February 29, 2024

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

RE: Monthly Ambient Air Monitoring Report
January 2024
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 January 2024, to Alberta Environment and Protected Areas (EPA). 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 Alberta EPA on September 14, 2022 (no formal approval has been provided by Alberta EPA). Operating under the Approval and the submitted program, Clean Harbors operates the following ambient air monitoring stations:

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

Included in this report are the following:

- Summary of the ambient air monitoring program for January 2024
- 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

Facility Manager
Ryley Facility

Alberta Environment and Protected Areas (EPA)
Monthly Ambient Air Monitoring Report
January 2024
Report Completed on February 29, 2024

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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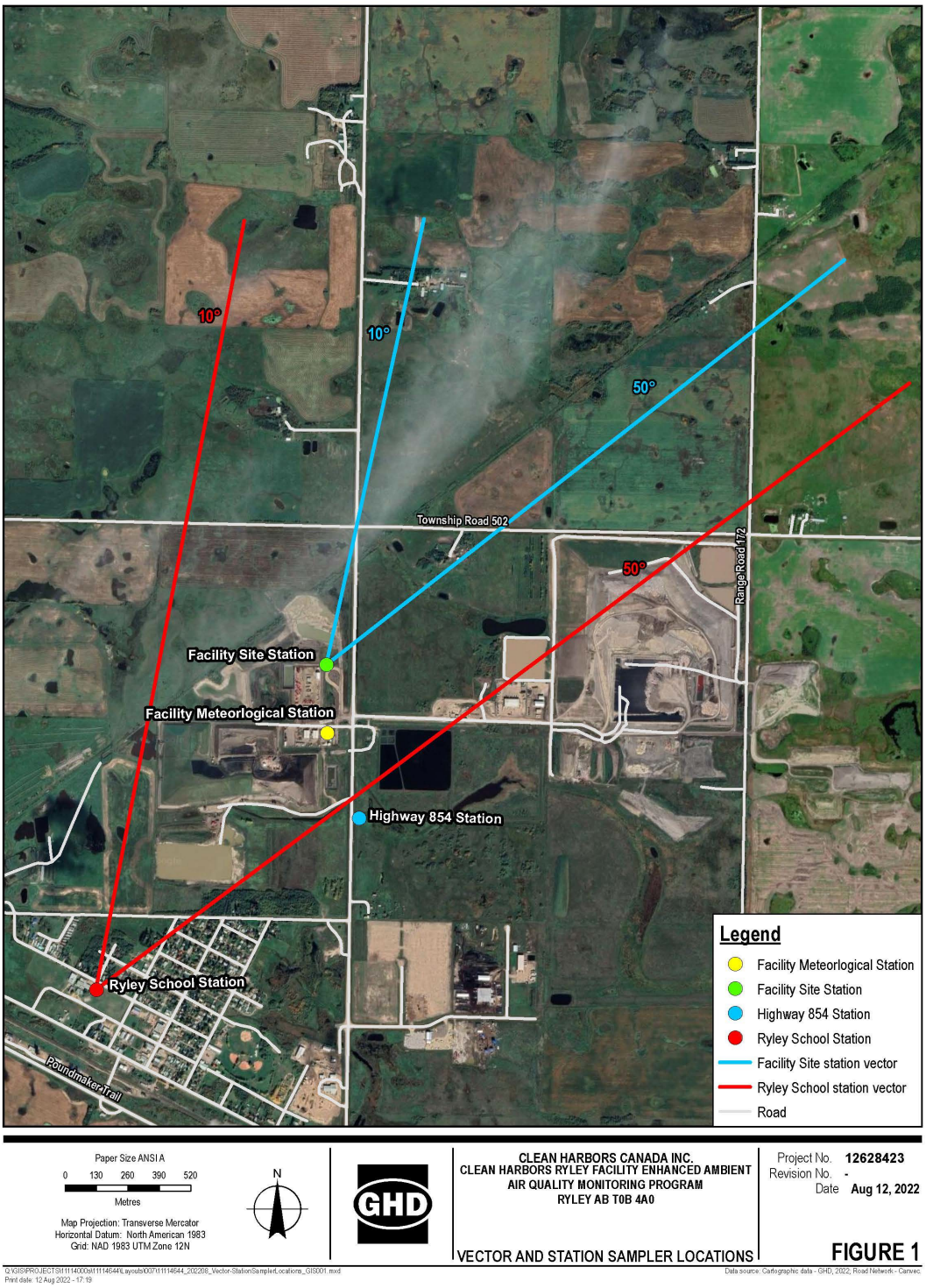
1. Introduction

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 (EPA 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 (EPA 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 (EPA 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 (EPA Station ID 00010348-C-1), Upwind Facility Site Station (EPA Station ID 00010348-C-2), and Downwind Ryley School Station (EPA 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), the Alberta Air Monitoring Directive, 2016 (AMD), and in accordance with the following EPA standards:

- The *Alberta Stack Sampling Code*, Alberta Environment, 1995, as amended
- The *Methods Manual for Chemical Analysis of Atmospheric Pollutants*, Alberta Environment, 1993, as amended
- The *Air Monitoring Directive*, Alberta Environment, 1989, as amended

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
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 January 2024.

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	Y	June 30, 2023
Changes to the Wind Speed/Direction Sensor	N	-
TSP – Facility Site Station		
TSP Hi-Vol Sampler Calibration	Y	December 13, 2023
Changes to the TSP Hi-Vol Sampler	N	-
TSP Samples Collected	Y	January 1, 2024 – February 1, 2024
TSP Metal Analysis Conducted	Y	January 1, 2024 – February 1, 2024
TSP Sampler Maintenance Activities	Y	January 1, 2024
TSP – Ryley School Station		
TSP Hi-Vol Sampler Calibration	Y	December 13, 2023
Changes to the TSP Hi-Vol Sampler	N	-
TSP Samples Collected	Y	January 1, 2024 – February 1, 2024
TSP Metal Analysis Conducted	Y	January 1, 2024 – February 1, 2024
TSP Sampler Maintenance Activities	Y	February 1, 2024
TSP, PM_{10}, VOC and TNMOC – Highway 854 Lift Station		
TSP Hi-Vol Sampler Calibration	Y	December 13, 2023
PM_{10} Sampler Calibration	Y	December 13, 2023
Changes to the TSP Hi-Vol Sampler	N	-
Changes to the PM_{10} Sampling Station	N	-
TSP Samples Collected	Y	January 1, 2024 January 7, 2024 January 13, 2024 January 19, 2024 January 25, 2024 January 31, 2024
PM_{10} Samples Collected	Y	January 1, 2024

Activity	*Completed (Y/N)*	*Date(s)*
		January 7, 2024 January 13, 2024 January 19, 2024 January 25, 2024
VOC and TNMOC Samples Collected	Y	January 1, 2024 January 7, 2024 January 13, 2024 January 19, 2024 January 25, 2024 January 31, 2024
TSP Metal Analysis Conducted	N	-
PM_{10} Metal Analysis Conducted	N	-
TSP Sampler Maintenance Activities	Y	January 1, 2024 January 7, 2024 January 13, 2024 January 19, 2024 January 25, 2024 January 31, 2024
PM_{10} Sampler Maintenance Activities	Y	January 1, 2024 January 7, 2024 January 13, 2024 January 19, 2024 January 25, 2024 January 31, 2024
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 January 2024 monthly report, the following summarized items were submitted to the ETS:

3.1 AMD Approval Contravention Form

An AMD Approval contravention form (AMD1), for Alberta EPA Reference No. 423963, was submitted to the EPA via the ETS portal. The contravention form was completed due to a vacuum motor malfunction at the Highway 854 Lift Station causing the TSP sampler to run for only 8-hours and 23-minutes on January 13, 2024, which is less than the 24-hour sampling period outlined in the NAPS sampling schedule.

3.2 AMD XML Schema

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

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

3.3 Ambient Air Monitoring Program Laboratory Reports

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

3.4 Ambient Air Monitoring Program Calibration Reports

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

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

4.1 Facility Meteorological Station for Wind Speed and Direction (EPA 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.

4.2 Facility Site Station for Wind Speed and Direction (EPA 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 (EPA Station ID 00010348-C-3) anemometer with the Facility Site Station (EPA Station ID 00010348-C-2) anemometer due to EPA 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 (EPA 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.

4.4 Facility Site Station TSP Hi-Vol Sampler (EPA 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 December 13, 2023.

4.5 Ryley School Station TSP Hi-Vol Sampler (EPA 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 December 13, 2023.

4.6 Highway 854 Lift Station TSP Hi-Vol Sampler (EPA 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 December 13, 2023.

4.7 Highway 854 Lift Station PM_{10} Sampler (EPA 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 January 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 December 13, 2023.

5. Ambient Air Monitoring Results

The following section presents the results from the ambient air monitoring program for the Facility Meteorological Station (EPA Station ID 00010348-C-1), Facility Site Station (EPA Station ID 00010348-C-2), Ryley School Station (EPA Station ID 00010348-C-3), Highway 854 Lift Station (EPA Station ID 00010348-I-1), Facility Site Station (EPA Station ID 00010348-I-2), and Ryley School Station (EPA Station ID 00010348-I-3) conducted in June 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 covert 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 January 2024 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 (EPA Station ID 00010348-C-1)

Based on the verification and validation process conducted for the meteorological data that was collected in January 2024, it was determined that 100 percent of the data is valid, which represents 100 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 (EPA Station ID 00010348-C-2)

As noted above, Clean Harbors chose to swap the Ryley School Station (EPA Station ID 00010348-C-3) anemometer with the Facility Site Station (EPA Station ID 00010348-C-2) anemometer due to EPA 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 (EPA Station ID 00010348-C-3)

Based on the verification and validation process conducted for the meteorological data that was collected in January 2024, it was determined that 100 percent of the data is valid, which represents 100 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). The sample results are converted to a 24-hour averaging period for comparison with the sample AAAQO.

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 (EPA Station ID 00010348-I-2)

Table 10 presents the results of the sampling conducted for TSP from the Facility Site Station. The TSP sample collected in January 2024 (converted to a 24-hour averaging period) was shown to have a TSP concentration of 44.782 µg/m^3, which is below the 100 µg/m^3 AAAQO threshold.

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

Table 11 presents the results of the sampling conducted for TSP from the Ryley School Station. The TSP sample collected in January 2024 (converted to a 24-hour averaging period) was shown to have a TSP concentration of 65.084 µg/m^3, which is below the 100 µg/m^3 AAAQO threshold.

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

Table 12 presents the results of the sampling conducted for TSP from the Highway 854 Lift Station. None of the samples analyzed in January 2024 were shown to have elevated TSP concentration above the 100 µg/m^3 AAAQO threshold.

It is noted that for Test #882 performed on January 13, 2024, the TSP sampler had only run for approximately 8.38-hours. It was discovered that the vacuum motor was inoperable at the time the sample was collected. Clean Harbors replaced the vacuum motor and the remaining samples in January 2024 ran for 24-hours, inline with the NAPS sampling schedule, as per Section 4.2.18 of the Facility's Approval. Clean Harbors submitted a 7-day reference letter to Alberta EPA on January 18, 2024 (reference number # 423963).

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 (EPA 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 (EPA Station ID 00010348-I-1)

Table 14 presents the VOC and TNMOC concentrations measured in January 2024. There were no exceedances for the parameters with AAAQO in January 2024.

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, nickel, and manganese. 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 (EPA Station ID 00010348-I-2)

The TSP sample collected in January 2024 was above 50 µg/m^3 and as such, analysis for metals was conducted on the sample. Facility Test #110 (HV-23-02-19) was shown to have an elevated TSP concentration of 52.839 µg/m^3, which is over the 50 µg/m^3 threshold. This sample was sent for additional analysis and the results for this test can be found in Table 15 of this report. There were no exceedances for the parameters with AAAQO in January 2024.

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

The TSP sample collected in January 2024 was above 50 µg/m^3 and as such, analysis for metals was conducted on the sample. School Test #110 (HV-23-02-20) was shown to have an elevated TSP concentration of 66.571 µg/m^3, which is over the 50 µg/m^3 threshold. This sample was sent for additional analysis and the results for this test can be found in Table 16 of this report. There were no exceedances for the parameters with AAAQO in January 2024.

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

TSP

None of the TSP samples analyzed in January 2024 were above 50 µg/m^3 and as such, analysis for metals was not conducted on the samples.

It is noted that for Test #882 performed on January 13, 2024, the TSP sampler had only run for approximately 8.38-hours. It was discovered that the vacuum motor was inoperable at the time the sample was collected. Clean Harbors replaced the vacuum motor and the remaining samples in January 2024 ran for 24-hours, inline with the NAPS sampling schedule, as per Section 4.2.18 of the Facility's Approval. Clean Harbors submitted a 7-day reference letter to Alberta EPA on January 18, 2024 (reference number # 423963).

PM_{10}

None of the PM_{10} samples analyzed in January 2024 were above the 50 µg/m^3 and as such, analysis for metals was not conducted on the 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 January 2024.

6. Conclusions

The following summarizes the Ambient Air Monitoring Program that was conducted in January 2024.

1 During January 2024, the Facility Meteorological Station (EPA Station ID 00010348-C-1) operated at 100 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 January 2024, 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 January 2024, the continuous Ryley School wind Station operated at 100 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 concentration measured at the intermittent Facility Site Station from January 1, 2024 to February 1, 2024 was 52.839 µg/m^3 (concentration when converted to a 24-hour averaging period was 44.782 µg/m^3).

5 The TSP concentration measured at the intermittent Ryley School Station from January 1, 2024 to February 1, 2024 was 66.571 µg/m^3 (concentration when converted to a 24-hour averaging period was 65.084 µg/m^3).

6 The TSP concentrations measured at the intermittent Highway 854 Lift Station (EPA Station ID 00010348-I-1) on January 1, January 7, January 13, January 19, January 25, and January 31

were 15.203 µg/m^3, 10.197 µg/m^3, 34.658 µg/m^3, 17.975 µg/m^3, 41.763 µg/m^3, and 10.286 µg/m^3 respectively.

7 The PM_{10} concentrations measured at the intermittent Highway 854 Lift Station (EPA Station ID 00010348-I-1) on January 1, January 7, January 13, January 19, January 25, and January 31 were 5.429 µg/m^3, 2.891 µg/m^3, 9.441 µg/m^3, 9.474 µg/m^3, 36.122 µg/m^3, and 4.370 µg/m^3 respectively.

8 Based on the VOC and TMNOC results measured at the intermittent Highway 854 Lift Station (EPA 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 January 2023.

9 The TSP concentration measured for Facility Test #110 (HV-23-02-19), conducted from January 1, 2024 to February 1, 2024, was above the 50 µg/m^3 threshold outlined in the Facility's approval. Because of the elevated TSP concentration, this sample was sent for additional analysis of metals. The results of this test showed that all parameters were below any applicable AAAQO (arsenic, chromium, lead, nickel, and manganese).

10 The TSP concentration measured for School Test #110 (HV-23-02-20), conducted from January 1, 2024 to February 1, 2024, was above the 50 µg/m^3 threshold outlined in the Facility's approval. Because of the elevated TSP concentration, this sample was sent for additional analysis of metals. The results of this test showed that all parameters were below any applicable AAAQO (arsenic, chromium, lead, nickel, and manganese).

11 None of the TSP concentrations measured at the Highway 854 Lift Station were over the 50 µg/m^3 threshold outlined in the Facility's approval.

12 None of the PM_{10} concentrations measured at the Highway 854 Lift Station were over the 50 µg/m^3 threshold outlined in the Facility's approval.

13 Test #882 that was scheduled to run on January 13, 2024 at the Highway 854 Lift Station only ran for approximately 8.38-hours due to instrument malfunction. Clean Harbors had replaced the vacuum motor on the sampler and the remaining tests run in January ran for 24-hours, as per the Facility's approval. A 7-day letter was submitted to Alberta EPA on January 18, 2024 (reference number # 423963).

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 January 2024 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)
EPA Station ID 00010348-C-1
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
January 2024

Ryley Wind Speed Data (m/s) - Month of January 2024																								
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	1.8	1.6	1.7	2.0	2.4	1.9	1.5	1.0	1.7	1.3	1.0	1.6	1.5	1.7	2.4	2.1	1.0	1.1	0.8	0.4	0.3	0.2	0.3	0.2
2	0.3	0.3	0.3	0.7	0.4	0.3	0.6	0.2	0.7	0.4	1.0	1.1	0.8	0.6	0.9	1.0	1.1	0.9	1.3	1.5	1.8	2.4	1.8	2.0
3	2.1	2.4	2.8	2.4	2.1	2.2	2.1	2.7	3.0	3.5	3.1	3.3	3.1	3.0	2.7	3.0	3.0	2.8	1.8	2.0	1.3	1.4	1.6	1.0
4	0.8	1.1	1.4	1.7	1.7	1.4	1.8	1.2	0.4	0.5	0.3	0.4	1.2	1.8	2.2	2.6	2.6	3.3	3.1	1.8	1.4	0.8	0.7	0.5
5	0.8	1.4	1.1	1.0	1.1	0.5	0.0	0.3	0.6	0.5	0.9	1.1	0.2	1.2	1.9	1.8	2.1	2.1	1.8	1.9	2.0	1.3	2.5	1.8
6	2.9	3.2	2.2	1.9	1.1	1.3	2.4	2.2	1.7	1.2	1.0	1.4	1.1	0.8	1.1	1.4	1.4	2.0	1.7	1.5	1.7	1.7	1.9	2.4
7	2.7	2.6	2.5	2.5	2.9	2.1	2.0	2.1	1.7	1.9	1.8	1.8	1.3	1.3	1.3	0.9	0.5	0.5	0.6	0.8	1.2	1.2	2.1	2.0
8	2.4	2.1	1.7	1.4	1.3	1.3	1.7	2.3	1.9	1.8	1.5	0.9	1.3	1.0	0.6	0.7	1.5	0.9	0.4	0.2	0.4	0.4	0.9	1.4
9	1.8	2.7	3.1	3.6	3.9	4.1	4.5	5.1	4.7	4.2	4.9	5.0	3.8	2.8	2.5	3.1	3.9	4.4	3.6	3.0	3.1	3.4	3.1	3.6
10	2.5	2.6	2.3	2.0	2.3	2.6	2.0	2.2	2.1	1.9	1.4	1.7	1.8	1.8	1.6	1.6	2.0	2.1	2.2	2.0	2.0	1.8	1.7	1.5
11	1.7	2.1	1.7	1.9	2.0	1.4	1.8	1.9	2.3	2.5	2.0	1.6	1.9	2.0	2.2	1.8	1.4	2.4	3.5	3.4	2.6	2.1	1.8	1.4
12	1.3	1.6	1.9	2.5	2.3	1.8	1.3	1.1	0.6	1.2	1.3	1.8	1.9	1.7	2.2	1.3	1.0	1.2	1.1	1.3	0.7	0.2	0.3	0.2
13	0.1	0.3	0.5	0.4	0.8	1.5	1.5	1.1	0.9	0.5	0.9	1.5	2.1	2.3	2.4	1.9	2.1	1.9	1.3	1.2	1.3	0.9	0.1	0.1
14	0.2	0.0	0.0	0.4	0.0	0.1	0.8	0.5	0.5	0.8	1.1	1.1	1.3	1.4	1.2	1.3	0.7	1.2	2.1	1.8	1.3	1.4	1.3	0.8
15	0.3	0.2	0.1	0.6	0.7	0.8	1.0	1.1	1.4	1.9	2.3	2.8	2.5	3.3	2.6	2.0	2.3	2.2	2.3	1.8	1.6	1.3	0.4	0.4
16	0.4	0.6	0.8	1.1	1.8	0.6	1.6	1.6	1.9	1.3	1.3	2.6	2.5	1.8	1.9	2.0	2.1	1.6	1.9	2.0	0.8	1.5	1.5	3.0
17	2.9	2.4	2.1	1.7	2.4	2.8	2.1	2.0	2.0	2.8	2.2	2.3	2.6	1.7	1.6	1.4	1.4	0.8	0.3	0.8	1.4	1.7	1.3	1.6
18	1.1	1.3	1.6	1.6	1.6	1.9	1.6	2.5	2.5	2.5	3.1	2.8	3.1	3.6	3.6	3.5	3.3	3.0	2.7	2.0	2.1	1.6	1.4	1.6
19	1.2	0.9	0.6	0.5	0.1	0.3	0.5	0.9	1.5	1.9	2.5	3.1	4.0	3.5	4.0	4.3	4.7	4.5	5.8	6.3	5.6	4.9	5.3	4.8
20	4.8	4.1	3.2	2.4	1.7	0.9	1.0	0.8	0.7	0.2	0.4	0.9	1.3	1.1	1.3	1.1	1.0	0.7	0.2	0.3	0.4	0.5	0.6	0.4
21	0.4	0.9	1.0	1.1	1.3	1.3	1.4	1.7	1.8	1.6	1.1	1.2	1.7	1.5	1.5	2.2	2.3	2.2	2.2	2.1	2.0	1.5	1.5	1.4
22	2.0	2.8	3.5	3.9	4.2	3.7	3.9	4.5	5.2	4.9	4.8	5.4	5.4	6.9	6.7	6.7	6.0	5.4	5.9	6.4	5.7	5.3	4.5	4.9
23	4.3	3.9	4.4	3.4	2.5	1.4	1.4	1.4	1.1	1.0	0.8	1.1	0.9	1.1	1.6	0.9	0.7	0.9	0.9	1.1	0.8	0.8	1.1	1.2
24	1.0	0.8	1.0	0.7	0.8	1.0	1.7	2.1	1.6	1.6	2.1	2.7	2.4	3.1	3.4	3.2	3.0	3.0	3.3	3.4	3.2	4.2	4.2	3.5
25	2.5	1.7	0.4	0.4	0.9	0.2	0.8	1.6	1.9	0.9	0.4	0.6	0.3	0.8	0.6	0.1	0.6	1.1	1.0	0.6	0.5	0.4	0.5	1.3
26	1.5	1.4	1.6	1.5	1.1	1.3	1.2	1.4	1.3	1.5	1.5	1.2	1.3	1.6	1.9	1.4	1.2	1.3	2.2	2.5	2.2	3.1	3.6	1.9
27	2.1	1.9	2.2	2.7	3.4	3.2	2.8	3.2	3.2	1.9	1.5	1.2	1.8	1.0	0.6	0.9	0.8	1.0	1.6	1.6	1.7	2.0	2.6	3.2
28	4.1	3.3	3.5	3.3	4.0	2.7	2.0	1.5	1.1	1.0	0.6	1.0	0.9	0.9	0.9	1.0	0.6	0.6	0.5	0.6	0.4	0.8	0.8	0.9
29	1.0	0.7	2.1	3.1	2.6	4.0	5.2	4.8	5.5	4.9	4.6	4.2	3.8	3.5	2.3	2.2	1.7	2.1	1.3	1.4	2.0	2.6	1.8	3.3
30	3.1	2.9	4.2	4.7	5.1	6.3	6.8	7.6	5.5	4.7	3.1	3.1	5.4	3.4	1.6	1.8	1.8	1.6	1.8	3.6	1.1	0.8	1.0	1.2
31	1.1	1.1	1.0	0.4	0.3	0.7	0.5	0.5	1.3	1.3	2.5	3.7	4.2	4.3	4.9	5.0	5.2	5.2	5.6	5.3	4.9	5.3	6.2	5.6

