of the background air quality and not related to the Facility.

5.3 PM_{10} Concentrations

AAAQO are specified for TSP at 100 µg/m^3 and Particulate Matter $\leq$ 2.5 microns ($PM_{2.5}$) at 29 µg/m^3 (24-hour averaging period). There is currently no AAAQO specified for PM_{10} for a 24-hour averaging period in Alberta. To correlate PM_{10} data with TSP data, Clean Harbors will continue PM_{10} sampling at the station for a two-year period. In accordance with the Facility's Approval, PM_{10} samples that exceed 50 µg/m^3 are analyzed for a target list of metals. Appendix B provides the field sheets completed for each sampling event. Appendix D provides the chain of custody forms and laboratory analytical reports.

5.3.1 Highway 854 Lift Station (AEPA Station ID 00010348-I-1)

Table 13 presents the results of the sampling conducted for PM_{10}.

5.4 VOC and TNMOC Concentrations

There are three VOC parameters that have corresponding AAAQO with 24-hour averaging periods including o,p,m-xylene, hexane and toluene. Appendix B provides the field sheets completed for each sampling event. Appendix D provides the chain of custody forms and laboratory analytical reports.

5.4.1 Highway 854 Lift Station (AEPA Station ID 00010348-I-1)

Table 14 presents the VOC and TNMOC concentrations measured in August 2023. There were no exceedances for the parameters with AAAQO in August 2023.

5.5 Metal Concentrations

In accordance with the Facility's Approval, if collected TSP or PM_{10} samples show exceedances over 50 µg/m^3 after gravimetric analysis, a subsequent filter particulate analysis is done using inductively coupled plasma mass spectroscopy (ICP-MS) for 21 trace elements. There are four parameters that have corresponding AAAQO with 1 hour averaging periods including arsenic, chromium, lead, and nickel. The sample results were converted to a 1-hour averaging period for comparison with the sample AAAQO. If metal analysis was conducted, Appendix B provides the field sheets completed for each sampling event. Appendix D provides the chain of custody forms and laboratory analytical reports.

5.5.1 Facility Site Station (AEPA Station ID 00010348-I-2)

Due to a delay in the lab analysis and lab equipment issues, this result is currently unavailable. A revised report will be submitted once the results become available.

5.5.2 Ryley School Station (AEPA Station ID 00010348-I-3)

Due to a delay in the lab analysis and lab equipment issues, this result is currently unavailable. A revised report will be submitted once the results become available.

5.5.3 Highway 854 Lift Station (AEPA Station ID 00010348-I-1)

TSP

Four of the TSP samples collected in August 2023 were above 50 µg/m^3 and as such, analysis for metals was conducted on the samples. Facility Test #855 (HVF-23-06-01), Facility Test #856 (HVF-23-06-20), Facility Test #857 (HVF-23-06-19) and Facility Test #859 (HVF-23-06-18) were shown to have elevated TSP concentrations of 57.544 µg/m^3, 110.316 µg/m^3, 219.185 µg/m^3 and 259.688 µg/m^3, respectively, which are over the 50 µg/m^3 threshold. These samples were sent for additional analysis and the results for Test #855, Test #856, Test #857, and Test #859 can be found in Table 17 of this report. There were no exceedances for the parameters with AAAQO in August 2023.

PM_{10}

Two of the PM_{10} samples collected in August 2023 was above 50 µg/m^3 and as such, analysis for metals was conducted on the samples. Facility Test #857 (C9700136) and Facility Test #859

(C9700137) were shown to have elevated PM_{10} concentrations of 86.726 µg/m^3 and 114.732 µg/m^3, respectively, which are over the 50 µg/m^3 threshold. These samples were sent for additional analysis. The PM_{10} concentrations measured for Facility Test #855 (C1170469) and Facility Test #856 (C1168581) were less than the 50 µg/m^3 threshold, 24.934 µg/m^3 and 40.089 µg/m^{3}µg/m^3, respectively; however, as the TSP concentrations for these samples were above the 50 µg/m^3 threshold (as noted above), the corresponding PM_{10} samples were sent for additional analysis. The results for Test #855, Test #856, Test #857 and Test #859 can be found in Table 18 of this report. There were no exceedances for the parameters with AAAQO in August 2023.

The remaining TSP and PM_{10} samples collected in August 2023 were below 50 µg/m^3 and as such analysis for metals was not conducted on those samples.

5.6 Dust Suppression

There were no dust suppression activities, which include using leachate spread on the surface of the active landfill, conducted during August 2023.

6. Conclusions

The following summarizes the Ambient Air Monitoring Program that was conducted in August 2023.

1 During August 2023, the Facility Meteorological Station (AEPA Station ID 00010348-C-1) operated at 100.00 percent uptime. Based on the data verification and validation procedure conducted, this is in compliance with the minimum 90 percent uptime required by the AMD.

2 During August 2023, the continuous Facility Site wind Station was not operational. Per the approval, reporting from Station ID 00010348-C-2 is not required as Clean Harbors reports from the Facility Meteorological Station.

3 During August 2023, the continuous Ryley School wind Station operated at 100.00 percent uptime. Based on the data verification and validation procedure conducted, this is in compliance with the minimum 90 percent uptime required by the AMD.

4 The TSP concentrations measured at the intermittent Highway 854 Lift Station (AEPA Station ID 00010348-I-1) on August 4, August 10, August 16, August 22, and August 28 were 57.544 µg/m^3, 110.316 µg/m^3, 219.185 µg/m^3, 36.304 µg/m^3, and 259.688 µg/m^3, respectively. The AAAQO exceedances for this month is likely a result of the background air quality due to wildfire smoke and not related to the Facility.

5 The PM_{10} concentrations measured at the intermittent Highway 854 Lift Station (AEPA Station ID 00010348-I-1) on August 4, August 10, August 16, August 22, and August 28 were 24.934 µg/m^3, 40.089 µg/m^3, 86.726 µg/m^3, 23.596 µg/m^3, and 114.732 µg/m^3, respectively.

6 Based on the VOC and TMNOC results measured at the intermittent Highway 854 Lift Station (AEPA Station ID 00010348-I-1), no exceedances were detected for parameters with applicable AAAQO, which included o,m,p-xylene, hexane and toluene. There are no applicable AAAQO for other parameters that were monitored in August 2023.

7 The TSP concentrations measured for Facility Test #855 (HVF-23-06-01), Facility Test #856 (HVF-23-06-20), Facility Test #857 (HVF-23-06-19) and Facility Test #859 (HVF-23-06-18) were over the 50 µg/m^3 threshold outlined in the Facility's approval. Because of the elevated

TSP concentration, these samples were sent for additional analysis of metals. The results of these tests showed that all parameters for Test #855, Test #856, Test #857, and Test #859 were below any applicable AAAQO (arsenic, chromium, lead, and nickel).

8 The PM_{10} concentrations measured for Facility Test #857 (C9700136) and Facility Test #859 (C9700137) were over the 50 $\mu g/m^3$ threshold outlined in the Facility's approval. Because of the elevated PM_{10} concentrations, these samples were sent for additional analysis of metals. The PM_{10} concentrations measured for Facility Test #855 (C1170469) and Facility Test #856 (C1168581) were less than the 50 $\mu g/m^3$ threshold; however, as the TSP concentrations for these samples were above the 50 $\mu g/m^3$ threshold, the corresponding PM_{10} samples were sent for additional analysis. The results of these tests showed that all parameters for Test #855, Test #856, Test #857 and Test #859 were below any applicable AAAQO (arsenic, chromium, lead, and nickel).

Clean Harbors will continue to perform their Facility's Ambient Air Monitoring Program in accordance with their Approval and the AMD and evaluate the data to determine impacts on the ambient air quality.

7. Certification

Per the requirements of AMD, Chapter 9, Section 2.3, the following certification is provided for the August 2023 Ambient Air Monitoring Report.

"I certify that I have reviewed and verified this report and that the information is complete, accurate and representative of the monitoring results, reporting timeframe and the specified analysis, summarization and reporting requirements."

Stan Yuha

Plant Manager/Report Certifier

END OF REPORT

Tables

TABLE 1

Average Wind Speed (metres/second)
AEPA Station ID 00010348-C-1
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
August 2023

Ryley Wind Speed Data (m/s) - Month of August 2023																							
Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	2.1	1.8	2.7	3.8	3.7	2.1	1.7	3.1	2.5	2.1	3.6	4.3	2.9	3.0	3.2	2.3	3.0	2.7	2.8	2.1	1.5	1.8	1.1	1.0
2	0.6	1.5	1.5	1.3	1.6	2.3	2.2	2.1	3.2	3.4	4.0	4.1	4.0	4.1	4.6	4.6	5.0	5.8	5.4	4.9	5.0	4.7	3.9	4.1
3	3.8	3.6	3.6	6.8	6.6	6.4	5.5	5.0	4.8	5.0	5.1	7.0	7.1	7.6	6.8	6.3	5.4	5.6	5.8	4.5	3.0	2.5	3.3	3.5
4	3.6	3.3	3.4	3.7	3.8	4.1	3.5	3.2	3.1	3.7	3.5	2.5	2.5	3.0	2.3	1.8	2.5	2.2	2.1	2.4	2.0	2.0	2.8	5.4
5	2.4	3.0	3.7	2.4	2.1	2.4	2.8	2.5	2.2	2.7	3.3	3.1	3.7	3.4	3.5	3.2	3.1	2.9	2.9	2.0	1.0	0.5	0.3	0.4
6	0.9	0.6	0.7	0.6	0.4	0.5	1.3	0.9	1.0	0.6	0.8	1.1	1.2	1.2	2.1	1.6	2.2	2.4	1.9	2.4	2.0	2.6	3.4	2.9
7	2.6	2.2	1.7	1.1	0.5	0.8	1.2	1.5	1.4	0.5	0.5	1.0	1.1	1.7	2.0	2.3	3.1	1.7	2.1	1.6	2.3	3.1	3.4	1.9
8	2.5	2.9	3.3	4.5	4.1	3.7	3.8	3.9	4.5	4.2	3.5	3.6	4.3	5.3	4.8	4.0	3.4	4.3	4.5	3.5	2.7	3.4	4.3	4.8
9	5.5	5.2	4.2	4.8	5.5	5.3	4.0	4.4	6.1	7.0	6.7	6.3	6.2	6.5	7.4	7.7	8.2	7.5	6.5	6.5	5.9	3.9	5.2	3.1
10	1.8	1.5	2.0	4.1	3.7	4.1	4.9	4.8	6.1	7.5	8.6	8.4	8.4	10.6	10.6	10.6	9.7	10.3	6.6	2.8	5.3	5.6	4.7	5.0
11	5.5	8.2	9.4	9.4	6.9	4.8	4.8	5.4	5.9	7.5	7.2	5.9	6.3	6.2	7.3	6.0	4.6	2.7	2.4	2.3	1.6	2.0	2.5	2.3
12	3.3	4.4	3.8	4.7	4.6	4.8	4.3	4.3	4.3	5.3	6.4	7.4	7.9	7.7	7.7	7.1	6.7	4.5	4.6	4.0	1.8	2.0	2.8	3.4
13	3.9	4.2	3.9	4.6	4.5	4.0	4.6	4.5	3.5	4.2	3.9	4.8	5.4	5.2	5.1	5.3	5.3	4.6	3.5	2.2	1.9	3.1	3.8	5.0
14	4.7	5.4	4.6	3.6	3.7	4.1	4.9	4.1	3.1	4.5	4.3	3.4	3.8	3.9	3.8	3.0	4.5	3.8	3.0	2.2	2.3	1.8	2.5	1.7
15	1.2	2.2	3.4	3.2	1.9	2.2	2.2	2.8	4.0	4.5	5.1	5.2	7.1	7.0	6.9	5.6	5.0	4.5	5.5	5.2	4.2	4.6	5.4	7.7
16	4.9	6.1	5.4	3.7	3.3	3.7	4.2	4.3	5.1	6.5	7.1	6.8	7.0	6.4	5.6	5.3	4.6	4.3	2.0	1.4	2.1	2.6	2.8	3.7
17	4.1	4.4	4.5	6.2	3.9	1.7	1.0	1.8	3.0	3.1	2.5	2.8	2.4	2.4	2.8	2.9	1.1	1.1	1.7	4.2	3.9	6.4	11.2	8.0
18	4.5	3.6	3.5	3.7	3.8	4.2	3.9	4.8	5.4	4.4	4.2	5.1	6.0	5.3	7.3	6.8	5.7	6.9	8.9	9.9	8.7	7.5	6.4	5.9
19	6.5	6.4	6.1	5.2	4.4	3.4	3.6	4.2	4.2	4.6	4.2	4.8	4.9	5.1	4.3	5.2	4.3	3.3	3.3	2.2	1.7	2.3	2.8	3.5
20	3.9	4.2	4.5	4.2	3.8	2.2	2.4	1.7	2.5	3.1	5.0	4.0	4.4	4.6	3.9	4.2	4.0	3.7	3.0	2.6	3.7	3.5	2.9	2.6
21	2.5	2.9	2.1	1.9	1.7	2.1	1.9	1.7	2.6	3.3	3.5	3.5	4.5	5.1	5.7	5.6	5.6	4.7	4.5	3.0	2.6	2.8	2.5	3.1
22	2.9	2.1	2.4	2.4	2.8	2.5	2.1	2.4	2.5	3.2	2.8	3.3	3.4	2.5	2.4	2.6	3.0	2.7	2.6	2.9	1.8	1.2	2.4	3.0
23	2.8	2.1	2.1	2.7	2.2	2.3	2.8	2.3	3.2	4.1	4.6	4.6	4.4	4.5	5.4	5.0	4.6	4.9	4.5	5.1	2.4	1.1	2.1	4.7
24	3.7	2.9	4.6	5.4	5.0	4.3	4.0	2.9	3.6	3.6	4.8	5.9	6.1	6.9	6.3	6.9	7.2	6.8	4.7	3.1	2.9	2.9	2.9	3.6
25	3.6	3.1	3.4	2.8	2.1	1.0	0.6	1.2	1.4	2.9	4.2	5.1	4.4	4.6	5.2	5.1	5.0	5.3	4.6	4.2	3.8	4.5	4.7	4.4
26	4.1	4.3	3.7	3.2	2.6	1.4	1.9	1.7	1.6	2.0	2.7	2.3	2.8	2.7	2.2	3.7	4.5	2.9	1.8	1.0	1.0	2.7	4.0	4.2
27	4.7	4.3	3.7	3.8	4.0	4.3	3.9	3.7	3.7	3.1	3.2	2.4	2.7	3.8	3.3	2.4	2.3	2.8	2.1	1.9	2.9	3.5	3.9	4.3
28	4.6	4.7	4.0	4.2	4.5	5.4	5.4	4.3	3.5	2.2	2.3	1.8	1.8	1.8	2.2	2.3	2.1	2.3	1.6	0.4	1.5	2.2	2.5	2.0
29	1.2	1.1	1.5	1.6	0.8	0.4	1.2	1.4	1.5	2.5	3.2	3.5	3.7	4.5	4.6	4.7	4.5	3.9	3.0	2.9	2.7	2.9	2.7	2.8
30	2.4	1.3	0.8	1.1	1.4	2.0	2.0	2.1	1.9	1.9	3.6	3.7	2.9	3.3	3.2	3.9	3.1	3.5	1.1	1.0	2.3	1.6	1.5	2.2
31	1.7	1.9	2.6	4.0	5.1	5.1	5.8	5.3	5.1	5.3	5.2	7.1	6.4	7.3	8.0	8.0	7.6	6.9	4.3	3.5	3.2	3.7	3.5	3.4

TABLE 2

Average Wind Speed (metres/second)
AEPA Station ID 00010348-C-2
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
August 2023

Ryley Wind Speed Data (m/s) - Month of August 2023																							
Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
2	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
3	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
4	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
5	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
6	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
7	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
8	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
9	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
10	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
11	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
12	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
13	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
14	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
15	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
16	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
17	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
18	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
19	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
20	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
21	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
22	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
23	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
24	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
25	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
26	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
27	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
28	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
29	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
30	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
31	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)

Notes:
- (X) - Equipment Malfunction

TABLE 3

Average Wind Speed (metres/second)
AEPA Station ID 00010348-C-3
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
August 2023

Ryley Wind Speed Data (m/s) - Month of August 2023																							
Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	0.4	0.4	0.7	1.2	0.6	1.2	0.6	1.3	1.4	1.4	2.5	1.4	1.8	2.0	2.3	1.6	1.7	1.7	1.2	1.1	0.1	0.5	0.0	0.1
2	0.3	0.6	0.7	0.4	0.8	0.8	0.5	1.2	1.5	1.9	3.0	3.2	3.0	2.3	3.2	3.4	3.3	3.6	2.6	1.8	1.4	1.6	1.3	1.5
3	1.4	1.4	2.0	2.7	3.1	3.8	2.9	2.5	2.8	2.0	2.3	3.5	4.4	3.7	3.2	2.9	3.0	2.9	3.0	2.4	1.7	0.8	0.4	0.3
4	0.1	0.6	0.3	0.2	0.3	2.1	1.1	1.3	1.7	1.7	1.9	1.6	1.5	1.5	1.5	1.3	1.4	1.2	0.7	0.7	0.0	0.1	1.0	2.6
5	1.1	2.2	2.5	1.2	0.8	0.6	0.9	1.0	1.4	1.4	1.6	2.1	2.0	2.1	2.1	1.9	2.0	1.8	1.1	0.7	0.1	0.0	0.0	0.2
6	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.3	0.4	0.9	1.0	1.4	1.0	1.0	0.9	1.2	1.3	1.2	1.0	0.6	0.7	1.9	2.0
7	1.7	1.2	1.1	0.4	0.1	0.3	0.4	1.0	1.1	0.6	0.6	0.9	0.8	1.0	1.3	1.1	1.6	0.8	0.9	0.7	0.8	0.9	1.4	1.1
8	1.4	2.0	2.8	3.2	3.1	2.5	2.6	3.0	3.7	3.1	2.7	3.5	4.0	4.4	3.7	3.0	2.0	2.2	2.8	2.3	1.6	2.5	3.3	3.1
9	3.7	3.5	3.2	3.5	4.5	3.9	3.4	3.6	4.9	5.7	5.5	4.9	5.0	5.9	5.9	5.6	6.5	5.9	4.4	5.2	4.5	2.9	3.8	1.4
10	1.0	1.0	1.1	0.4	0.2	0.1	0.3	0.8	3.3	4.5	5.4	5.3	5.7	6.8	6.1	6.2	6.5	6.2	4.1	1.4	3.7	3.3	2.2	0.6
11	2.1	4.7	5.8	6.0	3.8	3.2	3.1	3.6	3.8	4.3	4.1	3.8	3.7	3.7	4.3	3.3	2.9	1.3	1.1	1.1	1.2	1.5	2.0	1.5
12	0.6	0.6	0.5	0.2	0.2	0.2	0.1	0.1	0.9	2.9	4.0	4.8	5.1	4.5	3.8	3.8	3.6	2.2	2.8	2.2	0.3	0.6	0.1	0.0
13	0.0	0.1	0.1	0.2	0.1	0.1	0.4	0.6	0.5	0.8	0.9	1.3	2.4	2.2	1.6	1.7	1.6	0.9	0.7	1.3	1.5	2.0	2.3	1.3
14	0.6	0.4	0.1	0.1	0.1	0.1	0.2	0.1	0.5	2.7	2.8	2.2	2.4	2.3	2.4	1.6	2.1	1.4	1.2	0.7	0.8	0.7	1.2	0.6
15	0.6	0.4	0.2	0.4	0.7	0.9	1.8	1.6	1.1	2.2	2.3	4.4	5.1	3.5	1.8	1.1	1.3	1.8	3.9	3.0	1.3	1.6	2.6	3.9
16	3.5	3.3	3.0	1.5	0.4	0.4	0.1	1.2	2.5	4.0	4.0	4.3	4.2	3.8	3.1	3.0	2.6	2.1	1.2	0.7	1.4	1.7	2.1	2.8
17	3.5	3.5	4.0	4.7	3.5	1.4	0.6	1.8	2.4	2.0	2.3	2.0	1.4	2.0	2.0	1.5	0.9	0.8	1.2	1.8	2.0	3.2	5.6	3.3
18	1.7	1.6	1.3	1.9	1.9	2.2	1.9	2.9	3.1	2.6	2.4	3.4	3.3	3.0	3.8	3.8	3.6	4.5	5.1	5.4	4.8	4.0	4.1	3.9
19	3.9	3.3	3.5	3.0	2.2	1.8	1.1	1.7	1.5	2.2	2.5	2.9	3.3	2.8	2.7	2.7	2.6	1.8	2.0	1.0	0.2	0.2	0.7	1.6
20	2.2	2.8	2.6	2.1	1.8	1.7	2.1	1.8	2.1	3.0	4.5	3.4	3.7	4.3	3.6	3.5	3.4	3.2	2.2	1.0	1.3	1.8	1.8	1.8
21	1.4	1.8	1.7	1.4	1.3	1.2	1.1	1.4	1.9	2.6	3.0	3.1	4.1	4.2	4.1	4.4	4.0	3.5	2.9	2.2	1.2	1.1	0.9	1.5
22	1.8	1.5	1.8	1.3	1.5	1.8	1.6	1.8	1.7	2.5	2.2	2.8	2.7	1.8	1.8	1.3	1.4	1.2	1.2	1.4	1.2	1.0	1.2	1.8
23	1.8	1.6	1.2	1.6	1.5	1.6	2.0	1.7	2.5	3.4	4.0	3.9	3.7	3.5	3.6	4.1	3.5	4.0	2.9	2.9	1.1	0.9	1.3	1.4
24	0.2	0.6	1.5	1.7	1.2	0.8	0.5	1.4	1.7	2.0	2.5	3.0	3.5	3.7	3.1	3.3	3.4	3.0	1.6	1.2	0.8	1.2	0.8	0.3
25	0.2	0.4	0.4	0.2	0.2	0.2	0.3	0.7	1.4	2.9	3.8	4.1	3.1	4.1	4.3	4.6	4.8	4.6	3.8	3.1	2.9	3.5	3.3	3.6
26	4.0	4.0	3.2	2.6	1.6	1.2	1.6	1.6	1.4	1.5	0.9	1.4	1.7	1.3	1.5	2.6	2.6	1.6	0.4	0.1	0.1	0.1	0.2	0.1
27	0.1	0.4	0.5	0.4	0.4	0.3	0.4	0.3	0.5	1.6	1.8	1.2	1.7	1.8	2.0	1.3	1.4	1.6	1.0	0.1	0.1	0.1	0.0	0.2
28	0.5	0.7	0.7	1.0	1.1	0.8	0.5	0.4	0.3	0.9	1.3	1.1	1.4	1.3	1.0	1.3	1.1	1.2	0.6	0.3	0.6	1.0	1.7	1.6
29	0.4	0.7	1.4	0.8	0.8	0.1	0.2	0.7	1.3	2.1	2.8	3.7	4.0	4.4	4.4	4.1	4.2	3.2	2.4	1.9	1.6	1.8	1.4	1.9
30	1.3	0.7	0.6	0.5	0.9	1.1	0.9	0.8	1.0	1.3	1.6	2.2	1.8	2.3	2.1	2.7	1.9	2.7	0.7	1.0	1.3	1.0	0.9	0.9
31	0.7	0.7	1.3	2.3	3.6	3.3	3.1	3.0	3.2	3.2	3.7	4.2	4.0	4.4	4.7	4.8	5.1	3.9	2.6	2.0	1.7	1.6	0.9	1.4

TABLE 4

Average Wind Direction (degrees from North)
AEPA Station ID 00010348-C-1
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
August 2023

Ryley Wind Direction Data (degrees, blowing from) - Month of August 2023																							
Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	220	258	259	246	237	182	233	252	176	175	281	258	261	278	292	284	272	255	247	259	253	284	56	46
2	186	252	247	135	279	190	226	301	222	33	63	64	69	56	52	69	57	53	52	47	41	44	33	33
3	30	33	238	328	339	183	64	50	302	339	328	311	307	305	314	310	309	304	305	303	288	268	247	256
4	237	250	250	255	240	280	271	252	299	310	316	302	289	296	243	274	288	280	240	217	213	206	200	82
5	163	180	151	202	272	251	250	266	275	303	309	315	311	300	297	303	312	292	320	259	37	77	123	219
6	219	219	229	199	234	225	183	200	251	251	83	125	148	266	243	221	239	173	236	100	49	51	66	126
7	148	154	150	246	280	250	267	151	81	111	154	220	156	219	309	252	300	187	316	174	26	38	49	77
8	70	167	106	117	110	111	109	106	111	113	104	98	105	112	109	99	70	57	63	77	66	73	88	80
9	78	91	90	91	99	102	105	102	105	107	110	103	102	96	99	95	95	100	101	109	143	148	108	136
10	168	182	194	208	228	221	219	232	262	274	279	282	283	283	290	292	292	288	278	267	279	269	261	231
11	240	281	295	304	293	287	287	285	290	302	297	295	300	296	290	297	281	255	274	146	82	104	139	156
12	210	228	238	218	214	211	219	216	232	258	268	285	302	301	300	297	300	300	285	287	282	268	242	238
13	228	225	231	213	216	212	203	204	218	222	232	241	252	256	253	239	242	235	214	196	188	190	195	198
14	200	210	213	219	221	230	216	217	227	270	289	280	290	301	289	275	318	317	333	316	291	291	77	49
15	119	194	196	198	190	203	188	190	202	201	197	183	184	194	203	220	236	309	297	289	254	233	268	298
16	300	308	306	280	247	233	221	232	265	279	295	304	300	299	301	295	287	309	293	98	109	135	131	142
17	145	140	146	160	155	209	201	140	168	190	181	179	179	141	164	205	240	126	66	20	19	200	286	316
18	288	315	326	292	276	272	264	276	280	282	269	280	269	266	269	275	282	292	309	310	311	309	293	286
19	280	278	282	277	275	260	251	251	252	261	269	270	287	298	302	306	286	287	291	276	230	198	176	176
20	172	174	173	176	175	154	137	109	126	130	131	135	125	113	105	97	93	85	74	54	43	58	78	83
21	80	100	108	87	92	97	90	84	82	82	80	75	86	83	74	82	89	86	79	86	62	62	54	60
22	65	84	80	68	75	79	93	86	76	86	80	74	76	77	59	37	27	18	37	54	72	94	56	73
23	81	94	79	72	84	83	69	77	87	90	91	86	94	95	75	74	74	72	75	194	228	134	242	228
24	230	207	202	201	202	218	225	268	302	318	301	312	309	309	308	312	313	315	320	308	307	275	268	255
25	258	262	259	256	234	194	185	142	136	142	165	158	167	148	145	132	131	110	106	90	95	105	107	118
26	124	128	130	130	130	145	125	112	124	150	207	201	193	212	247	277	280	277	243	230	227	219	204	202
27	207	225	259	260	256	251	252	250	248	265	277	290	277	277	276	298	289	286	268	229	209	203	203	201
28	198	197	193	196	197	202	200	205	206	244	260	275	264	263	271	286	276	279	311	253	133	140	158	154
29	180	137	135	173	194	181	121	117	114	118	123	119	125	127	133	115	117	111	96	84	87	87	100	109
30	105	124	213	142	54	79	294	304	324	280	99	51	48	111	40	65	71	85	117	165	266	301	304	290
31	302	307	280	291	292	300	307	299	288	300	290	301	300	288	280	284	288	300	286	286	279	267	265	273

TABLE 5

Average Wind Direction (degrees from North)
AEPA Station ID 00010348-C-2
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
August 2023

Ryley Wind Direction Data (degrees, blowing from) - Month of August 2023																							
Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
2	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
3	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
4	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
5	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
6	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
7	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
8	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
9	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
10	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
11	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
12	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
13	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
14	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
15	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
16	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
17	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
18	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
19	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
20	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
21	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
22	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
23	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
24	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
25	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
26	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
27	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
28	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
29	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
30	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)
31	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)

