March 31, 2023

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
February 2023
Clean Harbors Canada, Inc. Approval 10348-03-01

To whom it may concern:

Clean Harbors Canada, Inc. (Clean Harbors) is presenting this Monthly Ambient Air Monitoring Report, which was prepared by GHD Limited (Consultant), for the reporting period of February 2023, 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 EPA (formerly AEP) on September 14, 2022 (no formal approval has been provided by 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
  - Ryley School Station
- TSP
  - Facility Site Station
  - Ryley School Station
  - 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 February 2023
- Summary of AMD Electronic Transfer System submittals
- Results for Total Suspended Particulate Matter (TSP) reported in µg/$m^3$
- Results for Particulate Matter ≤ 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
# February 2023
# Report Completed on March 31, 2023

Clean Harbors Environmental Services Inc.

Approval Number: 10348-03-01

Ryley Facility, Alberta

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

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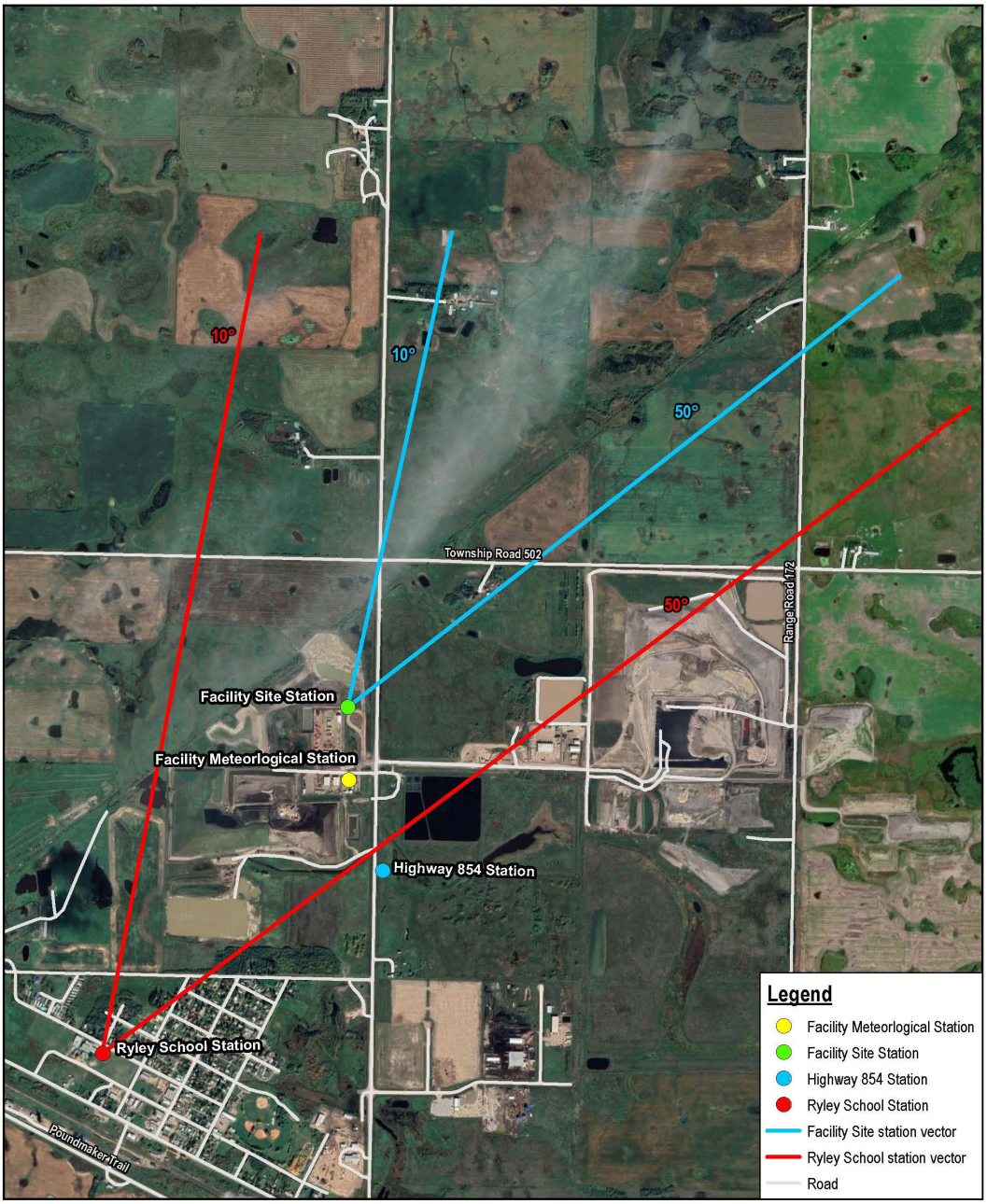
# 1. Introduction

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



1. Upwind intermittent ambient air quality monitoring station, known as the Facility Site Station, 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, 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, and Downwind Ryley School Station. The anemometer equipment used to measure this data includes three R. M. Young 05305-10A Wind Monitor-Aqs.

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

## 1.1 Contact Information

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

| Contact Information | |
|---|---|
| **Name** | **Mr. Stan Yuha** |
| Title | Plant Manager |
| Company | Clean Harbors |
| Responsibilities | Report Certifier/ETS Submitter |
| Address | PO Box 390, Ryley, AB T0B 4A0 |
| Phone | 780-663-2509 |
| Email | yuha.stan@cleanharbors.com |
| **Name** | **Mr. Todd Webb** |
| Title | Laboratory Chemist |
| Company | Clean Harbors |
| Responsibilities | Station Field Operator and Field Sampler |
| Address | PO Box 390, Ryley, AB T0B 4A0 |
| Phone | 780-663-2513 |
| Email | webb.todd@cleanharbors.com |
| **Name** | **Mr. Pooya Shariaty** |
| Title | Senior Air Quality Engineer/Project Manager |
| Company | GHD Limited |
| Responsibilities | Senior QA/QC |
| Address | 3445-114$^{th}$ 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 | 9426 – 51$^{st}$ Avenue NW, Suite 101 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 February 2023.

| *Activity* | *Completed (Y/N)* | *Date(s)* |
|---|---|---|
| **Wind – Facility Meteorological Station** | | |
| Wind Speed/Direction Sensor Calibration | N | March 18, 2022[(1)] |
| Changes to the Wind Speed/Direction Sensor | N | - |
| **Wind – Facility Site Station** | | |
| Wind Speed/Direction Sensor Calibration | N | **Due for calibration Summer 2023[(2)]** |
| Changes to the Wind Speed/Direction Sensor | N | - |
| **Wind – Ryley School Station** | | |
| Wind Speed/Direction Sensor Calibration | N | **Due for calibration Summer 2023[(2)]** |
| Changes to the Wind Speed/Direction Sensor | N | - |
| **TSP – Facility Site Station** | | |
| TSP Hi-Vol Sampler Calibration | N | December 9, 2022 |
| Changes to the TSP Hi-Vol Sampler | N | - |
| TSP Samples Collected | Y | March 1, 2023 |
| TSP Metal Analysis Conducted | N | - |
| TSP Sampler Maintenance Activities | Y | March 1, 2023 |
| **TSP – Ryley School Station** | | |
| TSP Hi-Vol Sampler Calibration | N | December 9, 2022 |
| Changes to the TSP Hi-Vol Sampler | N | - |
| TSP Samples Collected | Y | March 1, 2023 |
| TSP Metal Analysis Conducted | N | - |
| TSP Sampler Maintenance Activities | Y | March 1, 2023 |
| **TSP, $PM_{10}$, VOC and TNMOC – Highway 854 Lift Station** | | |
| TSP Hi-Vol Sampler Calibration | N | December 9, 2022 |
| $PM_{10}$ Sampler Calibration | N | December 9, 2022 |
| Changes to the TSP Hi-Vol Sampler | N | - |
| Changes to the $PM_{10}$ Sampling Station | N | - |
| TSP Samples Collected | Y | February 5, 2023<br>February 11, 2023<br>February 17, 2023<br>February 23, 2023 |
| $PM_{10}$ Samples Collected | Y | February 5, 2023<br>February 11, 2023<br>February 17, 2023 |

| *Activity* | *Completed (Y/N)* | *Date(s)* |
|---|---|---|
| | | February 23, 2023 |
| VOC and TNMOC Samples Collected | Y | February 5, 2023<br>February 11, 2023<br>February 17, 2023<br>February 23, 2023 |
| TSP Metal Analysis Conducted | N | - |
| $PM_{10}$ Metal Analysis Conducted | N | - |
| TSP Sampler Maintenance Activities | Y | February 5, 2023<br>February 11, 2023<br>February 17, 2023<br>February 23, 2023 |
| $PM_{10}$ Sampler Maintenance Activities | Y | February 5, 2023<br>February 11, 2023<br>February 17, 2023<br>February 23, 2023 |
| **Other** | | |
| Dust Suppression Activities | N | - |