TABLE 2

Average Wind Speed (metres/second)
EPA Station ID 00010348-C-2
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
January 2024

Ryley Wind Speed Data (m/s) - Month of January 2024																							
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)
EPA Station ID 00010348-C-3
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
January 2024

Ryley Wind Speed Data (m/s) - Month of January 2024																							
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	1.8	1.6	1.7	2.0	2.4	1.9	1.5	1.0	1.7	1.3	1.0	1.6	1.5	1.7	2.4	2.1	1.0	1.1	0.8	0.4	0.3	0.2	0.3	0.2
2	0.3	0.3	0.3	0.7	0.4	0.3	0.6	0.2	0.7	0.4	1.0	1.1	0.8	0.6	0.9	1.0	1.1	0.9	1.3	1.5	1.8	2.4	1.8	2.0
3	2.1	2.4	2.8	2.4	2.1	2.2	2.1	2.7	3.0	3.5	3.1	3.3	3.1	3.0	2.7	3.0	3.0	2.8	1.8	2.0	1.3	1.4	1.6	1.0
4	0.8	1.1	1.4	1.7	1.7	1.4	1.8	1.2	0.4	0.5	0.3	0.4	1.2	1.8	2.2	2.6	2.6	3.3	3.1	1.8	1.4	0.8	0.7	0.5
5	0.8	1.4	1.1	1.0	1.1	0.5	0.0	0.3	0.6	0.5	0.9	1.1	0.2	1.2	1.9	1.8	2.1	2.1	1.8	1.9	2.0	1.3	2.5	1.8
6	2.9	3.2	2.2	1.9	1.1	1.3	2.4	2.2	1.7	1.2	1.0	1.4	1.1	0.8	1.1	1.4	1.4	2.0	1.7	1.5	1.7	1.7	1.9	2.4
7	2.7	2.6	2.5	2.5	2.9	2.1	2.0	2.1	1.7	1.9	1.8	1.8	1.3	1.3	1.3	0.9	0.5	0.5	0.6	0.8	1.2	1.2	2.1	2.0
8	2.4	2.1	1.7	1.4	1.3	1.3	1.7	2.3	1.9	1.8	1.5	0.9	1.3	1.0	0.6	0.7	1.5	0.9	0.4	0.2	0.4	0.4	0.9	1.4
9	1.8	2.7	3.1	3.6	3.9	4.1	4.5	5.1	4.7	4.2	4.9	5.0	3.8	2.8	2.5	3.1	3.9	4.4	3.6	3.0	3.1	3.4	3.1	3.6
10	2.5	2.6	2.3	2.0	2.3	2.6	2.0	2.2	2.1	1.9	1.4	1.7	1.8	1.8	1.6	1.6	2.0	2.1	2.2	2.0	2.0	1.8	1.7	1.5
11	1.7	2.1	1.7	1.9	2.0	1.4	1.8	1.9	2.3	2.5	2.0	1.6	1.9	2.0	2.2	1.8	1.4	2.4	3.5	3.4	2.6	2.1	1.8	1.4
12	1.3	1.6	1.9	2.5	2.3	1.8	1.3	1.1	0.6	1.2	1.3	1.8	1.9	1.7	2.2	1.3	1.0	1.2	1.1	1.3	0.7	0.2	0.3	0.2
13	0.1	0.3	0.5	0.4	0.8	1.5	1.5	1.1	0.9	0.5	0.9	1.5	2.1	2.3	2.4	1.9	2.1	1.9	1.3	1.2	1.3	0.9	0.1	0.1
14	0.2	0.0	0.0	0.4	0.0	0.1	0.8	0.5	0.5	0.8	1.1	1.1	1.3	1.4	1.2	1.3	0.7	1.2	2.1	1.8	1.3	1.4	1.3	0.8
15	0.3	0.2	0.1	0.6	0.7	0.8	1.0	1.1	1.4	1.9	2.3	2.8	2.5	3.3	2.6	2.0	2.3	2.2	2.3	1.8	1.6	1.3	0.4	0.4
16	0.4	0.6	0.8	1.1	1.8	0.6	1.6	1.6	1.9	1.3	1.3	2.6	2.5	1.8	1.9	2.0	2.1	1.6	1.9	2.0	0.8	1.5	1.5	3.0
17	2.9	2.4	2.1	1.7	2.4	2.8	2.1	2.0	2.0	2.8	2.2	2.3	2.6	1.7	1.6	1.4	1.4	0.8	0.3	0.8	1.4	1.7	1.3	1.6
18	1.1	1.3	1.6	1.6	1.6	1.9	1.6	2.5	2.5	2.5	3.1	2.8	3.1	3.6	3.6	3.5	3.3	3.0	2.7	2.0	2.1	1.6	1.4	1.6
19	1.2	0.9	0.6	0.5	0.1	0.3	0.5	0.9	1.5	1.9	2.5	3.1	4.0	3.5	4.0	4.3	4.7	4.5	5.8	6.3	5.6	4.9	5.3	4.8
20	4.8	4.1	3.2	2.4	1.7	0.9	1.0	0.8	0.7	0.2	0.4	0.9	1.3	1.1	1.3	1.1	1.0	0.7	0.2	0.3	0.4	0.5	0.6	0.4
21	0.4	0.9	1.0	1.1	1.3	1.3	1.4	1.7	1.8	1.6	1.1	1.2	1.7	1.5	1.5	2.2	2.3	2.2	2.2	2.1	2.0	1.5	1.5	1.4
22	2.0	2.8	3.5	3.9	4.2	3.7	3.9	4.5	5.2	4.9	4.8	5.4	5.4	6.9	6.7	6.7	6.0	5.4	5.9	6.4	5.7	5.3	4.5	4.9
23	4.3	3.9	4.4	3.4	2.5	1.4	1.4	1.4	1.1	1.0	0.8	1.1	0.9	1.1	1.6	0.9	0.7	0.9	0.9	1.1	0.8	0.8	1.1	1.2
24	1.0	0.8	1.0	0.7	0.8	1.0	1.7	2.1	1.6	1.6	2.1	2.7	2.4	3.1	3.4	3.2	3.0	3.0	3.3	3.4	3.2	4.2	4.2	3.5
25	2.5	1.7	0.4	0.4	0.9	0.2	0.8	1.6	1.9	0.9	0.4	0.6	0.3	0.8	0.6	0.1	0.6	1.1	1.0	0.6	0.5	0.4	0.5	1.3
26	1.5	1.4	1.6	1.5	1.1	1.3	1.2	1.4	1.3	1.5	1.5	1.2	1.3	1.6	1.9	1.4	1.2	1.3	2.2	2.5	2.2	3.1	3.6	1.9
27	2.1	1.9	2.2	2.7	3.4	3.2	2.8	3.2	3.2	1.9	1.5	1.2	1.8	1.0	0.6	0.9	0.8	1.0	1.6	1.6	1.7	2.0	2.6	3.2
28	4.1	3.3	3.5	3.3	4.0	2.7	2.0	1.5	1.1	1.0	0.6	1.0	0.9	0.9	0.9	1.0	0.6	0.6	0.5	0.6	0.4	0.8	0.8	0.9
29	1.0	0.7	2.1	3.1	2.6	4.0	5.2	4.8	5.5	4.9	4.6	4.2	3.8	3.5	2.3	2.2	1.7	2.1	1.3	1.4	2.0	2.6	1.8	3.3
30	3.1	2.9	4.2	4.7	5.1	6.3	6.8	7.6	5.5	4.7	3.1	3.1	5.4	3.4	1.6	1.8	1.8	1.6	1.8	3.6	1.1	0.8	1.0	1.2
31	1.1	1.1	1.0	0.4	0.3	0.7	0.5	0.5	1.3	1.3	2.5	3.7	4.2	4.3	4.9	5.0	5.2	5.2	5.6	5.3	4.9	5.3	6.2	5.6

TABLE 4

Average Wind Direction (degrees from North)
EPA Station ID 00010348-C-1
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
January 2024

Ryley Wind Direction Data (degrees, blowing from) - Month of January 2024																								
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	279	254	258	268	273	260	244	242	250	242	241	250	251	283	281	276	262	251	237	227	188	198	223	179
2	146	97	139	172	175	213	199	253	296	251	105	76	125	250	134	81	72	50	59	76	95	115	109	110
3	114	111	117	116	119	116	117	111	111	114	116	115	117	113	107	114	113	115	112	114	114	139	172	226
4	255	258	271	276	286	293	286	284	282	285	277	280	104	97	101	97	97	105	112	121	112	124	162	283
5	297	284	279	268	284	252	271	284	277	282	271	277	208	100	99	108	102	109	122	106	98	65	89	58
6	80	93	94	91	65	108	84	100	98	65	42	75	82	71	56	227	212	191	151	226	181	141	128	318
7	313	314	313	311	311	316	312	311	314	312	308	309	326	318	323	334	325	129	74	125	110	133	153	172
8	156	162	170	164	147	141	177	183	179	217	234	241	233	241	246	234	233	258	261	152	108	108	94	94
9	90	98	98	97	92	85	81	83	76	72	73	72	62	48	24	17	9	64	63	47	98	115	138	98
10	98	191	132	196	53	80	269	343	347	336	336	327	331	325	324	337	340	336	333	329	328	318	323	320
11	317	313	325	318	307	308	291	292	287	290	293	292	320	328	317	331	328	297	291	296	302	305	314	320
12	316	302	288	284	286	279	271	269	249	257	262	279	275	284	281	274	226	142	130	181	230	250	236	225
13	155	154	111	120	133	117	120	120	94	118	103	107	104	124	123	114	100	101	109	105	120	98	139	218
14	286	290	336	276	290	265	254	260	271	251	276	260	272	278	283	286	318	269	271	265	271	253	249	247
15	249	238	248	129	193	223	163	158	146	135	138	137	122	124	157	161	138	123	150	165	154	184	236	235
16	211	254	291	301	287	235	254	257	279	298	309	246	275	324	325	329	315	317	314	309	321	307	292	282
17	294	295	272	266	284	280	273	268	269	287	291	281	296	307	320	326	203	308	305	296	322	339	333	334
18	323	308	321	317	316	306	297	284	284	284	293	298	294	286	286	297	294	291	283	290	280	270	263	256
19	254	267	240	240	197	196	123	118	131	124	123	127	127	116	114	114	113	112	114	116	117	117	118	117
20	116	116	119	122	128	92	82	126	119	155	164	265	285	281	248	194	126	54	228	275	269	262	238	263
21	276	125	60	74	82	78	73	73	70	65	60	54	58	67	74	88	72	26	34	33	32	33	21	35
22	54	68	75	80	85	87	81	99	104	103	102	104	107	117	119	118	117	117	117	119	118	119	118	122
23	119	121	124	122	115	115	146	190	197	195	194	161	218	183	183	216	202	158	182	154	217	177	117	210
24	221	213	143	189	168	135	102	126	140	108	132	143	121	121	127	114	116	114	118	113	115	119	118	122
25	129	159	184	149	132	250	247	265	288	289	157	225	232	264	267	217	159	104	98	110	145	197	196	220
26	219	219	222	222	223	222	223	222	222	224	223	223	220	219	213	213	168	161	143	165	158	189	181	136
27	105	124	137	136	123	126	138	127	140	178	158	142	180	180	221	241	229	231	223	222	217	194	158	159
28	156	123	120	132	186	195	221	218	219	227	166	213	227	230	228	230	237	220	196	216	240	221	228	227
29	216	162	129	161	123	127	136	127	147	156	141	157	144	138	143	177	169	172	195	206	183	134	118	119
30	129	124	156	195	202	195	185	180	194	209	228	240	298	292	262	216	212	214	253	281	240	225	230	229
31	229	220	228	209	192	196	205	126	106	120	116	111	113	107	109	107	109	111	113	114	114	114	117	115

TABLE 5

Average Wind Direction (degrees from North)
EPA Station ID 00010348-C-2
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
January 2024

Ryley Wind Direction Data (degrees, blowing from) - Month of January 2024																								
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

Most Frequent Wind Direction (degrees from North)
EPA Station ID 00010348-C-3
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
January 2024

Ryley Wind Direction Data (degrees, blowing from) - Month of January 2024																								
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	279	254	258	268	273	260	244	242	250	242	241	250	251	283	281	276	262	251	237	227	188	198	223	179
2	146	97	139	172	175	213	199	253	296	251	105	76	125	250	134	81	72	50	59	76	95	115	109	110
3	114	111	117	116	119	116	117	111	111	114	116	115	117	113	107	114	113	115	112	114	114	139	172	226
4	255	258	271	276	286	293	286	284	282	285	277	280	104	97	101	97	97	105	112	121	112	124	162	283
5	297	284	279	268	284	252	271	284	277	282	271	277	208	100	99	108	102	109	122	106	98	65	89	58
6	80	93	94	91	65	108	84	100	98	65	42	75	82	71	56	227	212	191	151	226	181	141	128	318
7	313	314	313	311	311	316	312	311	314	312	308	309	326	318	323	334	325	129	74	125	110	133	153	172
8	156	162	170	164	147	141	177	183	179	217	234	241	233	241	246	234	233	258	261	152	108	108	94	94
9	90	98	98	97	92	85	81	83	76	72	73	72	62	48	24	17	9	64	63	47	98	115	138	98
10	98	191	132	196	53	80	269	343	347	336	336	327	331	325	324	337	340	336	333	329	328	318	323	320
11	317	313	325	318	307	308	291	292	287	290	293	292	320	328	317	331	328	297	291	296	302	305	314	320
12	316	302	288	284	286	279	271	269	249	257	262	279	275	284	281	274	226	142	130	181	230	250	236	225
13	155	154	111	120	133	117	120	120	94	118	103	107	104	124	123	114	100	101	109	105	120	98	139	218
14	286	290	336	276	290	265	254	260	271	251	276	260	272	278	283	286	318	269	271	265	271	253	249	247
15	249	238	248	129	193	223	163	158	146	135	138	137	122	124	157	161	138	123	150	165	154	184	236	235
16	211	254	291	301	287	235	254	257	279	298	309	246	275	324	325	329	315	317	314	309	321	307	292	282
17	294	295	272	266	284	280	273	268	269	287	291	281	296	307	320	326	203	308	305	296	322	339	333	334
18	323	308	321	317	316	306	297	284	284	284	293	298	294	286	286	297	294	291	283	290	280	270	263	256
19	254	267	240	240	197	196	123	118	131	124	123	127	127	116	114	114	113	112	114	116	117	117	118	117
20	116	116	119	122	128	92	82	126	119	155	164	265	285	281	248	194	126	54	228	275	269	262	238	263
21	276	125	60	74	82	78	73	73	70	65	60	54	58	67	74	88	72	26	34	33	32	33	21	35
22	54	68	75	80	85	87	81	99	104	103	102	104	107	117	119	118	117	117	117	119	118	119	118	122
23	119	121	124	122	115	115	146	190	197	195	194	161	218	183	183	216	202	158	182	154	217	177	117	210
24	221	213	143	189	168	135	102	126	140	108	132	143	121	121	127	114	116	114	118	113	115	119	118	122
25	129	159	184	149	132	250	247	265	288	289	157	225	232	264	267	217	159	104	98	110	145	197	196	220
26	219	219	222	222	223	222	223	222	222	224	223	223	220	219	213	213	168	161	143	165	158	189	181	136
27	105	124	137	136	123	126	138	127	140	178	158	142	180	180	221	241	229	231	223	222	217	194	158	159
28	156	123	120	132	186	195	221	218	219	227	166	213	227	230	228	230	237	220	196	216	240	221	228	227
29	216	162	129	161	123	127	136	127	147	156	141	157	144	138	143	177	169	172	195	206	183	134	118	119
30	129	124	156	195	202	195	185	180	194	209	228	240	298	292	262	216	212	214	253	281	240	225	230	229
31	229	220	228	209	192	196	205	126	106	120	116	111	113	107	109	107	109	111	113	114	114	114	117	115

TABLE 7

Wind Frequency Distribution
EPA Station ID 00010348-C-1
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
January 2024

Frequency Distribution Report: Ryley, Alberta - January 2024										
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	135	472	556	752	695	41	0	5.9%	2651
Northeast	> 22.5 - 67.5	182	1595	1937	1408	1584	106	3	15.3%	6815
East	> 67.5 - 112.5	238	1990	3110	1885	943	22	1	18.3%	8189
Southeast	> 112.5 - 157.5	248	1785	1821	1041	450	5	0	12.0%	5350
South	> 157.5 - 202.5	256	1095	903	1338	571	78	20	9.5%	4261
Southwest	> 202.5 - 247.5	236	870	853	1027	321	61	2	7.5%	3370
West	> 247.5 - 292.5	247	1733	2506	2315	125	34	20	15.6%	6980
Northwest	> 292.5 - 337.5	156	561	1087	3507	1690	19	4	15.7%	7024
Missing/Invalid Minutes									0.000%	0
Total Occurences by Speed		1698	10101	12773	13273	6379	366	50		**44640**
Occurences by %		3.8%	22.6%	28.6%	29.7%	14.3%	0.8%	0.1%	**100.000%**	

TABLE 8

Wind Frequency Distribution
EPA Station ID 00010348-C-2
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
January 2024

Frequency Distribution Report: Ryley, Alberta - January 2024										
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 Minutes									**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
EPA Station ID 00010348-C-3
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
January 2024

Frequency Distribution Report: Ryley, Alberta - January 2024										
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	572	2161	1107	321	27	0	0	9.4%	4188
Northeast	> 22.5 - 67.5	233	865	165	61	7	0	0	3.0%	1331
East	> 67.5 - 112.5	322	2965	1756	1263	351	1	0	14.9%	6658
Southeast	> 112.5 - 157.5	401	3152	2904	2038	746	18	0	20.7%	9259
South	> 157.5 - 202.5	407	2014	818	341	203	31	0	8.5%	3814
Southwest	> 202.5 - 247.5	1347	3932	526	95	29	0	0	13.3%	5929
West	> 247.5 - 292.5	870	4614	1703	227	9	3	0	16.6%	7426
Northwest	> 292.5 - 337.5	742	3412	1580	278	22	1	0	13.5%	6035
Missing/Invalid Minutes									0.0%	0
Total Occurences by Speed		4894	23115	10559	4624	1394	54	0		**44640**
Occurences by %		11.0%	51.8%	23.7%	10.4%	3.1%	0.1%	0.0%	**100.00%**	

TABLE 10

Total Suspended Particulate (TSP) Matter Results
EPA Station ID 00010348-I-2
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
January 2024

Filter ID	HV-23-02-19	AAAQO[(2)] **(ug/m^3)**
Test ID	Facility Test # 110	
Sample Start Date/Time	24/01/01 13:00:00	
Sample End Date/Time	24/02/01 15:00:00	
Sampling Time (hours)	43.33	
Flow Rate (m^3/min)	1.252	
Volume (m^3)	3255.20	
TSP Mass (mg)	172	
TSP Concentration (ug/m^3)[(1)]	52.839	
TSP Concentration (ug/m^3)[(2)]	44.782	100.000
Sampler Name	TE-5170V / P8580 TSP VFC	

Notes:

(1) These results are from a 43.33 hour averaging period that took place on January 1, 2024 to February 1, 2024.