Notes:
- (X) - Equipment Malfunction

TABLE 6

Average Wind Direction (degrees from North)
AEPA Station ID 00010348-C-3
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
August 2023

Ryley Wind Direction Data (degrees, blowing from) - Month of August 2023																								
Day/Hour	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	213	260	249	266	205	211	264	255	165	195	286	260	283	284	298	290	274	278	260	276	257	264	99	87
2	246	260	190	173	237	209	228	318	170	91	80	80	79	66	66	81	75	74	64	54	45	58	39	29
3	37	35	289	328	254	186	98	111	238	320	322	305	298	303	312	318	305	299	300	300	286	247	267	235
4	233	241	242	245	248	288	264	267	308	320	282	273	245	285	262	242	306	278	243	224	238	211	242	64
5	184	170	150	227	283	265	267	266	282	298	306	300	304	290	292	295	286	284	320	288	166	278	199	218
6	233	191	237	219	257	255	207	214	268	205	149	137	128	226	250	247	232	174	260	143	53	35	104	126
7	140	146	160	280	234	244	262	152	99	121	227	264	200	250	167	277	231	187	327	197	38	54	74	80
8	82	179	102	117	112	110	110	108	114	113	110	112	111	114	110	105	75	70	80	92	88	92	98	91
9	94	106	102	104	109	111	110	110	110	114	117	113	110	108	109	108	106	111	113	117	154	145	115	166
10	191	189	209	240	244	222	254	254	268	275	280	280	274	277	277	275	279	279	278	289	279	276	267	251
11	258	276	284	289	287	286	286	284	286	294	289	292	297	300	293	300	291	272	279	145	88	107	133	175
12	238	256	232	218	218	245	206	237	259	267	273	283	295	300	296	296	301	302	288	293	284	263	246	233
13	264	262	209	238	255	219	239	235	231	231	245	250	261	265	253	252	254	247	225	199	199	202	208	222
14	231	233	218	241	255	239	207	216	241	279	293	300	300	307	290	296	312	303	309	312	297	275	108	169
15	152	237	243	223	216	212	199	214	229	211	213	192	197	210	229	239	256	314	296	289	261	263	270	298
16	297	304	300	274	246	262	240	261	266	279	289	295	286	290	303	299	305	294	289	122	121	137	128	130
17	132	132	161	173	173	252	189	138	182	197	192	185	196	164	184	220	271	136	97	17	68	165	254	285
18	311	281	289	271	271	273	269	277	282	282	275	282	273	272	274	280	284	290	302	303	302	300	287	283
19	279	278	281	278	274	268	260	261	258	263	274	275	290	306	305	309	293	301	296	283	215	137	142	165
20	174	173	171	181	157	134	128	125	126	130	142	129	123	127	112	113	98	92	87	61	67	72	91	87
21	85	107	108	89	95	97	91	89	89	93	101	92	96	104	94	99	100	94	94	94	68	71	61	76
22	83	89	87	71	90	88	97	96	84	99	100	94	100	85	84	115	54	59	53	68	82	84	71	87
23	95	99	81	81	93	87	84	86	95	102	111	100	111	106	95	99	96	94	95	234	220	175	271	243
24	230	223	223	232	226	244	257	275	302	317	302	310	303	303	308	308	307	318	326	309	310	266	257	256
25	263	253	263	238	204	182	198	139	143	157	171	163	189	145	143	133	132	121	115	105	110	113	116	120
26	124	127	130	126	134	146	126	123	149	202	230	210	200	239	267	279	280	276	257	234	226	244	230	233
27	230	239	246	245	260	254	255	252	264	275	288	293	301	295	288	240	285	289	271	211	241	227	252	259
28	250	233	220	223	229	235	244	234	239	255	273	275	284	285	263	266	277	286	337	253	137	136	146	141
29	184	110	126	201	233	168	101	101	106	115	125	122	127	125	124	111	121	113	98	86	85	90	100	111
30	112	157	271	139	85	100	311	309	202	274	123	63	69	120	86	76	66	98	197	264	309	321	309	258
31	289	238	304	288	289	294	300	290	290	292	288	296	291	287	280	278	286	292	283	284	276	267	257	269

TABLE 7

Wind Frequency Distribution
AEPA Station ID 00010348-C-1
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
August 2023

Frequency Distribution Report: Ryley, Alberta - August 2023										
		Wind Speed (m/s) and Number of Occurences (minutes)								
Direction	Angle	< 0.5	0.5 to < 2.1	2.1 to < 3.6	3.6 to < 5.7	5.7 to < 8.8	8.8 to < 11.1	>= 11.1	%	Total Occurrences by Direction
North	> 337.5 - 22.5	92	600	486	402	208	18	7	4.1%	1813
Northeast	> 22.5 - 67.5	86	592	1501	1020	179	0	0	7.6%	3378
East	> 67.5 - 112.5	102	1301	2680	2531	877	63	4	16.9%	7558
Southeast	> 112.5 - 157.5	132	1243	1477	1307	302	6	0	10.0%	4467
South	> 157.5 - 202.5	131	869	1415	1533	294	24	2	9.6%	4268
Southwest	> 202.5 - 247.5	147	1114	1574	2805	327	9	3	13.4%	5979
West	> 247.5 - 292.5	94	1347	2968	3295	1694	306	84	21.9%	9788
Northwest	> 292.5 - 337.5	83	938	1779	2014	2049	400	126	16.6%	7389
Missing/Invalid Minutes									0.000%	0
Total Occurences by Speed		867	8004	13880	14907	5930	826	226		**44640**
Occurences by %		1.9%	17.9%	31.1%	33.4%	13.3%	1.9%	0.5%	**100.000%**	

TABLE 8

Wind Frequency Distribution
AEPA Station ID 00010348-C-2
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
August 2023

Frequency Distribution Report: Ryley, Alberta - August 2023										
Direction	Angle	Wind Speed (m/s) and Number of Occurences (minutes)							%	Total Occurrences by Direction
		< 0.5	0.5 to < 2.1	2.1 to < 3.6	3.6 to < 5.7	5.7 to < 8.8	8.8 to < 11.1	>= 11.1		
North	> 337.5 - 22.5	0	0	0	0	0	0	0	0.0%	0
Northeast	> 22.5 - 67.5	0	0	0	0	0	0	0	0.0%	0
East	> 67.5 - 112.5	0	0	0	0	0	0	0	0.0%	0
Southeast	> 112.5 - 157.5	0	0	0	0	0	0	0	0.0%	0
South	> 157.5 - 202.5	0	0	0	0	0	0	0	0.0%	0
Southwest	> 202.5 - 247.5	0	0	0	0	0	0	0	0.0%	0
West	> 247.5 - 292.5	0	0	0	0	0	0	0	0.0%	0
Northwest	> 292.5 - 337.5	0	0	0	0	0	0	0	0.0%	0
Missing/Invalid Hours									**100%**	44640
Total Occurences by Speed		0	0	0	0	0	0	0		**44640**
Occurences by %		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**100.00%**	

TABLE 9

Wind Frequency Distribution
AEPA Station ID 00010348-C-3
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
August 2023

Frequency Distribution Report: Ryley, Alberta - August 2023										
Direction	Angle	Wind Speed (m/s) and Number of Occurences (minutes)							%	Total Occurrences by Direction
		< 0.5	0.5 to < 2.1	2.1 to < 3.6	3.6 to < 5.7	5.7 to < 8.8	8.8 to < 11.1	>= 11.1		
North	> 337.5 - 22.5	609	1898	595	190	26	2	0	7.4%	3320
Northeast	> 22.5 - 67.5	335	1097	189	39	0	0	0	3.7%	1660
East	> 67.5 - 112.5	317	3453	2515	1501	265	10	0	18.1%	8061
Southeast	> 112.5 - 157.5	384	1739	1452	1310	256	3	0	11.5%	5144
South	> 157.5 - 202.5	715	1277	683	330	43	6	0	6.8%	3054
Southwest	> 202.5 - 247.5	1991	1716	277	59	13	0	0	9.1%	4056
West	> 247.5 - 292.5	2280	4936	2816	1824	507	36	2	27.8%	12401
Northwest	> 292.5 - 337.5	696	2911	2052	1100	179	4	2	15.6%	6944
Missing/Invalid Minutes									0.0%	0
Total Occurences by Speed		7327	19027	10579	6353	1289	61	4		**44640**
Occurences by %		16.4%	42.6%	23.7%	14.2%	2.9%	0.1%	0.0%	**100.00%**	

TABLE 10

Total Suspended Particulate (TSP) Matter Results
AEPA Station ID 00010348-I-2
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
August 2023

Filter ID	HV-23-02-09
Test ID	Facility Test # 105
Sample Start Date/Time	23/08/01 13:00:00
Sample End Date/Time	23/09/01 15:00:00
Sampling Time (hours)	24.78
Flow Rate (m^3/min)	1.304
Volume (m^3)	1939.05
TSP Mass (mg)	#N/A
TSP Concentration (ug/m^3)	#N/A
Sampler Name	TE-5170V / P8580 TSP VFC

TABLE 11

Total Suspended Particulate (TSP) Matter Results
AEPA Station ID 00010348-I-3
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
August 2023

Filter ID	HV-23-02-10
Test ID	School Test # 105
Sample Start Date/Time	23/08/01 13:00:00
Sample End Date/Time	23/09/01 15:00:00
Sampling Time (hours)	27.92
Flow Rate (m^3/min)	1.295
Volume (m^3)	2169.125
TSP Mass (mg)	#N/A
TSP Concentration (ug/m^3)	#N/A
Sampler Name	TE-5170V / P8581 TSP VFC

TABLE 12

Total Suspended Particulate (TSP) Matter Results
AEPA Station ID 00010348-I-1
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
August 2023

Filter ID	HVF-23-06-01	HVF-23-06-20	HVF-23-06-19	HVF-23-06-17	HVF-23-06-18
Test ID	855	856	857	858	859
Sample Start Date/Time	23/08/04 00:00:00	23/08/10 00:00:00	23/08/16 00:00:00	23/08/22 00:00:00	23/08/28 00:00:00
Sample End Date/Time	23/08/05 00:00:00	23/08/11 00:00:00	23/08/17 00:00:00	23/08/23 00:00:00	23/08/29 00:00:00
Sampling Time (hours)	24.47	24.60	24.12	23.73	23.71
Flow Rate (m^3/min)	1.302	1.302	1.302	1.302	1.302
Volume (m^3)	1911.60	1921.75	1884.25	1853.79	1852.23
TSP Mass (mg)	110	212	413	67.3	481
TSP Concentration (ug/m^3)	57.544	110.316	219.185	36.304	259.688
Sampler Name	TE-5170V / P11162 TSP VFC	TE-5170V / P11162 TSP VFC	TE-5170V / P11162 TSP VFC	TE-5170V / P11162 TSP VFC	TE-5170V / P11162 TSP VFC

TABLE 13

Particulate Matter PM_{10} Results
AEPA Station ID 00010348-I-1
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
August 2023

Filter ID	C1170469	C1168581	C9700136	AT79029	C9700137
Test ID	855	856	857	858	859
Sample Start Date/Time	23/08/04 00:00:00	23/08/10 00:00:00	23/08/16 00:00:00	23/08/22 00:00:00	23/08/28 00:00:00
Sample End Date/Time	23/08/05 00:00:00	23/08/11 00:00:00	23/08/17 00:00:00	23/08/23 00:00:00	23/08/29 00:00:00
Sampling Time (hours)	24	24	24	24	24
Flow Rate (l/min)	16.7	16.7	16.7	16.7	16.7
Volume (m^3)	22.7	22.5	22.6	22.8	22.4
PM_{10} Mass (mg)	0.566	0.902	1.96	0.538	2.57
PM_{10} Concentration (ug/m^3)	24.934	40.089	86.726	23.596	114.732
Sampler Name	2000 FRM-AE / 200FB209860905	2000 FRM-AE / 200FB209860905	2000 FRM-AE / 200FB209860905	2000 FRM-AE / 200FB209860905	2000 FRM-AE / 200FB209860905

TABLE 14

VOC and TNMOC Analytical Results
AEPA Station ID 00010348-I-1
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
August 2023

Parameter	Units	Date / Sample ID / AAAQO[1]	4-Aug-23 855	10-Aug-23 856	16-Aug-23 857	22-Aug-23 858	28-Aug-23 859
Total Non-Methane Organic Carbon	ppmv	-	< 0.08	< 0.08	< 0.08	< 0.08	< 0.09
1,2,3-Trimethylbenzene	ppbv	-	0.13	0.23	0.15	< 0.08	< 0.09
1,2,4-Trimethylbenzene	ppbv	-	0.07	0.28	0.26	< 0.05	< 0.05
1,3,5-Trimethylbenzene	ppbv	-	0.05	0.18	0.23	< 0.05	< 0.05
1-Butene/Isobutylene	ppbv	-	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1-Hexene/2-Methyl-1-pentene	ppbv	-	< 0.12	< 0.11	< 0.12	< 0.12	< 0.12
1-Pentene	ppbv	-	0.10	< 0.05	0.08	< 0.05	< 0.05
2,2,4-Trimethylpentane	ppbv	-	< 0.03	0.06	< 0.03	< 0.03	< 0.04
2,2-Dimethylbutane	ppbv	-	< 0.03	0.06	< 0.03	< 0.03	< 0.04
2,3,4-Trimethylpentane	ppbv	-	< 0.03	0.04	< 0.03	< 0.03	0.24
2,3-Dimethylbutane	ppbv	-	< 0.15	< 0.15	< 0.15	< 0.15	< 0.16
2,3-Dimethylpentane	ppbv	-	< 0.03	0.08	0.04	< 0.03	< 0.04
2,4-Dimethylpentane	ppbv	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2-Methylheptane	ppbv	-	< 0.03	0.19	< 0.03	< 0.03	< 0.04
2-Methylhexane	ppbv	-	< 0.05	0.19	< 0.05	< 0.05	0.09
2-Methylpentane	ppbv	-	0.05	0.42	0.08	< 0.03	0.17
3-Methylheptane	ppbv	-	< 0.05	0.10	< 0.05	< 0.05	< 0.05
3-Methylhexane	ppbv	-	< 0.03	0.24	0.05	< 0.03	0.12
3-Methylpentane	ppbv	-	0.06	0.25	0.06	< 0.03	0.07
Benzene	ppbv	-	0.11	0.21	0.11	0.15	0.17
cis-2-Butene	ppbv	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
cis-2-Pentene	ppbv	-	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04
Cyclohexane	ppbv	-	< 0.07	0.29	< 0.07	< 0.07	< 0.07
Cyclopentane	ppbv	-	0.08	0.11	< 0.03	< 0.03	< 0.04
Ethylbenzene	ppbv	-	< 0.05	0.29	0.12	< 0.05	< 0.05
Isobutane	ppbv	-	0.56	0.33	0.33	0.25	0.30
Isopentane	ppbv	-	0.38	1.58	0.36	< 0.07	0.51
Isoprene	ppbv	-	0.17	0.17	0.15	< 0.03	0.34
Isopropylbenzene	ppbv	-	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
m,p-Xylene	ppbv	161	0.10	1.17	0.41	< 0.07	0.14
m-Diethylbenzene	ppbv	-	0.15	0.19	0.14	< 0.03	< 0.04
m-Ethyltoluene	ppbv	-	< 0.05	0.17	0.14	0.08	< 0.05
Methylcyclohexane	ppbv	-	< 0.03	0.55	0.08	< 0.03	0.05
Methylcyclopentane	ppbv	-	< 0.08	0.31	< 0.08	< 0.08	0.09
n-Butane	ppbv	-	0.83	< 0.03	0.44	0.38	0.62
n-Decane	ppbv	-	0.13	0.30	0.17	< 0.10	< 0.10
n-Dodecane	ppbv	-	< 0.5	0.6	0.9	< 0.5	< 0.5
n-Heptane	ppbv	-	< 0.07	0.45	0.07	< 0.07	0.18
n-Hexane	ppbv	1990	0.22	0.56	0.12	< 0.05	0.24
n-Nonane	ppbv	-	< 0.07	0.27	< 0.07	< 0.07	< 0.07
n-Octane	ppbv	-	0.04	0.36	0.05	< 0.03	< 0.04
n-Pentane	ppbv	-	0.22	1.07	0.29	0.15	0.44
n-Propylbenzene	ppbv	-	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
n-Undecane	ppbv	-	< 0.8	< 0.8	< 0.8	< 0.8	< 0.9
o-Ethyltoluene	ppbv	-	< 0.03	0.11	0.14	0.08	< 0.04
o-Xylene	ppbv	161	0.06	0.40	0.15	< 0.05	< 0.05
p-Diethylbenzene	ppbv	-	< 0.03	0.18	0.15	< 0.03	< 0.04
p-Ethyltoluene	ppbv	-	< 0.07	0.11	< 0.07	< 0.07	< 0.07
Styrene	ppbv	-	0.07	0.09	< 0.07	< 0.07	< 0.07
Toluene	ppbv	106	0.15	1.91	0.29	< 0.05	0.27
trans-2-Butene	ppbv	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
trans-2-Pentene	ppbv	-	< 0.03	0.04	< 0.03	< 0.03	< 0.04
Total VOCs [2]	ppbv	-	6.610	15.730	7.720	4.760	7.400

Notes:
(1) Alberta Ambient Air Quality Objectives for a 24 hour averaging period.
(2) Total VOCs are calculated under the assumption that values under the detection limit are equal to the detection limit, as per the AMD.

TABLE 15

TSP Metals Analytical Results
AEPA Station ID 00010348-I-2
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
August 2023

Parameter	Date / Sample ID / Lab Results [1]		1-Sep-23 / HV-23-02-9 / (ug/m^3)[2]	AAAQO[2] (ug/m^3)
Antimony	#N/A	ng/Filter	#N/A	-
Arsenic	#N/A	ng/Filter	#N/A	0.10
Barium	#N/A	ng/Filter	#N/A	-
Beryllium	#N/A	ng/Filter	#N/A	-
Boron	#N/A	ng/Filter	#N/A	-
Cadmium	#N/A	ng/Filter	#N/A	-
Chromium	#N/A	ng/Filter	#N/A	1.0
Cobalt	#N/A	ng/Filter	#N/A	-
Copper	#N/A	ng/Filter	#N/A	-
Iron	#N/A	ng/Filter	#N/A	-
Lead	#N/A	ng/Filter	#N/A	1.5
Manganese	#N/A	ng/Filter	#N/A	-
Mercury	#N/A	ng/Filter	#N/A	-
Nickel	#N/A	ng/Filter	#N/A	6
Selenium	#N/A	ng/Filter	#N/A	-
Silver	#N/A	ng/Filter	#N/A	-
Thallium	#N/A	ng/Filter	#N/A	-
Tin	#N/A	ng/Filter	#N/A	-
Uranium	#N/A	ng/Filter	#N/A	-
Vanadium	#N/A	ng/Filter	#N/A	-
Zinc	#N/A	ng/Filter	#N/A	-

Sampling Time (hours)	24.78
Flow Rate (m3/min)	1.304
Volume Sampled (m^3)	1939.05

Notes:
(1) These results are from a 28.47 hour averaging period that took place on July 1 to August 1, 2023
(2) Measured data have been converted from the measured 28.47 hour avering period to a 1 hour averaging period based on Alberta's Air Quality Model Guideline Section 7.1.2.

TABLE 16

TSP Metals Analytical Results
AEPA Station ID 00010348-I-3
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
August 2023

Parameter	Date / Sample ID / Lab Results [1]		(ug/m^3)[2]	AAAQO[2] (ug/m^3)
	1-Sep-23 / HV-23-02-10			
Antimony	#N/A	ng/Filter	#N/A	-
Arsenic	#N/A	ng/Filter	#N/A	0.10
Barium	#N/A	ng/Filter	#N/A	-
Beryllium	#N/A	ng/Filter	#N/A	-
Boron	#N/A	ng/Filter	#N/A	-
Cadmium	#N/A	ng/Filter	#N/A	-
Chromium	#N/A	ng/Filter	#N/A	1.0
Cobalt	#N/A	ng/Filter	#N/A	-
Copper	#N/A	ng/Filter	#N/A	-
Iron	#N/A	ng/Filter	#N/A	-
Lead	#N/A	ng/Filter	#N/A	1.5
Manganese	#N/A	ng/Filter	#N/A	-
Mercury	#N/A	ng/Filter	#N/A	-
Nickel	#N/A	ng/Filter	#N/A	6
Selenium	#N/A	ng/Filter	#N/A	-
Silver	#N/A	ng/Filter	#N/A	-
Thallium	#N/A	ng/Filter	#N/A	-
Tin	#N/A	ng/Filter	#N/A	-
Uranium	#N/A	ng/Filter	#N/A	-
Vanadium	#N/A	ng/Filter	#N/A	-
Zinc	#N/A	ng/Filter	#N/A	-

Sampling Time (hours)	27.92
Flow Rate (m3/min)	1.295
Volume Sampled (m^3)	2169.13

Notes:
(1) These results are from a 23.50 hour averaging period that took place on July 1 to August 1, 2023
(2) Measured data have been converted from the measured 23.50 hour avering period to a 1 hour averaging period based on Alberta's Air Quality Model Guideline Section 7.1.2.

TABLE 17

TSP Metals Analytical Results
EPA Station ID 00010348-I-1
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
August 2023

	Date	4-Aug-23		Date	10-Aug-23		Date	16-Aug-23		Date	28-Aug-23		
	Sample ID	855		Sample ID	856		Sample ID	857		Sample ID	859		
Parameter	**Lab Results (1)**		**(ug/m^3)(3)**	**Lab Results (1)**		**(ug/m^3)(3)**	**Lab Results (1)**		**(ug/m^3)(3)**	**Lab Results (1)**		**(ug/m^3)(3)**	**AAAQO(3) (ug/m^3)**
Antimony	373	ng/Filter	4.78E-04	377	ng/Filter	4.81E-04	589	ng/Filter	7.62E-04	684	ng/Filter	8.96E-04	-
Arsenic	15700	ng/Filter	2.01E-02	14600	ng/Filter	1.86E-02	19300	ng/Filter	2.50E-02	9220	ng/Filter	1.21E-02	0.10
Barium	< 300	ng/Filter	3.84E-04	< 300	ng/Filter	3.83E-04	< 300	ng/Filter	3.88E-04	< 300	ng/Filter	3.95E-04	-
Beryllium	71.9	ng/Filter	9.21E-05	94.2	ng/Filter	1.20E-04	181	ng/Filter	2.34E-04	307	ng/Filter	4.04E-04	-
Boron	48300000	ng/Filter	6.19E+01	13300000	ng/Filter	1.70E+01	4350000	ng/Filter	5.63E+00	< 600	ng/Filter	7.90E-04	-
Cadmium	313	ng/Filter	4.01E-04	706	ng/Filter	9.01E-04	962	ng/Filter	1.24E-03	736	ng/Filter	9.69E-04	-
Chromium	11600	ng/Filter	1.49E-02	37000	ng/Filter	4.72E-02	43200	ng/Filter	5.59E-02	32300	ng/Filter	4.25E-02	1.0
Cobalt	3480	ng/Filter	4.46E-03	7610	ng/Filter	9.71E-03	12700	ng/Filter	1.64E-02	5990	ng/Filter	7.88E-03	-
Copper	391000	ng/Filter	5.01E-01	227000	ng/Filter	2.90E-01	389000	ng/Filter	5.03E-01	582000	ng/Filter	7.66E-01	-
Iron	2790000	ng/Filter	3.57E+00	5130000	ng/Filter	6.54E+00	11000000	ng/Filter	1.42E+01	12300000	ng/Filter	1.62E+01	-
Lead	19500	ng/Filter	2.50E-02	59400	ng/Filter	7.58E-02	67100	ng/Filter	8.68E-02	33400	ng/Filter	4.40E-02	1.5
Manganese	#N/A	ng/Filter	#N/A	#N/A	ng/Filter	#N/A	#N/A	ng/Filter	#N/A	#N/A	ng/Filter	#N/A	-
Mercury	16.9	ng/Filter	2.16E-05	37.5	ng/Filter	4.78E-05	63.4	ng/Filter	8.20E-05	80.0	ng/Filter	1.05E-04	-
Nickel	27700	ng/Filter	3.55E-02	63400	ng/Filter	8.09E-02	84100	ng/Filter	1.09E-01	34500	ng/Filter	4.54E-02	6
Selenium	377	ng/Filter	4.83E-04	1360	ng/Filter	1.74E-03	1560	ng/Filter	2.02E-03	2430	ng/Filter	3.20E-03	-
Silver	260	ng/Filter	3.33E-04	364	ng/Filter	4.64E-04	441	ng/Filter	5.71E-04	471	ng/Filter	6.20E-04	-
Thallium	< 0.20	ng/Filter	2.56E-07	6.84	ng/Filter	8.73E-06	39.5	ng/Filter	5.11E-05	52.2	ng/Filter	6.87E-05	-
Tin	#N/A	ng/Filter	#N/A	#N/A	ng/Filter	#N/A	#N/A	ng/Filter	#N/A	#N/A	ng/Filter	#N/A	-
Uranium	< 0.200	ng/Filter	2.56E-07	< 0.200	ng/Filter	2.55E-07	413	ng/Filter	5.34E-04	1040	ng/Filter	1.37E-03	-
Vanadium	11000	ng/Filter	1.41E-02	20300	ng/Filter	2.59E-02	35700	ng/Filter	4.62E-02	31100	ng/Filter	4.09E-02	-
Zinc	< 1000	ng/Filter	1.28E-03	< 1000	ng/Filter	1.28E-03	< 1000	ng/Filter	1.29E-03	< 1000	ng/Filter	1.32E-03	-
Sampling Time (hours)	24.47			24.60			24.12			23.71			
Flow Rate (l/min)	1.302			1.30			1.302			1.302			
Volume Sampled (m^3)	1911.5964			1921.75			1884.2544			1852.23			

Notes:
(1) These results are from an approximately 24 hour averaging period that took place on July 17 and July 23, 2023.
(2) Measured data have been converted from the measured approximately 24 hour avering period to a 1 hour averaging period based on Alberta's Air Quality Model Guideline Section 7.1.2.