Note: (1) The wind speed/direction sensor on the Facility Site Meteorological Station was checked for calibration on March 18, 2022 and was shown to be within the allowable tolerances and was then re-installed after calibration.
(2) 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 February 2023 monthly report, the following summarized items were submitted to the ETS:

## 3.1 AMD Approval Contravention Form

An AMD Approval contravention form (AMD1), for EPA Reference No. 409379, was submitted to the EPA via the ETS portal. The contravention form was completed due to the Ryley School Station experiencing an anemometer instrument failure between February 1, 2023 and February 28, 2023, resulting in an uptime less than the 90% required under Chapter 6, Section 4.1.3 of the AMD.

## 3.2 AMD XML Schema

An XML formatted Schema file was submitted to the 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

- Ryley School Station

- TSP
  - Facility Site Station
  - Ryley School Station
  - 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 EPA via the ETS portal. The PDF file contains the results from the Facility Site Station, Ryley School Station, and EPA Station ID 00010348-I-1.

### 3.4 Ambient Air Monitoring Program Calibration Reports

One calibration report in PDF file format was submitted to the 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 March 18, 2022. The station was shown to be within all allowable tolerances, as required by the manufacturer. Provided in Appendix A is the calibration report and record of installation.

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

### 4.2 Facility Site Station for Wind Speed and Direction

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.

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

### 4.3 Ryley School Station for Wind Speed and Direction

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

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

## 4.4 Facility Site Station TSP Hi-Vol Sampler

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. No quarterly audit was performed in February 2023, the most recent audit was completed in December 2022.

## 4.5 Ryley School Station TSP Hi-Vol Sampler

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. No quarterly audit was performed in February 2023, the most recent audit was completed in December 2022.

## 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. No quarterly audit was performed in February 2023, the most recent audit was completed in December 2022.

## 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 February 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 $PM_{10}$ Sampler. No quarterly audit was performed in February 2023, the most recent audit was completed in December 2022.

# 5. Ambient Air Monitoring Results

The following section presents the results from the ambient air monitoring program for the continuous Facility Site Station, continuous Ryley School Station, EPA Station ID 00010348-C-1, intermittent Facility Site Station, intermittent Ryley School Station, and EPA Station ID 00010348-I-1 conducted in February 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 February 2023 from the Facility Meteorological Station, Facility Site Station, and Ryley School Station, respectively. Appendix C provides graphical representations of the Wind Class Frequency Distribution and the Wind Roses based on Tables 1 – 9.

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

Based on the verification and validation process conducted for the meteorological data that was collected in February 2023, it was determined that 100% of the data is valid, which represents 100% uptime of the meteorological station. This is above the 90% uptime limit required for compliance, as per the Approval.

### 5.1.2 Facility Site Station Data Verification and Validation and Uptime

Based on the verification and validation process conducted for the meteorological data that was collected in February 2023, it was determined that 100% of the data is valid, which represents 100% uptime of the meteorological station. This is above the 90% uptime limit required for compliance, as per the Approval.

### 5.1.3 Ryley School Station Data Verification and Validation and Uptime

Based on the verification and validation process conducted for the meteorological data that was collected in February 2023, it was determined that 0% of the data is valid, which represents 0% uptime of the meteorological station. This is below the 90% uptime limit required for compliance, as per the Approval. The missing wind data was due to an instrument malfunction regarding the anemometer at the Ryley School station. The anemometer program had been corrupted and the instrument was recording zeros from February 1$^{st}$ until February 28$^{th}$ (ongoing issue which was initially reported in January 2023). The Facility confirmed that several unsuccessful attempts were made to reprogram the instrument, and they are currently working with the company that provided the original programing to have the instrument back in compliance as soon as possible. Clean Harbors submitted a 7-day reference letter to the EPA on February 10, 2023 (reference number # 409379) upon learning about the contravention. Per guidance from EPA, “the incident will remain open pending confirmation that the station is fully operational.”

## 5.2 TSP Concentrations

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

### 5.2.1 Facility Site Station

Table 10 presents the results of the sampling conducted for TSP from the Facility Site Station.

### 5.2.2 Ryley School Station

Table 11 presents the results of the sampling conducted for TSP from the Ryley School Station.

### 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.

## 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 February 2023. There were no exceedances for the parameters with AAAQO in February 2023.

## 5.5 Metal Concentrations

In accordance with the Facility's Approval, if collected TSP or $PM_{10}$ samples show exceedances over 50 µg/$m^3$ after gravimetric analysis, a subsequent filter particulate analysis is done using inductively coupled plasma mass spectroscopy (ICP-MS) for 21 trace elements. There are two parameters that have corresponding AAAQO with 1 hour averaging periods including arsenic and chromium. These were converted to a 24-hour averaging period for comparison with the sample results. 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

All of the TSP samples collected in February 2023 were below 50 µg/m$^3$ and as such analysis for metals was not conducted on those samples.

### 5.5.2 Ryley School Station

All of the TSP samples collected in February 2023 were below 50 µg/m$^3$ and as such analysis for metals was not conducted on those samples.

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

All of the TSP and $PM_{10}$ samples collected in February 2023 were below 50 µg/m$^3$ and as such analysis for metals was not conducted on those samples.

## 5.6 Dust Suppression

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

# 6. Conclusions

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

1 During February 2023, the Facility Meteorological Station (EPA Station ID 00010348-C-1) operated at 100% uptime. Based on the data verification and validation procedure conducted, this is in compliance with the minimum 90% uptime required by the AMD.

2 During February 2023, the continuous Facility Site wind Station operated at 100% uptime. Based on the data verification and validation procedure conducted, this is in compliance with the minimum 90% uptime required by the AMD.

3 During February 2023, the continuous Ryley School wind Station operated at 0% uptime. Based on the data verification and validation procedure conducted, this is not in compliance with the minimum 90% uptime required by the AMD.

4 The TSP concentration measured at the intermittent Facility Site Station from January 31, 2023 to March 1, 2023 was 25.584 µg/m$^3$.

5 The TSP concentrations measured at the intermittent Ryley School Station from January 31, 2023 to March 1, 2023 was 13.570 µg/m$^3$.

6 The TSP concentrations measured at the intermittent Highway 854 Lift Station (EPA Station ID 00010348-I-1) on February 5, February 11, February 17, and February 23, 2023 were 17.023 µg/m$^3$, 21.123 µg/m$^3$, 23.422 µg/m$^3$, and 17.231 µg/m$^3$, respectively.

7 The $PM_{10}$ concentrations measured at the intermittent Highway 854 Lift Station (EPA Station ID 00010348-I-1) on February 5, February 11, February 17, and February 23, 2023 were 6.946 µg/m$^3$, 4.108 µg/m$^3$, 7.427 µg/m$^3$, and 5.242 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 February 2023.

Clean Harbors will continue 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 February 2023 Ambient Air Monitoring Report.