(2) Measured data has been converted from the measured 43.33 hour averaging period to a 24 hour averaging period based on the Alberta's Air Quality Model Guideline Section 7.1.2.

TABLE 11

Total Suspended Particulate (TSP) Matter Results
EPA Station ID 00010348-I-3
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
January 2024

Filter ID	HV-23-02-20	AAAQO[2] **(ug/m^3)**
Test ID	School Test # 110	
Sample Start Date/Time	24/01/01 13:00:00	
Sample End Date/Time	24/02/01 15:00:00	
Sampling Time (hours)	26.02	
Flow Rate (m^3/min)	1.251	
Volume (m^3)	1952.8	
TSP Mass (mg)	130	
TSP Concentration (ug/m^3)[1]	66.571	
TSP Concentration (ug/m^3)[2]	65.084	100.000
Sampler Name	TE-5170V / P8581 TSP VFC	

Notes:

(1) These results are from a 26.02 hour averaging period that took place on January 1, 2024 to February 1, 2024.

(2) Measured data has been converted from the measured 26.02 hour averaging period to a 24 hour averaging period based on the Alberta's Air Quality Model Guideline Section 7.1.2.

TABLE 12

Total Suspended Particulate (TSP) Matter Results
EPA Station ID 00010348-I-1
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
January 2024

Filter ID	HVF-23-10-07	HVF-23-10-08	HVF-23-10-10	HVF-23-10-12	HVF-23-10-12	HVF-23-10-13
Test ID	880	881	882	883	884	885
Sample Start Date/Time	24/01/01 00:00:00	24/01/07 00:00:00	24/01/13 00:00:00	24/01/19 00:00:00	24/01/25 00:00:00	24/01/31 00:00:00
Sample End Date/Time	24/01/02 00:00:00	24/01/08 00:00:00	24/01/14 00:00:00	24/01/20 00:00:00	24/01/26 00:00:00	24/02/01 00:00:00
Sampling Time (hours)	23.80	24.04	8.38	24.31	24.50	24.48
Flow Rate (m^3/min)	1.251	1.251	1.251	1.251	1.251	1.251
Volume (m^3)	1822.02	1804.40	629.00	1824.71	1838.97	1837.47
TSP Mass (mg)	27.7	18.4	21.8	32.8	76.8	18.9
TSP Concentration (ug/m^3)	15.203	10.197	34.658	17.975	41.763	10.286
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	TE-5170V / P11162 TSP VFC

Notes: Sample 882 did not sample for 24 hours, either due to cold or motor. Upon sample collection, motor was not working. See contravention form (AMD1) for Alberta EPA Reference No. 423963

TABLE 13

Particulate Matter PM_{10} Results
EPA Station ID 00010348-I-1
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
January 2024

Filter ID	AT83936	AT83964	AT76590	AT76591	AT76592	AT76593
Test ID	880	881	882	883	884	885
Sample Start Date/Time	24/01/01 00:00:00	24/01/07 00:00:00	24/01/13 00:00:00	24/01/19 00:00:00	24/01/25 00:00:00	24/01/31 00:00:00
Sample End Date/Time	24/01/02 00:00:00	24/01/08 00:00:00	24/01/14 00:00:00	24/01/20 00:00:00	24/01/26 00:00:00	24/02/01 00:00:00
Sampling Time (hours)	24	24	24	24	24	24
Flow Rate (l/min)	16.7	16.7	16.7	16.7	16.7	16.7
Volume (m^3)	24.5	25.6	28.6	26.6	24.5	23.8
PM_{10} Mass (mg)	0.133	0.074	0.27	0.252	0.885	0.104
PM_{10} Concentration (ug/m^3)	5.429	2.891	9.441	9.474	36.122	4.370
Sampler Name	2000 FRM-AE / 200FB209860905	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
EPA Station ID 00010348-I-1
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
January 2024

Parameter	Units	Date / Sample ID / AAAQO[1]	01-Jan-24 880	07-Jan-24 881	13-Jan-24 882	19-Jan-24 883	25-Jan-24 884	31-Jan-24 885
Total Non-Methane Organic Carbon	ppmv	-	< 0.08	< 0.08	< 0.07	< 0.08	< 0.08	< 0.09
1,2,3-Trimethylbenzene	ppbv	-	< 0.08	< 0.08	< 0.07	0.08	0.09	< 0.09
1,2,4-Trimethylbenzene	ppbv	-	0.10	0.07	< 0.04	0.14	0.19	< 0.05
1,3,5-Trimethylbenzene	ppbv	-	0.07	< 0.05	< 0.04	0.13	0.15	< 0.05
1-Butene/Isobutylene	ppbv	-	< 0.10	< 0.09	< 0.08	< 0.09	< 0.10	< 0.10
1-Hexene/2-Methyl-1-pentene	ppbv	-	0.20	0.19	< 0.09	< 0.11	< 0.12	< 0.12
1-Pentene	ppbv	-	< 0.05	< 0.05	< 0.04	< 0.05	< 0.05	< 0.05
2,2,4-Trimethylpentane	ppbv	-	0.17	< 0.03	< 0.03	< 0.03	0.24	< 0.03
2,2-Dimethylbutane	ppbv	-	0.11	0.10	0.11	0.12	0.14	< 0.03
2,3,4-Trimethylpentane	ppbv	-	0.16	< 0.03	< 0.03	< 0.03	0.26	< 0.03
2,3-Dimethylbutane	ppbv	-	< 0.14	< 0.14	< 0.12	< 0.14	< 0.15	< 0.15
2,3-Dimethylpentane	ppbv	-	0.12	0.08	0.11	0.13	0.16	< 0.03
2,4-Dimethylpentane	ppbv	-	0.09	< 0.05	< 0.04	0.22	0.25	< 0.05
2-Methylheptane	ppbv	-	0.14	< 0.03	< 0.03	< 0.03	0.25	< 0.03
2-Methylhexane	ppbv	-	0.13	0.07	0.12	0.15	0.21	< 0.05
2-Methylpentane	ppbv	-	0.43	0.21	0.46	0.53	0.77	0.12
3-Methylheptane	ppbv	-	0.12	< 0.05	< 0.04	< 0.05	0.29	< 0.05
3-Methylhexane	ppbv	-	0.16	0.10	0.19	0.23	0.31	< 0.03
3-Methylpentane	ppbv	-	0.20	0.10	0.13	0.15	0.26	0.06
Benzene	ppbv	-	0.29	0.16	0.30	0.33	0.43	0.05
cis-2-Butene	ppbv	-	< 0.05	< 0.05	< 0.04	< 0.05	< 0.05	< 0.05
cis-2-Pentene	ppbv	-	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Cyclohexane	ppbv	-	0.30	0.21	0.40	0.44	0.53	< 0.07
Cyclopentane	ppbv	-	0.13	0.08	< 0.03	0.21	0.26	< 0.03
Ethylbenzene	ppbv	-	0.15	0.11	< 0.04	0.20	0.62	< 0.05
Isobutane	ppbv	-	1.01	0.30	0.96	0.89	2.27	1.23
Isopentane	ppbv	-	1.05	0.27	0.49	0.54	1.55	0.57
Isoprene	ppbv	-	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Isopropylbenzene	ppbv	-	< 0.06	< 0.06	< 0.05	0.08	0.09	< 0.07
m,p-Xylene	ppbv	161	0.14	< 0.06	< 0.05	< 0.06	1.68	< 0.07
m-Diethylbenzene	ppbv	-	0.04	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
m-Ethyltoluene	ppbv	-	0.08	< 0.05	< 0.04	0.10	0.13	< 0.05
Methylcyclohexane	ppbv	-	0.21	0.09	0.22	0.25	0.35	0.04
Methylcyclopentane	ppbv	-	0.21	0.10	0.21	0.24	0.34	< 0.09
n-Butane	ppbv	-	2.12	0.49	1.57	1.55	4.08	1.70
n-Decane	ppbv	-	0.13	0.12	< 0.08	0.15	0.17	< 0.10
n-Dodecane	ppbv	-	< 0.5	< 0.5	< 0.4	< 0.5	< 0.5	< 0.5
n-Heptane	ppbv	-	0.31	0.23	0.26	0.29	0.37	< 0.07
n-Hexane	ppbv	1990	0.38	0.22	0.29	0.35	0.53	0.17
n-Nonane	ppbv	-	0.14	0.12	< 0.05	< 0.06	0.30	< 0.07
n-Octane	ppbv	-	0.16	0.12	< 0.03	< 0.03	0.21	< 0.03
n-Pentane	ppbv	-	0.78	0.26	0.37	0.41	1.13	0.47
n-Propylbenzene	ppbv	-	< 0.10	< 0.09	< 0.08	0.09	0.12	< 0.10
n-Undecane	ppbv	-	< 0.8	< 0.8	< 0.7	< 0.8	< 0.8	< 0.9
o-Ethyltoluene	ppbv	-	0.06	< 0.03	< 0.03	0.09	0.11	< 0.03
o-Xylene	ppbv	161	0.15	0.11	0.16	0.18	0.55	< 0.05
p-Diethylbenzene	ppbv	-	0.04	0.03	< 0.03	< 0.03	0.08	< 0.03
p-Ethyltoluene	ppbv	-	< 0.06	< 0.06	< 0.05	< 0.06	< 0.07	< 0.07
Styrene	ppbv	-	0.20	< 0.06	< 0.05	< 0.06	0.26	< 0.07
Toluene	ppbv	106	0.29	0.05	0.05	0.10	4.29	< 0.05
trans-2-Butene	ppbv	-	< 0.05	< 0.05	< 0.04	< 0.05	< 0.05	< 0.05
trans-2-Pentene	ppbv	-	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Total VOCs [2]	ppbv	-	12.650	6.520	8.960	10.720	26.030	8.070

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
EPA Station ID 00010348-I-2
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
January 2024

Parameter	Date / Sample ID	Lab Results [1]		(ug/m^3)[2]	AAAQO[2] (ug/m^3)
	01-Jan-24 / HV-23-02-19				
Antimony	262	ng/Filter		2.31E-04	-
Arsenic	1830	ng/Filter		1.62E-03	0.10
Barium	4050000	ng/Filter		3.57E+00	-
Beryllium	74.2	ng/Filter		6.55E-05	-
Boron	8330000	ng/Filter		7.35E+00	-
Cadmium	1260	ng/Filter		1.11E-03	-
Chromium	6470	ng/Filter		5.71E-03	1.0
Cobalt	341	ng/Filter		3.01E-04	-
Copper	297000	ng/Filter		2.62E-01	-
Iron	697000	ng/Filter		6.15E-01	-
Lead	10300	ng/Filter		9.09E-03	1.5
Manganese	54200	ng/Filter		4.78E-02	2
Mercury	< 0.70	ng/Filter		6.18E-07	-
Nickel	5290	ng/Filter		4.67E-03	6
Selenium	1260	ng/Filter		1.11E-03	-
Silver	193	ng/Filter		1.70E-04	-
Thallium	11.7	ng/Filter		1.03E-05	-
Tin	315	ng/Filter		2.78E-04	-
Uranium	85.6	ng/Filter		7.55E-05	-
Vanadium	3540	ng/Filter		3.12E-03	-
Zinc	3530000	ng/Filter		3.12E+00	-
Zirconium	7270	ng/Filter		6.42E-03	-

Sampling Time (hours)	43.33
Flow Rate (m3/min)	1.252
Volume Sampled (m^3)	3255.20

Notes:

(1) These results are from a 43.33 hour averaging period that took place on January 1, 2024 to February 1, 2024
(2) Measured data have been converted from the measured 43.33 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
EPA Station ID 00010348-I-3
Clean Harbors Canada, Inc.
Monthly Ambient Air Monitoring Report
January 2024

Parameter	Date / Sample ID / Lab Results [1]		01-Jan-24 HV-23-02-20 (ug/m^3)[2]	AAAQO[2] (ug/m^3)
Antimony	49.1	ng/Filter	6.26E-05	-
Arsenic	327	ng/Filter	4.17E-04	0.10
Barium	634000	ng/Filter	5.10E-03	-
Beryllium	< 0.60	ng/Filter	7.65E-07	-
Boron	2290000	ng/Filter	2.92E+00	-
Cadmium	213	ng/Filter	2.72E-04	-
Chromium	1740	ng/Filter	2.22E-03	1.0
Cobalt	169	ng/Filter	2.16E-04	-
Copper	91600	ng/Filter	1.17E-01	-
Iron	378000	ng/Filter	4.82E-01	-
Lead	2310	ng/Filter	2.95E-03	1.5
Manganese	20900	ng/Filter	2.67E-02	2
Mercury	< 0.70	ng/Filter	8.93E-07	-
Nickel	1350	ng/Filter	1.72E-03	6
Selenium	564	ng/Filter	7.19E-04	-
Silver	62.8	ng/Filter	8.01E-05	-
Thallium	7.08	ng/Filter	9.03E-06	-
Tin	2160	ng/Filter	2.75E-03	-
Uranium	5.63	ng/Filter	7.18E-06	-
Vanadium	985	ng/Filter	1.26E-03	-
Zinc	< 1000	ng/Filter	1.28E-03	-
Zirconium	1670	ng/Filter	2.13E-03	-

Sampling Time (hours)	26.02
Flow Rate (m3/min)	1.251
Volume Sampled (m^3)	1952.80

Notes:

(1) These results are from a 26.02 hour averaging period that took place on January 1, 2024 to February 1, 2024
(2) Measured data have been converted from the measured 26.02 hour avering period to a 1 hour averaging period based on Alberta's Air Quality Model Guideline Section 7.1.2.

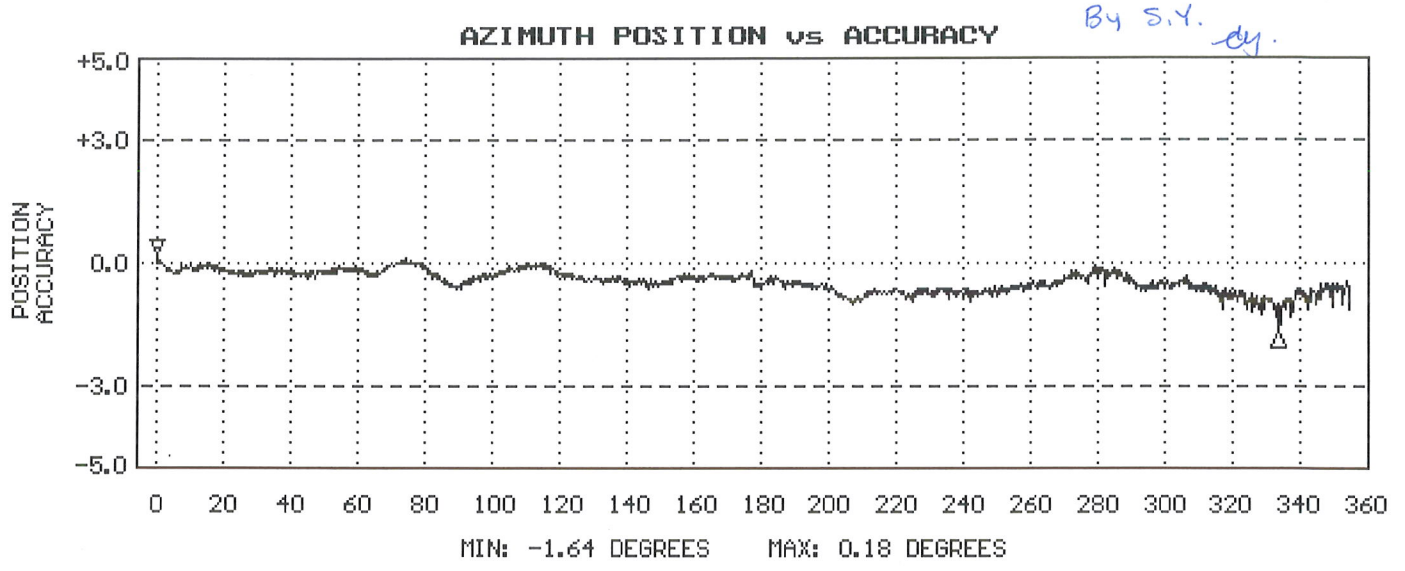
Appendix A
Meteorological Station Calibration Report