TABLE 18

PM10 Metals Analytical Results
EPA Station ID 00010348-I-1
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
August 2023

	Date	4-Aug-23		Date	10-Aug-23		Date	16-Aug-23		Date	28-Aug-23		
	Sample ID	855		Sample ID	856		Sample ID	857		Sample ID	859		
Parameter	**Lab Results [1]**		**(ug/m^3)[2]**	**Lab Results [1]**		**(ug/m^3)[2]**	**Lab Results [1]**		**(ug/m^3)[2]**	**Lab Results [1]**		**(ug/m^3)[2]**	**AAAQO[2] (ug/m^3)**
Antimony	8.57	ng/Filter	9.19E-04	6.09	ng/Filter	6.59E-04	8.77	ng/Filter	9.45E-04	9.87	ng/Filter	1.07E-03	-
Arsenic	62.2	ng/Filter	6.67E-03	69.5	ng/Filter	7.52E-03	119	ng/Filter	1.28E-02	42.3	ng/Filter	4.60E-03	0.10
Barium	330	ng/Filter	3.54E-02	1220	ng/Filter	1.32E-01	1370	ng/Filter	1.48E-01	1740	ng/Filter	1.89E-01	-
Beryllium	0.63	ng/Filter	6.76E-05	1.10	ng/Filter	1.19E-04	2.43	ng/Filter	2.62E-04	2.32	ng/Filter	2.52E-04	-
Boron	151	ng/Filter	1.62E-02	120	ng/Filter	1.30E-02	186	ng/Filter	2.00E-02	453	ng/Filter	4.92E-02	-
Cadmium	1.69	ng/Filter	1.81E-04	4.94	ng/Filter	5.35E-04	7.21	ng/Filter	7.77E-04	5.98	ng/Filter	6.50E-04	-
Chromium	52	ng/Filter	5.58E-03	291	ng/Filter	3.15E-02	343	ng/Filter	3.70E-02	211	ng/Filter	2.29E-02	1.0
Cobalt	18.6	ng/Filter	2.00E-03	72.4	ng/Filter	7.83E-03	83.4	ng/Filter	8.98E-03	30.4	ng/Filter	3.30E-03	-
Copper	567	ng/Filter	6.08E-02	356	ng/Filter	3.85E-02	398	ng/Filter	4.29E-02	629	ng/Filter	6.84E-02	-
Iron	17100	ng/Filter	1.83E+00	31200	ng/Filter	3.38E+00	76200	ng/Filter	8.21E+00	76300	ng/Filter	8.29E+00	-
Lead	75.5	ng/Filter	8.10E-03	332	ng/Filter	3.59E-02	390	ng/Filter	4.20E-02	156	ng/Filter	1.70E-02	1.5
Manganese	587	ng/Filter	6.30E-02	1700	ng/Filter	1.84E-01	2860	ng/Filter	3.08E-01	2170	ng/Filter	2.36E-01	-
Mercury	0.27	ng/Filter	2.90E-05	0.43	ng/Filter	4.65E-05	0.57	ng/Filter	6.14E-05	0.49	ng/Filter	5.33E-05	-
Nickel	149	ng/Filter	1.60E-02	407	ng/Filter	4.40E-02	569	ng/Filter	6.13E-02	152	ng/Filter	1.65E-02	6
Selenium	7.6	ng/Filter	8.15E-04	8.8	ng/Filter	9.52E-04	13.8	ng/Filter	1.49E-03	18.6	ng/Filter	2.02E-03	-
Silver	0.73	ng/Filter	7.83E-05	2.08	ng/Filter	2.25E-04	2.28	ng/Filter	2.46E-04	1.53	ng/Filter	1.66E-04	-
Thallium	0.49	ng/Filter	5.26E-05	0.85	ng/Filter	9.20E-05	1.11	ng/Filter	1.20E-04	1.24	ng/Filter	1.35E-04	-
Tin	7.76	ng/Filter	8.32E-04	21.7	ng/Filter	2.35E-03	13.9	ng/Filter	1.50E-03	10.4	ng/Filter	1.13E-03	-
Uranium	0.751	ng/Filter	8.06E-05	1.82	ng/Filter	1.97E-04	6.09	ng/Filter	6.56E-04	8.53	ng/Filter	9.27E-04	-
Vanadium	71.2	ng/Filter	7.64E-03	155	ng/Filter	1.68E-02	295	ng/Filter	3.18E-02	222	ng/Filter	2.41E-02	-
Zinc	2000	ng/Filter	2.15E-01	5940	ng/Filter	6.43E-01	8500	ng/Filter	9.16E-01	2050	ng/Filter	2.23E-01	-
Sampling Time (hours)	24			24			24			24			
Flow Rate (l/min)	16.7			16.7			16.7			16.7			
Volume Sampled (m^3)	22.7			22.5			22.6			22.4			

Notes:
(1) These results are from an approximately 24 hour averaging period that took place on July 17 and July 23, 2023.
(2) Measured data have been converted from the measured approximately 24 hour avering period to a 1 hour averaging period based on Alberta's Air Quality Model Guideline Section 7.1.2.

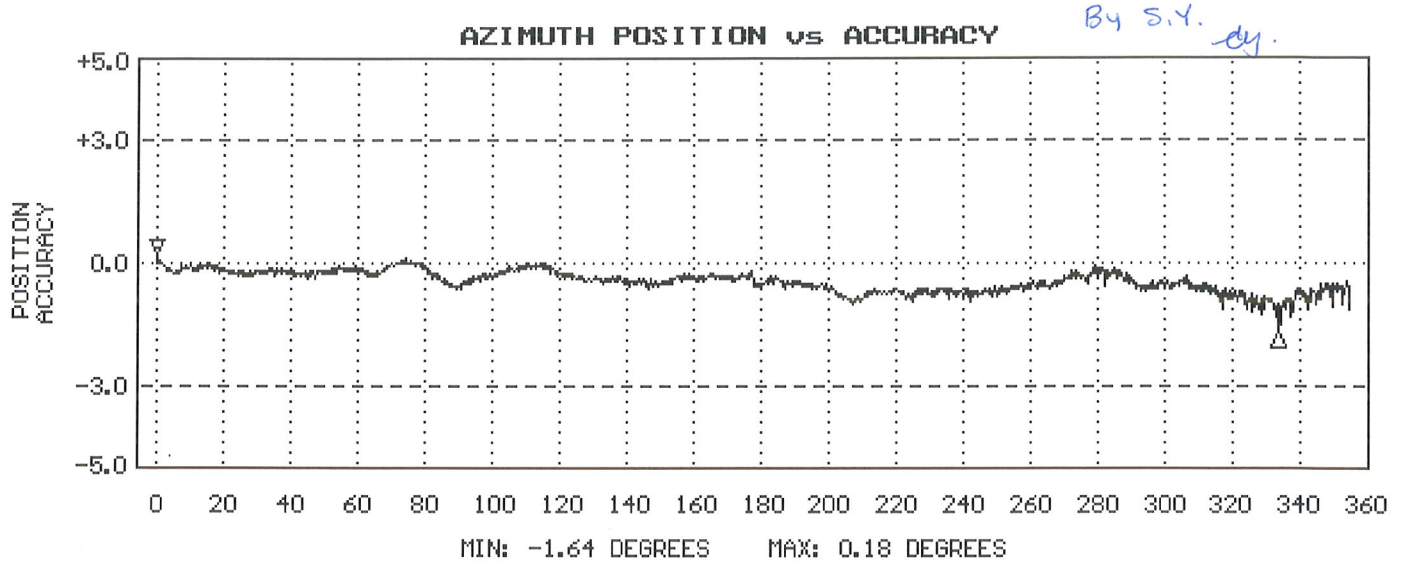
Appendix A
Meteorological Station Calibration Report

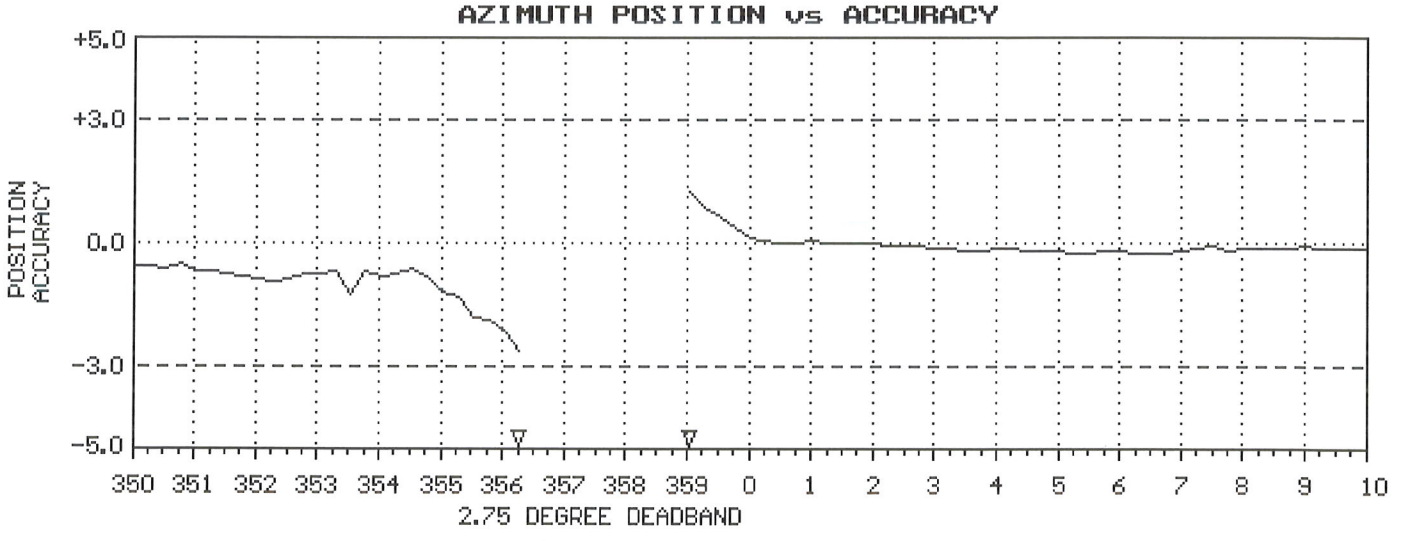
R. M. YOUNG COMPANY WIND SENSOR CALIBRATION CERTIFICATE

SENSOR: 05305-10A WIND MONITOR-AQ
SENSOR SERIAL NUMBER: WM149768
BEARINGS: SHIELDED/OIL LUBE
DATE: AUG 3 2016
WIND SPEED THRESHOLD TEST: PASS
LOW WIND SPEED AMPLITUDE/FREQUENCY TEST: PASS
HIGH WIND SPEED AMPLITUDE/FREQUENCY TEST: PASS
VANE TORQUE TEST: PASS
SPECIAL NOTES:
SPECIAL NOTES:

Insp. By

Installed Nov. 8/16
By S.Y. dy.





NOTE: Azimuth Position vs Accuracy graphs are accurate to within 0.5 degrees. The accuracy shown in the potentiometer deadband region between 355 and 0 degrees is the result of no resistance change while position changes. The gap represents the actual deadband (open circuit).

GHD Wind Calibration Form

Site and Instrument Information

Site		Wind Monitor	
Location:	Facility	**Make:**	RM Young
Calibration Date:	Jun 30, 2023	**Model:**	05305
Tech.:	P. Shariaty & S. Davey	**Serial #:**	149768
Instrument:	Continuous Wind Monitor	**Calibration due:**	Annually
Time:	1:05 PM - 1:20 PM	**Temperature:**	25°C

Pre-Calibration Inspection	Y/N
Is the wind direction < +/- 10° from compass observation?	N
Is siting aligned?	Y
Does the propeller rotate 360° with no friction?	Y
Does the vane rotate 360° with no friction?	Y

Calibration Information

Direction (degrees °)			Anemometer Speed (m/s)		
Test Angle (°)	Recorded Angle (°)	Within +/- 5°? (Y/N)	Test Speed (m/s)	Recorded Speed (m/s)	Within +/- 3 (m/s)? (Y/N)
0	0	Y	26.1	26.0	Y
30	29	Y	24.6	24.5	Y
60	59	Y	23.0	22.9	Y
180	178	Y	20.5	20.4	Y
			18.9	18.9	Y
			41.0	40.8	Y

Comments	Conversion Factors	
	m/s	RPM
Wind monitor (SN:149768) was removed from tower, inspected and the calibration was checked on June 30, 2023. Mechanical bearings and shaft alignment were inspected. Bearings were cleaned of any dust buildup. Alignment was in good condition. Wind direction calibration adjustment was required based on the pre-calibration inspection. Other than cleaning and direction calibration, no additional maintenance was required. It is recommended that the instrument be cleaned biannually and bearings checked and replaced (if required) at the next calibration interval. After calibration check, wind monitor was re-installed and sited back to original position.	26.112	5100.0
	24.576	4800.0
	23.040	4500.0
	20.480	4000.0
	18.944	3700.0
	40.960	8000.0
Calibration Adjustment Required?: Yes		

GHD Wind Calibration Form

Site and Instrument Information

Site		Wind Monitor	
Location:	Ryley School	**Make:**	RM Young
Calibration Date:	Jun 30, 2023	**Model:**	05305
Tech.:	P. Shariaty & S. Davey	**Serial #:**	183487
Instrument:	Continuous Wind Monitor	**Calibration due:**	Annually
Time:	10:00 AM - 11:20 AM	**Temperature:**	22°C

Pre-Calibration Inspection	Y/N
Is the wind direction < +/- 10° from compass observation?	N
Is siting aligned?	Y
Does the propeller rotate 360° with no friction?	Y
Does the vane rotate 360° with no friction?	Y

Calibration Information

Direction (degrees °)			Anemometer Speed (m/s)		
Test Angle (°)	Recorded Angle (°)	Within +/- 5°? (Y/N)	Test Speed (m/s)	Recorded Speed (m/s)	Within +/- 3 (m/s)? (Y/N)
0	1	Y	26.112	26.0	Y
30	29	Y	24.576	24.5	Y
330	332	Y	23.040	22.9	Y
60	57	Y	20.480	20.4	Y
90	86	Y	18.944	18.9	Y
0	1	Y	40.960	40.8	Y
180	176	Y			
260	256	Y			

Comments	Conversion Factors	
	m/s	RPM
Wind monitor (SN:183487) was removed from tower, inspected and the calibration was checked on June 30, 2023. Mechanical bearings and shaft alignment were inspected. Bearings were cleaned of any dust buildup. Alignment was in good condition. Wind direction calibration adjustment was required based on the pre-calibration inspection. Other than cleaning and direction calibration, no additional maintenance was required. It is recommended that the instrument be cleaned biannually and bearings checked and replaced (if required) at the next calibration interval. After the calibration check, the wind monitor was re-installed and sited back to the original position.	26.112	5100.0
	24.576	4800.0
	23.040	4500.0
	20.480	4000.0
	18.944	3700.0
	40.960	8000.0
Calibration Adjustment Required?: Yes		

Appendix B
Sampling Field Sheets

FIELD SHEET				
PM10 (Partisol Monitoring Unit)				
CLEAN HARBORS CANADA INC				
RYLEY, ALBERTA				
A) GENERAL INFORMATION				
Filter ID:	C1170469			
PO Number:	235436			
Partisol Sampler ID/Serial Number:	2000 FRM-AE / 200FB209860905			
Test number :	Particulate Test 855			
Sample Date:	23/08/04		yy/mm/dd	
Shipping Date to Laboratory:	23/08/10			
PM10 Analysis Trigger Weight (mg):	1.14		weight which PM10 conc. > 50 µg/m^3	
B) SAMPLING INFORMATION				
SAMPLE START				
Sampling Start Date:	23/08/04			
Sampling Start Time:	00:00			
Current Instrument Date:	23/08/03			
Current Instrument Time:	13:51			
Ambient Temperature °C:	23.4			
Barometric Pressure (mm Hg):	703			
Leak Check:	Pass		(Pass/Fail)	
Clean PM10 Inlet:	Yes		(Yes/No)	
Weather Conditions Sampling date :	Mostly Sunny			
Weather Conditions set up:	Mostly Cloudy			
SAMPLE RETRIEVAL				
Sampled by	T. Webb			
Sampling End Date:	23/08/05			
Sampling End Time:	00:00			
Current Instrument Date:	23/08/09			
Current Instrument Time:	10:41			
Run Status:	OK		(Ensure Run Status is OK)	
Total Sampling Time (Hours):	24			
Volume Sampled (m^3):	22.7			
Average Flow Rate (L/min):	16.7 L/min			
AmbT °C :	17.5			
Barometric Pressure (mm Hg) :	696			
Sample Filter Temperature °C :	16.3			
Flow Rate Coefficient of Variation (%CV):	0			
Weather Conditions :	Cloudy			
Leak Check:	Pass		(Pass/Fail)	
FIELD BLANK			(Once every quarter)	
Was a field blank collected	No		(Yes/No)	
Filter ID:				
Filter Batch Number:				
Current Instrument Date:				
Current Instrument Time:				
C) OBSERVATIONS				
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?	No			
Describe facility operations that may affect sampling event:				
Comments:				

FIELD SHEET
VOLATILE ORGANIC COMPOUNDS
CLEAN HARBORS CANADA INC
RYLEY, ALBERTA

A) GENERAL INFORMATION

Sample Identification Number:	Organic Test 855	
Sample Canister Location:	Ryley Lift Station -Shed	
Sampled by	T.Webb	
Sampler Name:	Test 855	
Sample Date:	23/08/04	yy/mm/dd
Shipping Date to Laboratory:	23/08/05	
Canister Type (ie. 1 Litre/6 Litre/Other):	6L	
Canister Serial No.:	32237	
Flow Controller Serial No.:	H/L578699/A0334390-5	

B) SAMPLE SET UP

	Set up Conditions	Sample Retrieval
Date:	23/08/03	23/08/09
Ambient Temperature °C (inside shed):	19.4	26.2
Barometric Pressure (mm Hg):	703	696
Canister Pressure Gauge Reading (- Inches Hg):	(-)27.1	(-)4
Sample Time:	24	24

C) OBSERVATIONS

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?	No
Describe general weather conditions during sampling event:	Mostly Sunny
Describe facility operations that may affect sampling event:	None
Comments:	

CLEAN HARBORS CANADA INC
TSP (High Volume Monitoring Unit)
CLEAN HARBORS CANADA INC
RYLEY, ALBERTA

1. SAMPLING INFORMATION

Sample ID	Test #855				
Lab Filter ID	HVF-23-06-01				
Start Sampling	8 mm	4 dd	0 hr	2023	
Stop Sampling	8 mm	5 dd	0 hr	2023	
Timer Initial:	849.99				
Timer Final:	874.46				
	24.47				
Total Sampling Time	24 hr		28 min		1468
Average Flow Rate	cfm				
Actual m3/min	1.302				
Air Volume	1911.6 cubic metres				
Net TSP Weight	g				
TSP Concentration	mg/m3				
TSP Analysis Trigger Weight	95.6 mg		weight which TSP conc. > 50 µg/m^3		

3. OBSERVATIONS

Comments:

Instrument Last Calibrated:	30-Jun-23

3. GUIDELINES

- Faceplate must be handtight.
- Flow rate must be ±10 percent of established flow rate.
- Faceplate gasket must be in good condition.
- Rotameter must be free of foreign material.
- Rotameter operation must be stable.
- Sampler motor brushes must be changed every 400 hours of operation.
- TSP analysis triggers when concentration >0.05mg/m3

Sample was collected in accordance with the above guidelines.

Sampler's Signature: _____

Comments: _____

_____

FIELD SHEET				
PM10 (Partisol Monitoring Unit)				
CLEAN HARBORS CANADA INC				
RYLEY, ALBERTA				
A) GENERAL INFORMATION				
Filter ID:	C1168581			
PO Number:	235436			
Partisol Sampler ID/Serial Number:	2000 FRM-AE / 200FB209860905			
Test number :	Particulate Test 856			
Sample Date:	23/08/10		yy/mm/dd	
Shipping Date to Laboratory:	23/08/15			
PM10 Analysis Trigger Weight (mg):	1.13		weight which PM10 conc. > 50 µg/m^3	
B) SAMPLING INFORMATION				
SAMPLE START				
Sampling Start Date:	23/08/10			
Sampling Start Time:	00:00			
Current Instrument Date:	23/08/09			
Current Instrument Time:	10:41			
Ambient Temperature °C:	18.0			
Barometric Pressure (mm Hg):	696			
Leak Check:	Pass		(Pass/Fail)	
Clean PM10 Inlet:	Yes		(Yes/No)	
Weather Conditions Sampling date :	partly cloudy			
Weather Conditions set up:	Mostly Cloudy			
SAMPLE RETRIEVAL				
Sampled by	T. Webb			
Sampling End Date:	23/08/11			
Sampling End Time:	00:00			
Current Instrument Date:	23/08/14			
Current Instrument Time:	10:36			
Run Status:	OK		(Ensure Run Status is OK)	
Total Sampling Time (Hours):	24			
Volume Sampled (m^3):	22.5			
Average Flow Rate (L/min):	16.7 L/min			
AmbT °C :	27.3			
Barometric Pressure (mm Hg) :	703			
Sample Filter Temperature °C :	27.4			
Flow Rate Coefficient of Variation (%CV):	0.2			
Weather Conditions :	Sunny			
Leak Check:	Pass		(Pass/Fail)	
FIELD BLANK			(Once every quarter)	
Was a field blank collected	No		(Yes/No)	
Filter ID:				
Filter Batch Number:				
Current Instrument Date:				
Current Instrument Time:				
C) OBSERVATIONS				
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?	No			
Describe facility operations that may affect sampling event:				
Comments:				

FIELD SHEET
VOLATILE ORGANIC COMPOUNDS
CLEAN HARBORS CANADA INC
RYLEY, ALBERTA

A) GENERAL INFORMATION

Sample Identification Number:	Organic Test 856	
Sample Canister Location:	Ryley Lift Station -Shed	
Sampled by	T.Webb	
Sampler Name:	Test 856	
Sample Date:	23/08/10	yy/mm/dd
Shipping Date to Laboratory:	23/08/15	
Canister Type (ie. 1 Litre/6 Litre/Other):	6L	
Canister Serial No.:	32194	
Flow Controller Serial No.:	H/L578699/A0334390-5	

B) SAMPLE SET UP

	Set up Conditions	Sample Retrieval
Date:	23/08/09	23/08/14
Ambient Temperature °C (inside shed):	26.2	31.3
Barometric Pressure (mm Hg):	696	703
Canister Pressure Gauge Reading (- Inches Hg):	(-)27.2	(-)4
Sample Time:	24	24

C) OBSERVATIONS

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?	No
Describe general weather conditions during sampling event:	passing clouds
Describe facility operations that may affect sampling event:	None
Comments:	

CLEAN HARBORS CANADA INC
TSP (High Volume Monitoring Unit)
CLEAN HARBORS CANADA INC
RYLEY, ALBERTA

1. SAMPLING INFORMATION

Sample ID	Test #856			
Lab Filter ID	HVF-23-06-20			
Start Sampling	8	10	0	2023
	mm	dd	hr	
Stop Sampling	8	11	0	2023
	mm	dd	hr	
Timer Initial:	874.46			
Timer Final:	899.06			
	24.60			
Total Sampling Time	24 hr	36 min	1476	
Average Flow Rate	cfm			
Actual m3/min	1.302			
Air Volume	1921.8 cubic metres			
Net TSP Weight	g			
TSP Concentration	mg/m3			
TSP Analysis Trigger Weight	96.1 mg	weight which TSP conc. > 50 µg/m^3		

3. OBSERVATIONS

Comments:

Instrument Last Calibrated:	30-Jun-23

3. GUIDELINES

- Faceplate must be handtight.
- Flow rate must be ±10 percent of established flow rate.
- Faceplate gasket must be in good condition.
- Rotameter must be free of foreign material.
- Rotameter operation must be stable.
- Sampler motor brushes must be changed every 400 hours of operation.
- TSP analysis triggers when concentration >0.05mg/m3

Sample was collected in accordance with the above guidelines.

Sampler's Signature: _____

Comments: _____

_____

FIELD SHEET				
PM10 (Partisol Monitoring Unit)				
CLEAN HARBORS CANADA INC				
RYLEY, ALBERTA				
A) GENERAL INFORMATION				
Filter ID:	C9700136			
PO Number:	235436			
Partisol Sampler ID/Serial Number:	2000 FRM-AE / 200FB209860905			
Test number :	Particulate Test 857			
Sample Date:	23/08/16		yy/mm/dd	
Shipping Date to Laboratory:	23/08/18			
PM10 Analysis Trigger Weight (mg):	1.13		weight which PM10 conc. > 50 µg/m^3	
B) SAMPLING INFORMATION				
SAMPLE START				
Sampling Start Date:	23/08/16			
Sampling Start Time:	00:00			
Current Instrument Date:	23/08/14			
Current Instrument Time:	10:52			
Ambient Temperature °C:	27.8			
Barometric Pressure (mm Hg):	703			
Leak Check:	Pass		(Pass/Fail)	
Clean PM10 Inlet:	Yes		(Yes/No)	
Weather Conditions Sampling date :	Mostly Sunny			
Weather Conditions set up:	Mostly Cloudy			
SAMPLE RETRIEVAL				
Sampled by	T. Webb			
Sampling End Date:	23/08/17			
Sampling End Time:	00:00			
Current Instrument Date:	23/08/17			
Current Instrument Time:	8:36			
Run Status:	OK		(Ensure Run Status is OK)	
Total Sampling Time (Hours):	24			
Volume Sampled (m^3):	22.6			
Average Flow Rate (L/min):	16.7 L/min			
AmbT °C :	21.9			
Barometric Pressure (mm Hg) :	695			
Sample Filter Temperature °C :	20.9			
Flow Rate Coefficient of Variation (%CV):	0.1			
Weather Conditions :	Sunny			
Leak Check:	Pass		(Pass/Fail)	
FIELD BLANK			(Once every quarter)	
Was a field blank collected	No		(Yes/No)	
Filter ID:				
Filter Batch Number:				
Current Instrument Date:				
Current Instrument Time:				
C) OBSERVATIONS				
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?	No			
Describe facility operations that may affect sampling event:				
Comments:				

FIELD SHEET
VOLATILE ORGANIC COMPOUNDS
CLEAN HARBORS CANADA INC
RYLEY, ALBERTA

A) GENERAL INFORMATION

Sample Identification Number:	Organic Test 857	
Sample Canister Location:	Ryley Lift Station -Shed	
Sampled by	T.Webb	
Sampler Name:	Test 857	
Sample Date:	23/08/16	yy/mm/dd
Shipping Date to Laboratory:	23/08/18	
Canister Type (ie. 1 Litre/6 Litre/Other):	6L	
Canister Serial No.:	28967	
Flow Controller Serial No.:	H/L578699/A0334390-5	

B) SAMPLE SET UP

	Set up Conditions	Sample Retrieval
Date:	23/08/14	23/08/17
Ambient Temperature °C (inside shed):	23.6	18.0
Barometric Pressure (mm Hg):	703	695
Canister Pressure Gauge Reading (- Inches Hg):	(-)27.2	(-)7
Sample Time:	24	24

C) OBSERVATIONS

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?	No
Describe general weather conditions during sampling event:	Mostly Sunny
Describe facility operations that may affect sampling event:	None
Comments:	

CLEAN HARBORS CANADA INC
TSP (High Volume Monitoring Unit)
CLEAN HARBORS CANADA INC
RYLEY, ALBERTA

1. SAMPLING INFORMATION

Sample ID	Test #857			
Lab Filter ID	HVF-23-06-19			
Start Sampling	8	16	0	2023
	mm	dd	hr	
Stop Sampling	8	17	0	2023
	mm	dd	hr	
Timer Initial:	899.06			
Timer Final:	923.18			
	24.12			
Total Sampling Time	24 hr	7 min	1447	
Average Flow Rate	cfm			
Actual m3/min	1.302			
Air Volume	1884.3 cubic metres			
Net TSP Weight	g			
TSP Concentration	mg/m3			
TSP Analysis Trigger Weight	94.2 mg	weight which TSP conc. > 50 µg/m^3		

3. OBSERVATIONS

Comments:

Instrument Last Calibrated:	30-Jun-23

3. GUIDELINES

- Faceplate must be handtight.
- Flow rate must be ±10 percent of established flow rate.
- Faceplate gasket must be in good condition.
- Rotameter must be free of foreign material.
- Rotameter operation must be stable.
- Sampler motor brushes must be changed every 400 hours of operation.
- TSP analysis triggers when concentration >0.05mg/m3

Sample was collected in accordance with the above guidelines.