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

Stan Yuha

Plant Manager/Report Certifier

**END OF REPORT**

# Tables

**TABLE 1**

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

| Ryley Wind Speed Data (m/s) - Month of February 2023 | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Day/Hour | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 1 | 3.0 | 3.6 | 2.7 | 1.3 | 1.8 | 1.1 | 3.2 | 3.8 | 4.9 | 6.8 | 6.9 | 7.3 | 6.5 | 7.1 | 6.3 | 6.8 | 5.5 | 4.8 | 3.8 | 2.0 | 2.2 | 2.6 | 3.3 | 2.8 |
| 2 | 3.0 | 3.7 | 4.5 | 4.2 | 5.5 | 5.3 | 5.0 | 5.6 | 7.3 | 7.5 | 8.7 | 9.2 | 9.0 | 9.6 | 10.2 | 9.7 | 8.6 | 8.5 | 6.8 | 6.8 | 7.5 | 7.5 | 6.5 | 6.0 |
| 3 | 5.6 | 5.6 | 5.3 | 4.6 | 3.1 | 1.5 | 2.8 | 1.9 | 1.8 | 1.5 | 5.5 | 6.7 | 6.2 | 6.0 | 4.7 | 4.2 | 5.0 | 3.8 | 3.1 | 3.5 | 2.0 | 1.2 | 1.9 | 1.0 |
| 4 | 1.4 | 2.2 | 2.7 | 2.1 | 1.9 | 2.7 | 3.0 | 3.7 | 3.9 | 4.2 | 5.1 | 5.1 | 4.2 | 4.0 | 3.5 | 3.5 | 3.5 | 3.2 | 3.1 | 4.1 | 4.7 | 4.9 | 4.7 | 5.1 |
| 5 | 4.8 | 4.4 | 5.4 | 4.7 | 3.2 | 4.1 | 2.6 | 3.1 | 2.5 | 2.1 | 1.7 | 3.3 | 2.4 | 3.2 | 4.2 | 3.9 | 4.0 | 4.6 | 4.4 | 3.9 | 4.1 | 7.8 | 7.8 | 10.0 |
| 6 | 9.5 | 11.0 | 10.5 | 7.1 | 3.9 | 3.3 | 3.8 | 4.9 | 5.3 | 5.5 | 5.6 | 6.5 | 6.5 | 6.0 | 4.9 | 4.5 | 3.8 | 4.9 | 6.1 | 5.9 | 6.8 | 5.8 | 5.0 | 5.4 |
| 7 | 6.7 | 7.4 | 6.9 | 7.3 | 5.8 | 4.8 | 5.1 | 5.4 | 7.2 | 8.5 | 6.4 | 5.2 | 4.1 | 5.0 | 1.6 | 1.2 | 1.1 | 2.6 | 2.7 | 1.8 | 1.9 | 2.1 | 1.3 | 1.1 |
| 8 | 1.3 | 1.3 | 2.4 | 4.2 | 6.3 | 2.8 | 3.0 | 3.9 | 3.9 | 3.8 | 3.3 | 3.2 | 3.5 | 2.9 | 2.2 | 3.1 | 4.0 | 4.3 | 3.8 | 5.5 | 5.4 | 5.3 | 5.0 | 6.4 |
| 9 | 6.1 | 7.0 | 6.9 | 6.8 | 6.4 | 6.1 | 4.7 | 3.5 | 1.8 | 2.0 | 2.9 | 3.2 | 3.3 | 3.4 | 3.7 | 3.9 | 2.2 | 2.0 | 3.6 | 2.2 | 2.2 | 2.4 | 2.7 | 3.2 |
| 10 | 3.6 | 2.9 | 3.9 | 1.6 | 3.3 | 2.1 | 3.0 | 4.7 | 4.7 | 4.4 | 6.5 | 6.0 | 7.8 | 6.9 | 9.9 | 8.8 | 4.3 | 5.1 | 5.5 | 6.2 | 6.1 | 4.9 | 5.3 | 6.0 |
| 11 | 6.5 | 5.0 | 4.9 | 5.2 | 4.8 | 4.9 | 6.1 | 6.3 | 6.3 | 5.5 | 5.7 | 6.3 | 5.6 | 5.3 | 5.9 | 5.1 | 3.9 | 4.3 | 4.9 | 4.3 | 4.2 | 4.3 | 5.0 | 5.6 |
| 12 | 5.4 | 5.2 | 6.5 | 6.3 | 6.8 | 6.3 | 6.3 | 6.4 | 6.0 | 6.0 | 5.2 | 4.5 | 3.9 | 4.1 | 3.2 | 2.5 | 1.9 | 2.4 | 2.7 | 3.4 | 4.3 | 4.3 | 5.0 | 5.1 |
| 13 | 4.7 | 5.6 | 7.6 | 9.2 | 7.0 | 7.0 | 6.7 | 7.1 | 6.7 | 6.4 | 8.0 | 9.9 | 11.9 | 9.6 | 10.6 | 10.5 | 9.3 | 11.3 | 11.4 | 10.4 | 8.2 | 7.1 | 5.6 | 4.2 |
| 14 | 4.7 | 3.8 | 4.0 | 4.0 | 4.0 | 3.4 | 3.6 | 3.1 | 1.6 | 2.2 | 1.4 | 3.1 | 3.6 | 4.1 | 3.6 | 3.0 | 2.5 | 2.8 | 1.9 | 0.7 | 0.8 | 1.6 | 1.6 | 2.0 |
| 15 | 1.8 | 1.4 | 1.1 | 0.5 | 1.2 | 0.9 | 1.0 | 1.2 | 2.1 | 2.6 | 3.5 | 2.9 | 3.3 | 3.9 | 3.8 | 3.0 | 3.0 | 2.6 | 2.8 | 3.2 | 3.8 | 4.0 | 3.8 | 4.6 |
| 16 | 5.2 | 5.6 | 5.4 | 5.3 | 4.5 | 4.9 | 3.5 | 4.1 | 4.4 | 3.8 | 4.1 | 4.4 | 3.5 | 4.0 | 3.8 | 4.9 | 3.7 | 4.2 | 4.5 | 4.2 | 4.2 | 5.5 | 4.9 | 6.4 |
| 17 | 7.9 | 7.6 | 4.9 | 4.8 | 4.2 | 5.9 | 5.2 | 5.9 | 5.1 | 3.8 | 4.1 | 4.3 | 4.5 | 4.4 | 5.6 | 4.5 | 3.6 | 3.4 | 3.8 | 4.0 | 4.1 | 3.1 | 1.2 | 1.6 |
| 18 | 2.9 | 2.3 | 4.2 | 1.6 | 2.3 | 2.5 | 2.8 | 2.6 | 2.0 | 2.0 | 1.6 | 2.9 | 5.0 | 6.2 | 4.3 | 4.1 | 4.3 | 3.4 | 1.9 | 1.7 | 1.7 | 2.0 | 2.8 | 3.0 |
| 19 | 3.5 | 4.1 | 5.1 | 4.9 | 4.9 | 5.1 | 4.8 | 4.0 | 4.5 | 4.1 | 3.4 | 4.0 | 5.4 | 5.2 | 5.0 | 5.2 | 5.4 | 3.1 | 2.8 | 3.3 | 3.0 | 3.0 | 1.8 | 1.9 |
| 20 | 2.2 | 2.4 | 3.3 | 5.9 | 4.9 | 7.7 | 6.3 | 4.9 | 4.0 | 4.0 | 3.0 | 3.0 | 2.2 | 1.2 | 2.7 | 3.2 | 2.7 | 2.4 | 2.1 | 1.9 | 2.2 | 2.1 | 1.6 | 4.1 |
| 21 | 6.3 | 6.7 | 6.0 | 6.1 | 6.2 | 5.0 | 5.2 | 3.7 | 3.1 | 3.2 | 3.4 | 3.3 | 3.0 | 4.0 | 4.9 | 4.4 | 4.7 | 3.0 | 3.0 | 3.0 | 2.8 | 2.8 | 2.8 | 2.5 |
| 22 | 2.4 | 2.7 | 2.9 | 1.9 | 2.4 | 2.3 | 1.3 | 1.7 | 2.3 | 2.3 | 2.2 | 2.0 | 1.6 | 3.5 | 3.6 | 2.7 | 2.4 | 2.7 | 2.4 | 1.5 | 2.0 | 1.8 | 1.4 | 1.1 |
| 23 | 1.0 | 1.6 | 1.6 | 1.4 | 1.1 | 1.1 | 0.7 | 0.9 | 1.7 | 1.0 | 1.0 | 1.1 | 1.4 | 1.5 | 1.6 | 1.6 | 1.7 | 1.3 | 1.2 | 1.0 | 1.3 | 1.4 | 1.4 | 1.7 |
| 24 | 1.8 | 1.6 | 1.5 | 1.6 | 1.7 | 2.0 | 2.2 | 2.3 | 2.6 | 3.8 | 4.2 | 4.4 | 6.3 | 6.8 | 6.8 | 6.2 | 5.6 | 4.7 | 4.2 | 3.0 | 3.5 | 4.1 | 3.8 | 5.4 |
| 25 | 5.7 | 5.4 | 5.8 | 6.4 | 6.4 | 5.7 | 5.7 | 5.7 | 4.9 | 5.3 | 5.2 | 4.0 | 3.9 | 3.5 | 3.6 | 3.6 | 3.7 | 4.3 | 4.3 | 3.4 | 3.6 | 5.4 | 6.0 | 5.2 |
| 26 | 4.5 | 4.5 | 3.6 | 3.1 | 3.1 | 2.7 | 2.3 | 2.4 | 2.5 | 1.7 | 1.5 | 1.5 | 2.0 | 2.8 | 3.3 | 2.2 | 1.7 | 1.9 | 2.5 | 3.9 | 3.5 | 2.4 | 2.3 | 3.7 |
| 27 | 5.2 | 4.9 | 5.7 | 6.1 | 5.5 | 4.9 | 3.3 | 3.4 | 4.0 | 3.3 | 2.6 | 3.2 | 3.2 | 3.3 | 1.6 | 3.2 | 3.7 | 1.4 | 1.8 | 1.4 | 1.9 | 1.5 | 0.9 | 0.6 |
| 28 | 1.1 | 0.8 | 0.2 | 1.0 | 0.6 | 0.4 | 1.1 | 1.1 | 1.1 | 3.2 | 5.9 | 6.2 | 5.9 | 5.3 | 5.3 | 5.3 | 5.4 | 4.2 | 3.7 | 3.8 | 2.8 | 2.9 | 3.3 | 3.8 |