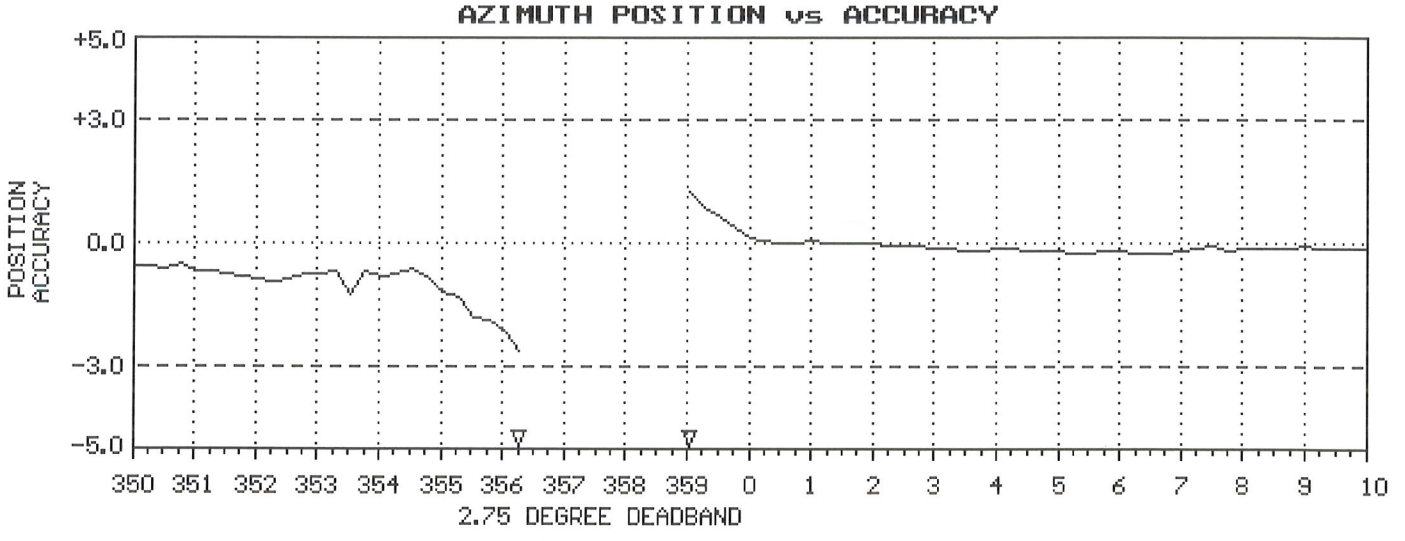
R. M. YOUNG COMPANY WIND SENSOR CALIBRATION CERTIFICATE

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			
PM_{10} (Partisol Monitoring Unit)			
CLEAN HARBORS CANADA INC			
RYLEY, ALBERTA			
A) GENERAL INFORMATION			
Filter ID:	AT83936		
PO Number:	238583		
Partisol Sampler ID/Serial Number:	2000 FRM-AE / 200FB209860905		
Test number :	Particulate Test 880		
Sample Date:	24/01/01	yy/mm/dd	
Shipping Date to Laboratory:	24/01/03		
PM10 Analysis Trigger Weight (mg):	1.23	weight which PM10 conc. > 50 µg/m^3	
B) SAMPLING INFORMATION			
SAMPLE START			
Sampling Start Date:	24/01/01		
Sampling Start Time:	00:00		
Current Instrument Date:	23/12/28		
Current Instrument Time:	11:19		
Ambient Temperature °C:	5.8		
Barometric Pressure (mm Hg):	699		
Leak Check:	Pass	(Pass/Fail)	
Clean PM10 Inlet:	Yes	(Yes/No)	
Weather Conditions Sampling date :	partly sunny		
Weather Conditions set up:	passing clouds		
SAMPLE RETRIEVAL			
Sampled by	T. Webb		
Sampling End Date:	24/01/02		
Sampling End Time:	00:00		
Current Instrument Date:	24/01/02		
Current Instrument Time:	9:34		
Run Status:	Ok	(Ensure Run Status is OK)	
Total Sampling Time (Hours):	24		
Volume Sampled (m^3):	24.5		
Average Flow Rate (L/min):	16.7 L/min		
AmbT °C :	-9.4		
Barometric Pressure (mm Hg) :	705		
Sample Filter Temperature °C :	-7.9		
Flow Rate Coefficient of Variation (%CV):	0		
Weather Conditions :	foggy		
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 880	
Sample Canister Location:	Ryley Lift Station -Shed	
Sampled by	T.Webb	
Sampler Name:	Test 880	
Sample Date:	24/01/01	yy/mm/dd
Shipping Date to Laboratory:	24/01/03	
Canister Type (ie. 1 Litre/6 Litre/Other):	6L	
Canister Serial No.:	A47749	
Flow Controller Serial No.:	H/L578699/A0334390-5	

B) SAMPLE SET UP

	Set up Conditions	Sample Retrieval
Date:	23/12/28	24/01/02
Ambient Temperature °C (inside shed):	18.0	9.3
Barometric Pressure (mm Hg):	699	705
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: partly 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 #880			
Lab Filter ID	HVF-23-10-07			
Start Sampling	1 mm	1 dd	0 hr	2023
Stop Sampling	1 mm	2 dd	0 hr	2023
Timer Initial:	1452.79			
Timer Final:	1476.59			
	23.80			
Total Sampling Time	23 hr		48 min	1428
Average Flow Rate		cfm		
Actual m3/min	1.251			
Air Volume	1786.4	cubic metres		
Net TSP Weight		g		
TSP Concentration		mg/m3		
TSP Analysis Trigger Weight	89.3	mg	weight which TSP conc. > 50 µg/m^3	

3. OBSERVATIONS

Comments:

Instrument Last Calibrated: 13-Dec-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			
PM_{10} (Partisol Monitoring Unit)			
CLEAN HARBORS CANADA INC			
RYLEY, ALBERTA			
A) GENERAL INFORMATION			
Filter ID:	AT83964		
PO Number:	238583		
Partisol Sampler ID/Serial Number:	2000 FRM-AE / 200FB209860905		
Test number :	Particulate Test 881		
Sample Date:	24/01/07	yy/mm/dd	
Shipping Date to Laboratory:	24/01/09		
PM10 Analysis Trigger Weight (mg):	1.28	weight which PM10 conc. > 50 µg/m^3	
B) SAMPLING INFORMATION			
SAMPLE START			
Sampling Start Date:	24/01/07		
Sampling Start Time:	00:00		
Current Instrument Date:	24/01/02		
Current Instrument Time:	9:41		
Ambient Temperature °C:	-8.9		
Barometric Pressure (mm Hg):	705		
Leak Check:	Pass	(Pass/Fail)	
Clean PM10 Inlet:	Yes	(Yes/No)	
Weather Conditions Sampling date :	cloudy		
Weather Conditions set up:	foggy		
SAMPLE RETRIEVAL			
Sampled by	T. Webb		
Sampling End Date:	24/01/08		
Sampling End Time:	00:00		
Current Instrument Date:	24/01/08		
Current Instrument Time:	13:13		
Run Status:	Ok	(Ensure Run Status is OK)	
Total Sampling Time (Hours):	24		
Volume Sampled (m^3):	25.6		
Average Flow Rate (L/min):	16.7 L/min		
AmbT °C :	-9.4		
Barometric Pressure (mm Hg) :	698		
Sample Filter Temperature °C :	-7.8		
Flow Rate Coefficient of Variation (%CV):	0		
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 881	
Sample Canister Location:	Ryley Lift Station -Shed	
Sampled by	T.Webb	
Sampler Name:	Test 881	
Sample Date:	24/01/07	yy/mm/dd
Shipping Date to Laboratory:	24/01/09	
Canister Type (ie. 1 Litre/6 Litre/Other):	6L	
Canister Serial No.:	28888	
Flow Controller Serial No.:	H/L578699/A0334390-5	

B) SAMPLE SET UP

	Set up Conditions	Sample Retrieval
Date:	24/01/02	24/01/08
Ambient Temperature °C (inside shed):	9.3	9.7
Barometric Pressure (mm Hg):	705	698
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: 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 #881						
Lab Filter ID	HVF-23-10-08						
Start Sampling	1 mm	7 dd	0 hr	2023			
Stop Sampling	1 mm	8 dd	0 hr	2023			
Timer Initial:	1476.59						
Timer Final:	1500.63						
	24.04						
Total Sampling Time	24	hr	2	min	1442	minutes	
Average Flow Rate		cfm					
Actual m3/min	1.251						
Air Volume	1804.4	cubic metres					
Net TSP Weight		g					
TSP Concentration		mg/m3					
TSP Analysis Trigger Weight	90.2	mg	weight which TSP conc. > 50 µg/m^3				

3. OBSERVATIONS

Comments:

Instrument Last Calibrated:	13-Dec-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			
PM_{10} (Partisol Monitoring Unit)			
CLEAN HARBORS CANADA INC			
RYLEY, ALBERTA			
A) GENERAL INFORMATION			
Filter ID:	AT76590		
PO Number:	238583		
Partisol Sampler ID/Serial Number:	2000 FRM-AE / 200FB209860905		
Test number :	Particulate Test 882		
Sample Date:	24/01/13	yy/mm/dd	
Shipping Date to Laboratory:	24/01/17		
PM10 Analysis Trigger Weight (mg):	1.43	weight which PM10 conc. > 50 µg/m^3	
B) SAMPLING INFORMATION			
SAMPLE START			
Sampling Start Date:	24/01/13		
Sampling Start Time:	00:00		
Current Instrument Date:	24/01/08		
Current Instrument Time:	13:22		
Ambient Temperature °C:	-8.9		
Barometric Pressure (mm Hg):	697		
Leak Check:	Pass	(Pass/Fail)	
Clean PM10 Inlet:	Yes	(Yes/No)	
Weather Conditions Sampling date :	sunny, very cold		
Weather Conditions set up:	cloudy, snowy		
SAMPLE RETRIEVAL			
Sampled by	T. Webb		
Sampling End Date:	24/01/14		
Sampling End Time:	00:00		
Current Instrument Date:	24/01/15		
Current Instrument Time:	14:12		
Run Status:	Ok	(Ensure Run Status is OK)	
Total Sampling Time (Hours):	24		
Volume Sampled (m^3):	28.6		
Average Flow Rate (L/min):	16.7 L/min		
AmbT °C :	-25.0		
Barometric Pressure (mm Hg) :	709		
Sample Filter Temperature °C :	-20.5		
Flow Rate Coefficient of Variation (%CV):	0.2		
Weather Conditions :	Partly sunny, cold		
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 882	
Sample Canister Location:	Ryley Lift Station -Shed	
Sampled by	T.Webb	
Sampler Name:	Test 882	
Sample Date:	24/01/13	yy/mm/dd
Shipping Date to Laboratory:	24/01/17	
Canister Type (ie. 1 Litre/6 Litre/Other):	6L	
Canister Serial No.:	32272	
Flow Controller Serial No.:	H/L578699/A0334390-5	

B) SAMPLE SET UP

	Set up Conditions	Sample Retrieval
Date:	24/01/08	24/01/15
Ambient Temperature °C (inside shed):	9.6	0.7
Barometric Pressure (mm Hg):	697	709
Canister Pressure Gauge Reading (- Inches Hg):	(-)27.1	(-)2
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, very cold

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 #882						
Lab Filter ID	HVF-23-10-10						
Start Sampling	1 mm	13 dd	0 hr	2023			
Stop Sampling	1 mm	14 dd	0 hr	2023			
Timer Initial:	1500.63						
Timer Final:	1509.01						
	8.38						
Total Sampling Time	8	hr	23	min	503	minutes	
Average Flow Rate		cfm					
Actual m3/min	1.251						
Air Volume	629.0	cubic metres					
Net TSP Weight		g					
TSP Concentration		mg/m3					
TSP Analysis Trigger Weight	31.5	mg	weight which TSP conc. > 50 µg/m^3				

3. OBSERVATIONS

Comments: Sample did not sample for 24 hours, either due to cold or motor.
Upon collection sample motor was not working.

Instrument Last Calibrated: 13-Dec-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			
PM_{10} (Partisol Monitoring Unit)			
CLEAN HARBORS CANADA INC			
RYLEY, ALBERTA			
A) GENERAL INFORMATION			
Filter ID:	AT76591		
PO Number:	238583		
Partisol Sampler ID/Serial Number:	2000 FRM-AE / 200FB209860905		
Test number :	Particulate Test 883		
Sample Date:	24/01/19	yy/mm/dd	
Shipping Date to Laboratory:	24/01/24		
PM10 Analysis Trigger Weight (mg):	1.33	weight which PM10 conc. > 50 µg/m^3	
B) SAMPLING INFORMATION			
SAMPLE START			
Sampling Start Date:	24/01/19		
Sampling Start Time:	00:00		
Current Instrument Date:	24/01/15		
Current Instrument Time:	14:24		
Ambient Temperature °C:	-25.0		
Barometric Pressure (mm Hg):	709		
Leak Check:	Pass	(Pass/Fail)	
Clean PM10 Inlet:	Yes	(Yes/No)	
Weather Conditions Sampling date :	partly sunny		
Weather Conditions set up:	passing clouds		
SAMPLE RETRIEVAL			
Sampled by	T. Webb		
Sampling End Date:	24/01/20		
Sampling End Time:	00:00		
Current Instrument Date:	24/01/23		
Current Instrument Time:	8:32		
Run Status:	Ok	(Ensure Run Status is OK)	
Total Sampling Time (Hours):	24		
Volume Sampled (m^3):	26.6		
Average Flow Rate (L/min):	16.7 L/min		
AmbT °C :	-9.4		
Barometric Pressure (mm Hg) :	694		
Sample Filter Temperature °C :	-7.8		
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 883	
Sample Canister Location:	Ryley Lift Station -Shed	
Sampled by	T.Webb	
Sampler Name:	Test 883	
Sample Date:	24/01/19	yy/mm/dd
Shipping Date to Laboratory:	24/01/24	
Canister Type (ie. 1 Litre/6 Litre/Other):	6L	
Canister Serial No.:	32246	
Flow Controller Serial No.:	H/L578699/A0334390-5	

B) SAMPLE SET UP

	Set up Conditions	Sample Retrieval
Date:	24/01/15	24/01/23
Ambient Temperature °C (inside shed):	0.7	9.0
Barometric Pressure (mm Hg):	709	694
Canister Pressure Gauge Reading (- Inches Hg):	(-)27.4	0
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:	Partly 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 #883						
Lab Filter ID	HVF-23-10-12						
Start Sampling	1	19	0	2023			
	mm	dd	hr				
Stop Sampling	1	20	0	2023			
	mm	dd	hr				
Timer Initial:	1509.01						
Timer Final:	1533.32						
	24.31						
Total Sampling Time	24	hr	19	min	1459	minutes	
Average Flow Rate		cfm					
Actual m3/min	1.251						
Air Volume	1824.7	cubic metres					
Net TSP Weight		g					
TSP Concentration		mg/m3					
TSP Analysis Trigger Weight	91.2	mg	weight which TSP conc. > 50 µg/m^3				

3. OBSERVATIONS

Comments:

Instrument Last Calibrated:	13-Dec-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				
PM_{10} (Partisol Monitoring Unit)				
CLEAN HARBORS CANADA INC				
RYLEY, ALBERTA				
A) GENERAL INFORMATION				
Filter ID:	AT76592			
PO Number:	238583			
Partisol Sampler ID/Serial Number:	2000 FRM-AE / 200FB209860905			
Test number :	Particulate Test 884			
Sample Date:	24/01/25		yy/mm/dd	
Shipping Date to Laboratory:	24/01/29			
PM10 Analysis Trigger Weight (mg):	1.23		weight which PM10 conc. > 50 µg/m^3	
B) SAMPLING INFORMATION				
SAMPLE START				
Sampling Start Date:	24/01/25			
Sampling Start Time:	00:00			
Current Instrument Date:	24/01/23			
Current Instrument Time:	8:43			
Ambient Temperature °C:	-9.4			
Barometric Pressure (mm Hg):	693			
Leak Check:	Pass		(Pass/Fail)	
Clean PM10 Inlet:	Yes		(Yes/No)	
Weather Conditions Sampling date :	broken clouds			
Weather Conditions set up:	passing clouds			
SAMPLE RETRIEVAL				
Sampled by	T. Webb			
Sampling End Date:	24/01/26			
Sampling End Time:	00:00			
Current Instrument Date:	24/01/26			
Current Instrument Time:	10:51			
Run Status:	Ok		(Ensure Run Status is OK)	
Total Sampling Time (Hours):	24			
Volume Sampled (m^3):	24.5			
Average Flow Rate (L/min):	16.7 L/min			
AmbT °C :	1.9			
Barometric Pressure (mm Hg) :	701			
Sample Filter Temperature °C :	1.5			
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 884	
Sample Canister Location:	Ryley Lift Station -Shed	
Sampled by	T.Webb	
Sampler Name:	Test 884	
Sample Date:	24/01/25	yy/mm/dd
Shipping Date to Laboratory:	24/01/29	
Canister Type (ie. 1 Litre/6 Litre/Other):	6L	
Canister Serial No.:	28949	
Flow Controller Serial No.:	H/L578699/A0334390-5	

B) SAMPLE SET UP

	Set up Conditions	Sample Retrieval
Date:	24/01/23	24/01/26
Ambient Temperature °C (inside shed):	9.0	16.0
Barometric Pressure (mm Hg):	693	701
Canister Pressure Gauge Reading (- Inches Hg):	(-)27.4	-6
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 #884					
Lab Filter ID	HVF-23-10-12					
Start Sampling	1 mm	25 dd	0 hr	2024		
Stop Sampling	1 mm	26 dd	0 hr	2024		
Timer Initial:	1533.32					
Timer Final:	1557.82					
	24.50					
Total Sampling Time	24 hr		30 min	1470		minutes
Average Flow Rate	cfm					
Actual m3/min	1.251					
Air Volume	1839.0 cubic metres					
Net TSP Weight	g					
TSP Concentration	mg/m3					
TSP Analysis Trigger Weight	91.9 mg		weight which TSP conc. > 50 µg/m^3			

3. OBSERVATIONS

Comments:

Instrument Last Calibrated: 13-Dec-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			
PM_{10} (Partisol Monitoring Unit)			
CLEAN HARBORS CANADA INC			
RYLEY, ALBERTA			
A) GENERAL INFORMATION			
Filter ID:	AT76593		
PO Number:	238583		
Partisol Sampler ID/Serial Number:	2000 FRM-AE / 200FB209860905		
Test number :	Particulate Test 885		
Sample Date:	24/01/31	yy/mm/dd	
Shipping Date to Laboratory:	24/02/05		
PM10 Analysis Trigger Weight (mg):	1.19	weight which PM10 conc. > 50 µg/m^3	
B) SAMPLING INFORMATION			
SAMPLE START			
Sampling Start Date:	24/01/31		
Sampling Start Time:	00:00		
Current Instrument Date:	24/01/26		
Current Instrument Time:	11:04		
Ambient Temperature °C:	1.9		
Barometric Pressure (mm Hg):	701		
Leak Check:	Pass	(Pass/Fail)	
Clean PM10 Inlet:	Yes	(Yes/No)	
Weather Conditions Sampling date :	overcast		
Weather Conditions set up:	partly sunny		
SAMPLE RETRIEVAL			
Sampled by	T. Webb		
Sampling End Date:	24/02/01		
Sampling End Time:	00:00		
Current Instrument Date:	24/02/02		
Current Instrument Time:	13:06		
Run Status:	Ok	(Ensure Run Status is OK)	
Total Sampling Time (Hours):	24		
Volume Sampled (m^3):	23.8		
Average Flow Rate (L/min):	16.7 L/min		
AmbT °C :	6.8		
Barometric Pressure (mm Hg) :	688		
Sample Filter Temperature °C :	7.8		
Flow Rate Coefficient of Variation (%CV):	0		
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 885	
Sample Canister Location:	Ryley Lift Station -Shed	
Sampled by	T.Webb	
Sampler Name:	Test 885	
Sample Date:	24/01/31	yy/mm/dd
Shipping Date to Laboratory:	24/02/05	
Canister Type (ie. 1 Litre/6 Litre/Other):	6L	
Canister Serial No.:	32267	
Flow Controller Serial No.:	H/L578699/A0334390-5	

B) SAMPLE SET UP

	Set up Conditions	Sample Retrieval
Date:	24/01/31	24/02/02
Ambient Temperature °C (inside shed):	16.0	20.8
Barometric Pressure (mm Hg):	701	688
Canister Pressure Gauge Reading (- Inches Hg):	(-)27.3	(-)2
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: Overcast

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 #885						
Lab Filter ID	HVF-23-10-13						
Start Sampling	1 mm	31 dd	0 hr	2024			
Stop Sampling	2 mm	1 dd	0 hr	2024			
Timer Initial:	1557.82						
Timer Final:	1582.30						
	24.48						
Total Sampling Time	24	hr	29	min	1469	minutes	
Average Flow Rate		cfm					
Actual m3/min	1.251						
Air Volume	1837.5	cubic metres					
Net TSP Weight		g					
TSP Concentration		mg/m3					
TSP Analysis Trigger Weight	91.9	mg	weight which TSP conc. > 50 µg/m^3				

3. OBSERVATIONS

Comments:

Instrument Last Calibrated:	13-Dec-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 # 110			
Lab Filter ID	HV-23-02-19			
Start Sampling	1	1	13	2024
	mm	dd	hr	
Stop Sampling	2	1	15	2024
	mm	dd	hr	
Timer Initial:	3254.64			
Timer Final:	3297.97			

Total Sampling Time	43 hr	20 min	2600	
Average Flow Rate	cfm			
Actual m3/min	1.252			
Air Volume	3255.2 cubic metres			
Net TSP Weight	g			
TSP Concentration	mg/m3			

3. OBSERVATIONS

Comments:

Instrument Last Calibrated:	13-Dec-23

2. SAMPLING INFORMATION

Sample ID	School Test # 110			
Lab Filter ID	HV-23-02-20			
Start Sampling	1	1	13	2024
	mm	dd	hr	
Stop Sampling	2	1	15	2024
	mm	dd	hr	
Timer Initial:	2647.7			
Timer Final:	2673.72			

Total Sampling Time	26 hr	1 min	1561	
Average Flow Rate	cfm			
Actual m3/min	1.251			
Air Volume	1952.8 cubic metres			
Net TSP Weight	g			
TSP Concentration	mg/m3			

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.