Sampler's Signature: _____

Comments: _____

_____

FIELD SHEET				
PM10 (Partisol Monitoring Unit)				
CLEAN HARBORS CANADA INC				
RYLEY, ALBERTA				
A) GENERAL INFORMATION				
Filter ID:	AT79029			
PO Number:	235436			
Partisol Sampler ID/Serial Number:	2000 FRM-AE / 200FB209860905			
Test number :	Particulate Test 858			
Sample Date:	23/08/22		yy/mm/dd	
Shipping Date to Laboratory:	23/08/24			
PM10 Analysis Trigger Weight (mg):	1.14		weight which PM10 conc. > 50 µg/m^3	
B) SAMPLING INFORMATION				
SAMPLE START				
Sampling Start Date:	23/08/22			
Sampling Start Time:	00:00			
Current Instrument Date:	23/08/17			
Current Instrument Time:	8:44			
Ambient Temperature °C:	22.4			
Barometric Pressure (mm Hg):	695			
Leak Check:	Pass		(Pass/Fail)	
Clean PM10 Inlet:	Yes		(Yes/No)	
Weather Conditions Sampling date :	Cloudy			
Weather Conditions set up:	Mostly Sunny			
SAMPLE RETRIEVAL				
Sampled by	N. Penner			
Sampling End Date:	23/08/23			
Sampling End Time:	00:00			
Current Instrument Date:	23/08/23			
Current Instrument Time:	9:58			
Run Status:	OK		(Ensure Run Status is OK)	
Total Sampling Time (Hours):	24			
Volume Sampled (m^3):	22.8			
Average Flow Rate (L/min):	16.7 L/min			
AmbT °C :	17.5			
Barometric Pressure (mm Hg) :	700			
Sample Filter Temperature °C :	17.1			
Flow Rate Coefficient of Variation (%CV):	0			
Weather Conditions :	Cloudy			
Leak Check:	Pass		(Pass/Fail)	
FIELD BLANK			(Once every quarter)	
Was a field blank collected	No		(Yes/No)	
Filter ID:				
Filter Batch Number:				
Current Instrument Date:				
Current Instrument Time:				
C) OBSERVATIONS				
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?	No			
Describe facility operations that may affect sampling event:				
Comments:				

FIELD SHEET
VOLATILE ORGANIC COMPOUNDS
CLEAN HARBORS CANADA INC
RYLEY, ALBERTA

A) GENERAL INFORMATION

Sample Identification Number:	Organic Test 858	
Sample Canister Location:	Ryley Lift Station -Shed	
Sampled by	T.Webb	
Sampler Name:	Test 858	
Sample Date:	23/08/22	yy/mm/dd
Shipping Date to Laboratory:	23/08/24	
Canister Type (ie. 1 Litre/6 Litre/Other):	6L	
Canister Serial No.:	32212	
Flow Controller Serial No.:	H/L578699/A0334390-5	

B) SAMPLE SET UP

	Set up Conditions	Sample Retrieval
Date:	23/08/17	23/08/23
Ambient Temperature °C (inside shed):	18.0	19.5
Barometric Pressure (mm Hg):	695	700
Canister Pressure Gauge Reading (- Inches Hg):	(-)27.2	(-)7
Sample Time:	24	24

C) OBSERVATIONS

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?	No
Describe general weather conditions during sampling event:	Cloudy
Describe facility operations that may affect sampling event:	None
Comments:	

CLEAN HARBORS CANADA INC
TSP (High Volume Monitoring Unit)
CLEAN HARBORS CANADA INC
RYLEY, ALBERTA

1. SAMPLING INFORMATION

Sample ID	Test #858				
Lab Filter ID	HVF-23-06-17				
Start Sampling	8	22	0	2023	
	mm	dd	hr		
Stop Sampling	8	23	0	2023	
	mm	dd	hr		
Timer Initial:	923.18				
Timer Final:	946.91				
	23.73				
Total Sampling Time	23	hr	44	min	1424
Average Flow Rate		cfm			
Actual m3/min	1.302				
Air Volume	1853.8	cubic metres			
Net TSP Weight		g			
TSP Concentration		mg/m3			
TSP Analysis Trigger Weight	92.7	mg	weight which TSP conc. > 50 µg/m^3		

3. OBSERVATIONS

Comments:

Instrument Last Calibrated:	30-Jun-23

3. GUIDELINES

- Faceplate must be handtight.
- Flow rate must be ±10 percent of established flow rate.
- Faceplate gasket must be in good condition.
- Rotameter must be free of foreign material.
- Rotameter operation must be stable.
- Sampler motor brushes must be changed every 400 hours of operation.
- TSP analysis triggers when concentration >0.05mg/m3

Sample was collected in accordance with the above guidelines.

Sampler's Signature: _____

Comments: _____

_____

FIELD SHEET				
PM10 (Partisol Monitoring Unit)				
CLEAN HARBORS CANADA INC				
RYLEY, ALBERTA				
A) GENERAL INFORMATION				
Filter ID:	C9700137			
PO Number:	235436			
Partisol Sampler ID/Serial Number:	2000 FRM-AE / 200FB209860905			
Test number :	Particulate Test 859			
Sample Date:	23/08/28		yy/mm/dd	
Shipping Date to Laboratory:	23/08/31			
PM10 Analysis Trigger Weight (mg):	1.12		weight which PM10 conc. > 50 µg/m^3	
B) SAMPLING INFORMATION				
SAMPLE START				
Sampling Start Date:	23/08/28			
Sampling Start Time:	00:00			
Current Instrument Date:	23/08/23			
Current Instrument Time:	10:08			
Ambient Temperature °C:	17.5			
Barometric Pressure (mm Hg):	700			
Leak Check:	Pass		(Pass/Fail)	
Clean PM10 Inlet:	Yes		(Yes/No)	
Weather Conditions Sampling date :	Sunny			
Weather Conditions set up:	Cloudy			
SAMPLE RETRIEVAL				
Sampled by	T. Webb			
Sampling End Date:	23/08/29			
Sampling End Time:	00:00			
Current Instrument Date:	23/08/30			
Current Instrument Time:	16:11			
Run Status:	OK		(Ensure Run Status is OK)	
Total Sampling Time (Hours):	24			
Volume Sampled (m^3):	22.4			
Average Flow Rate (L/min):	16.7 L/min			
AmbT °C :	28.7			
Barometric Pressure (mm Hg) :	693			
Sample Filter Temperature °C :	27.5			
Flow Rate Coefficient of Variation (%CV):	0.2			
Weather Conditions :	Mostly cloudy			
Leak Check:	Pass		(Pass/Fail)	
FIELD BLANK			(Once every quarter)	
Was a field blank collected	No		(Yes/No)	
Filter ID:				
Filter Batch Number:				
Current Instrument Date:				
Current Instrument Time:				
C) OBSERVATIONS				
Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?	No			
Describe facility operations that may affect sampling event:				
Comments:				

FIELD SHEET
VOLATILE ORGANIC COMPOUNDS
CLEAN HARBORS CANADA INC
RYLEY, ALBERTA

A) GENERAL INFORMATION

Sample Identification Number:	Organic Test 859	
Sample Canister Location:	Ryley Lift Station -Shed	
Sampled by	T.Webb	
Sampler Name:	Test 859	
Sample Date:	23/08/28	yy/mm/dd
Shipping Date to Laboratory:	23/08/31	
Canister Type (ie. 1 Litre/6 Litre/Other):	6L	
Canister Serial No.:	29038	
Flow Controller Serial No.:	H/L578699/A0334390-5	

B) SAMPLE SET UP

	Set up Conditions	Sample Retrieval
Date:	23/08/23	23/08/30
Ambient Temperature °C (inside shed):	19.5	32.3
Barometric Pressure (mm Hg):	700	693
Canister Pressure Gauge Reading (- Inches Hg):	(-)27.1	(-)7
Sample Time:	24	24

C) OBSERVATIONS

Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event?	No
Describe general weather conditions during sampling event:	Sunny
Describe facility operations that may affect sampling event:	None
Comments:	

CLEAN HARBORS CANADA INC
TSP (High Volume Monitoring Unit)
CLEAN HARBORS CANADA INC
RYLEY, ALBERTA

1. SAMPLING INFORMATION

Sample ID	Test #859				
Lab Filter ID	HVF-23-06-18				
Start Sampling	8	28	0	2023	
	mm	dd	hr		
Stop Sampling	8	29	0	2023	
	mm	dd	hr		
Timer Initial:	946.91				
Timer Final:	970.62				
	23.71				
Total Sampling Time	23	hr	43	min	1423
Average Flow Rate		cfm			
Actual m3/min	1.302				
Air Volume	1852.2	cubic metres			
Net TSP Weight		g			
TSP Concentration		mg/m3			
TSP Analysis Trigger Weight	92.6	mg	weight which TSP conc. > 50 µg/m^3		

3. OBSERVATIONS

Comments:

Instrument Last Calibrated:	30-Jun-23

3. GUIDELINES

- Faceplate must be handtight.
- Flow rate must be ±10 percent of established flow rate.
- Faceplate gasket must be in good condition.
- Rotameter must be free of foreign material.
- Rotameter operation must be stable.
- Sampler motor brushes must be changed every 400 hours of operation.
- TSP analysis triggers when concentration >0.05mg/m3

Sample was collected in accordance with the above guidelines.

Sampler's Signature: _____

Comments: _____

_____

FIELD SHEET
TSP (High Volume Monitoring Unit)
CLEAN HARBORS CANADA INC
RYLEY, ALBERTA

1. SAMPLING INFORMATION

Sample ID	Facility Test # 105			
Lab Filter ID	HV-23-02-09			
Start Sampling	8	1	13	2023
	mm	dd	hr	
Stop Sampling	9	1	15	2023
	mm	dd	hr	
Timer Initial:	3151.75			
Timer Final:	3176.53			

Total Sampling Time	24	hr	47	min	1487
Average Flow Rate		cfm			
Actual m3/min	1.304				
Air Volume	1939.0	cubic metres			
Net TSP Weight		g			
TSP Concentration		mg/m3			

3. OBSERVATIONS

Comments:

Instrument Last Calibrated:	30-Jun-23

3. GUIDELINES

- Faceplate must be handtight.
- Flow rate must be ±10 percent of established flow rate.
- Faceplate gasket must be in good condition.
- Rotameter must be free of foreign material.
- Rotameter operation must be stable.
- Sampler motor brushes must be changed every 400 hours of operation.

Sample was collected in accordance with the above guidelines.

Sampler's Signature: 

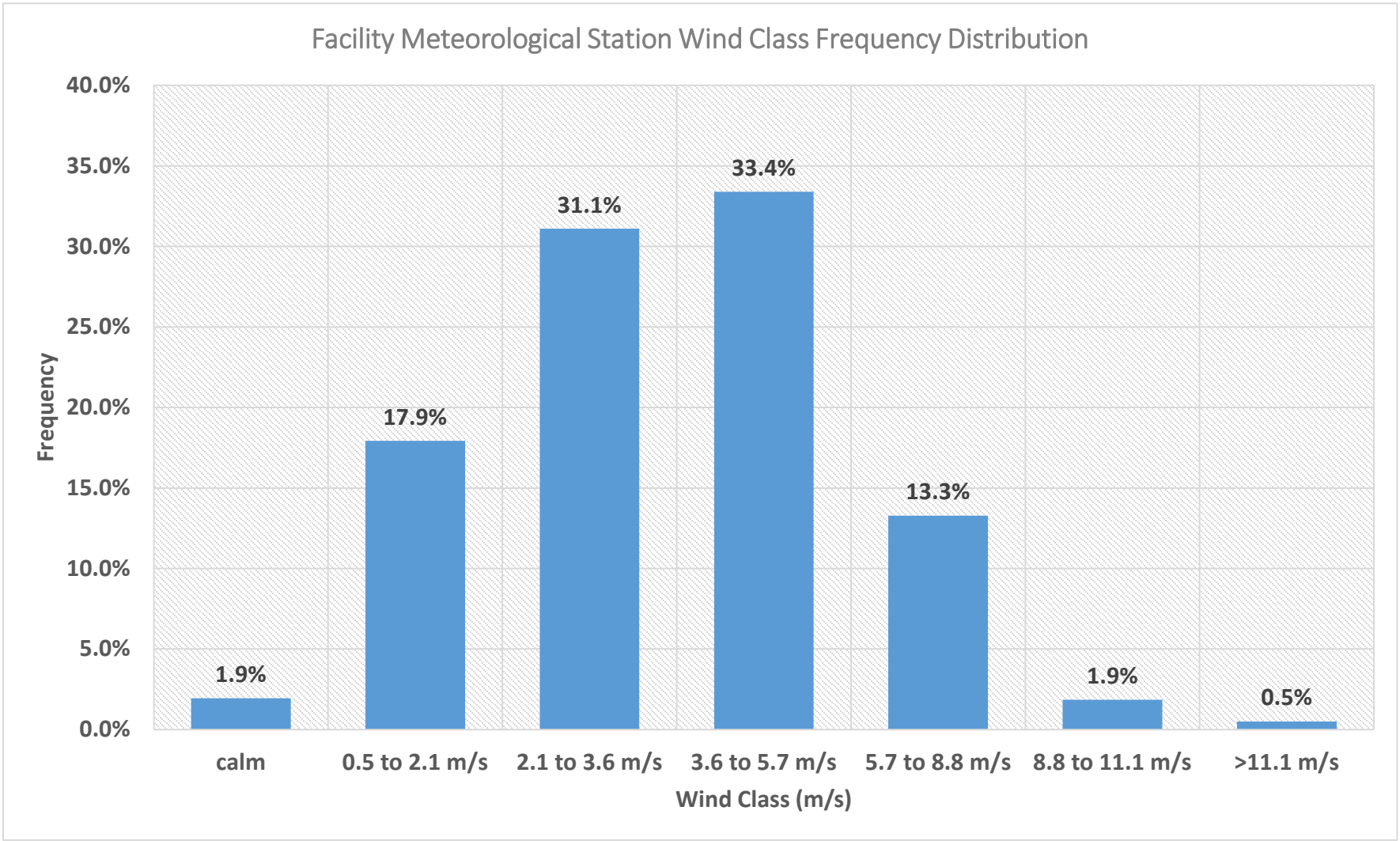
Comments:

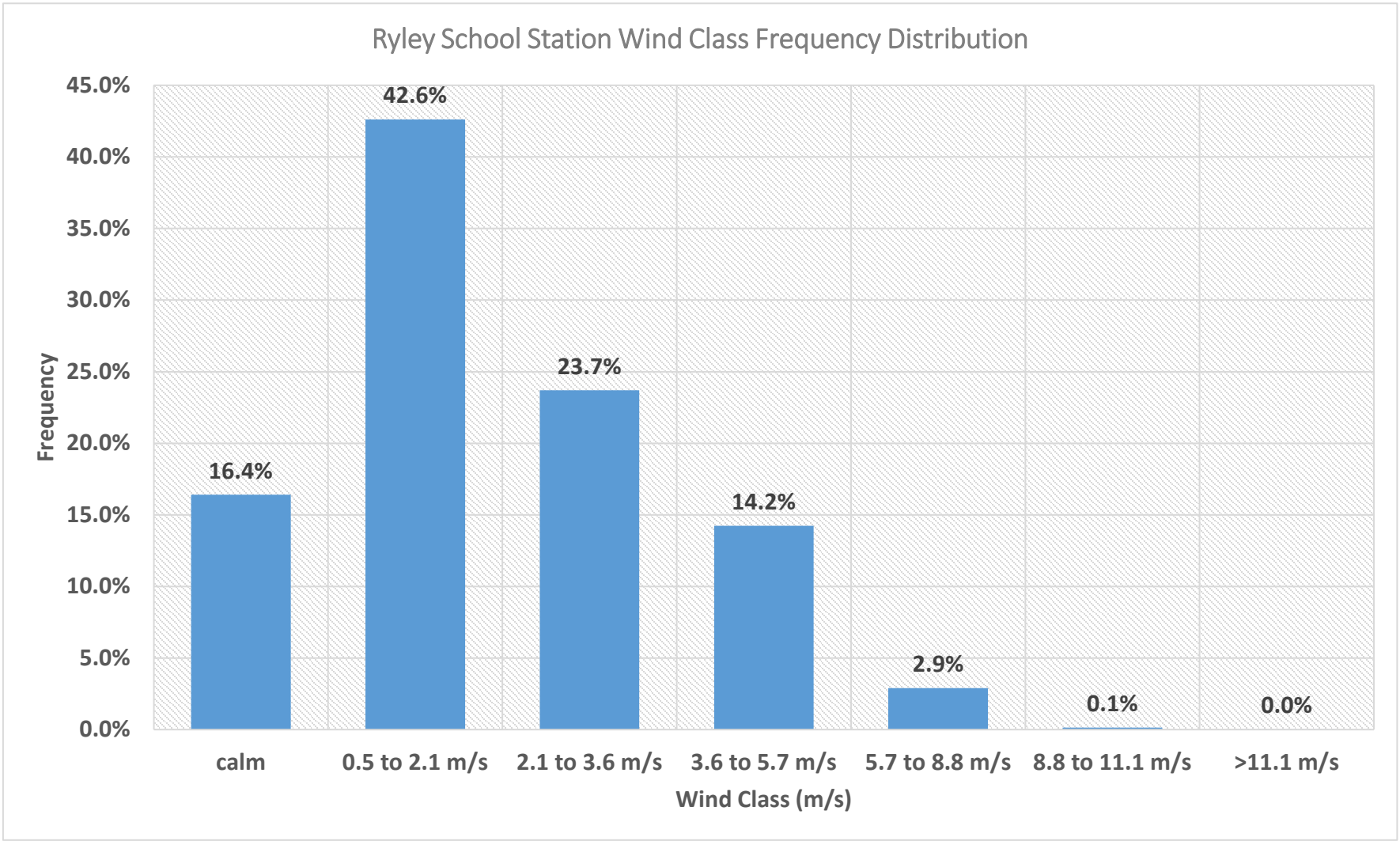
2. SAMPLING INFORMATION

Sample ID	School Test # 105			
Lab Filter ID	HV-23-02-10			
Start Sampling	8	1	13	2023
	mm	dd	hr	
Stop Sampling	9	1	15	2023
	mm	dd	hr	
Timer Initial:	2549.01			
Timer Final:	2576.92			

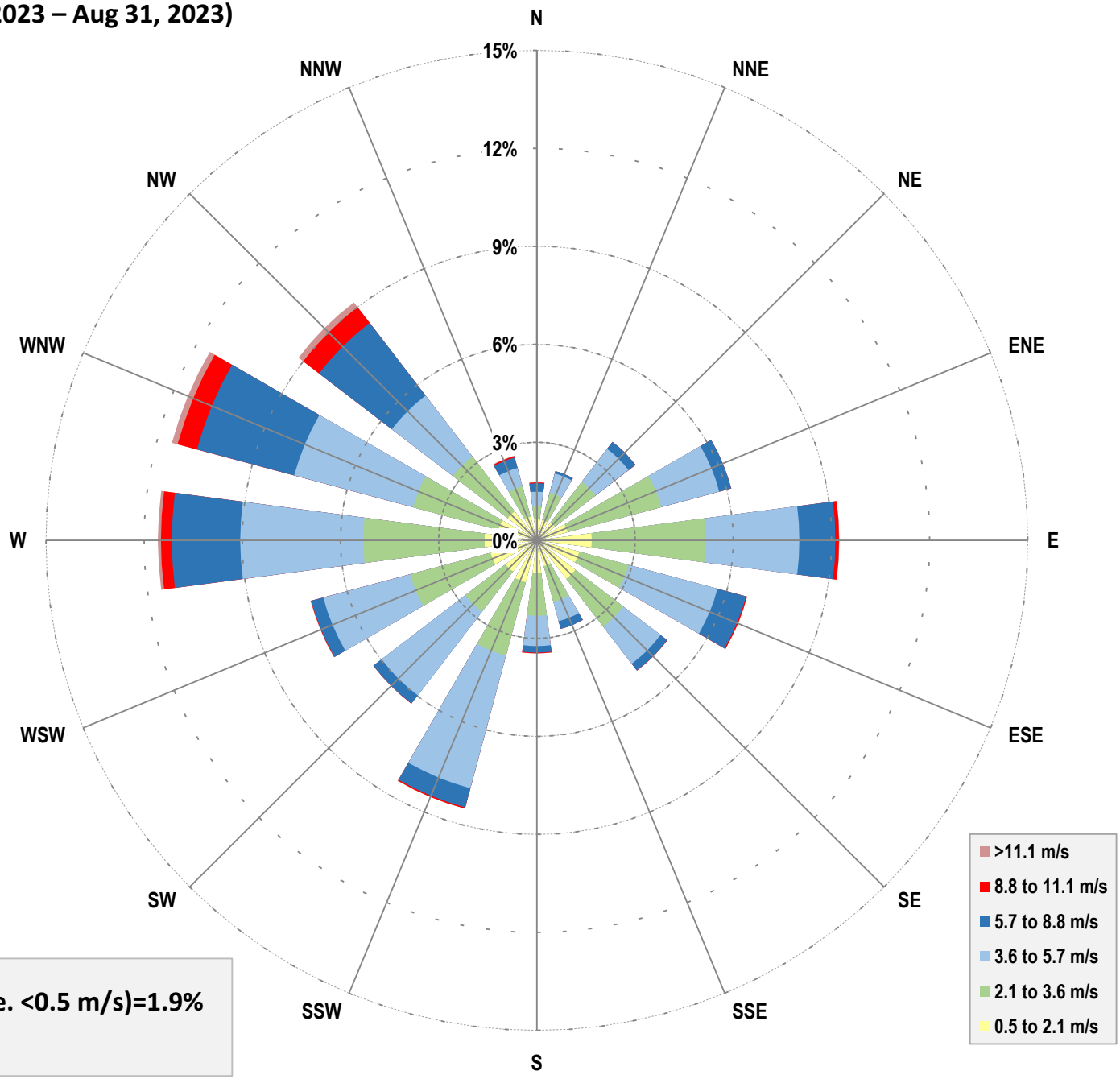
Total Sampling Time	27	hr	55	min	1675
Average Flow Rate		cfm			
Actual m3/min	1.295				
Air Volume	2169.1	cubic metres			
Net TSP Weight		g			
TSP Concentration		mg/m3			

Appendix C
Wind Class Frequency Distribution Graphs and Wind Rose


Facility Meteorological Station Wind Class Frequency Distribution
Frequency
40.0%
35.0%
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
1.9%
17.9%
31.1%
33.4%
13.3%
1.9%
0.5%
calm
0.5 to 2.1 m/s
2.1 to 3.6 m/s
3.6 to 5.7 m/s
5.7 to 8.8 m/s
8.8 to 11.1 m/s
>11.1 m/s
Wind Class (m/s)

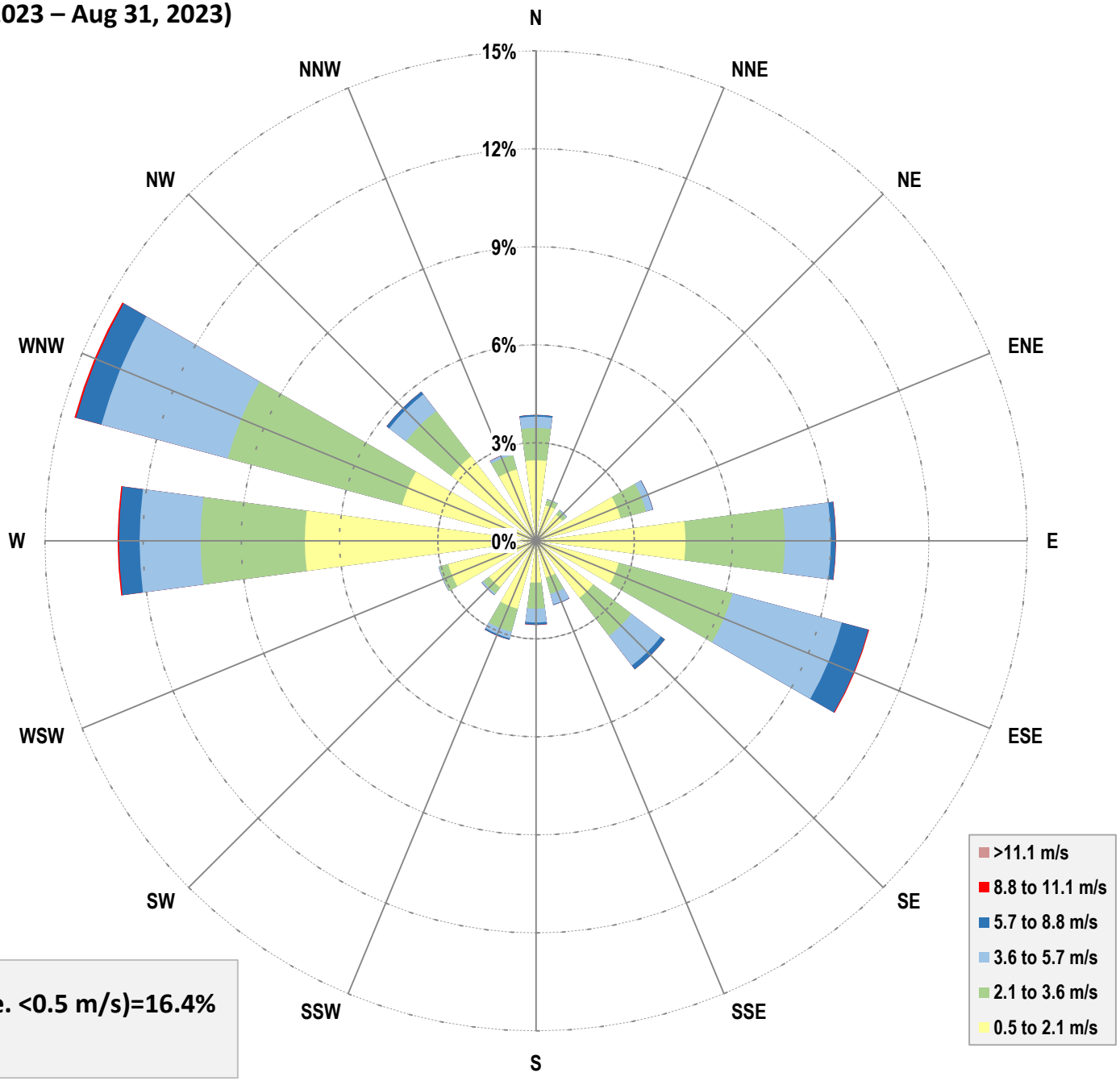

Ryley School Station Wind Class Frequency Distribution
45.0%
40.0%
35.0%
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
Frequency
16.4%
42.6%
23.7%
14.2%
2.9%
0.1%
0.0%
calm
0.5 to 2.1 m/s
2.1 to 3.6 m/s
3.6 to 5.7 m/s
5.7 to 8.8 m/s
8.8 to 11.1 m/s
>11.1 m/s
Wind Class (m/s)

Clean Harbors Facility Meteorological Station
(Aug 1, 2023 – Aug 31, 2023)



calms (i.e. <0.5 m/s)=1.9%

Clean Harbors Ryley School Station
(Aug 1, 2023 – Aug 31, 2023)



calms (i.e. <0.5 m/s)=16.4%

Appendix D
Chain of Custody Forms and Laboratory Analytical Reports

InnoTech ALBERTA
PO Bag 4000
Vegreville, Alberta
Canada T9C 1T4
(780) 632-8211

ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

RESULTS: Todd Webb
Clean Harbors Environmental
PO Box 390
2 km N of Hwy 14 on Sec Road 854 50114 RR 173
Ryley
AB T0B 4A0

INVOICE: Stephanie Dennis
PO Box 390
2 km N of Hwy 14 on Sec Road 854 50114 RR 173
Ryley
AB T0B 4A0

CLIENT SAMPLE ID: Hi-Vol Test # 855 - HVF-23-06-01
Matrix: Air Filter
CANISTER ID:
PRIORITY: Normal
DESCRIPTION: Hi-Vol Filter
DATE SAMPLED: 04-Aug-23 0:00
DATE RECEIVED: 11-Aug-23
REPORT CREATED: 29-Sep-23
REPORT NUMBER: 23080141
VERSION: Draft

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
23080141-003	Antimony		373	ng/Filter	0.30	AC-021	22-Sep-23
23080141-003	Arsenic		15700	ng/Filter	0.30	AC-021	22-Sep-23
23080141-003	Barium	K, T, U	< 300	ng/Filter	300	AC-021	22-Sep-23
23080141-003	Beryllium		71.9	ng/Filter	0.60	AC-021	22-Sep-23
23080141-003	Boron		48300000	ng/Filter	600	AC-021	22-Sep-23
23080141-003	Cadmium		313	ng/Filter	0.80	AC-021	22-Sep-23
23080141-003	Chromium		11600	ng/Filter	20	AC-021	22-Sep-23
23080141-003	Cobalt		3480	ng/Filter	0.50	AC-021	22-Sep-23
23080141-003	Copper		391000	ng/Filter	20	AC-021	22-Sep-23
23080141-003	Iron		2790000	ng/Filter	80	AC-021	22-Sep-23
23080141-003	Lead		19500	ng/Filter	0.70	AC-021	22-Sep-23
23080141-003	Manganese			ng/Filter	0.1	AC-021	
23080141-003	Mercury		16.9	ng/Filter	0.70	AC-021	22-Sep-23
23080141-003	Nickel		27700	ng/Filter	5.0	AC-021	22-Sep-23
23080141-003	Selenium		377	ng/Filter	4.0	AC-021	22-Sep-23
23080141-003	Silver		260	ng/Filter	0.50	AC-021	22-Sep-23
23080141-003	Thallium	K, T, U	< 0.20	ng/Filter	0.20	AC-021	22-Sep-23