**TABLE 2**

**Average Wind Speed (metres/second)**
**Facility Site Station**
**Clean Harbors Canada, Inc.**
**Monthly Ambient Air Monitoring Report**
**February 2023**

| Ryley Wind Speed Data (m/s) - Month of February 2023 | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Day/Hour | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 1 | 2.5 | 3.2 | 3.2 | 1.7 | 1.2 | 0.6 | 1.9 | 2.9 | 4.0 | 5.4 | 6.4 | 6.0 | 6.1 | 5.8 | 6.2 | 6.2 | 5.5 | 4.4 | 3.7 | 2.8 | 1.4 | 2.0 | 3.0 | 2.9 |
| 2 | 2.6 | 2.9 | 3.6 | 3.8 | 4.1 | 5.4 | 4.3 | 4.6 | 5.8 | 7.0 | 6.7 | 7.8 | 7.9 | 8.3 | 8.8 | 9.3 | 8.3 | 7.3 | 6.8 | 5.9 | 6.3 | 6.8 | 6.5 | 6.0 |
| 3 | 5.1 | 5.3 | 5.2 | 4.7 | 3.6 | 1.4 | 2.5 | 3.1 | 1.4 | 1.3 | 1.6 | 2.7 | 2.8 | 2.7 | 2.2 | 2.0 | 2.8 | 2.6 | 2.1 | 2.2 | 2.6 | 1.3 | 0.6 | 1.2 |
| 4 | 1.5 | 1.3 | 1.1 | 2.5 | 2.0 | 1.3 | 1.0 | 1.5 | 1.8 | 2.4 | 2.0 | 2.4 | 3.6 | 4.3 | 3.2 | 2.9 | 2.3 | 2.7 | 3.4 | 3.2 | 3.2 | 4.3 | 4.2 | 3.9 |
| 5 | 4.5 | 4.2 | 4.6 | 4.4 | 2.8 | 2.4 | 2.1 | 3.3 | 1.5 | 1.7 | 3.4 | 2.5 | 2.0 | 2.7 | 1.9 | 2.2 | 1.9 | 2.0 | 2.3 | 2.2 | 2.4 | 2.3 | 2.6 | 7.7 |
| 6 | 6.7 | 8.2 | 7.8 | 8.9 | 8.3 | 4.5 | 2.9 | 2.3 | 2.5 | 2.7 | 3.1 | 4.0 | 4.3 | 4.8 | 4.8 | 4.0 | 3.5 | 3.7 | 4.2 | 5.2 | 5.6 | 5.6 | 5.0 | 3.9 |
| 7 | 3.2 | 4.2 | 4.1 | 4.2 | 4.5 | 4.2 | 2.8 | 2.4 | 3.6 | 4.7 | 6.4 | 6.7 | 4.4 | 3.4 | 3.9 | 2.8 | 0.8 | 0.7 | 1.6 | 2.8 | 2.3 | 1.4 | 1.2 | 1.4 |
| 8 | 0.5 | 0.9 | 0.7 | 1.3 | 2.3 | 5.0 | 3.5 | 2.1 | 2.5 | 3.2 | 3.1 | 2.9 | 2.2 | 2.4 | 2.3 | 1.8 | 1.4 | 2.9 | 2.9 | 3.6 | 4.4 | 5.0 | 4.2 | 4.1 |
| 9 | 4.5 | 4.6 | 3.4 | 2.8 | 3.2 | 2.8 | 2.9 | 2.2 | 1.7 | 2.5 | 2.5 | 2.9 | 3.0 | 3.5 | 3.2 | 3.3 | 3.2 | 3.1 | 2.4 | 2.8 | 3.7 | 3.1 | 3.3 | 1.9 |
| 10 | 3.0 | 2.3 | 2.8 | 2.4 | 1.9 | 1.8 | 2.1 | 1.1 | 2.4 | 1.7 | 4.4 | 4.8 | 4.4 | 4.2 | 4.5 | 5.7 | 10.1 | 4.8 | 2.7 | 2.8 | 3.4 | 3.4 | 3.2 | 2.5 |
| 11 | 3.4 | 3.5 | 3.7 | 2.3 | 2.8 | 3.1 | 2.8 | 2.8 | 2.9 | 3.2 | 3.6 | 3.5 | 4.6 | 4.1 | 4.0 | 3.2 | 3.5 | 3.0 | 3.5 | 2.2 | 3.3 | 2.7 | 2.5 | 2.6 |
| 12 | 3.2 | 3.1 | 2.8 | 3.3 | 3.5 | 2.7 | 3.1 | 4.4 | 3.8 | 4.5 | 4.4 | 3.1 | 3.0 | 3.9 | 3.5 | 4.1 | 2.7 | 2.2 | 2.0 | 2.1 | 3.2 | 3.7 | 3.9 | 3.8 |
| 13 | 5.4 | 6.2 | 4.5 | 5.0 | 7.4 | 7.9 | 4.9 | 5.6 | 5.8 | 5.5 | 5.1 | 5.7 | 7.9 | 8.7 | 9.6 | 8.1 | 9.0 | 9.3 | 9.5 | 11.5 | 9.7 | 8.6 | 7.3 | 6.0 |
| 14 | 4.4 | 3.4 | 3.5 | 2.6 | 3.0 | 2.8 | 2.5 | 2.7 | 2.4 | 1.6 | 1.1 | 1.9 | 1.6 | 3.4 | 2.8 | 2.9 | 2.3 | 2.5 | 1.6 | 1.9 | 1.1 | 0.2 | 0.8 | 1.2 |
| 15 | 1.3 | 1.7 | 1.2 | 1.1 | 0.4 | 0.5 | 0.9 | 0.7 | 1.1 | 1.4 | 1.9 | 2.8 | 2.9 | 2.8 | 3.1 | 3.6 | 3.4 | 2.5 | 2.8 | 2.2 | 2.7 | 2.9 | 4.3 | 3.6 |
| 16 | 4.0 | 4.9 | 5.2 | 5.7 | 5.1 | 4.7 | 4.3 | 4.1 | 4.0 | 4.0 | 4.3 | 3.9 | 3.9 | 3.2 | 3.7 | 3.3 | 3.2 | 2.3 | 2.0 | 2.6 | 2.4 | 3.1 | 3.9 | 3.9 |
| 17 | 4.0 | 5.6 | 7.8 | 4.1 | 4.6 | 3.5 | 4.1 | 4.2 | 4.4 | 5.2 | 3.7 | 2.8 | 3.9 | 3.7 | 3.9 | 4.0 | 3.7 | 2.9 | 2.4 | 3.9 | 4.4 | 2.5 | 2.5 | 1.4 |
| 18 | 0.9 | 0.8 | 1.8 | 1.2 | 2.5 | 0.8 | 1.6 | 1.5 | 1.7 | 1.7 | 1.7 | 1.5 | 1.3 | 3.6 | 5.2 | 4.7 | 4.1 | 3.7 | 3.5 | 2.3 | 1.6 | 1.6 | 1.6 | 2.4 |
| 19 | 2.4 | 2.8 | 3.7 | 4.2 | 4.7 | 4.2 | 4.7 | 4.6 | 4.3 | 4.2 | 4.7 | 3.5 | 2.7 | 3.5 | 5.6 | 4.7 | 4.7 | 4.5 | 4.4 | 1.5 | 2.9 | 2.9 | 2.9 | 1.8 |
| 20 | 1.0 | 1.5 | 1.9 | 1.9 | 3.4 | 5.8 | 5.6 | 7.1 | 5.4 | 4.2 | 4.0 | 3.3 | 2.4 | 2.9 | 1.2 | 1.4 | 2.9 | 3.2 | 3.0 | 2.2 | 1.9 | 2.1 | 2.2 | 1.5 |
| 21 | 2.2 | 4.5 | 5.8 | 5.7 | 5.5 | 5.1 | 4.9 | 4.9 | 3.8 | 2.9 | 2.8 | 3.1 | 3.1 | 2.5 | 3.0 | 4.1 | 4.8 | 4.1 | 3.6 | 2.3 | 2.3 | 2.4 | 1.6 | 2.0 |
| 22 | 2.0 | 1.8 | 1.8 | 2.1 | 1.6 | 1.3 | 1.4 | 1.5 | 0.8 | 1.7 | 2.2 | 2.0 | 1.9 | 1.7 | 1.9 | 3.4 | 2.9 | 2.2 | 2.4 | 2.3 | 1.7 | 1.3 | 1.9 | 1.3 |
| 23 | 1.1 | 0.5 | 1.0 | 1.1 | 1.1 | 1.0 | 0.8 | 0.9 | 0.6 | 0.9 | 1.0 | 0.8 | 1.1 | 1.0 | 1.3 | 1.2 | 1.3 | 1.5 | 1.0 | 1.0 | 0.8 | 0.8 | 1.2 | 1.2 |
| 24 | 0.8 | 1.4 | 1.6 | 1.7 | 1.8 | 2.0 | 2.2 | 2.1 | 2.4 | 2.8 | 3.6 | 4.1 | 4.3 | 5.0 | 5.7 | 6.9 | 5.9 | 6.0 | 5.5 | 4.3 | 3.6 | 2.9 | 3.7 | 3.6 |
| 25 | 3.3 | 3.7 | 4.5 | 3.3 | 3.8 | 4.3 | 3.1 | 3.0 | 3.2 | 3.1 | 2.8 | 2.8 | 3.4 | 3.2 | 3.5 | 3.2 | 3.4 | 3.4 | 3.5 | 3.7 | 3.3 | 2.7 | 3.4 | 5.2 |
| 26 | 4.8 | 3.8 | 4.2 | 3.6 | 2.6 | 2.7 | 1.9 | 2.0 | 1.7 | 1.7 | 2.1 | 1.5 | 1.5 | 1.4 | 1.7 | 2.8 | 2.5 | 1.8 | 1.2 | 2.0 | 2.7 | 3.1 | 2.8 | 1.5 |
| 27 | 2.2 | 3.5 | 4.4 | 3.7 | 4.8 | 4.6 | 5.3 | 3.4 | 2.1 | 2.4 | 2.4 | 2.2 | 2.2 | 2.7 | 3.0 | 2.4 | 1.0 | 2.5 | 1.7 | 1.1 | 1.1 | 1.3 | 1.8 | 1.1 |
| 28 | 0.3 | 0.6 | 1.0 | 0.6 | 0.5 | 0.9 | 0.6 | 0.9 | 0.7 | 0.7 | 1.4 | 3.6 | 6.0 | 5.2 | 4.6 | 4.6 | 4.5 | 4.6 | 3.9 | 3.7 | 3.3 | 3.2 | 2.4 | 2.9 |