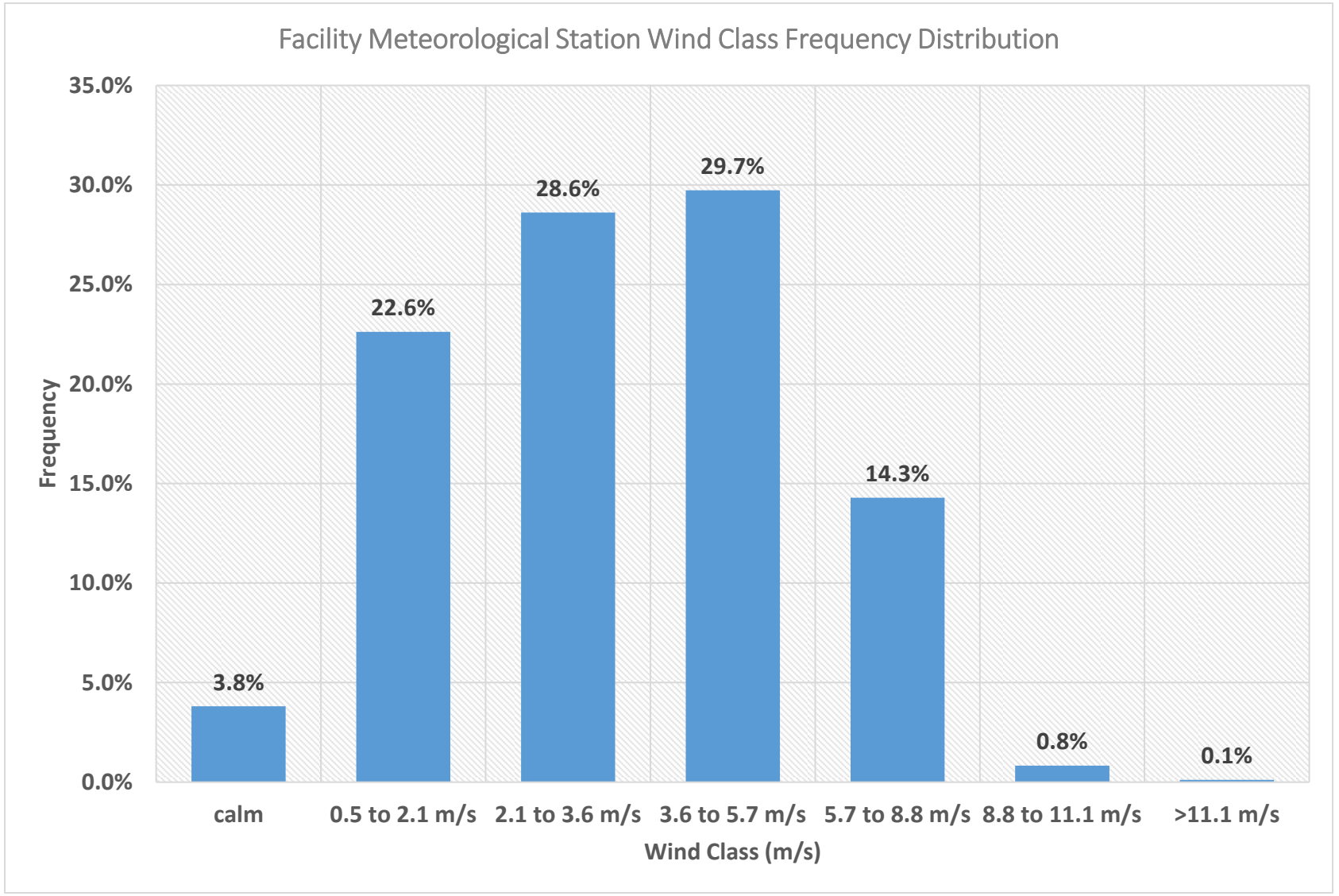
Sample was collected in accordance with the above guidelines.

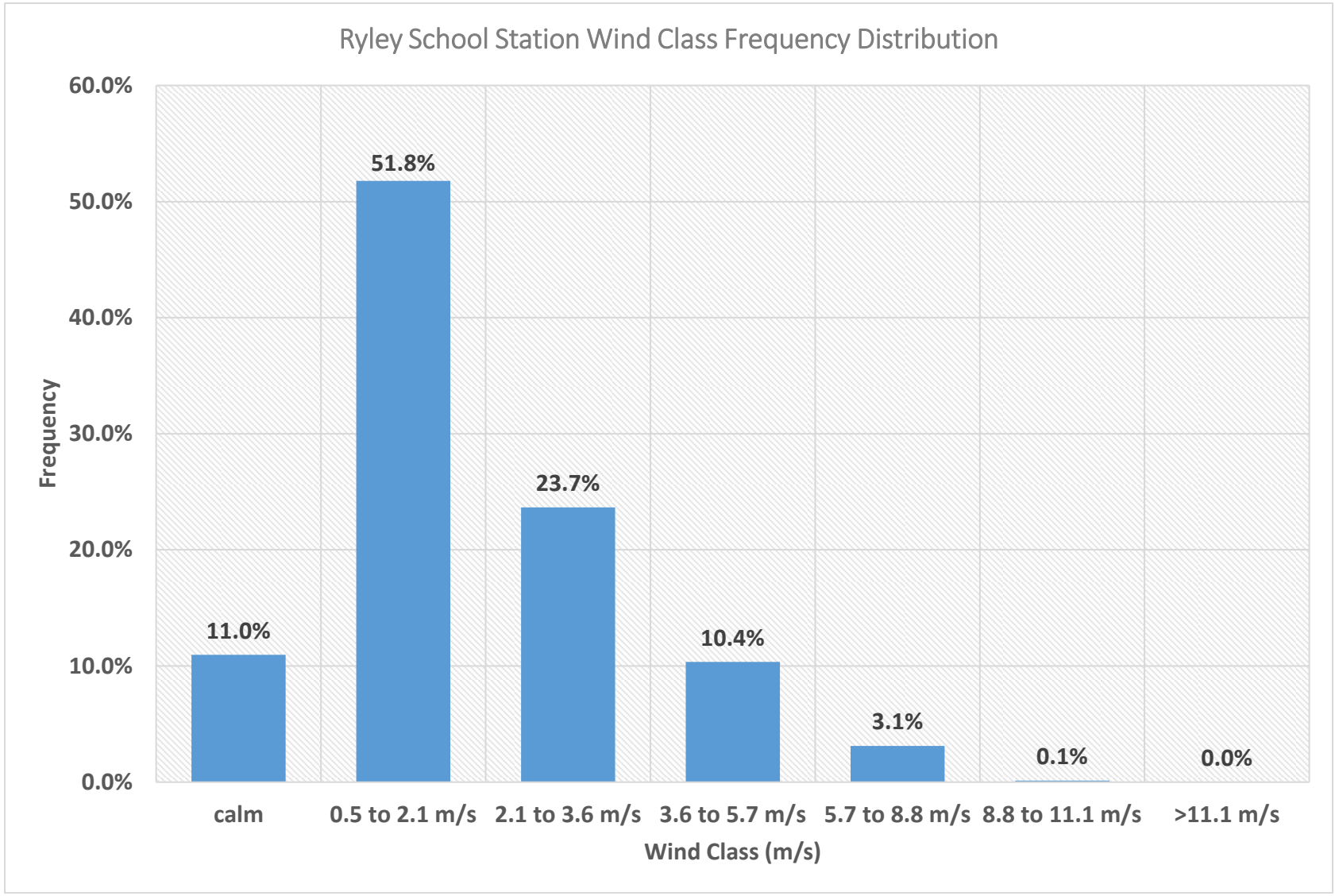
Sampler's Signature: _____

Comments: _____

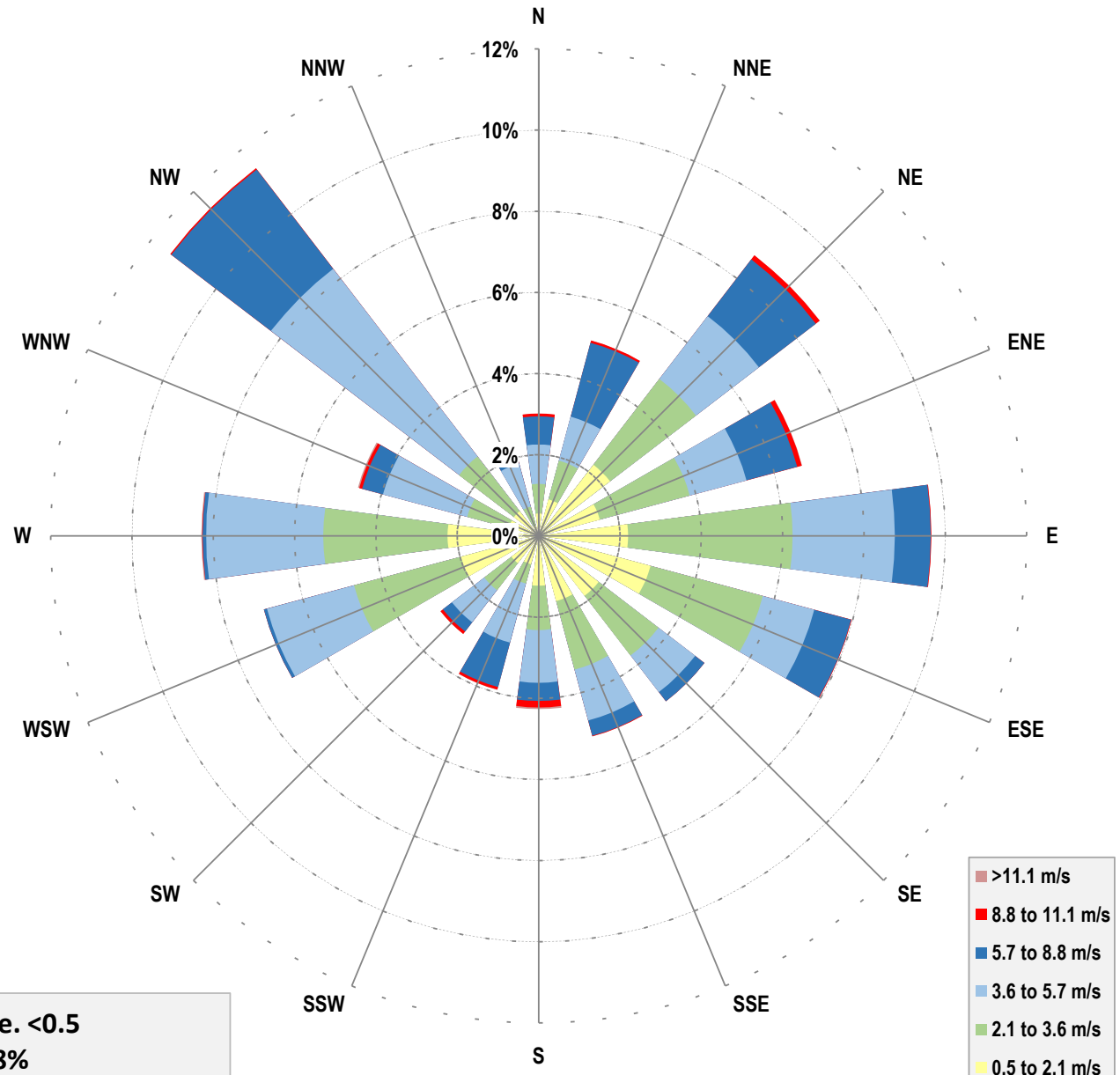
_____

Appendix C
Wind Class Frequency Distribution Graphs and Wind Rose


Facility Meteorological Station Wind Class Frequency Distribution
35.0%
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
Frequency
3.8%
22.6%
28.6%
29.7%
14.3%
0.8%
0.1%
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)

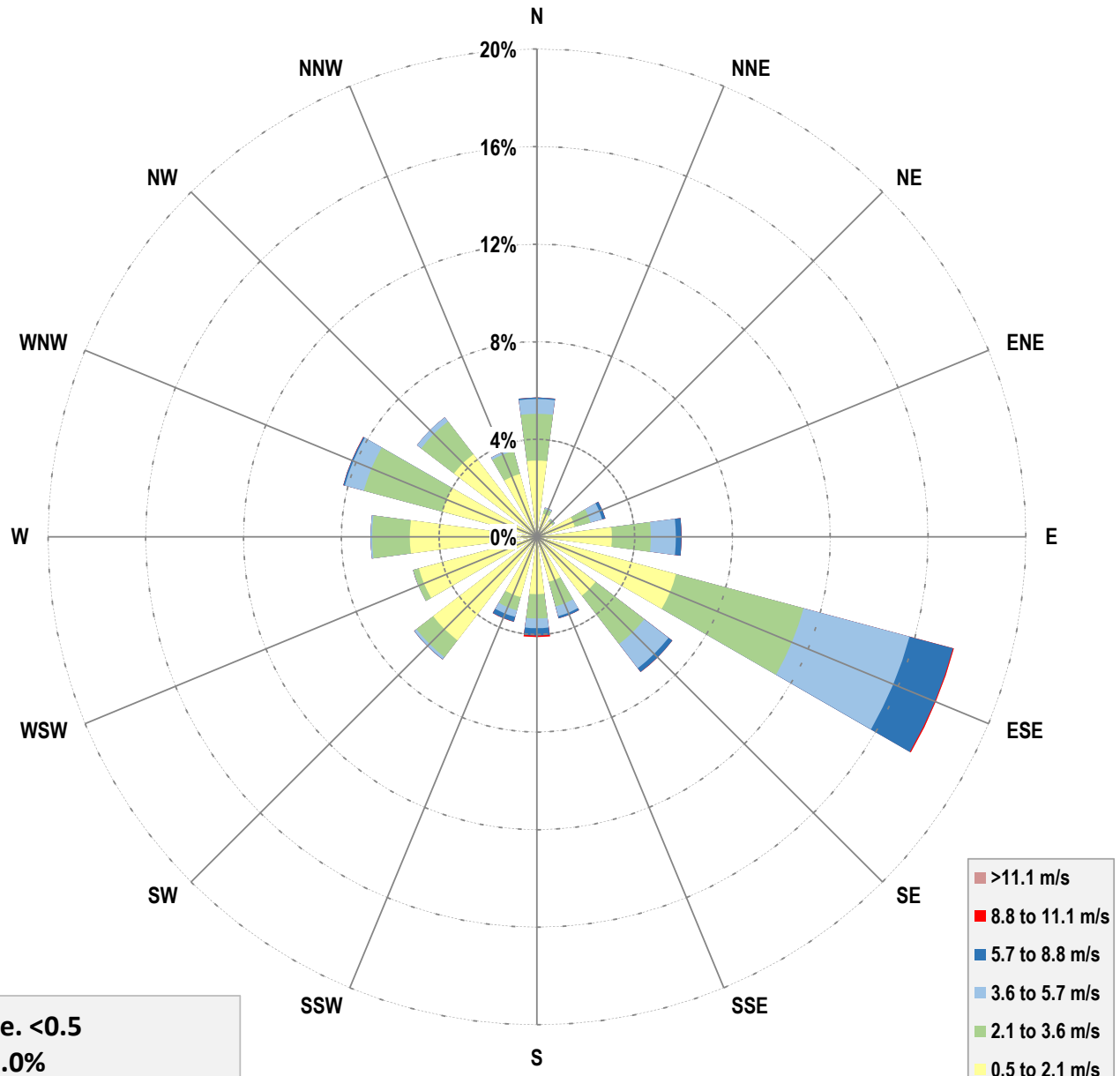

Ryley School Station Wind Class Frequency Distribution
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
Frequency
51.8%
23.7%
11.0%
10.4%
3.1%
0.1%
0.0%
calm
0.5 to 2.1 m/s
2.1 to 3.6 m/s
3.6 to 5.7 m/s
5.7 to 8.8 m/s
8.8 to 11.1 m/s
>11.1 m/s
Wind Class (m/s)

Clean Harbors Facility Meteorological Station
(Jan 1, 2024 – Jan 31, 2024)



calms (i.e. <0.5 m/s)=3.8%

Clean Harbors Ryley School Station
(Jan 1, 2024 – Jan 31, 2024)



calms (i.e. <0.5 m/s)=11.0%

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: Ryley Facility Test # 110 HVF-23-02-19
Matrix: Air Filter
CANISTER ID:
PRIORITY: Normal
DESCRIPTION:
DATE SAMPLED: 01-Jan-24
DATE RECEIVED: 06-Feb-24
REPORT CREATED: 21-Feb-24
REPORT NUMBER: 24020018
VERSION **Version 01**

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24020018-001	Antimony		262	ng/Filter	0.30	AC-021	16-Feb-24
24020018-001	Arsenic		1830	ng/Filter	0.30	AC-021	16-Feb-24
24020018-001	Barium		4050000	ng/Filter	300	AC-021	16-Feb-24
24020018-001	Beryllium		74.2	ng/Filter	0.60	AC-021	16-Feb-24
24020018-001	Boron		8330000	ng/Filter	600	AC-021	16-Feb-24
24020018-001	Cadmium		1260	ng/Filter	0.80	AC-021	16-Feb-24
24020018-001	Chromium		6470	ng/Filter	20	AC-021	16-Feb-24
24020018-001	Cobalt		341	ng/Filter	0.50	AC-021	16-Feb-24
24020018-001	Copper		297000	ng/Filter	20	AC-021	16-Feb-24
24020018-001	Iron		697000	ng/Filter	80	AC-021	16-Feb-24
24020018-001	Lead		10300	ng/Filter	0.70	AC-021	16-Feb-24
24020018-001	Manganese		54200	ng/Filter	1.0	AC-021	16-Feb-24
24020018-001	Mercury	K, T, U	< 0.70	ng/Filter	0.70	AC-021	16-Feb-24
24020018-001	Nickel		5290	ng/Filter	5.0	AC-021	16-Feb-24
24020018-001	Selenium		1260	ng/Filter	4.0	AC-021	16-Feb-24
24020018-001	Silver		193	ng/Filter	0.50	AC-021	16-Feb-24
24020018-001	Thallium		11.7	ng/Filter	0.20	AC-021	16-Feb-24

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing
Date: February 21, 2024 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
Ryley Facility Test # 110 HVF-23-02-19		Air Filter	01-Jan-24

DESCRIPTION:

REPORT NUMBER: 24020018 **REPORT CREATED:** 21-Feb-24 **VERSION** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24020018-001	Tin		315	ng/Filter	0.20	AC-021	16-Feb-24
24020018-001	Uranium		85.6	ng/Filter	0.200	AC-021	16-Feb-24
24020018-001	Vanadium		3540	ng/Filter	0.40	AC-021	16-Feb-24
24020018-001	Zinc		3530000	ng/Filter	1000	AC-021	16-Feb-24
24020018-001	Zirconium		7270	ng/Filter	1.0	AC-021	16-Feb-24
24020018-001	Particulate Weight		172	mg	0.1	Research	07-Feb-24

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

Date: February 21, 2024 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
Ryley School Test # 110 HVF-23-02-20		Air Filter	01-Jan-24

DESCRIPTION:

REPORT NUMBER: 24020018 **REPORT CREATED:** 21-Feb-24 **VERSION** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24020018-002	Antimony		138	ng/Filter	0.30	AC-021	16-Feb-24
24020018-002	Arsenic		654	ng/Filter	0.30	AC-021	16-Feb-24
24020018-002	Barium		2610000	ng/Filter	300	AC-021	16-Feb-24
24020018-002	Beryllium	K, T, U	< 0.60	ng/Filter	0.60	AC-021	16-Feb-24
24020018-002	Boron		6700000	ng/Filter	600	AC-021	16-Feb-24
24020018-002	Cadmium		689	ng/Filter	0.80	AC-021	16-Feb-24
24020018-002	Chromium		2360	ng/Filter	20	AC-021	16-Feb-24
24020018-002	Cobalt		178	ng/Filter	0.50	AC-021	16-Feb-24
24020018-002	Copper		170000	ng/Filter	20	AC-021	16-Feb-24
24020018-002	Iron		299000	ng/Filter	80	AC-021	16-Feb-24
24020018-002	Lead		5400	ng/Filter	0.70	AC-021	16-Feb-24
24020018-002	Manganese		12600	ng/Filter	1.0	AC-021	16-Feb-24
24020018-002	Mercury	K, T, U	< 0.70	ng/Filter	0.70	AC-021	16-Feb-24
24020018-002	Nickel		1470	ng/Filter	5.0	AC-021	16-Feb-24
24020018-002	Selenium		209	ng/Filter	4.0	AC-021	16-Feb-24
24020018-002	Silver		92.8	ng/Filter	0.50	AC-021	16-Feb-24
24020018-002	Thallium	I	1.74	ng/Filter	0.20	AC-021	16-Feb-24
24020018-002	Tin		160	ng/Filter	0.20	AC-021	16-Feb-24
24020018-002	Uranium		37.1	ng/Filter	0.200	AC-021	16-Feb-24
24020018-002	Vanadium		1290	ng/Filter	0.40	AC-021	16-Feb-24
24020018-002	Zinc		1100000	ng/Filter	1000	AC-021	16-Feb-24
24020018-002	Zirconium		4800	ng/Filter	1.0	AC-021	16-Feb-24
24020018-002	Particulate Weight		130	mg	0.1	Research	07-Feb-24

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

Date: February 21, 2024 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//

Revision History

Order ID	Ver	Date	Reason
24020018	01	21-Feb-24	Report created

Methods

Method	Description
AC-021	Elemental Analysis Methodology of Filter-collected Airborne Particulate Matter (PM) by ICP-MS
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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Canada T9C 1T4
(780) 632-8211

Order Comments

24020018

Send results to Stan Yuha. Quote QT140005

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

Sample Comments

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Vegreville, Alberta
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.