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing
Date: September 29, 2023 Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

InnoTech's ISO/IEC 17025:2017 scope of accreditation can be located at https://directory.cala.ca//

InnoTech ALBERTA
PO Bag 4000
Vegreville, Alberta
Canada T9C 1T4
(780) 632-8211

ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
Hi-Vol Test # 855 - HVF-23-06-01		Air Filter	04-Aug-23 0:00

DESCRIPTION: Hi-Vol Filter

REPORT NUMBER: 23080141 **REPORT CREATED:** 29-Sep-23 **VERSION:** Draft

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
23080141-003	Tin			ng/Filter	0.02	AC-021	
23080141-003	Uranium	K, T, U	< 0.200	ng/Filter	0.200	AC-021	22-Sep-23
23080141-003	Vanadium		11000	ng/Filter	0.40	AC-021	22-Sep-23
23080141-003	Zinc	K, T, U	< 1000	ng/Filter	1000	AC-021	22-Sep-23
23080141-003	Particulate Weight		110	mg	0.1	Research	24-Aug-23

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing

Date: September 29, 2023 Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

InnoTech's ISO/IEC 17025:2017 scope of accreditation can be located at https://directory.cala.ca//

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PO Bag 4000
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Canada T9C 1T4
(780) 632-8211

ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PM10 Test # 855 - C1170469		Air Filter	04-Aug-23 0:00

DESCRIPTION: PM10 Filter

REPORT NUMBER: 23080141 **REPORT CREATED:** 29-Sep-23 **VERSION:** Draft

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
23080141-002	Antimony		8.57	ng/Filter	0.03	AC-021	20-Sep-23
23080141-002	Arsenic		62.2	ng/Filter	0.03	AC-021	20-Sep-23
23080141-002	Barium		330	ng/Filter	0.3	AC-021	20-Sep-23
23080141-002	Beryllium		0.63	ng/Filter	0.06	AC-021	20-Sep-23
23080141-002	Boron		151	ng/Filter	0.6	AC-021	20-Sep-23
23080141-002	Cadmium		1.69	ng/Filter	0.08	AC-021	20-Sep-23
23080141-002	Chromium		52	ng/Filter	2	AC-021	20-Sep-23
23080141-002	Cobalt		18.6	ng/Filter	0.05	AC-021	20-Sep-23
23080141-002	Copper		567	ng/Filter	2	AC-021	20-Sep-23
23080141-002	Iron		17100	ng/Filter	8	AC-021	20-Sep-23
23080141-002	Lead		75.5	ng/Filter	0.07	AC-021	20-Sep-23
23080141-002	Manganese		587	ng/Filter	0.1	AC-021	20-Sep-23
23080141-002	Mercury		0.27	ng/Filter	0.07	AC-021	20-Sep-23
23080141-002	Nickel		149	ng/Filter	0.5	AC-021	20-Sep-23
23080141-002	Selenium		7.6	ng/Filter	0.4	AC-021	20-Sep-23
23080141-002	Silver		0.73	ng/Filter	0.05	AC-021	20-Sep-23
23080141-002	Thallium		0.49	ng/Filter	0.02	AC-021	20-Sep-23
23080141-002	Tin		7.76	ng/Filter	0.02	AC-021	20-Sep-23
23080141-002	Uranium		0.751	ng/Filter	0.020	AC-021	20-Sep-23
23080141-002	Vanadium		71.2	ng/Filter	0.04	AC-021	20-Sep-23
23080141-002	Zinc		2000	ng/Filter	1	AC-021	20-Sep-23
23080141-002	Particulate Weight		0.566	mg	0.004	AC-029	15-Aug-23

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing

Date: September 29, 2023

Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

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PO Bag 4000
Vegreville, Alberta
Canada T9C 1T4
(780) 632-8211

ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
VOCs and TNMOC Test # 855	32237	Ambient Air	04-Aug-23 0:00

DESCRIPTION: Air Canister

REPORT NUMBER: 23080141 **REPORT CREATED:** 29-Sep-23 **VERSION:** Draft

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
23080141-001	Total Non-Methane Organic Carbon	K, T, U	< 0.08	ppmv	0.08	NA-028	14-Aug-23
23080141-001	1,2,3-Trimethylbenzene	I	0.13	ppbv	0.08	AC-058	15-Aug-23
23080141-001	1,2,4-Trimethylbenzene	I	0.07	ppbv	0.05	AC-058	15-Aug-23
23080141-001	1,3,5-Trimethylbenzene	I	0.05	ppbv	0.05	AC-058	15-Aug-23
23080141-001	1-Butene/Isobutylene	K, T, U	< 0.10	ppbv	0.10	AC-058	15-Aug-23
23080141-001	1-Hexene/2-Methyl-1-pentene	K, T, U	< 0.12	ppbv	0.12	AC-058	15-Aug-23
23080141-001	1-Pentene	I	0.10	ppbv	0.05	AC-058	15-Aug-23
23080141-001	2,2,4-Trimethylpentane	K, T, U	< 0.03	ppbv	0.03	AC-058	15-Aug-23
23080141-001	2,2-Dimethylbutane	K, T, U	< 0.03	ppbv	0.03	AC-058	15-Aug-23
23080141-001	2,3,4-Trimethylpentane	K, T, U	< 0.03	ppbv	0.03	AC-058	15-Aug-23
23080141-001	2,3-Dimethylbutane	K, T, U	< 0.15	ppbv	0.15	AC-058	15-Aug-23
23080141-001	2,3-Dimethylpentane	K, T, U	< 0.03	ppbv	0.03	AC-058	15-Aug-23
23080141-001	2,4-Dimethylpentane	K, T, U	< 0.05	ppbv	0.05	AC-058	15-Aug-23
23080141-001	2-Methylheptane	K, T, U	< 0.03	ppbv	0.03	AC-058	15-Aug-23
23080141-001	2-Methylhexane	K, T, U	< 0.05	ppbv	0.05	AC-058	15-Aug-23
23080141-001	2-Methylpentane	I	0.05	ppbv	0.03	AC-058	15-Aug-23
23080141-001	3-Methylheptane	K, T, U	< 0.05	ppbv	0.05	AC-058	15-Aug-23
23080141-001	3-Methylhexane	K, T, U	< 0.03	ppbv	0.03	AC-058	15-Aug-23
23080141-001	3-Methylpentane	I	0.06	ppbv	0.03	AC-058	15-Aug-23
23080141-001	Benzene	I	0.11	ppbv	0.05	AC-058	15-Aug-23
23080141-001	cis-2-Butene	K, T, U	< 0.05	ppbv	0.05	AC-058	15-Aug-23
23080141-001	cis-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	15-Aug-23
23080141-001	Cyclohexane	K, T, U	< 0.07	ppbv	0.07	AC-058	15-Aug-23
23080141-001	Cyclopentane	I	0.08	ppbv	0.03	AC-058	15-Aug-23
23080141-001	Ethylbenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	15-Aug-23

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing

Date: September 29, 2023

Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

InnoTech ALBERTA
PO Bag 4000
Vegreville, Alberta
Canada T9C 1T4
(780) 632-8211

ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
VOCs and TNMOC Test # 855	32237	Ambient Air	04-Aug-23 0:00

DESCRIPTION: Air Canister

REPORT NUMBER: 23080141 **REPORT CREATED:** 29-Sep-23 **VERSION:** Draft

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
23080141-001	Isobutane		0.56	ppbv	0.05	AC-058	15-Aug-23
23080141-001	Isopentane		0.38	ppbv	0.07	AC-058	15-Aug-23
23080141-001	Isoprene		0.17	ppbv	0.03	AC-058	15-Aug-23
23080141-001	Isopropylbenzene	K, T, U	< 0.07	ppbv	0.07	AC-058	15-Aug-23
23080141-001	m,p-Xylene	I	0.10	ppbv	0.07	AC-058	15-Aug-23
23080141-001	m-Diethylbenzene	I	0.15	ppbv	0.03	AC-058	15-Aug-23
23080141-001	m-Ethyltoluene	K, T, U	< 0.05	ppbv	0.05	AC-058	15-Aug-23
23080141-001	Methylcyclohexane	K, T, U	< 0.03	ppbv	0.03	AC-058	15-Aug-23
23080141-001	Methylcyclopentane	K, T, U	< 0.08	ppbv	0.08	AC-058	15-Aug-23
23080141-001	n-Butane		0.83	ppbv	0.03	AC-058	15-Aug-23
23080141-001	n-Decane	I	0.13	ppbv	0.10	AC-058	15-Aug-23
23080141-001	n-Dodecane	K, T, U	< 0.5	ppbv	0.5	AC-058	15-Aug-23
23080141-001	n-Heptane	K, T, U	< 0.07	ppbv	0.07	AC-058	15-Aug-23
23080141-001	n-Hexane	I	0.22	ppbv	0.05	AC-058	15-Aug-23
23080141-001	n-Octane	I	0.04	ppbv	0.03	AC-058	15-Aug-23
23080141-001	n-Pentane		0.22	ppbv	0.07	AC-058	15-Aug-23
23080141-001	n-Propylbenzene	K, T, U	< 0.10	ppbv	0.10	AC-058	15-Aug-23
23080141-001	n-Undecane	K, T, U	< 0.8	ppbv	0.8	AC-058	15-Aug-23
23080141-001	n-Nonane	K, T, U	< 0.07	ppbv	0.07	AC-058	15-Aug-23
23080141-001	o-Ethyltoluene	K, T, U	< 0.03	ppbv	0.03	AC-058	15-Aug-23
23080141-001	o-Xylene	I	0.06	ppbv	0.05	AC-058	15-Aug-23
23080141-001	p-Diethylbenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	15-Aug-23
23080141-001	p-Ethyltoluene	K, T, U	< 0.07	ppbv	0.07	AC-058	15-Aug-23
23080141-001	Styrene	I	0.07	ppbv	0.07	AC-058	15-Aug-23
23080141-001	Toluene	I	0.15	ppbv	0.05	AC-058	15-Aug-23

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing

Date: September 29, 2023 Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

InnoTech's ISO/IEC 17025:2017 scope of accreditation can be located at https://directory.cala.ca//

InnoTech ALBERTA
PO Bag 4000
Vegreville, Alberta
Canada T9C 1T4
(780) 632-8211

ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
VOCs and TNMOC Test # 855	32237	Ambient Air	04-Aug-23 0:00

DESCRIPTION: Air Canister

REPORT NUMBER: 23080141 **REPORT CREATED:** 29-Sep-23 **VERSION:** Draft

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
23080141-001	trans-2-Butene	K, T, U	< 0.05	ppbv	0.05	AC-058	15-Aug-23
23080141-001	trans-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	15-Aug-23

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing

Date: September 29, 2023

Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

Revision History

Order ID	Ver	Date	Reason
23080141	01	29-Sep-23	Report created

Methods

Method	Description
AC-021	Elemental Analysis Methodology of Filter-collected Airborne Particulate Matter (PM) by ICP-MS
AC-029	Procedure for the Equilibration and Weighing of Membrane Filters and PUFs on the Mettler Toledo Micro Balance
AC-058	Determination of Volatile Organic Compounds in Ambient Air by Gas Chromatography Mass Spectrometry
NA-028	Determination of Total Non-methane Hydrocarbons and Total Hydrocarbons in Ambient Air by Gas Chromatography Flame Ionization Detector
Research	Research method

List of Analytical Method IDs within InnoTech's ISO/IEC 17025:2017 CALA Scope of Accreditation

Method ID	Description
AC-013	Mercury in Waters by Cold Vapor Atomic Fluorescence Detection (CVAFS)
AC-020	Ion Chromatographic Procedures using the Dionex ICS 3000 and 5000 Systems
AC-021	Elemental Analysis Methodology of Filter-collected Airborne Particulate Matter (PM) by ICP-MS
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AC-054	Alkalinity Total and Phenolphthalein
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AC-060	Trace Metal Analysis of Soil Sediment and Industrial Waste Samples by Inductively Coupled Plasma Mass Spectrometry (ICP-MS)
AC-061	Trace Metal Analysis for Biological Samples by Inductively Coupled Plasma Mass Spectrometry (ICP-MS)
AC-065	Analysis of Naphthenic Acids in Water by HPLC-Orbitrap-MS analysis
AC-074	Pesticides in Water
AC-079	Alkylated PAH in Soil and Sediment
AC-080	Alkylated PAH in Water (SPE Extraction)
NA-006	Determination of BTEX, F1 Hydrocarbons and F2, F3 and F4 Hydrocarbons in Water
NA-024	Analysis of Reduced Sulfur Compounds in Air

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Qualifiers

Data Qualifier	Translation
B	Blank contamination; Analyte detected above the method reporting limit in an associated blank
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
J1	Reported value is estimated; Surrogate recoveries limits were exceeded
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J3	Reported value is estimated; The value failed to meet QC criteria for either precision or accuracy
J4	Reported value is estimated; The sample matrix interfered with the analysis
K	Off-scale low. Actual value is known to be less than the value given
L	Off-scale high. Actual value is known to be greater than value given
N	Non-target analyte; Tentatively identified compound (using mass spectroscopy)
Q	Sample held beyond the accepted holding time
R	Rejected data; Not suitable for the projects intended use
T	Value reported is less than the laboratory method detection limit
U	Compound was analyzed for but not detected
V	Analyte was detected in both the sample and the associated method blank

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Order Comments

23080141

Send results to Stan Yuha. Project ID: Test # 855

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(780) 632-8211

Sample Comments

Result Comments

Note:

1. Results relate only to items tested and apply to the sample as received.

2. This report shall not be reproduced, except in full, without the explicit approval of the laboratory.

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Canada T9C 1T4
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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

RESULTS: Todd Webb
Clean Harbors Environmental
PO Box 390
2 km N of Hwy 14 on Sec Road 854 50114 RR 173
Ryley
AB T0B 4A0

INVOICE: Stephanie Dennis
PO Box 390
2 km N of Hwy 14 on Sec Road 854 50114 RR 173
Ryley
AB T0B 4A0

CLIENT SAMPLE ID: Hi-Vol Test # 856 - HVF-23-06-20
Matrix: Air Filter

CANISTER ID: HVF-23-06-20
PRIORITY: Normal
DESCRIPTION: Hi-Vol Filter

DATE SAMPLED: 10-Aug-23 0:00
DATE RECEIVED: 16-Aug-23
REPORT CREATED: 29-Sep-23
REPORT NUMBER: 23080214
VERSION: Draft

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
23080214-003	Antimony		377	ng/Filter	0.30	AC-021	22-Sep-23
23080214-003	Arsenic		14600	ng/Filter	0.30	AC-021	22-Sep-23
23080214-003	Barium	K, T, U	< 300	ng/Filter	300	AC-021	22-Sep-23
23080214-003	Beryllium		94.2	ng/Filter	0.60	AC-021	22-Sep-23
23080214-003	Boron		13300000	ng/Filter	600	AC-021	22-Sep-23
23080214-003	Cadmium		706	ng/Filter	0.80	AC-021	22-Sep-23
23080214-003	Chromium		37000	ng/Filter	20	AC-021	22-Sep-23
23080214-003	Cobalt		7610	ng/Filter	0.50	AC-021	22-Sep-23
23080214-003	Copper		227000	ng/Filter	20	AC-021	22-Sep-23
23080214-003	Iron		5130000	ng/Filter	80	AC-021	22-Sep-23
23080214-003	Lead		59400	ng/Filter	7.00	AC-021	22-Sep-23
23080214-003	Manganese			ng/Filter	0.1	AC-021	
23080214-003	Mercury		37.5	ng/Filter	0.70	AC-021	22-Sep-23
23080214-003	Nickel		63400	ng/Filter	5.0	AC-021	22-Sep-23
23080214-003	Selenium		1360	ng/Filter	4.0	AC-021	22-Sep-23
23080214-003	Silver		364	ng/Filter	0.50	AC-021	22-Sep-23
23080214-003	Thallium		6.84	ng/Filter	0.20	AC-021	22-Sep-23

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing
Date: September 29, 2023 Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
Hi-Vol Test # 856 - HVF-23-06-20	HVF-23-06-20	Air Filter	10-Aug-23 0:00

DESCRIPTION: Hi-Vol Filter

REPORT NUMBER: 23080214 **REPORT CREATED:** 29-Sep-23 **VERSION:** Draft

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
23080214-003	Tin			ng/Filter	0.02	AC-021	
23080214-003	Uranium	K, T, U	< 0.200	ng/Filter	0.200	AC-021	22-Sep-23
23080214-003	Vanadium		20300	ng/Filter	0.40	AC-021	22-Sep-23
23080214-003	Zinc	K, T, U	< 1000	ng/Filter	1000	AC-021	22-Sep-23
23080214-003	Particulate Weight		212	mg	0.1	Research	17-Aug-23

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing

Date: September 29, 2023

Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PM10 Test # 856 - C1168581	C1168581	Air Filter	10-Aug-23 0:00

DESCRIPTION: PM10 Filter

REPORT NUMBER: 23080214 **REPORT CREATED:** 29-Sep-23 **VERSION:** Draft

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
23080214-002	Antimony		6.09	ng/Filter	0.03	AC-021	20-Sep-23
23080214-002	Arsenic		69.5	ng/Filter	0.03	AC-021	20-Sep-23
23080214-002	Barium		1220	ng/Filter	0.3	AC-021	20-Sep-23
23080214-002	Beryllium		1.10	ng/Filter	0.06	AC-021	20-Sep-23
23080214-002	Boron		120	ng/Filter	0.6	AC-021	20-Sep-23
23080214-002	Cadmium		4.94	ng/Filter	0.08	AC-021	20-Sep-23
23080214-002	Chromium		291	ng/Filter	2	AC-021	20-Sep-23
23080214-002	Cobalt		72.4	ng/Filter	0.05	AC-021	20-Sep-23
23080214-002	Copper		356	ng/Filter	2	AC-021	20-Sep-23
23080214-002	Iron		31200	ng/Filter	8	AC-021	20-Sep-23
23080214-002	Lead		332	ng/Filter	0.70	AC-021	20-Sep-23
23080214-002	Manganese		1700	ng/Filter	0.1	AC-021	20-Sep-23
23080214-002	Mercury		0.43	ng/Filter	0.07	AC-021	20-Sep-23
23080214-002	Nickel		407	ng/Filter	0.5	AC-021	20-Sep-23
23080214-002	Selenium		8.8	ng/Filter	0.4	AC-021	20-Sep-23
23080214-002	Silver		2.08	ng/Filter	0.05	AC-021	20-Sep-23
23080214-002	Thallium		0.85	ng/Filter	0.02	AC-021	20-Sep-23
23080214-002	Tin		21.7	ng/Filter	0.02	AC-021	20-Sep-23
23080214-002	Uranium		1.82	ng/Filter	0.020	AC-021	20-Sep-23
23080214-002	Vanadium		155	ng/Filter	0.04	AC-021	20-Sep-23
23080214-002	Zinc		5940	ng/Filter	10	AC-021	20-Sep-23
23080214-002	Particulate Weight		0.902	mg	0.004	AC-029	18-Aug-23

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing

Date: September 29, 2023 Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
VOCs and TNMOC Test # 856	32194	Ambient Air	10-Aug-23 0:00

DESCRIPTION: Air Canister

REPORT NUMBER: 23080214 **REPORT CREATED:** 29-Sep-23 **VERSION:** Draft

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
23080214-001	Total Non-Methane Organic Carbon	K, T, U	< 0.08	ppmv	0.08	NA-028	17-Aug-23
23080214-001	1,2,3-Trimethylbenzene		0.23	ppbv	0.08	AC-058	22-Aug-23
23080214-001	1,2,4-Trimethylbenzene	I	0.28	ppbv	0.05	AC-058	22-Aug-23
23080214-001	1,3,5-Trimethylbenzene	I	0.18	ppbv	0.05	AC-058	22-Aug-23
23080214-001	1-Butene/Isobutylene	K, T, U	< 0.10	ppbv	0.10	AC-058	22-Aug-23
23080214-001	1-Hexene/2-Methyl-1-pentene	K, T, U	< 0.11	ppbv	0.11	AC-058	22-Aug-23
23080214-001	1-Pentene	K, T, U	< 0.05	ppbv	0.05	AC-058	22-Aug-23
23080214-001	2,2,4-Trimethylpentane	I	0.06	ppbv	0.03	AC-058	22-Aug-23
23080214-001	2,2-Dimethylbutane	I	0.06	ppbv	0.03	AC-058	22-Aug-23
23080214-001	2,3,4-Trimethylpentane	I	0.04	ppbv	0.03	AC-058	22-Aug-23
23080214-001	2,3-Dimethylbutane	K, T, U	< 0.15	ppbv	0.15	AC-058	22-Aug-23
23080214-001	2,3-Dimethylpentane	I	0.08	ppbv	0.03	AC-058	22-Aug-23
23080214-001	2,4-Dimethylpentane	K, T, U	< 0.05	ppbv	0.05	AC-058	22-Aug-23
23080214-001	2-Methylheptane		0.19	ppbv	0.03	AC-058	22-Aug-23
23080214-001	2-Methylhexane		0.19	ppbv	0.05	AC-058	22-Aug-23
23080214-001	2-Methylpentane		0.42	ppbv	0.03	AC-058	22-Aug-23
23080214-001	3-Methylheptane	I	0.10	ppbv	0.05	AC-058	22-Aug-23
23080214-001	3-Methylhexane		0.24	ppbv	0.03	AC-058	22-Aug-23
23080214-001	3-Methylpentane		0.25	ppbv	0.03	AC-058	22-Aug-23
23080214-001	Benzene	I	0.21	ppbv	0.05	AC-058	22-Aug-23
23080214-001	cis-2-Butene	K, T, U	< 0.05	ppbv	0.05	AC-058	22-Aug-23
23080214-001	cis-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	22-Aug-23
23080214-001	Cyclohexane	I	0.29	ppbv	0.07	AC-058	22-Aug-23
23080214-001	Cyclopentane	I	0.11	ppbv	0.03	AC-058	22-Aug-23
23080214-001	Ethylbenzene	I	0.29	ppbv	0.05	AC-058	22-Aug-23

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing

Date: September 29, 2023 Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
VOCs and TNMOC Test # 856	32194	Ambient Air	10-Aug-23 0:00

DESCRIPTION: Air Canister

REPORT NUMBER: 23080214 **REPORT CREATED:** 29-Sep-23 **VERSION:** Draft

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
23080214-001	Isobutane		0.33	ppbv	0.05	AC-058	22-Aug-23
23080214-001	Isopentane		1.58	ppbv	0.07	AC-058	22-Aug-23
23080214-001	Isoprene		0.17	ppbv	0.03	AC-058	22-Aug-23
23080214-001	Isopropylbenzene	K, T, U	< 0.07	ppbv	0.07	AC-058	22-Aug-23
23080214-001	m,p-Xylene		1.17	ppbv	0.07	AC-058	22-Aug-23
23080214-001	m-Diethylbenzene		0.19	ppbv	0.03	AC-058	22-Aug-23
23080214-001	m-Ethyltoluene		0.17	ppbv	0.05	AC-058	22-Aug-23
23080214-001	Methylcyclohexane		0.55	ppbv	0.03	AC-058	22-Aug-23
23080214-001	Methylcyclopentane		0.31	ppbv	0.08	AC-058	22-Aug-23
23080214-001	n-Butane	K, T, U	< 0.03	ppbv	0.03	AC-058	22-Aug-23
23080214-001	n-Decane		0.30	ppbv	0.10	AC-058	22-Aug-23
23080214-001	n-Dodecane	I	0.6	ppbv	0.5	AC-058	22-Aug-23
23080214-001	n-Heptane		0.45	ppbv	0.07	AC-058	22-Aug-23
23080214-001	n-Hexane		0.56	ppbv	0.05	AC-058	22-Aug-23
23080214-001	n-Octane		0.36	ppbv	0.03	AC-058	22-Aug-23
23080214-001	n-Pentane		1.07	ppbv	0.07	AC-058	22-Aug-23
23080214-001	n-Propylbenzene	K, T, U	< 0.10	ppbv	0.10	AC-058	22-Aug-23
23080214-001	n-Undecane	K, T, U	< 0.8	ppbv	0.8	AC-058	22-Aug-23
23080214-001	n-Nonane		0.27	ppbv	0.07	AC-058	22-Aug-23
23080214-001	o-Ethyltoluene	I	0.11	ppbv	0.03	AC-058	22-Aug-23
23080214-001	o-Xylene		0.40	ppbv	0.05	AC-058	22-Aug-23
23080214-001	p-Diethylbenzene		0.18	ppbv	0.03	AC-058	22-Aug-23
23080214-001	p-Ethyltoluene	I	0.11	ppbv	0.07	AC-058	22-Aug-23
23080214-001	Styrene	I	0.09	ppbv	0.07	AC-058	22-Aug-23
23080214-001	Toluene		1.91	ppbv	0.05	AC-058	22-Aug-23

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing

Date: September 29, 2023 Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
VOCs and TNMOC Test # 856	32194	Ambient Air	10-Aug-23 0:00

DESCRIPTION: Air Canister

REPORT NUMBER: 23080214 **REPORT CREATED:** 29-Sep-23 **VERSION:** Draft

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
23080214-001	trans-2-Butene	K, T, U	< 0.05	ppbv	0.05	AC-058	22-Aug-23
23080214-001	trans-2-Pentene	I	0.04	ppbv	0.03	AC-058	22-Aug-23

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing

Date: September 29, 2023 Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

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Revision History

Order ID	Ver	Date	Reason
23080214	01	29-Sep-23	Report created

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List of Analytical Method IDs within InnoTech's ISO/IEC 17025:2017 CALA Scope of Accreditation

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AC-029	Procedure for the Equilibration and Weighing of Membrane Filters and PUFs on the Mettler Toledo Micro Balance
AC-035	Analysis of Glyphosate, Aminomethylphosphonic Acid and Glufosinate in Water
AC-038	Trace Metal Analysis of Water Samples by ICP-MS
AC-048	Specific Conductance (Conductivity Meter Method)
AC-049	pH (Meter Method)
AC-054	Alkalinity Total and Phenolphthalein
AC-058	Determination of Volatile Organic Compounds in Ambient Air by Gas Chromatography Mass Spectrometry
AC-060	Trace Metal Analysis of Soil Sediment and Industrial Waste Samples by Inductively Coupled Plasma Mass Spectrometry (ICP-MS)
AC-061	Trace Metal Analysis for Biological Samples by Inductively Coupled Plasma Mass Spectrometry (ICP-MS)
AC-065	Analysis of Naphthenic Acids in Water by HPLC-Orbitrap-MS analysis
AC-074	Pesticides in Water
AC-079	Alkylated PAH in Soil and Sediment
AC-080	Alkylated PAH in Water (SPE Extraction)
NA-006	Determination of BTEX, F1 Hydrocarbons and F2, F3 and F4 Hydrocarbons in Water
NA-024	Analysis of Reduced Sulfur Compounds in Air

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Qualifiers

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J4	Reported value is estimated; The sample matrix interfered with the analysis
K	Off-scale low. Actual value is known to be less than the value given
L	Off-scale high. Actual value is known to be greater than value given
N	Non-target analyte; Tentatively identified compound (using mass spectroscopy)
Q	Sample held beyond the accepted holding time
R	Rejected data; Not suitable for the projects intended use
T	Value reported is less than the laboratory method detection limit
U	Compound was analyzed for but not detected
V	Analyte was detected in both the sample and the associated method blank

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Order Comments

23080214

Send results to Stan Yuha. Project ID: Test # 856

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Vegreville, Alberta
Canada T9C 1T4
(780) 632-8211

Sample Comments

Result Comments

Note:

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2. This report shall not be reproduced, except in full, without the explicit approval of the laboratory.