**TABLE 3**

**Average Wind Speed (metres/second)**
**Ryley Schoool Station**
**Clean Harbors Canada, Inc.**
**Monthly Ambient Air Monitoring Report**
**February 2023**

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

Notes:
- (X) - Equipment Malfunction

**TABLE 4**

**Most Frequent Wind Direction (degrees from North)**
**EPA Station ID 00010348-C-1**
**Clean Harbors Canada, Inc.**
**Monthly Ambient Air Monitoring Report**
**February 2023**

| Ryley Wind Direction Data (degrees, blowing from) - Month of February 2023 | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Day/Hour | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 1 | 134 | 143 | 134 | 104 | 91 | 197 | 323 | 343 | 345 | 185 | 174 | 149 | 14 | 10 | 112 | 221 | 50 | 311 | 276 | 18 | 18 | 37 | 37 | 58 |
| 2 | 91 | 106 | 108 | 108 | 111 | 116 | 106 | 106 | 108 | 116 | 123 | 120 | 127 | 125 | 130 | 140 | 133 | 141 | 124 | 131 | 141 | 144 | 151 | 149 |
| 3 | 152 | 147 | 163 | 170 | 180 | 169 | 168 | 189 | 190 | 152 | 221 | 226 | 227 | 225 | 222 | 225 | 229 | 216 | 188 | 194 | 176 | 91 | 126 | 220 |
| 4 | 167 | 138 | 160 | 266 | 254 | 249 | 278 | 254 | 234 | 230 | 253 | 286 | 280 | 276 | 271 | 227 | 215 | 202 | 202 | 199 | 192 | 191 | 187 | 188 |
| 5 | 190 | 197 | 217 | 217 | 167 | 184 | 186 | 172 | 155 | 167 | 189 | 178 | 190 | 193 | 219 | 225 | 243 | 230 | 253 | 265 | 261 | 289 | 310 | 319 |
| 6 | 308 | 316 | 322 | 319 | 310 | 300 | 267 | 232 | 221 | 226 | 227 | 230 | 228 | 226 | 224 | 211 | 205 | 215 | 221 | 220 | 224 | 228 | 234 | 234 |
| 7 | 246 | 250 | 246 | 252 | 242 | 247 | 256 | 302 | 298 | 301 | 303 | 308 | 308 | 300 | 289 | 312 | 240 | 182 | 197 | 146 | 153 | 139 | 130 | 122 |
| 8 | 112 | 263 | 293 | 283 | 46 | 246 | 273 | 308 | 293 | 302 | 291 | 273 | 273 | 266 | 242 | 213 | 214 | 212 | 202 | 218 | 227 | 232 | 234 | 243 |
| 9 | 236 | 230 | 231 | 229 | 227 | 231 | 199 | 185 | 168 | 132 | 126 | 159 | 171 | 166 | 172 | 183 | 153 | 153 | 181 | 158 | 164 | 169 | 179 | 180 |
| 10 | 183 | 172 | 179 | 158 | 174 | 188 | 215 | 203 | 197 | 208 | 232 | 244 | 250 | 267 | 290 | 290 | 266 | 232 | 232 | 239 | 253 | 257 | 252 | 243 |
| 11 | 250 | 248 | 237 | 250 | 267 | 252 | 232 | 223 | 235 | 227 | 229 | 232 | 226 | 235 | 242 | 242 | 214 | 225 | 223 | 273 | 280 | 269 | 246 | 263 |
| 12 | 280 | 250 | 260 | 228 | 244 | 243 | 261 | 277 | 253 | 225 | 230 | 221 | 191 | 186 | 171 | 165 | 168 | 159 | 172 | 180 | 187 | 177 | 183 | 194 |
| 13 | 211 | 257 | 315 | 323 | 305 | 260 | 275 | 279 | 281 | 270 | 284 | 290 | 306 | 295 | 301 | 306 | 320 | 338 | 341 | 340 | 343 | 341 | 340 | 337 |
| 14 | 326 | 323 | 318 | 303 | 317 | 306 | 312 | 309 | 285 | 258 | 257 | 244 | 249 | 229 | 225 | 212 | 201 | 250 | 298 | 210 | 289 | 301 | 254 | 239 |
| 15 | 48 | 53 | 49 | 33 | 90 | 107 | 117 | 120 | 94 | 114 | 124 | 113 | 107 | 105 | 114 | 119 | 122 | 124 | 143 | 151 | 154 | 165 | 168 | 164 |
| 16 | 162 | 164 | 158 | 160 | 175 | 180 | 180 | 180 | 183 | 181 | 182 | 186 | 182 | 184 | 217 | 220 | 230 | 253 | 280 | 294 | 285 | 280 | 271 | 301 |
| 17 | 289 | 289 | 277 | 288 | 289 | 300 | 302 | 298 | 294 | 276 | 282 | 274 | 268 | 270 | 251 | 267 | 239 | 214 | 210 | 223 | 248 | 274 | 278 | 235 |
| 18 | 205 | 195 | 252 | 303 | 257 | 276 | 280 | 275 | 269 | 260 | 281 | 152 | 27 | 18 | 25 | 22 | 19 | 31 | 62 | 78 | 125 | 116 | 132 | 138 |
| 19 | 143 | 159 | 150 | 140 | 124 | 132 | 148 | 155 | 159 | 172 | 220 | 258 | 326 | 328 | 331 | 100 | 14 | 21 | 31 | 42 | 34 | 42 | 88 | 248 |
| 20 | 299 | 294 | 310 | 331 | 329 | 329 | 329 | 335 | 325 | 331 | 327 | 309 | 191 | 66 | 127 | 157 | 157 | 152 | 150 | 144 | 132 | 119 | 75 | 33 |
| 21 | 35 | 31 | 24 | 20 | 23 | 26 | 18 | 23 | 36 | 28 | 19 | 25 | 13 | 139 | 345 | 336 | 333 | 326 | 310 | 297 | 307 | 321 | 340 | 321 |
| 22 | 302 | 299 | 312 | 323 | 196 | 14 | 25 | 15 | 26 | 31 | 34 | 43 | 38 | 16 | 20 | 33 | 46 | 33 | 29 | 34 | 33 | 36 | 41 | 60 |
| 23 | 66 | 24 | 24 | 75 | 59 | 44 | 100 | 91 | 23 | 107 | 81 | 54 | 57 | 37 | 32 | 61 | 97 | 116 | 130 | 147 | 166 | 162 | 151 | 149 |
| 24 | 147 | 153 | 136 | 122 | 135 | 156 | 133 | 150 | 158 | 162 | 146 | 144 | 145 | 149 | 154 | 159 | 154 | 154 | 164 | 165 | 166 | 165 | 212 | 249 |
| 25 | 265 | 249 | 248 | 266 | 266 | 249 | 263 | 258 | 259 | 233 | 238 | 230 | 199 | 190 | 189 | 174 | 157 | 160 | 148 | 146 | 130 | 136 | 145 | 144 |
| 26 | 132 | 130 | 125 | 120 | 115 | 107 | 101 | 68 | 103 | 113 | 82 | 88 | 22 | 117 | 39 | 26 | 54 | 124 | 275 | 274 | 304 | 284 | 301 | 304 |
| 27 | 294 | 292 | 307 | 304 | 305 | 305 | 292 | 274 | 275 | 270 | 273 | 278 | 287 | 301 | 286 | 227 | 249 | 188 | 136 | 125 | 136 | 167 | 134 | 60 |
| 28 | 123 | 156 | 236 | 122 | 192 | 192 | 159 | 42 | 104 | 81 | 78 | 87 | 94 | 82 | 92 | 77 | 79 | 92 | 87 | 90 | 100 | 115 | 119 | 117 |

**TABLE 5**

**Most Frequent Wind Direction (degrees from North)**
**Facility Site Station**
**Clean Harbors Canada, Inc.**
**Monthly Ambient Air Monitoring Report**
**February 2023**