InnoTech ALBERTA
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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: Hivol Test# 880, Flt # HVF-23-10-07
Matrix: Air Filter
CANISTER ID:
PRIORITY: Normal
DESCRIPTION: Hi-Vol Filter
DATE SAMPLED: 01-Jan-24 0:00
DATE RECEIVED: 08-Jan-24
REPORT CREATED: 08-Feb-24
REPORT NUMBER: 24010038
VERSION Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24010038-003	Particulate Weight		27.7	mg	0.1	Research	12-Jan-24

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing
Date: February 8, 2024 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 # 880, Flt # AT83936		Air Filter	01-Jan-24 0:00

DESCRIPTION: PM 10 Filter

REPORT NUMBER: 24010038 **REPORT CREATED:** 08-Feb-24 **VERSION** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24010038-002	Particulate Weight		0.133	mg	0.004	AC-029	11-Jan-24

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

Date: February 8, 2024

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 & TNMOC Test # 880	A47749	Ambient Air	01-Jan-24 0:00

DESCRIPTION: Air Canister

REPORT NUMBER: 24010038 **REPORT CREATED:** 08-Feb-24 **VERSION** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24010038-001	Total Non-Methane Organic Carbon	K, T, U	< 0.08	ppmv	0.08	NA-028	09-Jan-24
24010038-001	1,2,3-Trimethylbenzene	K, T, U	< 0.08	ppbv	0.08	AC-058	11-Jan-24
24010038-001	1,2,4-Trimethylbenzene	I	0.10	ppbv	0.05	AC-058	11-Jan-24
24010038-001	1,3,5-Trimethylbenzene	I	0.07	ppbv	0.05	AC-058	11-Jan-24
24010038-001	1-Butene/Isobutylene	K, T, U	< 0.10	ppbv	0.10	AC-058	11-Jan-24
24010038-001	1-Hexene/2-Methyl-1-pentene	I	0.20	ppbv	0.11	AC-058	11-Jan-24
24010038-001	1-Pentene	K, T, U	< 0.05	ppbv	0.05	AC-058	11-Jan-24
24010038-001	2,2,4-Trimethylpentane		0.17	ppbv	0.03	AC-058	11-Jan-24
24010038-001	2,2-Dimethylbutane	I	0.11	ppbv	0.03	AC-058	11-Jan-24
24010038-001	2,3,4-Trimethylpentane		0.16	ppbv	0.03	AC-058	11-Jan-24
24010038-001	2,3-Dimethylbutane	K, T, U	< 0.14	ppbv	0.14	AC-058	11-Jan-24
24010038-001	2,3-Dimethylpentane	I	0.12	ppbv	0.03	AC-058	11-Jan-24
24010038-001	2,4-Dimethylpentane	I	0.09	ppbv	0.05	AC-058	11-Jan-24
24010038-001	2-Methylheptane	I	0.14	ppbv	0.03	AC-058	11-Jan-24
24010038-001	2-Methylhexane	I	0.13	ppbv	0.05	AC-058	11-Jan-24
24010038-001	2-Methylpentane		0.43	ppbv	0.03	AC-058	11-Jan-24
24010038-001	3-Methylheptane	I	0.12	ppbv	0.05	AC-058	11-Jan-24
24010038-001	3-Methylhexane		0.16	ppbv	0.03	AC-058	11-Jan-24
24010038-001	3-Methylpentane		0.20	ppbv	0.03	AC-058	11-Jan-24
24010038-001	Benzene	I	0.29	ppbv	0.05	AC-058	11-Jan-24
24010038-001	cis-2-Butene	K, T, U	< 0.05	ppbv	0.05	AC-058	11-Jan-24
24010038-001	cis-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	11-Jan-24
24010038-001	Cyclohexane	I	0.30	ppbv	0.06	AC-058	11-Jan-24
24010038-001	Cyclopentane	I	0.13	ppbv	0.03	AC-058	11-Jan-24
24010038-001	Ethylbenzene	I	0.15	ppbv	0.05	AC-058	11-Jan-24

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

Date: February 8, 2024 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 & TNMOC Test # 880	A47749	Ambient Air	01-Jan-24 0:00

DESCRIPTION: Air Canister

REPORT NUMBER: 24010038 **REPORT CREATED:** 08-Feb-24 **VERSION** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24010038-001	Isobutane		1.01	ppbv	0.05	AC-058	11-Jan-24
24010038-001	Isopentane		1.05	ppbv	0.06	AC-058	11-Jan-24
24010038-001	Isoprene	K, T, U	< 0.03	ppbv	0.03	AC-058	11-Jan-24
24010038-001	Isopropylbenzene	K, T, U	< 0.06	ppbv	0.06	AC-058	11-Jan-24
24010038-001	m,p-Xylene	I	0.14	ppbv	0.06	AC-058	11-Jan-24
24010038-001	m-Diethylbenzene	I	0.04	ppbv	0.03	AC-058	11-Jan-24
24010038-001	m-Ethyltoluene	I	0.08	ppbv	0.05	AC-058	11-Jan-24
24010038-001	Methylcyclohexane		0.21	ppbv	0.03	AC-058	11-Jan-24
24010038-001	Methylcyclopentane		0.21	ppbv	0.08	AC-058	11-Jan-24
24010038-001	n-Butane		2.12	ppbv	0.03	AC-058	11-Jan-24
24010038-001	n-Decane	I	0.13	ppbv	0.10	AC-058	11-Jan-24
24010038-001	n-Dodecane	K, T, U	< 0.5	ppbv	0.5	AC-058	11-Jan-24
24010038-001	n-Heptane	I	0.31	ppbv	0.06	AC-058	11-Jan-24
24010038-001	n-Hexane		0.38	ppbv	0.05	AC-058	11-Jan-24
24010038-001	n-Octane	I	0.16	ppbv	0.03	AC-058	11-Jan-24
24010038-001	n-Pentane		0.78	ppbv	0.06	AC-058	11-Jan-24
24010038-001	n-Propylbenzene	K, T, U	< 0.10	ppbv	0.10	AC-058	11-Jan-24
24010038-001	n-Undecane	K, T, U	< 0.8	ppbv	0.8	AC-058	11-Jan-24
24010038-001	n-Nonane	I	0.14	ppbv	0.06	AC-058	11-Jan-24
24010038-001	o-Ethyltoluene	I	0.06	ppbv	0.03	AC-058	11-Jan-24
24010038-001	o-Xylene	I	0.15	ppbv	0.05	AC-058	11-Jan-24
24010038-001	p-Diethylbenzene	I	0.04	ppbv	0.03	AC-058	11-Jan-24
24010038-001	p-Ethyltoluene	K, T, U	< 0.06	ppbv	0.06	AC-058	11-Jan-24
24010038-001	Styrene	I	0.20	ppbv	0.06	AC-058	11-Jan-24
24010038-001	Toluene	I	0.29	ppbv	0.05	AC-058	11-Jan-24

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

Date: February 8, 2024 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 & TNMOC Test # 880	A47749	Ambient Air	01-Jan-24 0:00

DESCRIPTION: Air Canister

REPORT NUMBER: 24010038 **REPORT CREATED:** 08-Feb-24 **VERSION** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24010038-001	trans-2-Butene	K, T, U	< 0.05	ppbv	0.05	AC-058	11-Jan-24
24010038-001	trans-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	11-Jan-24

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

Date: February 8, 2024

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

Revision History

Order ID	Ver	Date	Reason
24010038	01	08-Feb-24	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

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Order Comments

24010038

Project ID: Test # 880. Send report to Stan Yuha.

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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: HiVol Test # 881 - Filter # HVF-23-10-08
Matrix: Air Filter
CANISTER ID:
PRIORITY: Normal
DESCRIPTION: Hi-Vol Filter
DATE SAMPLED: 07-Jan-24 0:00
DATE RECEIVED: 10-Jan-24
REPORT CREATED: 08-Feb-24
REPORT NUMBER: 24010056
VERSION **Version 01**

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24010056-003	Particulate Weight		18.4	mg	0.1	Research	12-Jan-24

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing
Date: February 8, 2024 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 # 881 - Filter # AT83964		Air Filter	07-Jan-24 0:00

DESCRIPTION: PM10 Filter

REPORT NUMBER: 24010056 **REPORT CREATED:** 08-Feb-24 **VERSION** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24010056-002	Particulate Weight		0.074	mg	0.004	AC-029	11-Jan-24

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

Date: February 8, 2024

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 # 881	28888	Ambient Air	07-Jan-24 0:00

DESCRIPTION: Air Canister

REPORT NUMBER: 24010056 **REPORT CREATED:** 08-Feb-24 **VERSION** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24010056-001	Total Non-Methane Organic Carbon	K, T, U	< 0.08	ppmv	0.08	NA-028	11-Jan-24
24010056-001	1,2,3-Trimethylbenzene	K, T, U	< 0.08	ppbv	0.08	AC-058	12-Jan-24
24010056-001	1,2,4-Trimethylbenzene	I	0.07	ppbv	0.05	AC-058	12-Jan-24
24010056-001	1,3,5-Trimethylbenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	12-Jan-24
24010056-001	1-Butene/Isobutylene	K, T, U	< 0.09	ppbv	0.09	AC-058	12-Jan-24
24010056-001	1-Hexene/2-Methyl-1-pentene	I	0.19	ppbv	0.11	AC-058	12-Jan-24
24010056-001	1-Pentene	K, T, U	< 0.05	ppbv	0.05	AC-058	12-Jan-24
24010056-001	2,2,4-Trimethylpentane	K, T, U	< 0.03	ppbv	0.03	AC-058	12-Jan-24
24010056-001	2,2-Dimethylbutane	I	0.10	ppbv	0.03	AC-058	12-Jan-24
24010056-001	2,3,4-Trimethylpentane	K, T, U	< 0.03	ppbv	0.03	AC-058	12-Jan-24
24010056-001	2,3-Dimethylbutane	K, T, U	< 0.14	ppbv	0.14	AC-058	12-Jan-24
24010056-001	2,3-Dimethylpentane	I	0.08	ppbv	0.03	AC-058	12-Jan-24
24010056-001	2,4-Dimethylpentane	K, T, U	< 0.05	ppbv	0.05	AC-058	12-Jan-24
24010056-001	2-Methylheptane	K, T, U	< 0.03	ppbv	0.03	AC-058	12-Jan-24
24010056-001	2-Methylhexane	I	0.07	ppbv	0.05	AC-058	12-Jan-24
24010056-001	2-Methylpentane		0.21	ppbv	0.03	AC-058	12-Jan-24
24010056-001	3-Methylheptane	K, T, U	< 0.05	ppbv	0.05	AC-058	12-Jan-24
24010056-001	3-Methylhexane	I	0.10	ppbv	0.03	AC-058	12-Jan-24
24010056-001	3-Methylpentane	I	0.10	ppbv	0.03	AC-058	12-Jan-24
24010056-001	Benzene	I	0.16	ppbv	0.05	AC-058	12-Jan-24
24010056-001	cis-2-Butene	K, T, U	< 0.05	ppbv	0.05	AC-058	12-Jan-24
24010056-001	cis-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	12-Jan-24
24010056-001	Cyclohexane	I	0.21	ppbv	0.06	AC-058	12-Jan-24
24010056-001	Cyclopentane	I	0.08	ppbv	0.03	AC-058	12-Jan-24
24010056-001	Ethylbenzene	I	0.11	ppbv	0.05	AC-058	12-Jan-24

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

Date: February 8, 2024 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 # 881	28888	Ambient Air	07-Jan-24 0:00

DESCRIPTION: Air Canister

REPORT NUMBER: 24010056 **REPORT CREATED:** 08-Feb-24 **VERSION** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24010056-001	Isobutane		0.30	ppbv	0.05	AC-058	12-Jan-24
24010056-001	Isopentane		0.27	ppbv	0.06	AC-058	12-Jan-24
24010056-001	Isoprene	K, T, U	< 0.03	ppbv	0.03	AC-058	12-Jan-24
24010056-001	Isopropylbenzene	K, T, U	< 0.06	ppbv	0.06	AC-058	12-Jan-24
24010056-001	m,p-Xylene	K, T, U	< 0.06	ppbv	0.06	AC-058	12-Jan-24
24010056-001	m-Diethylbenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	12-Jan-24
24010056-001	m-Ethyltoluene	K, T, U	< 0.05	ppbv	0.05	AC-058	12-Jan-24
24010056-001	Methylcyclohexane	I	0.09	ppbv	0.03	AC-058	12-Jan-24
24010056-001	Methylcyclopentane	I	0.10	ppbv	0.08	AC-058	12-Jan-24
24010056-001	n-Butane		0.49	ppbv	0.03	AC-058	12-Jan-24
24010056-001	n-Decane	I	0.12	ppbv	0.09	AC-058	12-Jan-24
24010056-001	n-Dodecane	K, T, U	< 0.5	ppbv	0.5	AC-058	12-Jan-24
24010056-001	n-Heptane	I	0.23	ppbv	0.06	AC-058	12-Jan-24
24010056-001	n-Hexane	I	0.22	ppbv	0.05	AC-058	12-Jan-24
24010056-001	n-Octane	I	0.12	ppbv	0.03	AC-058	12-Jan-24
24010056-001	n-Pentane		0.26	ppbv	0.06	AC-058	12-Jan-24
24010056-001	n-Propylbenzene	K, T, U	< 0.09	ppbv	0.09	AC-058	12-Jan-24
24010056-001	n-Undecane	K, T, U	< 0.8	ppbv	0.8	AC-058	12-Jan-24
24010056-001	n-Nonane	I	0.12	ppbv	0.06	AC-058	12-Jan-24
24010056-001	o-Ethyltoluene	K, T, U	< 0.03	ppbv	0.03	AC-058	12-Jan-24
24010056-001	o-Xylene	I	0.11	ppbv	0.05	AC-058	12-Jan-24
24010056-001	p-Diethylbenzene	I	0.03	ppbv	0.03	AC-058	12-Jan-24
24010056-001	p-Ethyltoluene	K, T, U	< 0.06	ppbv	0.06	AC-058	12-Jan-24
24010056-001	Styrene	K, T, U	< 0.06	ppbv	0.06	AC-058	12-Jan-24
24010056-001	Toluene	I	0.05	ppbv	0.05	AC-058	12-Jan-24

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

Date: February 8, 2024 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 # 881	28888	Ambient Air	07-Jan-24 0:00

DESCRIPTION: Air Canister

REPORT NUMBER: 24010056 **REPORT CREATED:** 08-Feb-24 **VERSION** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24010056-001	trans-2-Butene	K, T, U	< 0.05	ppbv	0.05	AC-058	12-Jan-24
24010056-001	trans-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	12-Jan-24

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

Date: February 8, 2024

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

Revision History

Order ID	Ver	Date	Reason
24010056	01	08-Feb-24	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

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Order Comments

24010056

Project ID: Test # 881. Send results to Stan Yuha.

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Sample Comments

Result Comments

Note:

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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: HiVol Test # 882 - Filter # HVF-23-10-10
Matrix: Air Filter
CANISTER ID:
PRIORITY: Normal
DESCRIPTION: Hi-Vol Filter
DATE SAMPLED: 13-Jan-24 0:00
DATE RECEIVED: 18-Jan-24
REPORT CREATED: 21-Feb-24
REPORT NUMBER: 24010109
VERSION **Version 01**

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24010109-003	Particulate Weight		21.8	mg	0.1	Research	19-Jan-24

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing
Date: February 21, 2024 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 # 882 - Filter # AT76590		Air Filter	13-Jan-24 0:00

DESCRIPTION: PM10 Filter

REPORT NUMBER: 24010109 **REPORT CREATED:** 21-Feb-24 **VERSION** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24010109-002	Particulate Weight		0.270	mg	0.004	AC-029	19-Jan-24

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

Date: February 21, 2024

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 # 882	32272	Ambient Air	13-Jan-24 0:00

DESCRIPTION: Air Canister

REPORT NUMBER: 24010109 **REPORT CREATED:** 21-Feb-24 **VERSION** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24010109-001	Total Non-Methane Organic Carbon	K, T, U	< 0.07	ppmv	0.07	NA-028	19-Jan-24
24010109-001	1,2,3-Trimethylbenzene	K, T, U	< 0.07	ppbv	0.07	AC-058	01-Feb-24
24010109-001	1,2,4-Trimethylbenzene	K, T, U	< 0.04	ppbv	0.04	AC-058	01-Feb-24
24010109-001	1,3,5-Trimethylbenzene	K, T, U	< 0.04	ppbv	0.04	AC-058	01-Feb-24
24010109-001	1-Butene/Isobutylene	K, T, U	< 0.08	ppbv	0.08	AC-058	01-Feb-24
24010109-001	1-Hexene/2-Methyl-1-pentene	K, T, U	< 0.09	ppbv	0.09	AC-058	01-Feb-24
24010109-001	1-Pentene	K, T, U	< 0.04	ppbv	0.04	AC-058	01-Feb-24
24010109-001	2,2,4-Trimethylpentane	K, T, U	< 0.03	ppbv	0.03	AC-058	01-Feb-24
24010109-001	2,2-Dimethylbutane	I	0.11	ppbv	0.03	AC-058	01-Feb-24
24010109-001	2,3,4-Trimethylpentane	K, T, U	< 0.03	ppbv	0.03	AC-058	01-Feb-24
24010109-001	2,3-Dimethylbutane	K, T, U	< 0.12	ppbv	0.12	AC-058	01-Feb-24
24010109-001	2,3-Dimethylpentane	I	0.11	ppbv	0.03	AC-058	01-Feb-24
24010109-001	2,4-Dimethylpentane	K, T, U	< 0.04	ppbv	0.04	AC-058	01-Feb-24
24010109-001	2-Methylheptane	K, T, U	< 0.03	ppbv	0.03	AC-058	01-Feb-24
24010109-001	2-Methylhexane	I	0.12	ppbv	0.04	AC-058	01-Feb-24
24010109-001	2-Methylpentane		0.46	ppbv	0.03	AC-058	01-Feb-24
24010109-001	3-Methylheptane	K, T, U	< 0.04	ppbv	0.04	AC-058	01-Feb-24
24010109-001	3-Methylhexane		0.19	ppbv	0.03	AC-058	01-Feb-24
24010109-001	3-Methylpentane	I	0.13	ppbv	0.03	AC-058	01-Feb-24
24010109-001	Benzene		0.30	ppbv	0.04	AC-058	01-Feb-24
24010109-001	cis-2-Butene	K, T, U	< 0.04	ppbv	0.04	AC-058	01-Feb-24
24010109-001	cis-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	01-Feb-24
24010109-001	Cyclohexane		0.40	ppbv	0.05	AC-058	01-Feb-24
24010109-001	Cyclopentane	K, T, U	< 0.03	ppbv	0.03	AC-058	01-Feb-24
24010109-001	Ethylbenzene	K, T, U	< 0.04	ppbv	0.04	AC-058	01-Feb-24