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

RESULTS: Todd Webb
Clean Harbors Environmental
PO Box 390
2 km N of Hwy 14 on Sec Road 854 50114 RR 173
Ryley
AB T0B 4A0

INVOICE: Stephanie Dennis
PO Box 390
2 km N of Hwy 14 on Sec Road 854 50114 RR 173
Ryley
AB T0B 4A0

CLIENT SAMPLE ID: Hi-Vol Test # 857 - HVF-23-06-19
Matrix: Air Filter
CANISTER ID:
PRIORITY: Normal
DESCRIPTION: Hi-Vol Filter
DATE SAMPLED: 16-Aug-23 0:00
DATE RECEIVED: 21-Aug-23
REPORT CREATED: 29-Sep-23
REPORT NUMBER: 23080295
VERSION: Draft

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
23080295-003	Antimony		589	ng/Filter	0.30	AC-021	22-Sep-23
23080295-003	Arsenic		19300	ng/Filter	0.30	AC-021	22-Sep-23
23080295-003	Barium	K, T, U	< 300	ng/Filter	300	AC-021	22-Sep-23
23080295-003	Beryllium		181	ng/Filter	0.60	AC-021	22-Sep-23
23080295-003	Boron		4350000	ng/Filter	600	AC-021	22-Sep-23
23080295-003	Cadmium		962	ng/Filter	0.80	AC-021	22-Sep-23
23080295-003	Chromium		43200	ng/Filter	20	AC-021	22-Sep-23
23080295-003	Cobalt		12700	ng/Filter	0.50	AC-021	22-Sep-23
23080295-003	Copper		389000	ng/Filter	20	AC-021	22-Sep-23
23080295-003	Iron		11000000	ng/Filter	80	AC-021	22-Sep-23
23080295-003	Lead		67100	ng/Filter	7.00	AC-021	22-Sep-23
23080295-003	Manganese			ng/Filter	0.1	AC-021	
23080295-003	Mercury		63.4	ng/Filter	0.70	AC-021	22-Sep-23
23080295-003	Nickel		84100	ng/Filter	5.0	AC-021	22-Sep-23
23080295-003	Selenium		1560	ng/Filter	4.0	AC-021	22-Sep-23
23080295-003	Silver		441	ng/Filter	0.50	AC-021	22-Sep-23
23080295-003	Thallium		39.5	ng/Filter	0.20	AC-021	22-Sep-23

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing
Date: September 29, 2023 Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
Hi-Vol Test # 857 - HVF-23-06-19		Air Filter	16-Aug-23 0:00

DESCRIPTION: Hi-Vol Filter

REPORT NUMBER: 23080295 **REPORT CREATED:** 29-Sep-23 **VERSION:** Draft

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
23080295-003	Tin			ng/Filter	0.02	AC-021	
23080295-003	Uranium		413	ng/Filter	0.200	AC-021	22-Sep-23
23080295-003	Vanadium		35700	ng/Filter	0.40	AC-021	22-Sep-23
23080295-003	Zinc	K, T, U	< 1000	ng/Filter	1000	AC-021	22-Sep-23
23080295-003	Particulate Weight		413	mg	0.1	Research	24-Aug-23

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing

Date: September 29, 2023 Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PM10 Test # 857 - C9700136		Air Filter	16-Aug-23 0:00

DESCRIPTION: PM10 Filter

REPORT NUMBER: 23080295 **REPORT CREATED:** 29-Sep-23 **VERSION:** Draft

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
23080295-002	Antimony		8.77	ng/Filter	0.03	AC-021	20-Sep-23
23080295-002	Arsenic		119	ng/Filter	0.03	AC-021	20-Sep-23
23080295-002	Barium		1370	ng/Filter	0.3	AC-021	20-Sep-23
23080295-002	Beryllium		2.43	ng/Filter	0.06	AC-021	20-Sep-23
23080295-002	Boron		186	ng/Filter	0.6	AC-021	20-Sep-23
23080295-002	Cadmium		7.21	ng/Filter	0.08	AC-021	20-Sep-23
23080295-002	Chromium		343	ng/Filter	2	AC-021	20-Sep-23
23080295-002	Cobalt		83.4	ng/Filter	0.05	AC-021	20-Sep-23
23080295-002	Copper		398	ng/Filter	2	AC-021	20-Sep-23
23080295-002	Iron		76200	ng/Filter	80	AC-021	20-Sep-23
23080295-002	Lead		390	ng/Filter	0.70	AC-021	20-Sep-23
23080295-002	Manganese		2860	ng/Filter	0.1	AC-021	20-Sep-23
23080295-002	Mercury		0.57	ng/Filter	0.07	AC-021	20-Sep-23
23080295-002	Nickel		569	ng/Filter	0.5	AC-021	20-Sep-23
23080295-002	Selenium		13.8	ng/Filter	0.4	AC-021	20-Sep-23
23080295-002	Silver		2.28	ng/Filter	0.05	AC-021	20-Sep-23
23080295-002	Thallium		1.11	ng/Filter	0.02	AC-021	20-Sep-23
23080295-002	Tin		13.9	ng/Filter	0.02	AC-021	20-Sep-23
23080295-002	Uranium		6.09	ng/Filter	0.020	AC-021	20-Sep-23
23080295-002	Vanadium		295	ng/Filter	0.40	AC-021	20-Sep-23
23080295-002	Zinc		8500	ng/Filter	10	AC-021	20-Sep-23
23080295-002	Particulate Weight		1.96	mg	0.004	AC-029	23-Aug-23

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing

Date: September 29, 2023 Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
VOCs and TNMOC Test # 857	28967	Ambient Air	16-Aug-23 0:00

DESCRIPTION: Air Canister

REPORT NUMBER: 23080295 **REPORT CREATED:** 29-Sep-23 **VERSION:** Draft

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
23080295-001	Total Non-Methane Organic Carbon	K, T, U	< 0.08	ppmv	0.08	NA-028	22-Aug-23
23080295-001	1,2,3-Trimethylbenzene	I	0.15	ppbv	0.08	AC-058	25-Aug-23
23080295-001	1,2,4-Trimethylbenzene	I	0.26	ppbv	0.05	AC-058	25-Aug-23
23080295-001	1,3,5-Trimethylbenzene	I	0.23	ppbv	0.05	AC-058	25-Aug-23
23080295-001	1-Butene/Isobutylene	K, T, U	< 0.10	ppbv	0.10	AC-058	25-Aug-23
23080295-001	1-Hexene/2-Methyl-1-pentene	K, T, U	< 0.12	ppbv	0.12	AC-058	25-Aug-23
23080295-001	1-Pentene	I	0.08	ppbv	0.05	AC-058	25-Aug-23
23080295-001	2,2,4-Trimethylpentane	K, T, U	< 0.03	ppbv	0.03	AC-058	25-Aug-23
23080295-001	2,2-Dimethylbutane	K, T, U	< 0.03	ppbv	0.03	AC-058	25-Aug-23
23080295-001	2,3,4-Trimethylpentane	K, T, U	< 0.03	ppbv	0.03	AC-058	25-Aug-23
23080295-001	2,3-Dimethylbutane	K, T, U	< 0.15	ppbv	0.15	AC-058	25-Aug-23
23080295-001	2,3-Dimethylpentane	I	0.04	ppbv	0.03	AC-058	25-Aug-23
23080295-001	2,4-Dimethylpentane	K, T, U	< 0.05	ppbv	0.05	AC-058	25-Aug-23
23080295-001	2-Methylheptane	K, T, U	< 0.03	ppbv	0.03	AC-058	25-Aug-23
23080295-001	2-Methylhexane	K, T, U	< 0.05	ppbv	0.05	AC-058	25-Aug-23
23080295-001	2-Methylpentane	I	0.08	ppbv	0.03	AC-058	25-Aug-23
23080295-001	3-Methylheptane	K, T, U	< 0.05	ppbv	0.05	AC-058	25-Aug-23
23080295-001	3-Methylhexane	I	0.05	ppbv	0.03	AC-058	25-Aug-23
23080295-001	3-Methylpentane	I	0.06	ppbv	0.03	AC-058	25-Aug-23
23080295-001	Benzene	I	0.11	ppbv	0.05	AC-058	25-Aug-23
23080295-001	cis-2-Butene	K, T, U	< 0.05	ppbv	0.05	AC-058	25-Aug-23
23080295-001	cis-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	25-Aug-23
23080295-001	Cyclohexane	K, T, U	< 0.07	ppbv	0.07	AC-058	25-Aug-23
23080295-001	Cyclopentane	K, T, U	< 0.03	ppbv	0.03	AC-058	25-Aug-23
23080295-001	Ethylbenzene	I	0.12	ppbv	0.05	AC-058	25-Aug-23

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing

Date: September 29, 2023

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
VOCs and TNMOC Test # 857	28967	Ambient Air	16-Aug-23 0:00

DESCRIPTION: Air Canister

REPORT NUMBER: 23080295 **REPORT CREATED:** 29-Sep-23 **VERSION:** Draft

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
23080295-001	Isobutane		0.33	ppbv	0.05	AC-058	25-Aug-23
23080295-001	Isopentane		0.36	ppbv	0.07	AC-058	25-Aug-23
23080295-001	Isoprene	I	0.15	ppbv	0.03	AC-058	25-Aug-23
23080295-001	Isopropylbenzene	K, T, U	< 0.07	ppbv	0.07	AC-058	25-Aug-23
23080295-001	m,p-Xylene	I	0.41	ppbv	0.07	AC-058	25-Aug-23
23080295-001	m-Diethylbenzene	I	0.14	ppbv	0.03	AC-058	25-Aug-23
23080295-001	m-Ethyltoluene	I	0.14	ppbv	0.05	AC-058	25-Aug-23
23080295-001	Methylcyclohexane	I	0.08	ppbv	0.03	AC-058	25-Aug-23
23080295-001	Methylcyclopentane	K, T, U	< 0.08	ppbv	0.08	AC-058	25-Aug-23
23080295-001	n-Butane		0.44	ppbv	0.03	AC-058	25-Aug-23
23080295-001	n-Decane	I	0.17	ppbv	0.10	AC-058	25-Aug-23
23080295-001	n-Dodecane		0.9	ppbv	0.5	AC-058	25-Aug-23
23080295-001	n-Heptane	I	0.07	ppbv	0.07	AC-058	25-Aug-23
23080295-001	n-Hexane	I	0.12	ppbv	0.05	AC-058	25-Aug-23
23080295-001	n-Octane	I	0.05	ppbv	0.03	AC-058	25-Aug-23
23080295-001	n-Pentane		0.29	ppbv	0.07	AC-058	25-Aug-23
23080295-001	n-Propylbenzene	K, T, U	< 0.10	ppbv	0.10	AC-058	25-Aug-23
23080295-001	n-Undecane	K, T, U	< 0.8	ppbv	0.8	AC-058	25-Aug-23
23080295-001	n-Nonane	K, T, U	< 0.07	ppbv	0.07	AC-058	25-Aug-23
23080295-001	o-Ethyltoluene	I	0.14	ppbv	0.03	AC-058	25-Aug-23
23080295-001	o-Xylene	I	0.15	ppbv	0.05	AC-058	25-Aug-23
23080295-001	p-Diethylbenzene	I	0.15	ppbv	0.03	AC-058	25-Aug-23
23080295-001	p-Ethyltoluene	K, T, U	< 0.07	ppbv	0.07	AC-058	25-Aug-23
23080295-001	Styrene	K, T, U	< 0.07	ppbv	0.07	AC-058	25-Aug-23
23080295-001	Toluene	I	0.29	ppbv	0.05	AC-058	25-Aug-23

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing

Date: September 29, 2023 Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
VOCs and TNMOC Test # 857	28967	Ambient Air	16-Aug-23 0:00

DESCRIPTION: Air Canister

REPORT NUMBER: 23080295 **REPORT CREATED:** 29-Sep-23 **VERSION:** Draft

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
23080295-001	trans-2-Butene	K, T, U	< 0.05	ppbv	0.05	AC-058	25-Aug-23
23080295-001	trans-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	25-Aug-23

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing

Date: September 29, 2023

Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

Revision History

Order ID	Ver	Date	Reason
23080295	01	29-Sep-23	Report created

Methods

Method	Description
AC-021	Elemental Analysis Methodology of Filter-collected Airborne Particulate Matter (PM) by ICP-MS
AC-029	Procedure for the Equilibration and Weighing of Membrane Filters and PUFs on the Mettler Toledo Micro Balance
AC-058	Determination of Volatile Organic Compounds in Ambient Air by Gas Chromatography Mass Spectrometry
NA-028	Determination of Total Non-methane Hydrocarbons and Total Hydrocarbons in Ambient Air by Gas Chromatography Flame Ionization Detector
Research	Research method

List of Analytical Method IDs within InnoTech's ISO/IEC 17025:2017 CALA Scope of Accreditation

Method ID	Description
AC-013	Mercury in Waters by Cold Vapor Atomic Fluorescence Detection (CVAFS)
AC-020	Ion Chromatographic Procedures using the Dionex ICS 3000 and 5000 Systems
AC-021	Elemental Analysis Methodology of Filter-collected Airborne Particulate Matter (PM) by ICP-MS
AC-026	Ion Chromatographic Procedures using the Dionex ICS 3000 and 5000 Systems
AC-029	Procedure for the Equilibration and Weighing of Membrane Filters and PUFs on the Mettler Toledo Micro Balance
AC-035	Analysis of Glyphosate, Aminomethylphosphonic Acid and Glufosinate in Water
AC-038	Trace Metal Analysis of Water Samples by ICP-MS
AC-048	Specific Conductance (Conductivity Meter Method)
AC-049	pH (Meter Method)
AC-054	Alkalinity Total and Phenolphthalein
AC-058	Determination of Volatile Organic Compounds in Ambient Air by Gas Chromatography Mass Spectrometry
AC-060	Trace Metal Analysis of Soil Sediment and Industrial Waste Samples by Inductively Coupled Plasma Mass Spectrometry (ICP-MS)
AC-061	Trace Metal Analysis for Biological Samples by Inductively Coupled Plasma Mass Spectrometry (ICP-MS)
AC-065	Analysis of Naphthenic Acids in Water by HPLC-Orbitrap-MS analysis
AC-074	Pesticides in Water
AC-079	Alkylated PAH in Soil and Sediment
AC-080	Alkylated PAH in Water (SPE Extraction)
NA-006	Determination of BTEX, F1 Hydrocarbons and F2, F3 and F4 Hydrocarbons in Water
NA-024	Analysis of Reduced Sulfur Compounds in Air

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Qualifiers

Data Qualifier	Translation
B	Blank contamination; Analyte detected above the method reporting limit in an associated blank
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
J1	Reported value is estimated; Surrogate recoveries limits were exceeded
J2	Reported value is estimated; No known QC criteria for this component
J3	Reported value is estimated; The value failed to meet QC criteria for either precision or accuracy
J4	Reported value is estimated; The sample matrix interfered with the analysis
K	Off-scale low. Actual value is known to be less than the value given
L	Off-scale high. Actual value is known to be greater than value given
N	Non-target analyte; Tentatively identified compound (using mass spectroscopy)
Q	Sample held beyond the accepted holding time
R	Rejected data; Not suitable for the projects intended use
T	Value reported is less than the laboratory method detection limit
U	Compound was analyzed for but not detected
V	Analyte was detected in both the sample and the associated method blank

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Order Comments

23080295

Send results to Stan Yuha. Project ID: Test # 857

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Sample Comments

Result Comments

Note:

1. Results relate only to items tested and apply to the sample as received.

2. This report shall not be reproduced, except in full, without the explicit approval of the laboratory.

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

RESULTS: Todd Webb
Clean Harbors Environmental
PO Box 390
2 km N of Hwy 14 on Sec Road 854 50114 RR 173
Ryley
AB T0B 4A0

INVOICE: Stephanie Dennis
PO Box 390
2 km N of Hwy 14 on Sec Road 854 50114 RR 173
Ryley
AB T0B 4A0

CLIENT SAMPLE ID
HI-VOL Test Number: 858

Matrix
Air Filter

CANISTER ID: HVF-23-06-17
PRIORITY: Normal
DESCRIPTION: HI-VOL Filter

DATE SAMPLED: 23-Aug-23 0:00
DATE RECEIVED: 25-Aug-23
REPORT CREATED: 06-Sep-23
REPORT NUMBER: 23080376
VERSION: Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
23080376-003	Particulate Weight		67.3	mg	0.1	Research	28-Aug-23

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing
Date: September 6, 2023 Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PM10 Test Number: 858	AT79029	Air Filter	23-Aug-23 0:00

DESCRIPTION: PM10 filter

REPORT NUMBER: 23080376 **REPORT CREATED:** 06-Sep-23 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
23080376-002	Particulate Weight		0.538	mg	0.004	AC-029	31-Aug-23

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing

Date: September 6, 2023

Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
VOCs and TNMOC Test Number: 858	32212	Ambient Air	23-Aug-23 0:00

DESCRIPTION:

REPORT NUMBER: 23080376 **REPORT CREATED:** 06-Sep-23 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
23080376-001	Total Non-Methane Organic Carbon	K, T, U	< 0.08	ppmv	0.08	NA-028	28-Aug-23
23080376-001	1,2,3-Trimethylbenzene	K, T, U	< 0.08	ppbv	0.08	AC-058	02-Sep-23
23080376-001	1,2,4-Trimethylbenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	02-Sep-23
23080376-001	1,3,5-Trimethylbenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	02-Sep-23
23080376-001	1-Butene/Isobutylene	K, T, U	< 0.10	ppbv	0.10	AC-058	02-Sep-23
23080376-001	1-Hexene/2-Methyl-1-pentene	K, T, U	< 0.12	ppbv	0.12	AC-058	02-Sep-23
23080376-001	1-Pentene	K, T, U	< 0.05	ppbv	0.05	AC-058	02-Sep-23
23080376-001	2,2,4-Trimethylpentane	K, T, U	< 0.03	ppbv	0.03	AC-058	02-Sep-23
23080376-001	2,2-Dimethylbutane	K, T, U	< 0.03	ppbv	0.03	AC-058	02-Sep-23
23080376-001	2,3,4-Trimethylpentane	K, T, U	< 0.03	ppbv	0.03	AC-058	02-Sep-23
23080376-001	2,3-Dimethylbutane	K, T, U	< 0.15	ppbv	0.15	AC-058	02-Sep-23
23080376-001	2,3-Dimethylpentane	K, T, U	< 0.03	ppbv	0.03	AC-058	02-Sep-23
23080376-001	2,4-Dimethylpentane	K, T, U	< 0.05	ppbv	0.05	AC-058	02-Sep-23
23080376-001	2-Methylheptane	K, T, U	< 0.03	ppbv	0.03	AC-058	02-Sep-23
23080376-001	2-Methylhexane	K, T, U	< 0.05	ppbv	0.05	AC-058	02-Sep-23
23080376-001	2-Methylpentane	K, T, U	< 0.03	ppbv	0.03	AC-058	02-Sep-23
23080376-001	3-Methylheptane	K, T, U	< 0.05	ppbv	0.05	AC-058	02-Sep-23
23080376-001	3-Methylhexane	K, T, U	< 0.03	ppbv	0.03	AC-058	02-Sep-23
23080376-001	3-Methylpentane	K, T, U	< 0.03	ppbv	0.03	AC-058	02-Sep-23
23080376-001	Benzene	I	0.15	ppbv	0.05	AC-058	02-Sep-23
23080376-001	cis-2-Butene	K, T, U	< 0.05	ppbv	0.05	AC-058	02-Sep-23
23080376-001	cis-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	02-Sep-23
23080376-001	Cyclohexane	K, T, U	< 0.07	ppbv	0.07	AC-058	02-Sep-23
23080376-001	Cyclopentane	K, T, U	< 0.03	ppbv	0.03	AC-058	02-Sep-23
23080376-001	Ethylbenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	02-Sep-23

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing

Date: September 6, 2023 Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
VOCs and TNMOC Test Number: 858	32212	Ambient Air	23-Aug-23 0:00

DESCRIPTION:

REPORT NUMBER: 23080376 **REPORT CREATED:** 06-Sep-23 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
23080376-001	Isobutane		0.25	ppbv	0.05	AC-058	02-Sep-23
23080376-001	Isopentane	K, T, U	< 0.07	ppbv	0.07	AC-058	02-Sep-23
23080376-001	Isoprene	K, T, U	< 0.03	ppbv	0.03	AC-058	02-Sep-23
23080376-001	Isopropylbenzene	K, T, U	< 0.07	ppbv	0.07	AC-058	02-Sep-23
23080376-001	m,p-Xylene	K, T, U	< 0.07	ppbv	0.07	AC-058	02-Sep-23
23080376-001	m-Diethylbenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	02-Sep-23
23080376-001	m-Ethyltoluene	I	0.08	ppbv	0.05	AC-058	02-Sep-23
23080376-001	Methylcyclohexane	K, T, U	< 0.03	ppbv	0.03	AC-058	02-Sep-23
23080376-001	Methylcyclopentane	K, T, U	< 0.08	ppbv	0.08	AC-058	02-Sep-23
23080376-001	n-Butane		0.38	ppbv	0.03	AC-058	02-Sep-23
23080376-001	n-Decane	K, T, U	< 0.10	ppbv	0.10	AC-058	02-Sep-23
23080376-001	n-Dodecane	K, T, U	< 0.5	ppbv	0.5	AC-058	02-Sep-23
23080376-001	n-Heptane	K, T, U	< 0.07	ppbv	0.07	AC-058	02-Sep-23
23080376-001	n-Hexane	K, T, U	< 0.05	ppbv	0.05	AC-058	02-Sep-23
23080376-001	n-Octane	K, T, U	< 0.03	ppbv	0.03	AC-058	02-Sep-23
23080376-001	n-Pentane	I	0.15	ppbv	0.07	AC-058	02-Sep-23
23080376-001	n-Propylbenzene	K, T, U	< 0.10	ppbv	0.10	AC-058	02-Sep-23
23080376-001	n-Undecane	K, T, U	< 0.8	ppbv	0.8	AC-058	02-Sep-23
23080376-001	n-Nonane	K, T, U	< 0.07	ppbv	0.07	AC-058	02-Sep-23
23080376-001	o-Ethyltoluene	I	0.08	ppbv	0.03	AC-058	02-Sep-23
23080376-001	o-Xylene	K, T, U	< 0.05	ppbv	0.05	AC-058	02-Sep-23
23080376-001	p-Diethylbenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	02-Sep-23
23080376-001	p-Ethyltoluene	K, T, U	< 0.07	ppbv	0.07	AC-058	02-Sep-23
23080376-001	Styrene	K, T, U	< 0.07	ppbv	0.07	AC-058	02-Sep-23
23080376-001	Toluene	K, T, U	< 0.05	ppbv	0.05	AC-058	02-Sep-23

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing

Date: September 6, 2023 Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

InnoTech's ISO/IEC 17025:2017 scope of accreditation can be located at https://directory.cala.ca//

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
VOCs and TNMOC Test Number: 858	32212	Ambient Air	23-Aug-23 0:00

DESCRIPTION:

REPORT NUMBER: 23080376 **REPORT CREATED:** 06-Sep-23 **VERSION:** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
23080376-001	trans-2-Butene	K, T, U	< 0.05	ppbv	0.05	AC-058	02-Sep-23
23080376-001	trans-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	02-Sep-23

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing

Date: September 6, 2023

Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

Revision History

Order ID	Ver	Date	Reason
23080376	01	06-Sep-23	Report created

Methods

Method	Description
AC-029	Procedure for the Equilibration and Weighing of Membrane Filters and PUFs on the Mettler Toledo Micro Balance
AC-058	Determination of Volatile Organic Compounds in Ambient Air by Gas Chromatography Mass Spectrometry
NA-028	Determination of Total Non-methane Hydrocarbons and Total Hydrocarbons in Ambient Air by Gas Chromatography Flame Ionization Detector
Research	Research method

List of Analytical Method IDs within InnoTech's ISO/IEC 17025:2017 CALA Scope of Accreditation

Method ID	Description
AC-013	Mercury in Waters by Cold Vapor Atomic Fluorescence Detection (CVAFS)
AC-020	Ion Chromatographic Procedures using the Dionex ICS 3000 and 5000 Systems
AC-021	Elemental Analysis Methodology of Filter-collected Airborne Particulate Matter (PM) by ICP-MS
AC-026	Ion Chromatographic Procedures using the Dionex ICS 3000 and 5000 Systems
AC-029	Procedure for the Equilibration and Weighing of Membrane Filters and PUFs on the Mettler Toledo Micro Balance
AC-035	Analysis of Glyphosate, Aminomethylphosphonic Acid and Glufosinate in Water
AC-038	Trace Metal Analysis of Water Samples by ICP-MS
AC-048	Specific Conductance (Conductivity Meter Method)
AC-049	pH (Meter Method)
AC-054	Alkalinity Total and Phenolphthalein
AC-058	Determination of Volatile Organic Compounds in Ambient Air by Gas Chromatography Mass Spectrometry
AC-060	Trace Metal Analysis of Soil Sediment and Industrial Waste Samples by Inductively Coupled Plasma Mass Spectrometry (ICP-MS)
AC-061	Trace Metal Analysis for Biological Samples by Inductively Coupled Plasma Mass Spectrometry (ICP-MS)
AC-065	Analysis of Naphthenic Acids in Water by HPLC-Orbitrap-MS analysis
AC-074	Pesticides in Water
AC-079	Alkylated PAH in Soil and Sediment
AC-080	Alkylated PAH in Water (SPE Extraction)
NA-006	Determination of BTEX, F1 Hydrocarbons and F2, F3 and F4 Hydrocarbons in Water
NA-024	Analysis of Reduced Sulfur Compounds in Air

Qualifiers

Data Qualifier	Translation
B	Blank contamination; Analyte detected above the method reporting limit in an associated blank
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
J1	Reported value is estimated; Surrogate recoveries limits were exceeded
J2	Reported value is estimated; No known QC criteria for this component
J3	Reported value is estimated; The value failed to meet QC criteria for either precision or accuracy
J4	Reported value is estimated; The sample matrix interfered with the analysis
K	Off-scale low. Actual value is known to be less than the value given
L	Off-scale high. Actual value is known to be greater than value given
N	Non-target analyte; Tentatively identified compound (using mass spectroscopy)
Q	Sample held beyond the accepted holding time
R	Rejected data; Not suitable for the projects intended use
T	Value reported is less than the laboratory method detection limit
U	Compound was analyzed for but not detected
V	Analyte was detected in both the sample and the associated method blank

Order Comments

23080376

Project ID: Test 858 Report also to yuha.stan@cleanharbors.com

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Canada T9C 1T4
(780) 632-8211

Sample Comments

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Canada T9C 1T4
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Result Comments

Note:

1. Results relate only to items tested and apply to the sample as received.

2. This report shall not be reproduced, except in full, without the explicit approval of the laboratory.

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

RESULTS: Todd Webb
Clean Harbors Environmental
PO Box 390
2 km N of Hwy 14 on Sec Road 854 50114 RR 173
Ryley
AB T0B 4A0

INVOICE: Stephanie Dennis
PO Box 390
2 km N of Hwy 14 on Sec Road 854 50114 RR 173
Ryley
AB T0B 4A0