| Ryley Wind Direction Data (degrees, blowing from) - Month of February 2023 | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Day/Hour | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 1 | 139 | 144 | 142 | 132 | 96 | 146 | 294 | 335 | 347 | 348 | 295 | 330 | 23 | 26 | 105 | 297 | 72 | 312 | 348 | 161 | 49 | 36 | 57 | 57 |
| 2 | 95 | 106 | 114 | 128 | 125 | 135 | 128 | 123 | 130 | 135 | 140 | 141 | 140 | 142 | 141 | 147 | 145 | 144 | 143 | 140 | 143 | 148 | 150 | 150 |
| 3 | 150 | 153 | 152 | 162 | 166 | 167 | 155 | 165 | 197 | 154 | 188 | 220 | 226 | 222 | 222 | 232 | 209 | 233 | 223 | 183 | 188 | 131 | 107 | 132 |
| 4 | 194 | 203 | 122 | 150 | 198 | 269 | 221 | 272 | 258 | 238 | 231 | 224 | 267 | 284 | 270 | 271 | 254 | 205 | 202 | 192 | 194 | 195 | 194 | 194 |
| 5 | 192 | 188 | 191 | 200 | 223 | 182 | 124 | 198 | 165 | 128 | 151 | 163 | 183 | 178 | 186 | 204 | 218 | 228 | 242 | 236 | 252 | 255 | 251 | 299 |
| 6 | 308 | 304 | 293 | 304 | 313 | 313 | 298 | 275 | 245 | 219 | 212 | 211 | 210 | 208 | 210 | 210 | 208 | 205 | 204 | 204 | 204 | 205 | 207 | 211 |
| 7 | 217 | 219 | 229 | 232 | 234 | 229 | 236 | 243 | 266 | 294 | 285 | 290 | 297 | 301 | 302 | 282 | 287 | 318 | 167 | 188 | 175 | 124 | 132 | 136 |
| 8 | 156 | 112 | 175 | 291 | 312 | 328 | 259 | 245 | 291 | 293 | 282 | 284 | 265 | 257 | 263 | 254 | 218 | 204 | 212 | 207 | 201 | 205 | 208 | 211 |
| 9 | 211 | 214 | 218 | 220 | 230 | 231 | 235 | 226 | 168 | 171 | 142 | 130 | 136 | 170 | 164 | 158 | 178 | 174 | 146 | 168 | 169 | 150 | 165 | 143 |
| 10 | 164 | 157 | 156 | 146 | 140 | 146 | 188 | 178 | 220 | 184 | 194 | 203 | 221 | 236 | 242 | 269 | 286 | 275 | 246 | 218 | 227 | 245 | 247 | 248 |
| 11 | 244 | 239 | 242 | 227 | 236 | 246 | 248 | 237 | 215 | 215 | 215 | 213 | 208 | 209 | 213 | 219 | 226 | 234 | 204 | 221 | 223 | 290 | 260 | 250 |
| 12 | 246 | 259 | 260 | 241 | 237 | 228 | 223 | 228 | 222 | 213 | 209 | 214 | 218 | 206 | 193 | 174 | 163 | 152 | 156 | 141 | 168 | 184 | 180 | 176 |
| 13 | 188 | 199 | 206 | 274 | 315 | 323 | 274 | 253 | 266 | 271 | 259 | 263 | 272 | 286 | 289 | 286 | 283 | 302 | 328 | 340 | 337 | 340 | 342 | 342 |
| 14 | 346 | 328 | 327 | 318 | 302 | 303 | 309 | 293 | 308 | 285 | 254 | 253 | 258 | 243 | 226 | 223 | 216 | 199 | 229 | 262 | 274 | 237 | 261 | 284 |
| 15 | 267 | 203 | 60 | 119 | 51 | 91 | 96 | 88 | 114 | 98 | 92 | 121 | 124 | 101 | 103 | 104 | 115 | 112 | 122 | 128 | 148 | 149 | 160 | 170 |
| 16 | 161 | 162 | 156 | 159 | 153 | 164 | 172 | 177 | 179 | 179 | 182 | 181 | 185 | 186 | 179 | 194 | 208 | 222 | 232 | 248 | 266 | 285 | 282 | 263 |
| 17 | 275 | 285 | 271 | 263 | 278 | 275 | 284 | 290 | 292 | 283 | 275 | 260 | 270 | 255 | 251 | 250 | 235 | 257 | 216 | 203 | 202 | 229 | 244 | 252 |
| 18 | 231 | 159 | 201 | 201 | 272 | 231 | 250 | 259 | 260 | 251 | 251 | 252 | 288 | 30 | 21 | 17 | 25 | 19 | 19 | 52 | 66 | 97 | 108 | 116 |
| 19 | 135 | 141 | 150 | 153 | 145 | 134 | 130 | 142 | 148 | 152 | 155 | 180 | 230 | 278 | 328 | 331 | 349 | 71 | 18 | 58 | 36 | 48 | 28 | 117 |
| 20 | 242 | 304 | 286 | 287 | 314 | 337 | 329 | 319 | 336 | 331 | 332 | 334 | 325 | 345 | 123 | 92 | 140 | 156 | 152 | 146 | 140 | 130 | 128 | 95 |
| 21 | 50 | 42 | 41 | 31 | 23 | 19 | 28 | 22 | 13 | 38 | 34 | 22 | 15 | 75 | 33 | 308 | 344 | 337 | 336 | 326 | 303 | 290 | 300 | 324 |
| 22 | 331 | 306 | 281 | 302 | 318 | 320 | 136 | 22 | 231 | 19 | 32 | 31 | 56 | 55 | 38 | 15 | 25 | 51 | 46 | 37 | 26 | 43 | 35 | 37 |
| 23 | 49 | 48 | 46 | 30 | 136 | 60 | 43 | 59 | 110 | 64 | 48 | 318 | 128 | 38 | 45 | 39 | 37 | 64 | 71 | 114 | 143 | 140 | 159 | 155 |
| 24 | 125 | 152 | 143 | 142 | 132 | 129 | 140 | 137 | 136 | 145 | 163 | 158 | 150 | 151 | 147 | 155 | 156 | 156 | 156 | 161 | 170 | 161 | 170 | 191 |