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

Date: February 21, 2024 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 # 882	32272	Ambient Air	13-Jan-24 0:00

DESCRIPTION: Air Canister

REPORT NUMBER: 24010109 **REPORT CREATED:** 21-Feb-24 **VERSION** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24010109-001	Isobutane		0.96	ppbv	0.04	AC-058	01-Feb-24
24010109-001	Isopentane		0.49	ppbv	0.05	AC-058	01-Feb-24
24010109-001	Isoprene	K, T, U	< 0.03	ppbv	0.03	AC-058	01-Feb-24
24010109-001	Isopropylbenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	01-Feb-24
24010109-001	m,p-Xylene	K, T, U	< 0.05	ppbv	0.05	AC-058	01-Feb-24
24010109-001	m-Diethylbenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	01-Feb-24
24010109-001	m-Ethyltoluene	K, T, U	< 0.04	ppbv	0.04	AC-058	01-Feb-24
24010109-001	Methylcyclohexane		0.22	ppbv	0.03	AC-058	01-Feb-24
24010109-001	Methylcyclopentane		0.21	ppbv	0.07	AC-058	01-Feb-24
24010109-001	n-Butane		1.57	ppbv	0.03	AC-058	01-Feb-24
24010109-001	n-Decane	K, T, U	< 0.08	ppbv	0.08	AC-058	01-Feb-24
24010109-001	n-Dodecane	K, T, U	< 0.4	ppbv	0.4	AC-058	01-Feb-24
24010109-001	n-Heptane	I	0.26	ppbv	0.05	AC-058	01-Feb-24
24010109-001	n-Hexane		0.29	ppbv	0.04	AC-058	01-Feb-24
24010109-001	n-Octane	K, T, U	< 0.03	ppbv	0.03	AC-058	01-Feb-24
24010109-001	n-Pentane		0.37	ppbv	0.05	AC-058	01-Feb-24
24010109-001	n-Propylbenzene	K, T, U	< 0.08	ppbv	0.08	AC-058	01-Feb-24
24010109-001	n-Undecane	K, T, U	< 0.7	ppbv	0.7	AC-058	01-Feb-24
24010109-001	n-Nonane	K, T, U	< 0.05	ppbv	0.05	AC-058	01-Feb-24
24010109-001	o-Ethyltoluene	K, T, U	< 0.03	ppbv	0.03	AC-058	01-Feb-24
24010109-001	o-Xylene	I	0.16	ppbv	0.04	AC-058	01-Feb-24
24010109-001	p-Diethylbenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	01-Feb-24
24010109-001	p-Ethyltoluene	K, T, U	< 0.05	ppbv	0.05	AC-058	01-Feb-24
24010109-001	Styrene	K, T, U	< 0.05	ppbv	0.05	AC-058	01-Feb-24
24010109-001	Toluene	I	0.05	ppbv	0.04	AC-058	01-Feb-24

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

Date: February 21, 2024 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 # 882	32272	Ambient Air	13-Jan-24 0:00

DESCRIPTION: Air Canister

REPORT NUMBER: 24010109 **REPORT CREATED:** 21-Feb-24 **VERSION** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24010109-001	trans-2-Butene	K, T, U	< 0.04	ppbv	0.04	AC-058	01-Feb-24
24010109-001	trans-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	01-Feb-24

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

Date: February 21, 2024

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

Revision History

Order ID	Ver	Date	Reason
24010109	01	21-Feb-24	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

24010109

Test # 882. Send results to Stan Yuha.

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(780) 632-8211

Sample Comments

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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: HiVol Test # 883 - Filter # HVF-23-10-11
Matrix: Air Filter
CANISTER ID:
PRIORITY: Normal
DESCRIPTION: Hi-Vol Filter
DATE SAMPLED: 19-Jan-24 0:00
DATE RECEIVED: 30-Jan-24
REPORT CREATED: 21-Feb-24
REPORT NUMBER: 24010209
VERSION **Version 01**

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24010209-003	Particulate Weight		32.8	mg	0.1	Research	01-Feb-24

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing
Date: February 21, 2024 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 # 883 - Filter # AT76591		Air Filter	19-Jan-24 0:00

DESCRIPTION: PM10 Filter

REPORT NUMBER: 24010209 **REPORT CREATED:** 21-Feb-24 **VERSION** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24010209-002	Particulate Weight		0.252	mg	0.004	AC-029	02-Feb-24

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

Date: February 21, 2024

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 # 883	32246	Ambient Air	19-Jan-24 0:00

DESCRIPTION: Air Canister

REPORT NUMBER: 24010209 **REPORT CREATED:** 21-Feb-24 **VERSION** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24010209-001	Total Non-Methane Organic Carbon	K, T, U	< 0.08	ppmv	0.08	NA-028	05-Feb-24
24010209-001	1,2,3-Trimethylbenzene	I	0.08	ppbv	0.08	AC-058	02-Feb-24
24010209-001	1,2,4-Trimethylbenzene	I	0.14	ppbv	0.05	AC-058	02-Feb-24
24010209-001	1,3,5-Trimethylbenzene	I	0.13	ppbv	0.05	AC-058	02-Feb-24
24010209-001	1-Butene/Isobutylene	K, T, U	< 0.09	ppbv	0.09	AC-058	02-Feb-24
24010209-001	1-Hexene/2-Methyl-1-pentene	K, T, U	< 0.11	ppbv	0.11	AC-058	02-Feb-24
24010209-001	1-Pentene	K, T, U	< 0.05	ppbv	0.05	AC-058	02-Feb-24
24010209-001	2,2,4-Trimethylpentane	K, T, U	< 0.03	ppbv	0.03	AC-058	02-Feb-24
24010209-001	2,2-Dimethylbutane	I	0.12	ppbv	0.03	AC-058	02-Feb-24
24010209-001	2,3,4-Trimethylpentane	K, T, U	< 0.03	ppbv	0.03	AC-058	02-Feb-24
24010209-001	2,3-Dimethylbutane	K, T, U	< 0.14	ppbv	0.14	AC-058	02-Feb-24
24010209-001	2,3-Dimethylpentane	I	0.13	ppbv	0.03	AC-058	02-Feb-24
24010209-001	2,4-Dimethylpentane		0.22	ppbv	0.05	AC-058	02-Feb-24
24010209-001	2-Methylheptane	K, T, U	< 0.03	ppbv	0.03	AC-058	02-Feb-24
24010209-001	2-Methylhexane		0.15	ppbv	0.05	AC-058	02-Feb-24
24010209-001	2-Methylpentane		0.53	ppbv	0.03	AC-058	02-Feb-24
24010209-001	3-Methylheptane	K, T, U	< 0.05	ppbv	0.05	AC-058	02-Feb-24
24010209-001	3-Methylhexane		0.23	ppbv	0.03	AC-058	02-Feb-24
24010209-001	3-Methylpentane	I	0.15	ppbv	0.03	AC-058	02-Feb-24
24010209-001	Benzene		0.33	ppbv	0.05	AC-058	02-Feb-24
24010209-001	cis-2-Butene	K, T, U	< 0.05	ppbv	0.05	AC-058	02-Feb-24
24010209-001	cis-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	02-Feb-24
24010209-001	Cyclohexane		0.44	ppbv	0.06	AC-058	02-Feb-24
24010209-001	Cyclopentane		0.21	ppbv	0.03	AC-058	02-Feb-24
24010209-001	Ethylbenzene	I	0.20	ppbv	0.05	AC-058	02-Feb-24

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

Date: February 21, 2024 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 # 883	32246	Ambient Air	19-Jan-24 0:00

DESCRIPTION: Air Canister

REPORT NUMBER: 24010209 **REPORT CREATED:** 21-Feb-24 **VERSION** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24010209-001	Isobutane		0.89	ppbv	0.05	AC-058	02-Feb-24
24010209-001	Isopentane		0.54	ppbv	0.06	AC-058	02-Feb-24
24010209-001	Isoprene	K, T, U	< 0.03	ppbv	0.03	AC-058	02-Feb-24
24010209-001	Isopropylbenzene	I	0.08	ppbv	0.06	AC-058	02-Feb-24
24010209-001	m,p-Xylene	K, T, U	< 0.06	ppbv	0.06	AC-058	02-Feb-24
24010209-001	m-Diethylbenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	02-Feb-24
24010209-001	m-Ethyltoluene	I	0.10	ppbv	0.05	AC-058	02-Feb-24
24010209-001	Methylcyclohexane		0.25	ppbv	0.03	AC-058	02-Feb-24
24010209-001	Methylcyclopentane		0.24	ppbv	0.08	AC-058	02-Feb-24
24010209-001	n-Butane		1.55	ppbv	0.03	AC-058	02-Feb-24
24010209-001	n-Decane	I	0.15	ppbv	0.09	AC-058	02-Feb-24
24010209-001	n-Dodecane	K, T, U	< 0.5	ppbv	0.5	AC-058	02-Feb-24
24010209-001	n-Heptane	I	0.29	ppbv	0.06	AC-058	02-Feb-24
24010209-001	n-Hexane		0.35	ppbv	0.05	AC-058	02-Feb-24
24010209-001	n-Octane	K, T, U	< 0.03	ppbv	0.03	AC-058	02-Feb-24
24010209-001	n-Pentane		0.41	ppbv	0.06	AC-058	02-Feb-24
24010209-001	n-Propylbenzene	I	0.09	ppbv	0.09	AC-058	02-Feb-24
24010209-001	n-Undecane	K, T, U	< 0.8	ppbv	0.8	AC-058	02-Feb-24
24010209-001	n-Nonane	K, T, U	< 0.06	ppbv	0.06	AC-058	02-Feb-24
24010209-001	o-Ethyltoluene	I	0.09	ppbv	0.03	AC-058	02-Feb-24
24010209-001	o-Xylene	I	0.18	ppbv	0.05	AC-058	02-Feb-24
24010209-001	p-Diethylbenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	02-Feb-24
24010209-001	p-Ethyltoluene	K, T, U	< 0.06	ppbv	0.06	AC-058	02-Feb-24
24010209-001	Styrene	K, T, U	< 0.06	ppbv	0.06	AC-058	02-Feb-24
24010209-001	Toluene	I	0.10	ppbv	0.05	AC-058	02-Feb-24

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

Date: February 21, 2024 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 # 883	32246	Ambient Air	19-Jan-24 0:00

DESCRIPTION: Air Canister

REPORT NUMBER: 24010209 **REPORT CREATED:** 21-Feb-24 **VERSION** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24010209-001	trans-2-Butene	K, T, U	< 0.05	ppbv	0.05	AC-058	02-Feb-24
24010209-001	trans-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	02-Feb-24

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

Date: February 21, 2024 Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

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Revision History

Order ID	Ver	Date	Reason
24010209	01	21-Feb-24	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

24010209

Test # 883. Send results to Stan Yuha.

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(780) 632-8211

Sample Comments

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Result Comments

Note:

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

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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: HiVol Test # 884 - Filter # HVF-23-10-12
Matrix: Air Filter
CANISTER ID:
PRIORITY: Normal
DESCRIPTION: Hi-Vol Filter
DATE SAMPLED: 25-Jan-24 0:00
DATE RECEIVED: 30-Jan-24
REPORT CREATED: 21-Feb-24
REPORT NUMBER: 24010210
VERSION Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24010210-003	Particulate Weight		76.8	mg	0.1	Research	01-Feb-24

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing
Date: February 21, 2024 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 # 884 - Filter # AT76592		Air Filter	25-Jan-24 0:00

DESCRIPTION: PM10 Filter

REPORT NUMBER: 24010210 **REPORT CREATED:** 21-Feb-24 **VERSION** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24010210-002	Particulate Weight		0.885	mg	0.004	AC-029	02-Feb-24

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

Date: February 21, 2024

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 # 884	28949	Ambient Air	25-Jan-24 0:00

DESCRIPTION: Air Canister

REPORT NUMBER: 24010210 **REPORT CREATED:** 21-Feb-24 **VERSION** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24010210-001	Total Non-Methane Organic Carbon	K, T, U	< 0.08	ppmv	0.08	NA-028	05-Feb-24
24010210-001	1,2,3-Trimethylbenzene	I	0.09	ppbv	0.08	AC-058	02-Feb-24
24010210-001	1,2,4-Trimethylbenzene	I	0.19	ppbv	0.05	AC-058	02-Feb-24
24010210-001	1,3,5-Trimethylbenzene	I	0.15	ppbv	0.05	AC-058	02-Feb-24
24010210-001	1-Butene/Isobutylene	K, T, U	< 0.10	ppbv	0.10	AC-058	02-Feb-24
24010210-001	1-Hexene/2-Methyl-1-pentene	K, T, U	< 0.12	ppbv	0.12	AC-058	02-Feb-24
24010210-001	1-Pentene	K, T, U	< 0.05	ppbv	0.05	AC-058	02-Feb-24
24010210-001	2,2,4-Trimethylpentane		0.24	ppbv	0.03	AC-058	02-Feb-24
24010210-001	2,2-Dimethylbutane	I	0.14	ppbv	0.03	AC-058	02-Feb-24
24010210-001	2,3,4-Trimethylpentane		0.26	ppbv	0.03	AC-058	02-Feb-24
24010210-001	2,3-Dimethylbutane	K, T, U	< 0.15	ppbv	0.15	AC-058	02-Feb-24
24010210-001	2,3-Dimethylpentane	I	0.16	ppbv	0.03	AC-058	02-Feb-24
24010210-001	2,4-Dimethylpentane		0.25	ppbv	0.05	AC-058	02-Feb-24
24010210-001	2-Methylheptane		0.25	ppbv	0.03	AC-058	02-Feb-24
24010210-001	2-Methylhexane		0.21	ppbv	0.05	AC-058	02-Feb-24
24010210-001	2-Methylpentane		0.77	ppbv	0.03	AC-058	02-Feb-24
24010210-001	3-Methylheptane		0.29	ppbv	0.05	AC-058	02-Feb-24
24010210-001	3-Methylhexane		0.31	ppbv	0.03	AC-058	02-Feb-24
24010210-001	3-Methylpentane		0.26	ppbv	0.03	AC-058	02-Feb-24
24010210-001	Benzene		0.43	ppbv	0.05	AC-058	02-Feb-24
24010210-001	cis-2-Butene	K, T, U	< 0.05	ppbv	0.05	AC-058	02-Feb-24
24010210-001	cis-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	02-Feb-24
24010210-001	Cyclohexane		0.53	ppbv	0.07	AC-058	02-Feb-24
24010210-001	Cyclopentane		0.26	ppbv	0.03	AC-058	02-Feb-24
24010210-001	Ethylbenzene		0.62	ppbv	0.05	AC-058	02-Feb-24

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

Date: February 21, 2024 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 # 884	28949	Ambient Air	25-Jan-24 0:00

DESCRIPTION: Air Canister

REPORT NUMBER: 24010210 **REPORT CREATED:** 21-Feb-24 **VERSION** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24010210-001	Isobutane		2.27	ppbv	0.05	AC-058	02-Feb-24
24010210-001	Isopentane		1.55	ppbv	0.07	AC-058	02-Feb-24
24010210-001	Isoprene	K, T, U	< 0.03	ppbv	0.03	AC-058	02-Feb-24
24010210-001	Isopropylbenzene	I	0.09	ppbv	0.07	AC-058	02-Feb-24
24010210-001	m,p-Xylene		1.68	ppbv	0.07	AC-058	02-Feb-24
24010210-001	m-Diethylbenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	02-Feb-24
24010210-001	m-Ethyltoluene	I	0.13	ppbv	0.05	AC-058	02-Feb-24
24010210-001	Methylcyclohexane		0.35	ppbv	0.03	AC-058	02-Feb-24
24010210-001	Methylcyclopentane		0.34	ppbv	0.08	AC-058	02-Feb-24
24010210-001	n-Butane		4.08	ppbv	0.03	AC-058	02-Feb-24
24010210-001	n-Decane		0.17	ppbv	0.10	AC-058	02-Feb-24
24010210-001	n-Dodecane	K, T, U	< 0.5	ppbv	0.5	AC-058	02-Feb-24
24010210-001	n-Heptane		0.37	ppbv	0.07	AC-058	02-Feb-24
24010210-001	n-Hexane		0.53	ppbv	0.05	AC-058	02-Feb-24
24010210-001	n-Octane		0.21	ppbv	0.03	AC-058	02-Feb-24
24010210-001	n-Pentane		1.13	ppbv	0.07	AC-058	02-Feb-24
24010210-001	n-Propylbenzene	I	0.12	ppbv	0.10	AC-058	02-Feb-24
24010210-001	n-Undecane	K, T, U	< 0.8	ppbv	0.8	AC-058	02-Feb-24
24010210-001	n-Nonane		0.30	ppbv	0.07	AC-058	02-Feb-24
24010210-001	o-Ethyltoluene	I	0.11	ppbv	0.03	AC-058	02-Feb-24
24010210-001	o-Xylene		0.55	ppbv	0.05	AC-058	02-Feb-24
24010210-001	p-Diethylbenzene	I	0.08	ppbv	0.03	AC-058	02-Feb-24
24010210-001	p-Ethyltoluene	K, T, U	< 0.07	ppbv	0.07	AC-058	02-Feb-24
24010210-001	Styrene	I	0.26	ppbv	0.07	AC-058	02-Feb-24
24010210-001	Toluene		4.29	ppbv	0.05	AC-058	02-Feb-24

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

Date: February 21, 2024 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 # 884	28949	Ambient Air	25-Jan-24 0:00

DESCRIPTION: Air Canister

REPORT NUMBER: 24010210 **REPORT CREATED:** 21-Feb-24 **VERSION** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24010210-001	trans-2-Butene	K, T, U	< 0.05	ppbv	0.05	AC-058	02-Feb-24
24010210-001	trans-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	02-Feb-24

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

Date: February 21, 2024

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

Revision History

Order ID	Ver	Date	Reason
24010210	01	21-Feb-24	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

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Order Comments

24010210

Test # 884. Send results to Stan Yuha.