CLIENT SAMPLE ID
HI-VOL Test Number: 859

Matrix
Air Filter

CANISTER ID: HVF-23-06-18
PRIORITY: Normal
DESCRIPTION: H-VOL Filter

DATE SAMPLED: 28-Aug-23 0:00
DATE RECEIVED: 05-Sep-23
REPORT CREATED: 29-Sep-23
REPORT NUMBER: 23090032
VERSION: Draft

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
23090032-003	Antimony		684	ng/Filter	0.30	AC-021	22-Sep-23
23090032-003	Arsenic		9220	ng/Filter	0.30	AC-021	22-Sep-23
23090032-003	Barium	K, T, U	< 300	ng/Filter	300	AC-021	22-Sep-23
23090032-003	Beryllium		307	ng/Filter	0.60	AC-021	22-Sep-23
23090032-003	Boron	K, T, U	< 600	ng/Filter	600	AC-021	22-Sep-23
23090032-003	Cadmium		736	ng/Filter	0.80	AC-021	22-Sep-23
23090032-003	Chromium		32300	ng/Filter	20	AC-021	22-Sep-23
23090032-003	Cobalt		5990	ng/Filter	0.50	AC-021	22-Sep-23
23090032-003	Copper		582000	ng/Filter	20	AC-021	22-Sep-23
23090032-003	Iron		12300000	ng/Filter	80	AC-021	22-Sep-23
23090032-003	Lead		33400	ng/Filter	0.70	AC-021	22-Sep-23
23090032-003	Manganese			ng/Filter	0.1	AC-021	
23090032-003	Mercury		80.0	ng/Filter	0.70	AC-021	22-Sep-23
23090032-003	Nickel		34500	ng/Filter	5.0	AC-021	22-Sep-23
23090032-003	Selenium		2430	ng/Filter	4.0	AC-021	22-Sep-23
23090032-003	Silver		471	ng/Filter	0.50	AC-021	22-Sep-23
23090032-003	Thallium		52.2	ng/Filter	0.20	AC-021	22-Sep-23

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing
Date: September 29, 2023 Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
HI-VOL Test Number: 859	HVF-23-06-18	Air Filter	28-Aug-23 0:00

DESCRIPTION: H-VOL Filter

REPORT NUMBER: 23090032 **REPORT CREATED:** 29-Sep-23 **VERSION:** Draft

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
23090032-003	Tin			ng/Filter	0.02	AC-021	
23090032-003	Uranium		1040	ng/Filter	0.200	AC-021	22-Sep-23
23090032-003	Vanadium		31100	ng/Filter	0.40	AC-021	22-Sep-23
23090032-003	Zinc	K, T, U	< 1000	ng/Filter	1000	AC-021	22-Sep-23
23090032-003	Particulate Weight		481	mg	0.1	Research	07-Sep-23

Report certified by: Graham Knox, Admin. & Ops. Supervisor On behalf of: Adam Malcolm, Manager, Chemical Testing

Date: September 29, 2023

Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
PM10 Test Number: 859	C9700137	Air Filter	28-Aug-23 0:00

DESCRIPTION: PM10 filter

REPORT NUMBER: 23090032 **REPORT CREATED:** 29-Sep-23 **VERSION:** Draft

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
23090032-002	Antimony		9.87	ng/Filter	0.03	AC-021	20-Sep-23
23090032-002	Arsenic		42.3	ng/Filter	0.03	AC-021	20-Sep-23
23090032-002	Barium		1740	ng/Filter	0.3	AC-021	20-Sep-23
23090032-002	Beryllium		2.32	ng/Filter	0.06	AC-021	20-Sep-23
23090032-002	Boron		453	ng/Filter	0.6	AC-021	20-Sep-23
23090032-002	Cadmium		5.98	ng/Filter	0.08	AC-021	20-Sep-23
23090032-002	Chromium		211	ng/Filter	2	AC-021	20-Sep-23
23090032-002	Cobalt		30.4	ng/Filter	0.05	AC-021	20-Sep-23
23090032-002	Copper		629	ng/Filter	2	AC-021	20-Sep-23
23090032-002	Iron		76300	ng/Filter	80	AC-021	20-Sep-23
23090032-002	Lead		156	ng/Filter	0.70	AC-021	20-Sep-23
23090032-002	Manganese		2170	ng/Filter	0.1	AC-021	20-Sep-23
23090032-002	Mercury		0.49	ng/Filter	0.07	AC-021	20-Sep-23
23090032-002	Nickel		152	ng/Filter	0.5	AC-021	20-Sep-23
23090032-002	Selenium		18.6	ng/Filter	0.4	AC-021	20-Sep-23
23090032-002	Silver		1.53	ng/Filter	0.05	AC-021	20-Sep-23
23090032-002	Thallium		1.24	ng/Filter	0.02	AC-021	20-Sep-23
23090032-002	Tin		10.4	ng/Filter	0.02	AC-021	20-Sep-23
23090032-002	Uranium		8.53	ng/Filter	0.020	AC-021	20-Sep-23
23090032-002	Vanadium		222	ng/Filter	0.04	AC-021	20-Sep-23
23090032-002	Zinc		2050	ng/Filter	1	AC-021	20-Sep-23
23090032-002	Particulate Weight		2.57	mg	0.004	AC-029	06-Sep-23

Report certified by: Graham Knox, Admin. & Ops. Supervisor On behalf of: Adam Malcolm, Manager, Chemical Testing

Date: September 29, 2023

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
VOCs and TNMOC Test Number: 859	29038	Ambient Air	28-Aug-23 0:00

DESCRIPTION: Canister

REPORT NUMBER: 23090032 **REPORT CREATED:** 29-Sep-23 **VERSION:** Draft

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
23090032-001	Total Non-Methane Organic Carbon	K, T, U	< 0.09	ppmv	0.09	NA-028	05-Sep-23
23090032-001	1,2,3-Trimethylbenzene	K, T, U	< 0.09	ppbv	0.09	AC-058	09-Sep-23
23090032-001	1,2,4-Trimethylbenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	09-Sep-23
23090032-001	1,3,5-Trimethylbenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	09-Sep-23
23090032-001	1-Butene/Isobutylene	K, T, U	< 0.10	ppbv	0.10	AC-058	09-Sep-23
23090032-001	1-Hexene/2-Methyl-1-pentene	K, T, U	< 0.12	ppbv	0.12	AC-058	09-Sep-23
23090032-001	1-Pentene	K, T, U	< 0.05	ppbv	0.05	AC-058	09-Sep-23
23090032-001	2,2,4-Trimethylpentane	K, T, U	< 0.04	ppbv	0.04	AC-058	09-Sep-23
23090032-001	2,2-Dimethylbutane	K, T, U	< 0.04	ppbv	0.04	AC-058	09-Sep-23
23090032-001	2,3,4-Trimethylpentane		0.24	ppbv	0.04	AC-058	09-Sep-23
23090032-001	2,3-Dimethylbutane	K, T, U	< 0.16	ppbv	0.16	AC-058	09-Sep-23
23090032-001	2,3-Dimethylpentane	K, T, U	< 0.04	ppbv	0.04	AC-058	09-Sep-23
23090032-001	2,4-Dimethylpentane	K, T, U	< 0.05	ppbv	0.05	AC-058	09-Sep-23
23090032-001	2-Methylheptane	K, T, U	< 0.04	ppbv	0.04	AC-058	09-Sep-23
23090032-001	2-Methylhexane	I	0.09	ppbv	0.05	AC-058	09-Sep-23
23090032-001	2-Methylpentane	I	0.17	ppbv	0.04	AC-058	09-Sep-23
23090032-001	3-Methylheptane	K, T, U	< 0.05	ppbv	0.05	AC-058	09-Sep-23
23090032-001	3-Methylhexane	I	0.12	ppbv	0.04	AC-058	09-Sep-23
23090032-001	3-Methylpentane	I	0.07	ppbv	0.04	AC-058	09-Sep-23
23090032-001	Benzene	I	0.17	ppbv	0.05	AC-058	09-Sep-23
23090032-001	cis-2-Butene	K, T, U	< 0.05	ppbv	0.05	AC-058	09-Sep-23
23090032-001	cis-2-Pentene	K, T, U	< 0.04	ppbv	0.04	AC-058	09-Sep-23
23090032-001	Cyclohexane	K, T, U	< 0.07	ppbv	0.07	AC-058	09-Sep-23
23090032-001	Cyclopentane	K, T, U	< 0.04	ppbv	0.04	AC-058	09-Sep-23
23090032-001	Ethylbenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	09-Sep-23

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing

Date: September 29, 2023

Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
VOCs and TNMOC Test Number: 859	29038	Ambient Air	28-Aug-23 0:00

DESCRIPTION: Canister

REPORT NUMBER: 23090032 **REPORT CREATED:** 29-Sep-23 **VERSION:** Draft

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
23090032-001	Isobutane		0.30	ppbv	0.05	AC-058	09-Sep-23
23090032-001	Isopentane		0.51	ppbv	0.07	AC-058	09-Sep-23
23090032-001	Isoprene		0.34	ppbv	0.04	AC-058	09-Sep-23
23090032-001	Isopropylbenzene	K, T, U	< 0.07	ppbv	0.07	AC-058	09-Sep-23
23090032-001	m,p-Xylene	I	0.14	ppbv	0.07	AC-058	09-Sep-23
23090032-001	m-Diethylbenzene	K, T, U	< 0.04	ppbv	0.04	AC-058	09-Sep-23
23090032-001	m-Ethyltoluene	K, T, U	< 0.05	ppbv	0.05	AC-058	09-Sep-23
23090032-001	Methylcyclohexane	I	0.05	ppbv	0.04	AC-058	09-Sep-23
23090032-001	Methylcyclopentane	I	0.09	ppbv	0.09	AC-058	09-Sep-23
23090032-001	n-Butane		0.62	ppbv	0.04	AC-058	09-Sep-23
23090032-001	n-Decane	K, T, U	< 0.10	ppbv	0.10	AC-058	09-Sep-23
23090032-001	n-Dodecane	K, T, U	< 0.5	ppbv	0.5	AC-058	09-Sep-23
23090032-001	n-Heptane	I	0.18	ppbv	0.07	AC-058	09-Sep-23
23090032-001	n-Hexane	I	0.24	ppbv	0.05	AC-058	09-Sep-23
23090032-001	n-Octane	K, T, U	< 0.04	ppbv	0.04	AC-058	09-Sep-23
23090032-001	n-Pentane		0.44	ppbv	0.07	AC-058	09-Sep-23
23090032-001	n-Propylbenzene	K, T, U	< 0.10	ppbv	0.10	AC-058	09-Sep-23
23090032-001	n-Undecane	K, T, U	< 0.9	ppbv	0.9	AC-058	09-Sep-23
23090032-001	n-Nonane	K, T, U	< 0.07	ppbv	0.07	AC-058	09-Sep-23
23090032-001	o-Ethyltoluene	K, T, U	< 0.04	ppbv	0.04	AC-058	09-Sep-23
23090032-001	o-Xylene	K, T, U	< 0.05	ppbv	0.05	AC-058	09-Sep-23
23090032-001	p-Diethylbenzene	K, T, U	< 0.04	ppbv	0.04	AC-058	09-Sep-23
23090032-001	p-Ethyltoluene	K, T, U	< 0.07	ppbv	0.07	AC-058	09-Sep-23
23090032-001	Styrene	K, T, U	< 0.07	ppbv	0.07	AC-058	09-Sep-23
23090032-001	Toluene	I	0.27	ppbv	0.05	AC-058	09-Sep-23

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing

Date: September 29, 2023 Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

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ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT

CLIENT SAMPLE ID	CANISTER ID	Matrix	DATE SAMPLED
VOCs and TNMOC Test Number: 859	29038	Ambient Air	28-Aug-23 0:00

DESCRIPTION: Canister

REPORT NUMBER: 23090032 **REPORT CREATED:** 29-Sep-23 **VERSION:** Draft

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
23090032-001	trans-2-Butene	K, T, U	< 0.05	ppbv	0.05	AC-058	09-Sep-23
23090032-001	trans-2-Pentene	K, T, U	< 0.04	ppbv	0.04	AC-058	09-Sep-23

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing

Date: September 29, 2023 Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

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Revision History

Order ID	Ver	Date	Reason
23090032	01	29-Sep-23	Report created

Methods

Method	Description
AC-021	Elemental Analysis Methodology of Filter-collected Airborne Particulate Matter (PM) by ICP-MS
AC-029	Procedure for the Equilibration and Weighing of Membrane Filters and PUFs on the Mettler Toledo Micro Balance
AC-058	Determination of Volatile Organic Compounds in Ambient Air by Gas Chromatography Mass Spectrometry
NA-028	Determination of Total Non-methane Hydrocarbons and Total Hydrocarbons in Ambient Air by Gas Chromatography Flame Ionization Detector
Research	Research method

List of Analytical Method IDs within InnoTech's ISO/IEC 17025:2017 CALA Scope of Accreditation

Method ID	Description
AC-013	Mercury in Waters by Cold Vapor Atomic Fluorescence Detection (CVAFS)
AC-020	Ion Chromatographic Procedures using the Dionex ICS 3000 and 5000 Systems
AC-021	Elemental Analysis Methodology of Filter-collected Airborne Particulate Matter (PM) by ICP-MS
AC-026	Ion Chromatographic Procedures using the Dionex ICS 3000 and 5000 Systems
AC-029	Procedure for the Equilibration and Weighing of Membrane Filters and PUFs on the Mettler Toledo Micro Balance
AC-035	Analysis of Glyphosate, Aminomethylphosphonic Acid and Glufosinate in Water
AC-038	Trace Metal Analysis of Water Samples by ICP-MS
AC-048	Specific Conductance (Conductivity Meter Method)
AC-049	pH (Meter Method)
AC-054	Alkalinity Total and Phenolphthalein
AC-058	Determination of Volatile Organic Compounds in Ambient Air by Gas Chromatography Mass Spectrometry
AC-060	Trace Metal Analysis of Soil Sediment and Industrial Waste Samples by Inductively Coupled Plasma Mass Spectrometry (ICP-MS)
AC-061	Trace Metal Analysis for Biological Samples by Inductively Coupled Plasma Mass Spectrometry (ICP-MS)
AC-065	Analysis of Naphthenic Acids in Water by HPLC-Orbitrap-MS analysis
AC-074	Pesticides in Water
AC-079	Alkylated PAH in Soil and Sediment
AC-080	Alkylated PAH in Water (SPE Extraction)
NA-006	Determination of BTEX, F1 Hydrocarbons and F2, F3 and F4 Hydrocarbons in Water
NA-024	Analysis of Reduced Sulfur Compounds in Air

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Qualifiers

Data Qualifier	Translation
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J2	Reported value is estimated; No known QC criteria for this component
J3	Reported value is estimated; The value failed to meet QC criteria for either precision or accuracy
J4	Reported value is estimated; The sample matrix interfered with the analysis
K	Off-scale low. Actual value is known to be less than the value given
L	Off-scale high. Actual value is known to be greater than value given
N	Non-target analyte; Tentatively identified compound (using mass spectroscopy)
Q	Sample held beyond the accepted holding time
R	Rejected data; Not suitable for the projects intended use
T	Value reported is less than the laboratory method detection limit
U	Compound was analyzed for but not detected
V	Analyte was detected in both the sample and the associated method blank

Order Comments

23090032

Project ID: Test 859. Send report to yuha.stan@cleanharbors.com

PO Bag 4000
Vegreville, Alberta
Canada T9C 1T4
(780) 632-8211

Sample Comments

Result Comments

Note:

1. Results relate only to items tested and apply to the sample as received.

2. This report shall not be reproduced, except in full, without the explicit approval of the laboratory.

Sample ID: 23080141-001 **Priority:** Normal

Customer ID: Clean Harbours
Cust Samp ID: VOCs and TNMOC Test #: 855

CHAIN OF CUSTODY FORM

Environmental Analytical Services
Highway 16A & 75 Street
Vegreville, AB T9C 1T4

Phone: 780-632-8403
Email: EAS.Reception@innotechalberta.ca
www.innotechalberta.ca

Client Reporting Information

Company:	Clean Harbors Canada, Inc
Address:	PO Box 390, 50114 Range Road 173, Ryley, AB T0B 4A0
Contact:	Todd Webb or Stan Yuha
Phone:	780-663-2513 or 780-663-3828
Email:	Webb.Todd@cleanharbors.com, Yuha.Stan@cleanharbors.com

Client Billing Information

Contact:	Stephanie Dennis
Phone:	780-663-3828
Email:	Dennis.Stephanie@cleanharbors.com
Project ID:	Test 855
PO #:	0000235436

Turnaround Time

X Normal (10 business days)

Rush

Note: Rush service not available for all tests.
Confirm rush requests with InnoTech Alberta.

Special Instructions/Comments:

***If either PM10 or HI-VOL filter exceeds its trigger weight, then both filters are analyzed for metals**

If neither filter exceeds its trigger weight, neither filter is analyzed for metals

If metals analysis is required, please report on the same report as filter weights and VOCs/TNMOC

Trigger Weight for Analysis (PM10): 1.14 mg

Trigger Weight for Analysis (HI-VOL): 95.6 mg

Date Received – Lab Use Only

RECEIVED
AUG 11 2023

Lab Sample No.	Client Sample ID	Sample Source/ Description	Canister Number/ Sampler ID	Date Sampled (dd/mm/yy) From / To	Time Sampled (24 hour) From / To	Analysis Requested
	VOCs and TNMOC Test Number: 855	Canister	32237	04/08/23	00:00	VOC PAMS & TNMOC
				05/08/23	00:00	
	PM10 Test Number: 855	PM10 filter	C1170469	04/08/23	00:00	FLT Particulate Weight (& metals if over trigger weight)*
				05/08/23	00:00	
	HI-VOL Test Number: 855	HI-VOL Filter	HVF-23-06-01	04/08/23	00:00	Particulate Weight (& metals if over trigger weight)*
				05/08/23	00:00	
					Total: 24.47 hrs	

Client Authorization: _____ Laboratory Personnel: _____

(Signature) *(Signature)*

This "Chain of Custody" form is subject to InnoTech Alberta standard terms and conditions.

Sample ID: 23080141-002 **Priority:** Normal

Customer ID: Clean Harbours
Cust Samp ID: PM10 Test # 855 - C11704689

Filter Shipping Record

Sent To: Clean Harbors
PO Box 390
Ryley, AB T0B 4A0
(1/2 mile north, Hwy 854)
Todd Webb
780-663-2513

Date: May 31/23

Project: Clean Harbors

Prepared by: S Mulnka

Filter Size	# of Filters in Cassettes	Filter IDs
47 mm	1	C1170469 test 855

Returns: coolers, large and small containers may be shipped to: Innotech, PO Bag 4000, HWY 16A & 75th Street, Vegreville, AB T9C 1T4

InnoTech ALBERTA

Canister ID: 32237

This cleaned canister meets or exceeds TO-15 Method Specifications

Proofed by: ISQ4 on: APR 17 2023

Evacuated: JUN 28 2023 Recertified: _____

(Use within: 3 months from evacuation or recertification date)

Laboratory Contact Number: 780-632-8403

Sample ID: Test 855

Sampled By: T. Webb

Starting Vacuum: -27.1 "Hg

End Pressure: KG -4 "Hg/ psig

Sample ID: 23080141-001 **Priority:** Normal

Customer ID: Clean Harbours

Cust Samp ID: VOCs and TNMOC Test #: 855

{00004084;2}

TERMS AND CONDITIONS

The attached document entitled "**Chain of Custody Form**" is subject to the following Terms and Conditions, unless otherwise specified on the Quotation. InnoTech Alberta's commencement of the Services shall be deemed acceptance of the terms and conditions by the Client.

1.Any proposal contained herein is prepared for the consideration of the Client only. Its contents may not be used or disclosed to any other party without prior written consent of the INNOTECH ALBERTA INC. (hereinafter referred to as "InnoTech Alberta").

2.InnoTech Alberta will perform the Services in accordance with normal professional standards.

3.The delivery time for performance of the Services (as set out on the front page of this Quotation) is approximate and may be changed by InnoTech Alberta giving written notice to the Client.

4.InnoTech Alberta will exercise due care and proficiency in testing items submitted by a Client. InnoTech Alberta shall not, however, be liable to the Client for any damage or loss caused to the item being tested or for any damage, loss or expense caused by any delay in carrying out the test, including any damage, loss or expense resulting from InnoTech Alberta's negligence. InnoTech Alberta shall not be responsible for any damage, which is a natural or necessary result of any testing procedure.

5.For the purposes of this Quotation, Intellectual Property means all information, data, artistic and literary works, concepts, designs, processes, software, algorithms and inventions, including, without limitation, those that could be the subject of patent, copyright, industrial design, trade secret or other forms of protection. Intellectual Property which was owned by either InnoTech Alberta or the Client prior to the signing of this Agreement remains the property of that party. Nothing in this Agreement shall operate as a license, permission or grant of any other rights to either InnoTech Alberta's or the Client's Intellectual Property.

6.All data, reports and other information relating to the Services shall be treated by InnoTech Alberta as the confidential property of the Client, and InnoTech Alberta will use reasonable efforts to ensure that its employees, contractors and agents will not disclose the same to any other person, firm or corporation during the term of this Agreement and for a period of five (5) years after the date of termination of the Agreement. The obligation of confidentiality set out herein shall not apply to any information that was in InnoTech Alberta's possession prior to receipt from the Client or which is or becomes part of the public domain through no act or failure on the part of InnoTech Alberta. The obligation of confidentiality set out in this Section shall not prevent the disclosure of information to any level of government having jurisdiction to make lawful demand therefor, or required to be disclosed by any applicable law. Any records required to be maintained by InnoTech Alberta pursuant to this Agreement are subject to the protection and access provisions of the Freedom of Information and Protection of Privacy Act (Alberta).

7.The reported results of any InnoTech Alberta tests or evaluations performed on samples or items provided by the Client shall be interpreted as being specific to the sample or item tested. InnoTech Alberta makes no representation that any similar or related untested samples or items would produce the same results.

8.The Client shall not use InnoTech Alberta's name in any advertising material, sale offer, news releases, public statements or announcements, whether written or oral relating to the Services or the results thereof, without the prior written consent of InnoTech Alberta.

9.Records, test data, reports and samples, except where shipped to the Client after completion of the work shall be retained by InnoTech Alberta according to InnoTech Alberta's approved Records Retention and Disposition Schedule.

10.Prices quoted are in Canadian Dollars unless otherwise stated in writing and are exclusive of any provincial, municipal, sales, use or goods and services tax.

11.Prices quoted do not include shipping, insurance or cost of consumables. The Client shall be responsible for all costs incurred by InnoTech Alberta in collecting any item for testing and returning the item to the Client after testing and shall be responsible for all necessary incidental costs incurred by InnoTech Alberta in providing the Services. InnoTech Alberta will not be responsible for any damage or loss to items during shipping and it is the responsibility of the Client to arrange and pay for any insurance it deems necessary.

12.Any test samples or other materials supplied by the Client to InnoTech Alberta may, at InnoTech Alberta's option, be returned by InnoTech Alberta to the Client. The Client shall:

(a)be responsible for all costs associated with the handling, transportation and disposal of such materials;

(b)reimburse InnoTech Alberta for any costs incurred by InnoTech Alberta associated with the handling, transportation and disposal of such materials; and

(c)indemnify and hold InnoTech Alberta harmless from any and all claims, damages or actions associated with the handling, transportation and disposal of such materials.

13.The Client shall pay all invoices rendered by InnoTech Alberta to the Client within thirty (30) days from the date of invoice, without deduction or set-off.

14.If the Client fails to pay any amount under this Agreement, such unpaid amount shall bear interest at a rate per month equal to one (1%) percent (or 12.6825% per annum) with interest on overdue interest at the same rate.

15.InnoTech Alberta makes no representation, warranties or conditions, either expressed or implied, statutory or otherwise and does not warrant the quality, state, merchantability or fitness for any purpose of any goods or products to be delivered pursuant to this Agreement. The Client accepts the results of these Services or items tested as is, and acknowledges that any use or interpretation of the information contained is at the Client's own risk.

16.In no event shall InnoTech Alberta be liable for any indirect or consequential damage or loss suffered by the Client, including loss of anticipated profits.

17.The Client shall indemnify and hold harmless InnoTech Alberta from any and all claims, demands, actions and costs (including legal costs on a solicitor-client basis) that may arise out of:
(a)any dangerous defect or content in the item being tested, whether apparent or not, which dangerous defect or content was not disclosed in writing to InnoTech Alberta by the Client at the time the item was submitted for testing;
(b)differences between those items actually tested and items previously or subsequently produced which are purported to be identical to the item tested; or
(c)any use of the tested item or any item incorporating the tested item, whether by the Client or a third party following its return to the Client.
The hold harmless shall survive this Agreement.

18.The Client shall, at its own expense and without limiting its liabilities herein, be responsible for insuring its operation in an amount not less than $2,000,000 inclusive per occurrence, insuring against bodily injury, and property damage including loss of use thereof. Further, the Client is responsible for insuring all owned property directly or indirectly related to this Agreement and InnoTech Alberta shall have no liability for any loss or damage to such property. 19.InnoTech Alberta shall maintain the following insurance: (i) commercial general liability insurance (including cross liability, severability of interests, non-owned automobile liability) in the amount of two million dollars ($2,000,000.00) per occurrence, and; (ii) professional liability and errors and omissions insurance in the amount of one million dollars ($1,000,000.00) per claim, and two million dollars ($2,000,000.00) in the aggregate. In addition, InnoTech Alberta shall maintain all workers' compensation coverage required by applicable laws. Notwithstanding the foregoing, InnoTech Alberta reserves the right to supplement or add insurance coverage from time to time as may be required in its sole discretion. InnoTech Alberta may provide certificates of insurance for coverages outlined in (i) and (ii) above.

20.The Client agrees to comply with all InnoTech Alberta Safety & Security regulations in effect while on InnoTech Alberta premises.

21.This Agreement represents the entire agreement between the parties and shall supersede all prior agreements relative to this transaction.

22.InnoTech Alberta shall not be liable to the Client for any failure or delay in performance of its obligations caused by circumstances beyond its control, including but not limited to acts of God, strikes, laws imposed after the fact, governmental restrictions, riots, wars, civil disorder, rebellion, sabotage, fire, flood, explosion, earthquake or other disasters.

23.InnoTech Alberta may assign this Quotation to an "affiliated" (as that term is defined at Section 2 of the Business Corporations Act (Alberta)) or successor entity on written notice to the Client.

24.This Quotation and rights and parties thereto shall be governed by and construed according to the laws of the Province of Alberta. The parties hereby submit to the jurisdiction of the Courts of Alberta.

Sample ID: 23080141-003 **Priority:** Normal

Customer ID: Clean Harbours

Cust Samp ID: Hi-Vol Test # 855 - HVF-23-06-01

Sample ID: 23080214-001 **Priority:** Normal

Customer ID: Clean Harbours
Cust Samp ID: VOCs and TNMOC Test # 855

HAIN OF CUSTODY FORM

Environmental Analytical Services
Highway 16A & 75 Street
Vegreville, AB T9C 1T4

Phone: 780-632-8403
Email: EAS.Reception@innotechalberta.ca
www.innotechalberta.ca

Client Reporting Information

Company:	Clean Harbors Canada, Inc
Address:	PO Box 390, 50114 Range Road 173, Ryley, AB T0B 4A0
Contact:	Todd Webb or Stan Yuha
Phone:	780-663-2513 or 780-663-3828
Email:	Webb.Todd@cleanharbors.com, Yuha.Stan@cleanharbors.com

Client Billing Information

Contact:	Stephanie Dennis
Phone:	780-663-3828
Email:	Dennis.Stephanie@cleanharbors.com
Project ID:	Test 856
PO #:	0000235436

Turnaround Time

X Normal (10 business days)

Rush

Note: Rush service not available for all tests.
Confirm rush requests with InnoTech Alberta.