| 25 | 219 | 235 | 235 | 229 | 242 | 244 | 237 | 230 | 241 | 237 | 231 | 218 | 214 | 208 | 194 | 195 | 186 | 160 | 154 | 150 | 146 | 136 | 132 | 143 |
| 26 | 142 | 141 | 136 | 130 | 119 | 105 | 109 | 93 | 86 | 71 | 106 | 108 | 46 | 147 | 69 | 131 | 35 | 37 | 157 | 161 | 266 | 277 | 314 | 282 |
| 27 | 305 | 292 | 282 | 286 | 293 | 294 | 293 | 292 | 264 | 253 | 255 | 254 | 253 | 268 | 282 | 290 | 209 | 236 | 252 | 115 | 142 | 139 | 158 | 121 |
| 28 | 109 | 100 | 147 | 175 | 179 | 114 | 270 | 269 | 137 | 49 | 96 | 85 | 88 | 87 | 82 | 79 | 87 | 80 | 85 | 91 | 85 | 91 | 100 | 115 |

**TABLE 6**

**Most Frequent Wind Direction (degrees from North)**
**Ryley Schoool Station**
**Clean Harbors Canada, Inc.**
**Monthly Ambient Air Monitoring Report**
**February 2023**

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

Notes:
- (X) - Equipment Malfunction

**TABLE 7**

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

| Frequency Distribution Report: Ryley, Alberta - February 2023 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Wind Speed (m/s) and Number of Occurences (minutes) | | | | | | | | |
| Direction | Angle | < 0.5 | 0.5 to < 2.1 | 2.1 to < 3.6 | 3.6 to < 5.7 | 5.7 to < 8.8 | 8.8 to < 11.1 | >= 11.1 | % | Total Occurrences by Direction |
| North | > 337.5 - 22.5 | 62 | 950 | 774 | 958 | 801 | 83 | 54 | 9.1% | 3682 |
| Northeast | > 22.5 - 67.5 | 70 | 1367 | 1003 | 434 | 154 | 2 | 0 | 7.5% | 3030 |
| East | > 67.5 - 112.5 | 60 | 834 | 554 | 622 | 332 | 27 | 5 | 6.0% | 2434 |
| Southeast | > 112.5 - 157.5 | 70 | 1826 | 1875 | 1477 | 965 | 225 | 43 | 16.1% | 6481 |
| South | > 157.5 - 202.5 | 63 | 907 | 2193 | 2610 | 309 | 0 | 0 | 15.1% | 6082 |
| Southwest | > 202.5 - 247.5 | 29 | 239 | 986 | 3329 | 2268 | 12 | 0 | 17.0% | 6863 |
| West | > 247.5 - 292.5 | 34 | 587 | 1455 | 2480 | 1455 | 96 | 16 | 15.2% | 6123 |
| Northwest | > 292.5 - 337.5 | 66 | 633 | 1482 | 1699 | 1066 | 464 | 274 | 14.1% | 5684 |
| Missing/Invalid Hours | | | | | | | | | 0.0% | 0 |
| Total Occurences by Speed | | 454 | 7343 | 10322 | 13609 | 7350 | 909 | 392 | | **40379** |
| Occurences by % | | 1.1% | 18.2% | 25.6% | 33.7% | 18.2% | 2.3% | 1.0% | **100.00%** | |

**TABLE 8**

**Wind Frequency Distribution**
**Facility Site Station**
**Clean Harbors Canada, Inc.**
**Monthly Ambient Air Monitoring Report**
**February 2023**

| Frequency Distribution Report: Ryley, Alberta - February 2023 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Wind Speed (m/s) and Number of Occurences (minutes) | | | | | | | | |
| Direction | Angle | < 0.5 | 0.5 to < 2.1 | 2.1 to < 3.6 | 3.6 to < 5.7 | 5.7 to < 8.8 | 8.8 to < 11.1 | >= 11.1 | % | Total Occurrences by Direction |
| North | > 337.5 - 22.5 | 92 | 1324 | 745 | 1149 | 571 | 60 | 35 | 9.9% | 3976 |
| Northeast | > 22.5 - 67.5 | 113 | 1566 | 896 | 335 | 98 | 0 | 0 | 7.5% | 3008 |
| East | > 67.5 - 112.5 | 121 | 1101 | 715 | 447 | 97 | 0 | 0 | 6.2% | 2481 |
| Southeast | > 112.5 - 157.5 | 98 | 1894 | 2455 | 1821 | 966 | 149 | 8 | 18.3% | 7391 |
| South | > 157.5 - 202.5 | 87 | 805 | 2012 | 2131 | 228 | 1 | 0 | 13.1% | 5264 |
| Southwest | > 202.5 - 247.5 | 69 | 1519 | 3712 | 2598 | 331 | 0 | 2 | 20.4% | 8231 |
| West | > 247.5 - 292.5 | 52 | 1652 | 2322 | 1268 | 622 | 0 | 165 | 15.1% | 6081 |
| Northwest | > 292.5 - 337.5 | 78 | 919 | 1224 | 845 | 530 | 0 | 292 | 9.6% | 3888 |
| Missing/Invalid Minutes | | | | | | | | | 0.0% | 0 |
| Total Occurences by Speed | | 710 | 10780 | 14081 | 10594 | 3443 | 210 | 502 | | **40320** |
| Occurences by % | | 1.8% | 26.7% | 34.9% | 26.3% | 8.5% | 0.5% | 1.2% | **100.00%** | |