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Sample Comments

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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: HiVol Test # 885 - Filter # HVF-23-10-13
Matrix: Air Filter
CANISTER ID:
PRIORITY: Normal
DESCRIPTION: Hi-Vol Filter
DATE SAMPLED: 31-Jan-24 0:00
DATE RECEIVED: 06-Feb-24
REPORT CREATED: 20-Feb-24
REPORT NUMBER: 24020019
VERSION Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24020019-003	Particulate Weight		18.9	mg	0.1	Research	07-Feb-24

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing
Date: February 20, 2024 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 # 885 - Filter # AT76593		Air Filter	31-Jan-24 0:00

DESCRIPTION: PM10 Filter

REPORT NUMBER: 24020019 **REPORT CREATED:** 20-Feb-24 **VERSION** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24020019-002	Particulate Weight		0.104	mg	0.004	AC-029	08-Feb-24

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

Date: February 20, 2024 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 # 885	32267	Ambient Air	31-Jan-24 0:00

DESCRIPTION: Air Canister

REPORT NUMBER: 24020019 **REPORT CREATED:** 20-Feb-24 **VERSION** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24020019-001	Total Non-Methane Organic Carbon	K, T, U	< 0.09	ppmv	0.09	NA-028	16-Feb-24
24020019-001	1,2,3-Trimethylbenzene	K, T, U	< 0.09	ppbv	0.09	AC-058	13-Feb-24
24020019-001	1,2,4-Trimethylbenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	13-Feb-24
24020019-001	1,3,5-Trimethylbenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	13-Feb-24
24020019-001	1-Butene/Isobutylene	K, T, U	< 0.10	ppbv	0.10	AC-058	13-Feb-24
24020019-001	1-Hexene/2-Methyl-1-pentene	K, T, U	< 0.12	ppbv	0.12	AC-058	13-Feb-24
24020019-001	1-Pentene	K, T, U	< 0.05	ppbv	0.05	AC-058	13-Feb-24
24020019-001	2,2,4-Trimethylpentane	K, T, U	< 0.03	ppbv	0.03	AC-058	13-Feb-24
24020019-001	2,2-Dimethylbutane	K, T, U	< 0.03	ppbv	0.03	AC-058	13-Feb-24
24020019-001	2,3,4-Trimethylpentane	K, T, U	< 0.03	ppbv	0.03	AC-058	13-Feb-24
24020019-001	2,3-Dimethylbutane	K, T, U	< 0.15	ppbv	0.15	AC-058	13-Feb-24
24020019-001	2,3-Dimethylpentane	K, T, U	< 0.03	ppbv	0.03	AC-058	13-Feb-24
24020019-001	2,4-Dimethylpentane	K, T, U	< 0.05	ppbv	0.05	AC-058	13-Feb-24
24020019-001	2-Methylheptane	K, T, U	< 0.03	ppbv	0.03	AC-058	13-Feb-24
24020019-001	2-Methylhexane	K, T, U	< 0.05	ppbv	0.05	AC-058	13-Feb-24
24020019-001	2-Methylpentane	I	0.12	ppbv	0.03	AC-058	13-Feb-24
24020019-001	3-Methylheptane	K, T, U	< 0.05	ppbv	0.05	AC-058	13-Feb-24
24020019-001	3-Methylhexane	K, T, U	< 0.03	ppbv	0.03	AC-058	13-Feb-24
24020019-001	3-Methylpentane	I	0.06	ppbv	0.03	AC-058	13-Feb-24
24020019-001	Benzene	I	0.05	ppbv	0.05	AC-058	13-Feb-24
24020019-001	cis-2-Butene	K, T, U	< 0.05	ppbv	0.05	AC-058	13-Feb-24
24020019-001	cis-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	13-Feb-24
24020019-001	Cyclohexane	K, T, U	< 0.07	ppbv	0.07	AC-058	13-Feb-24
24020019-001	Cyclopentane	K, T, U	< 0.03	ppbv	0.03	AC-058	13-Feb-24
24020019-001	Ethylbenzene	K, T, U	< 0.05	ppbv	0.05	AC-058	13-Feb-24

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

Date: February 20, 2024 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 # 885	32267	Ambient Air	31-Jan-24 0:00

DESCRIPTION: Air Canister

REPORT NUMBER: 24020019 **REPORT CREATED:** 20-Feb-24 **VERSION** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24020019-001	Isobutane		1.23	ppbv	0.05	AC-058	13-Feb-24
24020019-001	Isopentane		0.57	ppbv	0.07	AC-058	13-Feb-24
24020019-001	Isoprene	K, T, U	< 0.03	ppbv	0.03	AC-058	13-Feb-24
24020019-001	Isopropylbenzene	K, T, U	< 0.07	ppbv	0.07	AC-058	13-Feb-24
24020019-001	m,p-Xylene	K, T, U	< 0.07	ppbv	0.07	AC-058	13-Feb-24
24020019-001	m-Diethylbenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	13-Feb-24
24020019-001	m-Ethyltoluene	K, T, U	< 0.05	ppbv	0.05	AC-058	13-Feb-24
24020019-001	Methylcyclohexane	I	0.04	ppbv	0.03	AC-058	13-Feb-24
24020019-001	Methylcyclopentane	K, T, U	< 0.09	ppbv	0.09	AC-058	13-Feb-24
24020019-001	n-Butane		1.70	ppbv	0.03	AC-058	13-Feb-24
24020019-001	n-Decane	K, T, U	< 0.10	ppbv	0.10	AC-058	13-Feb-24
24020019-001	n-Dodecane	K, T, U	< 0.5	ppbv	0.5	AC-058	13-Feb-24
24020019-001	n-Heptane	K, T, U	< 0.07	ppbv	0.07	AC-058	13-Feb-24
24020019-001	n-Hexane	I	0.17	ppbv	0.05	AC-058	13-Feb-24
24020019-001	n-Octane	K, T, U	< 0.03	ppbv	0.03	AC-058	13-Feb-24
24020019-001	n-Pentane		0.47	ppbv	0.07	AC-058	13-Feb-24
24020019-001	n-Propylbenzene	K, T, U	< 0.10	ppbv	0.10	AC-058	13-Feb-24
24020019-001	n-Undecane	K, T, U	< 0.9	ppbv	0.9	AC-058	13-Feb-24
24020019-001	n-Nonane	K, T, U	< 0.07	ppbv	0.07	AC-058	13-Feb-24
24020019-001	o-Ethyltoluene	K, T, U	< 0.03	ppbv	0.03	AC-058	13-Feb-24
24020019-001	o-Xylene	K, T, U	< 0.05	ppbv	0.05	AC-058	13-Feb-24
24020019-001	p-Diethylbenzene	K, T, U	< 0.03	ppbv	0.03	AC-058	13-Feb-24
24020019-001	p-Ethyltoluene	K, T, U	< 0.07	ppbv	0.07	AC-058	13-Feb-24
24020019-001	Styrene	K, T, U	< 0.07	ppbv	0.07	AC-058	13-Feb-24
24020019-001	Toluene	K, T, U	< 0.05	ppbv	0.05	AC-058	13-Feb-24

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

Date: February 20, 2024 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 # 885	32267	Ambient Air	31-Jan-24 0:00

DESCRIPTION: Air Canister

REPORT NUMBER: 24020019 **REPORT CREATED:** 20-Feb-24 **VERSION** Version 01

Lab ID	Parameter	Qualifier	Result	Units	RDL	Method	Analysis Date
24020019-001	trans-2-Butene	K, T, U	< 0.05	ppbv	0.05	AC-058	13-Feb-24
24020019-001	trans-2-Pentene	K, T, U	< 0.03	ppbv	0.03	AC-058	13-Feb-24

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

Date: February 20, 2024

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

Revision History

Order ID	Ver	Date	Reason
24020019	01	20-Feb-24	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

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

Order Comments

24020019

Test # 885. Send results to Stan Yuha.

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

Sample Comments

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

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.

Alberta

Sample ID: 24020018-001 Priority: Normal

tical Services

Customer ID: Clean Harbours

Cust Samp ID: Ryley Facility Test # 110 HVF-23-02-19

-8620

Shipping: Highway 16 A & 75 St

ANALYSIS REQUEST FORM

Project Code:

Client Code:

Invoice Code:

Date Rec'd (D/M/Y):

Rec'd By:

RECEIVED FEB 06 2024

FOR AITF USE ONLY

Client details:

Contact: —

Company: —

Project ID: —

Address: —

—

—

Telephone: —

Email: —

CleanHarbors

Jorge A. Mendoza
Laboratory Manager

Clean Harbors
Environmental Services
Box 390 , 2 Km North of Hwy 14
on Sec. Road 854
Ryley, AB T0B 4A0
www.cleanharbors.com

780.663.3828 Ext. 235
Home Office 780.663.2342
Mobile 780.934.2342
Fax 780.663.3539
Direct Line 780.663.2513
mendoza.jorge@cleanharbors.com

"People & Technology Creating a Safer, Cleaner Environment"

Special Instructions/Comments:

RUSH (Surcharge): ☐

PO # 239367

Quote ID: QT140005

AITF Contact: _____ **Email:** _____

Tel: _____

Sample ID	Sample Source Description	Date/Time Sampled From/To		Analysis Requested
		Date (dd/mm/yy)	Time (24 Hr)	
Ryley Facility Test # 110	Filter Number # HV-23-02-19	1/1/24 1/2/24	 43.33 hrs	Particulate weight ICP-MS analysis
Ryley School Test # 110	Filter Number # HV-23-02-20	1/1/24 1/2/24	 26.02 hrs	Particulate weight ICP-MS analysis

Sample ID: 24010038-001 Priority: Normal

Customer ID: Clean Harbours
Cust Samp ID: VOCs & TNMOC Test # 880

ORM

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 880
PO #: 238583

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): 1.23 mg
Trigger Weight for Analysis (HI-VOL): 89.3 mg

Date Received – Lab Use Only

RECEIVED
JAN 08 2024

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
1	VOCs and TNMOC Test Number: 880	Canister	A47749	01/01/24	00:00	VOC PAMS & TNMOC
				02/01/24	00:00	
2	PM10 Test Number: 880	PM10 filter	AT83936	01/01/24	00:00	FLT Particulate Weight (& metals if over trigger weight)*
				02/01/24	00:00	
3	HI-VOL Test Number: 880	HI-VOL Filter	HVF-23-10-07	01/01/24	00:00	Particulate Weight (& metals if over trigger weight)*
				02/01/24	00:00	
					Total: 23.80 hrs	

Client Authorization: _____ (Signature)

Laboratory Personnel: _____ (Signature)

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

InnoTech ALBERTA

Canister ID: A47749

This cleaned canister meets or exceeds TO-15 Method Specifications

Proofed by: ISQ on: SEP 11 2023

Evacuated: NOV 06 2023 Recertified: _____

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

Laboratory Contact Number: 780-632-8403

Sample ID: Test 880

Sampled By: T. Webb JMP

Starting Vacuum: -27.1 "Hg

End Vacuum: -4 "Hg/psig

Sample ID: 24010038-001 **Priority:** Normal

Customer ID: Clean Harbours

Cust Samp ID: VOCs & TNMOC Test # 880

Sample ID: 24010038-001 Priority: Normal

Customer ID: Clean Harbours
Cust Samp ID: VOCs & TNMOC Test # 880

RECEIVED
JAN 08 2024

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: November 2/23

Project: Clean Harbors

Prepared by:

Filter Size	# of Filters in Cassettes	Filter IDs
47 mm	1	AT83936 Test 880

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

{00004084;2}

TERMS AND CONDITIONS

Customer ID: Clean Harbours

Cust Samp ID: VOCs & TNMOC Test # 880

The attached document entitled "**Chain of Custody Forn** and Conditions, unless otherwise specified on the Quotatio commencement of the Services shall be deemed acceptan 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.

st samples or other materials supplied by the Client to InnoTech Alberta may, at InnoTech option, be returned by InnoTech Alberta to the Client. The Client shall:

ponsible for all costs associated with the handling, transportation and disposal of such

rse InnoTech Alberta for any costs incurred by InnoTech Alberta associated with the 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: 24010056-001 **Priority:** Normal

Customer ID: Clean Harbours
Cust Samp ID: VOCs and TNMOC Test # 881

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 881
PO #:	238583

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): 1.28 mg
Trigger Weight for Analysis (HI-VOL): 90.2 mg

Date Received – Lab Use Only

RECEIVED
JAN 10 2024

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: 881	Canister	28888	07/01/24	00:00	VOC PAMS & TNMOC
				08/01/24	00:00	
	PM10 Test Number: 881	PM10 filter	AT83964	07/01/24	00:00	FLT Particulate Weight (& metals if over trigger weight)*
				08/01/24	00:00	
	HI-VOL Test Number: 881	HI-VOL Filter	HVF-23-10-08	07/01/24	00:00	Particulate Weight (& metals if over trigger weight)*
				08/01/24	00:00	
					Total: 24.04 hrs	

Client Authorization: _____ Laboratory Personnel: _____

(Signature) *(Signature)*

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

Sample ID: 24010056-002 **Priority:** Normal

Customer ID: Clean Harbours
Cust Samp ID: PM10 Test # 881 - Filter # AT83964

RECEIVED
JAN 10 2024

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: November 2/23

Project: Clean Harbors

Prepared by:

Filter Size	# of Filters in Cassettes	Filter IDs
47 mm	1	AT83964 Test 881

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

InnoTech ALBERTA

This cleaned canister meets or exceeds TO-15 Method Specifications

Canister ID: 28888

Proofed by: ISL on: OCT 18 2023

Evacuated: NOV 06 2023 Recertified: _____

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

Laboratory Contact Number: 780-632-8403

Sample ID: Test 881

Sampled By: T. Webb

Starting Vacuum: -27.1 "Hg

End Vacuum: -4 "Hg / psig

-6 "Hg JMP

Sample ID: 24010056-001 Priority: Normal

Customer ID: Clean Harbours

Cust Samp ID: VOCs and TNMOC Test # 881

{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: 24010056-003 **Priority:** Normal

Customer ID: Clean Harbours

Cust Samp ID: HiVol Test # 881 - Filter # HVF-23-10-08

Sample ID: 24010109-001 **Priority:** Normal

Customer ID: Clean Harbours
Cust Samp ID: VOCs and TNMOC Test # 882

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		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 882	
Email:	Webb.Todd@cleanharbors.com, Yuha.Stan@cleanharbors.com	PO #:	238583	

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): 1.43 mg

Trigger Weight for Analysis (HI-VOL): 31.5 mg

Date Received – Lab Use Only

RECEIVED
JAN 18 2024

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: 882	Canister	32272	13/01/24	00:00	VOC PAMS & TNMOC
				14/01/24	00:~~00~~	
	PM10 Test Number: 882	PM10 filter	AT76590	13/01/24	00:00	FLT Particulate Weight (& metals if over trigger weight)*
				14/01/24	00:00	
	HI-VOL Test Number: 882	HI-VOL Filter	HVF-23-10-10	13/01/24		Particulate Weight (& metals if over trigger weight)*
				14/01/24		
					Total: 8.38 hrs	

Client Authorization: _____ Laboratory Personnel: _____

(Signature) *(Signature)*

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

Sample ID: 24010109-002 **Priority:** Normal

Customer ID: Clean Harbours
Cust Samp ID: PM10 Test # 882 - Filter # AT76590

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: November 29/23

Project: Clean Harbors

Prepared by: [signature]

Filter Size	# of Filters in Cassettes	Filter IDs
47 mm	1	AT76590 Test 882

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: 32272

This cleaned canister meets or exceeds TO-15 Method Specifications

Proofed by: ISQ on: NOV 0 9 2023

Evacuated: DEC 1 1 2023 Recertified:

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

Laboratory Contact Number: 780-632-8403

Sample ID: Test 882

Sampled By: T. Webb

Starting Vacuum: -27.1 "Hg

End Pressure: -2 "Hg/ psig

Sample ID: 24010109-001 **Priority:** Normal

Customer ID: Clean Harbours

Cust Samp ID: VOCs and TNMOC Test # 882

{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.

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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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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.

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The hold harmless shall survive this Agreement.

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Sample ID: 24010109-003 **Priority:** Normal

Customer ID: Clean Harbours

Cust Samp ID: HiVol Test # 882 - Filter # HVF-23-10-10

Sample ID: 24010209-001 **Priority:** Normal

Customer ID: Clean Harbours
Cust Samp ID: VOCs and TNMOC Test # 883

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 883
PO #:	238583

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): 1.33 mg

Trigger Weight for Analysis (HI-VOL): 91.2 mg

Date Received – Lab Use Only

RECEIVED
JAN 30 2024

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: 883	Canister	32246	19/01/24	00:00	VOC PAMS & TNMOC
				20/01/24	00:00	
	PM10 Test Number: 883	PM10 filter	AT76591	19/01/24	00:00	FLT Particulate Weight (& metals if over trigger weight)*
				20/01/24	00:00	
	HI-VOL Test Number: 883	HI-VOL Filter	HVF-23-10-11	19/01/24		Particulate Weight (& metals if over trigger weight)*
				20/01/24		
					Total: 24.31 hrs	

Client Authorization: _____
(Signature)

Laboratory Personnel: _____
(Signature)

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

Sample ID: 24010209-002 **Priority:** Normal

Customer ID: Clean Harbours
Cust Samp ID: PM10 Test # 883 - Filter # AT76591

RECEIVED
JAN 30 2024

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: November 29/23

Project: Clean Harbors

Prepared by: S Melenka

Filter Size	# of Filters in Cassettes	Filter IDs
47 mm	1	AT76591 Test 883

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: 32246

This cleaned canister meets or exceeds TO-15 Method Specifications

Proofed by: ISQ on: NOV 15 2023

Evacuated: DEC 21 2023 Recertified: JAN 03 2024

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

Laboratory Contact Number: 780-632-8403

Sample ID: Test 883

Sampled By: T. Webb

Starting Vacuum: -27.4 "Hg

End Vacuum: -2 0 "Hg/ psig

Sample ID: 24010209-001 **Priority:** Normal

Customer ID: Clean Harbours

Cust Samp ID: VOCs and TNMOC Test # 883

{00004084;2}

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Sample ID: 24010209-003 **Priority:** Normal

Customer ID: Clean Harbours

Cust Samp ID: HiVol Test # 883 - Filter # HVF-23-10-11

Sample ID: 24010210-001 **Priority:** Normal

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

Customer ID: Clean Harbours
Cust Samp ID: VOCs and TNMOC Test # 884

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 884	
Email:	Webb.Todd@cleanharbors.com, Yuha.Stan@cleanharbors.com	PO #:	238583	

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): 1.23 mg

Trigger Weight for Analysis (HI-VOL): 91.9 mg

Date Received – Lab Use Only

RECEIVED
JAN 30 2024

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: 884	Canister	28949	25/01/24	00:00	VOC PAMS & TNMOC
				26/01/24	00:00	
	PM10 Test Number: 884	PM10 filter	AT76592	25/01/24	00:00	FLT Particulate Weight (& metals if over trigger weight)*
				26/01/24	00:00	
	HI-VOL Test Number: 884	HI-VOL Filter	HVF-23-10-12	25/01/24		Particulate Weight (& metals if over trigger weight)*
				26/01/24		
					Total: 24.5 hrs	

Client Authorization: _____ Laboratory Personnel: _____

(Signature) *(Signature)*

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Sample ID: 24010210-002 **Priority:** Normal

Customer ID: Clean Harbours
Cust Samp ID: PM10 Test # 884 - Filter # AT76592

RECEIVED
JAN 30 2024

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: November 29/23

Project: Clean Harbors

Prepared by: JMelenka

Filter Size	# of Filters in Cassettes	Filter IDs
47 mm	1	AT76592 Test 884

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: 28949

This cleaned canister meets or exceeds TO-15 Method Specifications

Proofed by: ISQ on: NOV 0 6 2023

Evacuated: JAN 0 4 2024 Recertified: _____

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

Laboratory Contact Number: 780-632-8403

Sample ID: Test 884

Sampled By: T. Webb

Starting Vacuum:	End Vacuum:
-27.3 "Hg	-6 "Hg/ psig

Sample ID: 24010210-001 **Priority:** Normal

Customer ID: Clean Harbours

Cust Samp ID: VOCs and TNMOC Test # 884

{00004084;2}

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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 Alberta.

Sample ID: 24010210-003 **Priority:** Normal

Customer ID: Clean Harbours

Cust Samp ID: HiVol Test # 884 - Filter # HVF-23-10-12

Sample ID: 24020019-001 **Priority:** Normal

Customer ID: Clean Harbours
Cust Samp ID: VOCs and TNMOC Test # 885

IAIN 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 885
PO #:	238583

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): 1.19 mg

Trigger Weight for Analysis (HI-VOL): 91.9 mg

Date Received – Lab Use Only

RECEIVED
FEB 06 2024

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: 885	Canister	32267	31/01/24	00:00	VOC PAMS & TNMOC
				01/02/24	00:00	
	PM10 Test Number: 885	PM10 filter	AT76593	31/01/24	00:00	FLT Particulate Weight (& metals if over trigger weight)*
				01/02/24	00:00	
	HI-VOL Test Number: 885	HI-VOL Filter	HVF-23-10-13	31/01/24		Particulate Weight (& metals if over trigger weight)*
				01/012/24		
					Total: 24.48 hrs	

Client Authorization: _____ Laboratory Personnel: _____

(Signature) *(Signature)*

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

Sample ID: 24020019-002 **Priority:** Normal

Customer ID: Clean Harbours
Cust Samp ID: PM10 Test # 885 - Filter # AT76593

RECEIVED
FEB 06 20

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: November 29/23

Project: Clean Harbors

Prepared by:

Filter Size	# of Filters in Cassettes	Filter IDs
47 mm	1	AT76593

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: 5260

This cleaned canister meets or exceeds TO-15 Method Specifications

Proofed by: ISQ on: OCT 24 2023

Evacuated: JAN 04 2024 Recertified:

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

Laboratory Contact Number: 780-632-8403

Sample ID: 101 003

Sampled By: N. Sidgroff

Starting Vacuum:	End Pressure:
-27.3 "Hg	-2 ~~-4~~ "Hg/ psig

Sample ID: 24020019-001 **Priority:** Normal

Customer ID: Clean Harbours

Cust Samp ID: VOCs and TNMOC Test # 885

{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.

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Sample ID: 24020019-003 **Priority:** Normal

Customer ID: Clean Harbours

Cust Samp ID: HiVol Test # 885 - Filter # HVI -23-10-13