Special Instructions/Comments:

***If either PM10 or HI-VOL filter exceeds its trigger weight, then both filters are analyzed for metals**

If neither filter exceeds its trigger weight, neither filter is analyzed for metals

If metals analysis is required, please report on the same report as filter weights and VOCs/TNMOC

Trigger Weight for Analysis (PM10): 1.13 mg

Trigger Weight for Analysis (HI-VOL): 96.1 mg

Date Received – Lab Use Only

RECEIVED
AUG 16 2023

Lab Sample No.	Client Sample ID	Sample Source/ Description	Canister Number/ Sampler ID	Date Sampled (dd/mm/yy) From / To	Time Sampled (24 hour) From / To	Analysis Requested
	VOCs and TNMOC Test Number: 856	Canister	32194	10/08/23	00:00	VOC PAMS & TNMOC
				11/08/23	00:00	
	PM10 Test Number: 856	PM10 filter	C1168581	10/08/23	00:00	FLT Particulate Weight (& metals if over trigger weight)*
				11/08/23	00:00	
	HI-VOL Test Number: 856	HI-VOL Filter	HVF-23-06-20	10/08/23	00:00	Particulate Weight (& metals if over trigger weight)*
				11/08/23	00:00	
					Total: 24.60 hrs	

Client Authorization: _____ Laboratory Personnel: _____

(Signature) *(Signature)*

This "Chain of Custody" form is subject to InnoTech Alberta standard terms and conditions.

Sample ID: 23080214-002 **Priority:** Normal

Customer ID: Clean Harbours
Cust Samp ID: PM10 Test # 856 - C1168581

Filter Shipping Record

RECEIVED
AUG 16 2023

Sent To: Clean Harbors
PO Box 390
Ryley, AB T0B 4A0
(1/2 mile north, Hwy 854)
Todd Webb
780-663-2513

Date: May 31/23

Project: Clean Harbors

Prepared by:

Filter Size	# of Filters in Cassettes	Filter IDs
47 mm	1	C1168581 Test 856

Returns: coolers, large and small containers may be shipped to: Innotech, PO Bag 4000, HWY 16A & 75th Street, Vegreville, AB T9C 1T4

InnoTech ALBERTA

Canister ID: 32194

This cleaned canister meets or exceeds TO-15 Method Specifications

Proofed by: ISQ on: JUN 0 8 2023

Evacuated: JUL 1 2 2023 Recertified:

(Use within: 3 months from evacuation or recertification date)

Laboratory Contact Number: 780-632-8403

Sample ID: Test 856

Sampled By: T. Webb

Starting Vacuum: -27.2 "Hg

End Vacuum: -4 "Hg/ psig MW

Sample ID: 23080214-003 **Priority:** Normal

Customer ID: Clean Harbours

Cust Samp ID: Hi-Vol Test # 856 - HVF-23-06-20

Sample ID: 23080295-001 **Priority:** Normal

Customer ID: Clean Harbours
Cust Samp ID: VOCs and TNMOC Test # 857

CHAIN OF CUSTODY FORM

Environmental Analytical Services
Highway 16A & 75 Street
Vegreville, AB T9C 1T4

Phone: 780-632-8403
Email: EAS.Reception@innotechalberta.ca
www.innotechalberta.ca

Client Reporting Information

Company:	Clean Harbors Canada, Inc
Address:	PO Box 390, 50114 Range Road 173, Ryley, AB T0B 4A0
Contact:	Todd Webb or Stan Yuha
Phone:	780-663-2513 or 780-663-3828
Email:	Webb.Todd@cleanharbors.com, Yuha.Stan@cleanharbors.com

Client Billing Information

Contact:	Stephanie Dennis
Phone:	780-663-3828
Email:	Dennis.Stephanie@cleanharbors.com
Project ID:	Test 857
PO #:	0000235436

Turnaround Time

X Normal (10 business days)

Rush

Note: Rush service not available for all tests.
Confirm rush requests with InnoTech Alberta.

Special Instructions/Comments:

***If either PM10 or HI-VOL filter exceeds its trigger weight, then both filters are analyzed for metals**

If neither filter exceeds its trigger weight, neither filter is analyzed for metals

If metals analysis is required, please report on the same report as filter weights and VOCs/TNMOC

Trigger Weight for Analysis (PM10): 1.13 mg

Trigger Weight for Analysis (HI-VOL): 94.2 mg

Date Received – Lab Use Only

RECEIVED
AUG 21 2023

Lab Sample No.	Client Sample ID	Sample Source/ Description	Canister Number/ Sampler ID	Date Sampled (dd/mm/yy) From / To	Time Sampled (24 hour) From / To	Analysis Requested
	VOCs and TNMOC Test Number: 857	Canister	28967	16/08/23	00:00	VOC PAMS & TNMOC
				17/08/23	00:00	
	PM10 Test Number: 857	PM10 filter	C9700136	16/08/23	00:00	FLT Particulate Weight (& metals if over trigger weight)*
				17/08/23	00:00	
	HI-VOL Test Number: 857	HI-VOL Filter	HVF-23-06-19	16/08/23	00:00	Particulate Weight (& metals if over trigger weight)*
				17/08/23	00:00	
					Total: 24.12 hrs	

Client Authorization: _____ Laboratory Personnel: _____

(Signature) *(Signature)*

This "Chain of Custody" form is subject to InnoTech Alberta standard terms and conditions.

Sample ID: 23080295-002 **Priority:** Normal

Customer ID: Clean Harbours
Cust Samp ID: PM10 Test # 857 - C9700136

Filter Shipping Record

RECEIVED
AUG 21 2023

Sent To: Clean Harbors
PO Box 390
Ryley, AB T0B 4A0
(1/2 mile north, Hwy 854)
Todd Webb
780-663-2513

Date: June 28/23

Project: Clean Harbors

Prepared by: S Melenka

Filter Size	# of Filters in Cassettes	Filter IDs
47 mm	1	C9700136 test 857

Returns: coolers, large and small containers may be shipped to: Innotech, PO Bag 4000, HWY 16A & 75th Street, Vegreville, AB T9C 1T4

InnoTech ALBERTA

Canister ID: 28967

This cleaned canister meets or exceeds TO-15 Method Specifications

Proofed by: ISQ on: JUN 0 8 2023

Evacuated: JUL 13 2023 Recertified: _____

(Use within: 3 months from evacuation or recertification date)

Laboratory Contact Number: 780-632-8403

Sample ID: Test 857

Sampled By: T. Webb

Starting Vacuum:	End Vacuum:
-27.1 "Hg	-7 "Hg/psig

Sample ID: 23080295-003 **Priority:** Normal

Customer ID: Clean Harbours

Cust Samp ID: Hi-Vol Test # 857 - HVF-23-06-19

{00004084:2}

TERMS AND CONDITIONS

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5.For the purposes of this Quotation, Intellectual Property means all information, data, artistic and literary works, concepts, designs, processes, software, algorithms and inventions, including, without limitation, those that could be the subject of patent, copyright, industrial design, trade secret or other forms of protection. Intellectual Property which was owned by either InnoTech Alberta or the Client prior to the signing of this Agreement remains the property of that party. Nothing in this Agreement shall operate as a license, permission or grant of any other rights to either InnoTech Alberta's or the Client's Intellectual Property.

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7.The reported results of any InnoTech Alberta tests or evaluations performed on samples or items provided by the Client shall be interpreted as being specific to the sample or item tested. InnoTech Alberta makes no representation that any similar or related untested samples or items would produce the same results.

8.The Client shall not use InnoTech Alberta's name in any advertising material, sale offer, news releases, public statements or announcements, whether written or oral relating to the Services or the results thereof, without the prior written consent of InnoTech Alberta.

9.Records, test data, reports and samples, except where shipped to the Client after completion of the work shall be retained by InnoTech Alberta according to InnoTech Alberta's approved Records Retention and Disposition Schedule.

10.Prices quoted are in Canadian Dollars unless otherwise stated in writing and are exclusive of any provincial, municipal, sales, use or goods and services tax.

11.Prices quoted do not include shipping, insurance or cost of consumables. The Client shall be responsible for all costs incurred by InnoTech Alberta in collecting any item for testing and returning the item to the Client after testing and shall be responsible for all necessary incidental costs incurred by InnoTech Alberta in providing the Services. InnoTech Alberta will not be responsible for any damage or loss to items during shipping and it is the responsibility of the Client to arrange and pay for any insurance it deems necessary.

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(a)be responsible for all costs associated with the handling, transportation and disposal of such materials;

(b)reimburse InnoTech Alberta for any costs incurred by InnoTech Alberta associated with the handling, transportation and disposal of such materials; and

(c)indemnify and hold InnoTech Alberta harmless from any and all claims, damages or actions associated with the handling, transportation and disposal of such materials.

13.The Client shall pay all invoices rendered by InnoTech Alberta to the Client within thirty (30) days from the date of invoice, without deduction or set-off.

14.If the Client fails to pay any amount under this Agreement, such unpaid amount shall bear interest at a rate per month equal to one (1%) percent (or 12.6825% per annum) with interest on overdue interest at the same rate.

15.InnoTech Alberta makes no representation, warranties or conditions, either expressed or implied, statutory or otherwise and does not warrant the quality, state, merchantability or fitness for any purpose of any goods or products to be delivered pursuant to this Agreement. The Client accepts the results of these Services or items tested as is, and acknowledges that any use or interpretation of the information contained is at the Client's own risk.

16.In no event shall InnoTech Alberta be liable for any indirect or consequential damage or loss suffered by the Client, including loss of anticipated profits.

17.The Client shall indemnify and hold harmless InnoTech Alberta from any and all claims, demands, actions and costs (including legal costs on a solicitor-client basis) that may arise out of:
(a)any dangerous defect or content in the item being tested, whether apparent or not, which dangerous defect or content was not disclosed in writing to InnoTech Alberta by the Client at the time the item was submitted for testing;
(b)differences between those items actually tested and items previously or subsequently produced which are purported to be identical to the item tested; or
(c)any use of the tested item or any item incorporating the tested item, whether by the Client or a third party following its return to the Client.
The hold harmless shall survive this Agreement.

18.The Client shall, at its own expense and without limiting its liabilities herein, be responsible for insuring its operation in an amount not less than $2,000,000 inclusive per occurrence, insuring against bodily injury, and property damage including loss of use thereof. Further, the Client is responsible for insuring all owned property directly or indirectly related to this Agreement and InnoTech Alberta shall have no liability for any loss or damage to such property. 19.InnoTech Alberta shall maintain the following insurance: (i) commercial general liability insurance (including cross liability, severability of interests, non-owned automobile liability) in the amount of two million dollars ($2,000,000.00) per occurrence, and; (ii) professional liability and errors and omissions insurance in the amount of one million dollars ($1,000,000.00) per claim, and two million dollars ($2,000,000.00) in the aggregate. In addition, InnoTech Alberta shall maintain all workers' compensation coverage required by applicable laws. Notwithstanding the foregoing, InnoTech Alberta reserves the right to supplement or add insurance coverage from time to time as may be required in its sole discretion. InnoTech Alberta may provide certificates of insurance for coverages outlined in (i) and (ii) above.

20.The Client agrees to comply with all InnoTech Alberta Safety & Security regulations in effect while on InnoTech Alberta premises.

21.This Agreement represents the entire agreement between the parties and shall supersede all prior agreements relative to this transaction.

22.InnoTech Alberta shall not be liable to the Client for any failure or delay in performance of its obligations caused by circumstances beyond its control, including but not limited to acts of God, strikes, laws imposed after the fact, governmental restrictions, riots, wars, civil disorder, rebellion, sabotage, fire, flood, explosion, earthquake or other disasters.

23.InnoTech Alberta may assign this Quotation to an "affiliated" (as that term is defined at Section 2 of the Business Corporations Act (Alberta)) or successor entity on written notice to the Client.

24.This Quotation and rights and parties thereto shall be governed by and construed according to the laws of the Province of Alberta. The parties hereby submit to the jurisdiction of the Courts of Alberta.

Sample ID: 23080295-001 **Priority:** Normal

Customer ID: Clean Harbours

Cust Samp ID: VOCs and TNMOC Test # 857

InnoTech ALBERTA
A SUBSIDIARY OF ALBERTA INNOVATES

Sample ID: 23080376-001 **Priority:** Normal

Customer ID: Clean Harbours
Cust Samp ID: VOCs and TNMOC Test Number: 858

Environmental Analytical Services
Highway 16A & 75 Street
Vegreville, AB T9C 1T4

Phone: 780-632-8403
Email: EAS.Reception@innotechalberta.ca
www.innotechalberta.ca

Client Reporting Information

Company:	Clean Harbors Canada, Inc
Address:	PO Box 390, 50114 Range Road 173, Ryley, AB T0B 4A0
Contact:	Todd Webb or Stan Yuha
Phone:	780-663-2513 or 780-663-3828
Email:	Webb.Todd@cleanharbors.com, Yuha.Stan@cleanharbors.com

Client Billing Information

Contact:	Stephanie Dennis
Phone:	780-663-3828
Email:	Dennis.Stephanie@cleanharbors.com
Project ID:	Test 858
PO #:	0000235436

Turnaround Time

X Normal (10 business days)

Rush

Note: Rush service not available for all tests.
Confirm rush requests with InnoTech Alberta.

Special Instructions/Comments:

***If either PM10 or HI-VOL filter exceeds its trigger weight, then both filters are analyzed for metals**
If neither filter exceeds its trigger weight, neither filter is analyzed for metals
If metals analysis is required, please report on the same report as filter weights and VOCs/TNMOC
Trigger Weight for Analysis (PM10): 1.14 mg
Trigger Weight for Analysis (HI-VOL): 92.7 mg

Date Received – Lab Use Only

RECEIVED
AUG 25 2023

Lab Sample No.	Client Sample ID	Sample Source/ Description	Canister Number/ Sampler ID	Date Sampled (dd/mm/yy) From / To	Time Sampled (24 hour) From / To	Analysis Requested
	VOCs and TNMOC Test Number: 858	Canister	32212	22/08/23	00:00	VOC PAMS & TNMOC
				23/08/23	00:00	
	PM10 Test Number: 858	PM10 filter	AT79029	22/08/23	00:00	FLT Particulate Weight (& metals if over trigger weight)*
				23/08/23	00:00	
	HI-VOL Test Number: 858	HI-VOL Filter	HVF-23-06-17	22/08/23	00:00	Particulate Weight (& metals if over trigger weight)*
				23/08/23	00:00	
					Total: 23.73 hrs	

Client Authorization: _____ Laboratory Personnel: _____

(Signature) *(Signature)*

This "Chain of Custody" form is subject to InnoTech Alberta standard terms and conditions.

{00004084;2}

TERMS AND CONDITIONS

The attached document entitled "**Chain of Custody Form**" is subject to the following Terms and Conditions, unless otherwise specified on the Quotation. InnoTech Alberta's commencement of the Services shall be deemed acceptance of the terms and conditions by the Client.

1. Any proposal contained herein is prepared for the consideration of the Client only. Its contents may not be used or disclosed to any other party without prior written consent of the INNOTECH ALBERTA INC. (hereinafter referred to as "InnoTech Alberta").

2. InnoTech Alberta will perform the Services in accordance with normal professional standards.

3. The delivery time for performance of the Services (as set out on the front page of this Quotation) is approximate and may be changed by InnoTech Alberta giving written notice to the Client.

4. InnoTech Alberta will exercise due care and proficiency in testing items submitted by a Client. InnoTech Alberta shall not, however, be liable to the Client for any damage or loss caused to the item being tested or for any damage, loss or expense caused by any delay in carrying out the test, including any damage, loss or expense resulting from InnoTech Alberta's negligence. InnoTech Alberta shall not be responsible for any damage, which is a natural or necessary result of any testing procedure.

5. For the purposes of this Quotation, Intellectual Property means all information, data, artistic and literary works, concepts, designs, processes, software, algorithms and inventions, including, without limitation, those that could be the subject of patent, copyright, industrial design, trade secret or other forms of protection. Intellectual Property which was owned by either InnoTech Alberta or the Client prior to the signing of this Agreement remains the property of that party. Nothing in this Agreement shall operate as a license, permission or grant of any other rights to either InnoTech Alberta's or the Client's Intellectual Property.

6. All data, reports and other information relating to the Services shall be treated by InnoTech Alberta as the confidential property of the Client, and InnoTech Alberta will use reasonable efforts to ensure that its employees, contractors and agents will not disclose the same to any other person, firm or corporation during the term of this Agreement and for a period of five (5) years after the date of termination of the Agreement. The obligation of confidentiality set out herein shall not apply to any information that was in InnoTech Alberta's possession prior to receipt from the Client or which is or becomes part of the public domain through no act or failure on the part of InnoTech Alberta. The obligation of confidentiality set out in this Section shall not prevent the disclosure of information to any level of government having jurisdiction to make lawful demand therefor, or required to be disclosed by any applicable law. Any records required to be maintained by InnoTech Alberta pursuant to this Agreement are subject to the protection and access provisions of the Freedom of Information and Protection of Privacy Act (Alberta).

7. The reported results of any InnoTech Alberta tests or evaluations performed on samples or items provided by the Client shall be interpreted as being specific to the sample or item tested. InnoTech Alberta makes no representation that any similar or related untested samples or items would produce the same results.

8. The Client shall not use InnoTech Alberta's name in any advertising material, sale offer, news releases, public statements or announcements, whether written or oral relating to the Services or the results thereof, without the prior written consent of InnoTech Alberta.

9. Records, test data, reports and samples, except where shipped to the Client after completion of the work shall be retained by InnoTech Alberta according to InnoTech Alberta's approved Records Retention and Disposition Schedule.

10. Prices quoted are in Canadian Dollars unless otherwise stated in writing and are exclusive of any provincial, municipal, sales, use or goods and services tax.

11. Prices quoted do not include shipping, insurance or cost of consumables. The Client shall be responsible for all costs incurred by InnoTech Alberta in collecting any item for testing and returning the item to the Client after testing and shall be responsible for all necessary incidental costs incurred by InnoTech Alberta in providing the Services. InnoTech Alberta will not be responsible for any damage or loss to items during shipping and it is the responsibility of the Client to arrange and pay for any insurance it deems necessary.

12. Any test samples or other materials supplied by the Client to InnoTech Alberta may, at InnoTech Alberta's option, be returned by InnoTech Alberta to the Client. The Client shall:

(a) be responsible for all costs associated with the handling, transportation and disposal of such materials;

(b) reimburse InnoTech Alberta for any costs incurred by InnoTech Alberta associated with the handling, transportation and disposal of such materials; and

(c) indemnify and hold InnoTech Alberta harmless from any and all claims, damages or actions associated with the handling, transportation and disposal of such materials.

13. The Client shall pay all invoices rendered by InnoTech Alberta to the Client within thirty (30) days from the date of invoice, without deduction or set-off.

14. If the Client fails to pay any amount under this Agreement, such unpaid amount shall bear interest at a rate per month equal to one (1%) percent (or 12.6825% per annum) with interest on overdue interest at the same rate.

15. InnoTech Alberta makes no representation, warranties or conditions, either expressed or implied, statutory or otherwise and does not warrant the quality, state, merchantability or fitness for any purpose of any goods or products to be delivered pursuant to this Agreement. The Client accepts the results of these Services or items tested as is, and acknowledges that any use or interpretation of the information contained is at the Client's own risk.

16. In no event shall InnoTech Alberta be liable for any indirect or consequential damage or loss suffered by the Client, including loss of anticipated profits.

17. The Client shall indemnify and hold harmless InnoTech Alberta from any and all claims, demands, actions and costs (including legal costs on a solicitor-client basis) that may arise out of:
(a) any dangerous defect or content in the item being tested, whether apparent or not, which dangerous defect or content was not disclosed in writing to InnoTech Alberta by the Client at the time the item was submitted for testing;
(b) differences between those items actually tested and items previously or subsequently produced which are purported to be identical to the item tested; or
(c) any use of the tested item or any item incorporating the tested item, whether by the Client or a third party following its return to the Client.
The hold harmless shall survive this Agreement.

18. The Client shall, at its own expense and without limiting its liabilities herein, be responsible for insuring its operation in an amount not less than $2,000,000 inclusive per occurrence, insuring against bodily injury, and property damage including loss of use thereof. Further, the Client is responsible for insuring all owned property directly or indirectly related to this Agreement and InnoTech Alberta shall have no liability for any loss or damage to such property. 19. InnoTech Alberta shall maintain the following insurance: (i) commercial general liability insurance (including cross liability, severability of interests, non-owned automobile liability) in the amount of two million dollars ($2,000,000.00) per occurrence, and; (ii) professional liability and errors and omissions insurance in the amount of one million dollars ($1,000,000.00) per claim, and two million dollars ($2,000,000.00) in the aggregate. In addition, InnoTech Alberta shall maintain all workers' compensation coverage required by applicable laws. Notwithstanding the foregoing, InnoTech Alberta reserves the right to supplement or add insurance coverage from time to time as may be required in its sole discretion. InnoTech Alberta may provide certificates of insurance for coverages outlined in (i) and (ii) above.

20. The Client agrees to comply with all InnoTech Alberta Safety & Security regulations in effect while on InnoTech Alberta premises.

21. This Agreement represents the entire agreement between the parties and shall supersede all prior agreements relative to this transaction.

22. InnoTech Alberta shall not be liable to the Client for any failure or delay in performance of its obligations caused by circumstances beyond its control, including but not limited to acts of God, strikes, laws imposed after the fact, governmental restrictions, riots, wars, civil disorder, rebellion, sabotage, fire, flood, explosion, earthquake or other disasters.

23. InnoTech Alberta may assign this Quotation to an "affiliated" (as that term is defined at Section 2 of the Business Corporations Act (Alberta)) or successor entity on written notice to the Client.

24. This Quotation and rights and parties thereto shall be governed by and construed according to the laws of the Province of Alberta. The parties hereby submit to the jurisdiction of the Courts of

Sample ID: 23080376-001 **Priority:** Normal

Customer ID: Clean Harbours

Cust Samp ID: VOCs and TNMOC Test Number: 858

RECEIVED
AUG 25 2023

Sample ID: 23080376-001 **Priority:** Normal

Customer ID: Clean Harbours
Cust Samp ID: VOCs and TNMOC Test Number: 858

RECEIVED
AUG 25 2023

Filter Shipping Record

Sent To: Clean Harbors
PO Box 390
Ryley, AB T0B 4A0
(1/2 mile north, Hwy 854)
Todd Webb
780-663-2513

Date: August 2/23

Project: Clean Harbors

Prepared by:

Filter Size	# of Filters in Cassettes	Filter IDs
47 mm	1	AT79029

Returns: coolers, large and small containers may be shipped to: Innotech, PO Bag 4000, HWY 16A & 75th Street, Vegreville, AB T9C 1T4

Sample ID: 23090032-001 **Priority:** Normal

Customer ID: Clean Harbours
Cust Samp ID: VOCs and TNMOC Test Number: 859

AIN OF CUSTODY FORM

Environmental Analytical Services
Highway 16A & 75 Street
Vegreville, AB T9C 1T4

Phone: 780-632-8403
Email: EAS.Reception@innotechalberta.ca
www.innotechalberta.ca

Client Reporting Information		Client Billing Information		Turnaround Time
Company:	Clean Harbors Canada, Inc	Contact:	Stephanie Dennis	X Normal (10 business days)
Address:	PO Box 390, 50114 Range Road 173, Ryley, AB T0B 4A0	Phone:	780-663-3828	Rush
Contact:	Todd Webb or Stan Yuha	Email:	Dennis.Stephanie@cleanharbors.com	Note: Rush service not available for all tests. Confirm rush requests with InnoTech Alberta.
Phone:	780-663-2513 or 780-663-3828	Project ID:	Test 859	
Email:	Webb.Todd@cleanharbors.com, Yuha.Stan@cleanharbors.com	PO #:	0000235436	

Special Instructions/Comments:

***If either PM10 or HI-VOL filter exceeds its trigger weight, then both filters are analyzed for metals**

If neither filter exceeds its trigger weight, neither filter is analyzed for metals

If metals analysis is required, please report on the same report as filter weights and VOCs/TNMOC

Trigger Weight for Analysis (PM10): 1.12 mg

Trigger Weight for Analysis (HI-VOL): 92.6 mg

Date Received – Lab Use Only

RECEIVED
SEP 05 2023

Lab Sample No.	Client Sample ID	Sample Source/ Description	Canister Number/ Sampler ID	Date Sampled (dd/mm/yy) From / To	Time Sampled (24 hour) From / To	Analysis Requested
	VOCs and TNMOC Test Number: 859	Canister	29038	28/08/23	00:00	VOC PAMS & TNMOC
				29/08/23	00:00	
	PM10 Test Number: 859	PM10 filter	C9700137	28/08/23	00:00	FLT Particulate Weight (& metals if over trigger weight)*
				29/08/23	00:00	
	HI-VOL Test Number: 859	HI-VOL Filter	HVF-23-06-18	28/08/23	00:00	Particulate Weight (& metals if over trigger weight)*
				29/08/23	00:00	
					Total: 23.71 hrs	

Client Authorization: _____ Laboratory Personnel: _____

(Signature) *(Signature)*

This "Chain of Custody" form is subject to InnoTech Alberta standard terms and conditions.

Sample ID: 23090032-002 **Priority:** Normal

Customer ID: Clean Harbours
Cust Samp ID: PM10 Test Number: 859

Filter Shipping Record

Sent To: Clean Harbors
PO Box 390
Ryley, AB T0B 4A0
(1/2 mile north, Hwy 854)
Todd Webb
780-663-2513

Date: June 28/23

Project: Clean Harbors

Prepared by: S Melenka

Filter Size	# of Filters in Cassettes	Filter IDs
47 mm	1	C9700137 Test 859

Returns: coolers, large and small containers may be shipped to: Innotech, PO Bag 4000, HWY 16A & 75th Street, Vegreville, AB T9C 1T4

Sample ID: 23090032-003 **Priority:** Normal

Customer ID: Clean Harbours
Cust Samp ID: HI-VOL Test Number: 859

RECEIVED
SEP 05 2023

InnoTech ALBERTA

Canister ID: 29038

This cleaned canister meets or exceeds TO-15 Method Specifications

Proofed by: ISQ on: JUN 2 2 2023

Evacuated: AUG 0 1 2023 Recertified: _____

(Use within: 3 months from evacuation or recertification date)

Laboratory Contact Number: 780-632-8403

Sample ID: Test 859

Sampled By: T. Webb

Starting Vacuum:	End Vacuum:
-27.1 "Hg	-9 "Hg/ psig

{00004084:2}

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6.All data, reports and other information relating to the Services shall be treated by InnoTech Alberta as the confidential property of the Client, and InnoTech Alberta will use reasonable efforts to ensure that its employees, contractors and agents will not disclose the same to any other person, firm or corporation during the term of this Agreement and for a period of five (5) years after the date of termination of the Agreement. The obligation of confidentiality set out herein shall not apply to any information that was in InnoTech Alberta's possession prior to receipt from the Client or which is or becomes part of the public domain through no act or failure on the part of InnoTech Alberta. The obligation of confidentiality set out in this Section shall not prevent the disclosure of information to any level of government having jurisdiction to make lawful demand therefor, or required to be disclosed by any applicable law. Any records required to be maintained by InnoTech Alberta pursuant to this Agreement are subject to the protection and access provisions of the Freedom of Information and Protection of Privacy Act (Alberta).

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(a)be responsible for all costs associated with the handling, transportation and disposal of such materials;

(b)reimburse InnoTech Alberta for any costs incurred by InnoTech Alberta associated with the handling, transportation and disposal of such materials; and

(c)indemnify and hold InnoTech Alberta harmless from any and all claims, damages or actions associated with the handling, transportation and disposal of such materials.

13.The Client shall pay all invoices rendered by InnoTech Alberta to the Client within thirty (30) days from the date of invoice, without deduction or set-off.

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(b)differences between those items actually tested and items previously or subsequently produced which are purported to be identical to the item tested; or
(c)any use of the tested item or any item incorporating the tested item, whether by the Client or a third party following its return to the Client.
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24.This Quotation and rights and parties thereto shall be governed by and construed according to the laws of the Province of Alberta. The parties hereby submit to the jurisdiction of the Courts of

Sample ID: 23090032-001 **Priority:** Normal

Customer ID: Clean Harbours

Cust Samp ID: VOCs and TNMOC Test Number: 859