**TABLE 9**

**Wind Frequency Distribution**
**Ryley Schoool Station**
**Clean Harbors Canada, Inc.**
**Monthly Ambient Air Monitoring Report**
**February 2023**

| Frequency Distribution Report: Ryley, Alberta - February 2023 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Wind Speed (m/s) and Number of Occurences (minutes) | | | | | | | | |
| Direction | Angle | < 0.5 | 0.5 to < 2.1 | 2.1 to < 3.6 | 3.6 to < 5.7 | 5.7 to < 8.8 | 8.8 to < 11.1 | >= 11.1 | % | Total Occurrences by Direction |
| North | > 337.5 - 22.5 | 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%** | 0 |
| Total Occurences by Speed | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | **40320** |
| Occurences by % | | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | **100.00%** | |

**TABLE 10**

**Total Suspended Particulate (TSP) Matter Results**
**Facility Site Station**
**Clean Harbors Canada, Inc.**
**Monthly Ambient Air Monitoring Report**
**February 2023**

| | |
|---|---|
| **Filter ID** | HVF-22-04-017 |
| **Test ID** | Facility Test # 99 |
| **Sample Start Date/Time** | 23/31/01 11:00:00 |
| **Sample End Date/Time** | 23/01/03 15:00:00 |
| **Sampling Time (hours)** | 26.38 |
| **Flow Rate ($m^3$/min)** | 1.237 |
| **Volume ($m^3$)** | 1809.731 |
| **TSP Mass (mg)** | 46.3 |
| **TSP Concentration (ug/$m^3$)** | 25.584 |
| **Sampler Name** | TE-5170V / P8580 TSP VFC |

**TABLE 11**

**Total Suspended Particulate (TSP) Matter Results**
**Ryley Schoool Station**
**Clean Harbors Canada, Inc.**
**Monthly Ambient Air Monitoring Report**
**February 2023**

| | |
|---|---|
| **Filter ID** | HVF-22-04-018 |
| **Test ID** | School Test # 99 |
| **Sample Start Date/Time** | 23/31/01 11:00:00 |
| **Sample End Date/Time** | 23/01/03 15:00:00 |
| **Sampling Time (hours)** | 63.96 |
| **Flow Rate ($m^3$/min)** | 1.248 |
| **Volume ($m^3$)** | 4789.824 |
| **TSP Mass (mg)** | 65 |
| **TSP Concentration (ug/$m^3$)** | 13.570 |
| **Sampler Name** | TE-5170V / P8581<br>TSP VFC |

**TABLE 12**

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

| **Filter ID** | HV-22-12-03 | HV-22-12-07 | HV-22-12-19 | HV-22-12-06 |
|---|---|---|---|---|
| **Test ID** | 825 | 826 | 827 | 828 |
| **Sample Start Date/Time** | 23/02/05 00:00:00 | 23/02/11 00:00:00 | 23/02/17 00:00:00 | 23/02/23 00:00:00 |
| **Sample End Date/Time** | 23/02/06 00:00:00 | 23/02/12 00:00:00 | 23/02/18 00:00:00 | 23/02/24 00:00:00 |
| **Sampling Time (hours)** | 24.16 | 23.62 | 23.71 | 24.26 |
| **Flow Rate ($m^3$/min)** | 1.236 | 1.236 | 1.236 | 1.236 |
| **Volume ($m^3$)** | 1791.71 | 1751.66 | 1793.19 | 1799.12 |
| **TSP Mass (mg)** | 30.5 | 37.0 | 42.0 | 31.0 |
| **TSP Concentration (ug/$m^3$)** | 17.023 | 21.123 | 23.422 | 17.231 |
| **Sampler Name** | TE-5170V / P11162 TSP VFC | TE-5170V / P11162 TSP VFC | TE-5170V / P11162 TSP VFC | TE-5170V / P11162 TSP VFC |

**TABLE 13**

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

| **Filter ID** | C9694304 | C1165501 | C1167717 | C1165503 |
|---|---|---|---|---|
| **Test ID** | 825 | 826 | 827 | 828 |
| **Sample Start Date/Time** | 23/02/05 00:00:00 | 23/02/11 00:00:00 | 23/02/17 00:00:00 | 23/02/23 00:00:00 |
| **Sample End Date/Time** | 23/02/06 00:00:00 | 23/02/12 00:00:00 | 23/02/18 00:00:00 | 23/02/24 00:00:00 |
| **Sampling Time (hours)** | 24 | 24 | 24 | 24 |
| **Flow Rate (l/min)** | 16.7 | 16.7 | 16.7 | 16.7 |
| **Volume ($m^3$)** | 23.9 | 24.1 | 24.1 | 26.9 |
| **$PM_{10}$ Mass (mg)** | 0.166 | 0.099 | 0.179 | 0.141 |
| **$PM_{10}$ Concentration ($ug/m^3$)** | 6.946 | 4.108 | 7.427 | 5.242 |
| **Sampler Name** | 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**
**February 2023**

| Parameter | Units | Date / Sample ID AAAQO[1] | 5-Feb-23 825 | 11-Feb-23 826 | 17-Feb-23 827 | 23-Feb-23 828 |
|---|---|---|---|---|---|---|
| Total Non-Methane Organic Carbon | ppmv | - | < 0.09 | < 0.09 | < 0.09 | < 0.08 |
| 1,2,3-Trimethylbenzene | ppbv | - | < 0.09 | < 0.09 | < 0.09 | < 0.08 |
| 1,2,4-Trimethylbenzene | ppbv | - | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| 1,3,5-Trimethylbenzene | ppbv | - | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| 1-Butene/Isobutylene | ppbv | - | < 0.11 | < 0.11 | < 0.10 | < 0.09 |
| 1-Hexene/2-Methyl-1-pentene | ppbv | - | < 0.12 | < 0.12 | < 0.12 | < 0.11 |
| 1-Pentene | ppbv | - | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| 2,2,4-Trimethylpentane | ppbv | - | < 0.04 | < 0.04 | < 0.03 | < 0.03 |
| 2,2-Dimethylbutane | ppbv | - | < 0.04 | < 0.04 | < 0.03 | < 0.03 |
| 2,3,4-Trimethylpentane | ppbv | - | < 0.04 | < 0.04 | < 0.03 | < 0.03 |
| 2,3-Dimethylbutane | ppbv | - | < 0.16 | < 0.16 | < 0.15 | < 0.14 |
| 2,3-Dimethylpentane | ppbv | - | < 0.04 | < 0.04 | < 0.03 | < 0.03 |
| 2,4-Dimethylpentane | ppbv | - | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| 2-Methylheptane | ppbv | - | < 0.04 | < 0.04 | 0.06 | < 0.03 |
| 2-Methylhexane | ppbv | - | < 0.05 | < 0.05 | 0.10 | < 0.05 |
| 2-Methylpentane | ppbv | - | 0.11 | 0.06 | 0.16 | < 0.03 |
| 3-Methylheptane | ppbv | - | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| 3-Methylhexane | ppbv | - | 0.05 | < 0.04 | 0.09 | < 0.03 |
| 3-Methylpentane | ppbv | - | 0.11 | < 0.04 | 0.17 | < 0.03 |
| Benzene | ppbv | - | 0.13 | 0.07 | 0.14 | 0.05 |
| cis-2-Butene | ppbv | - | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| cis-2-Pentene | ppbv | - | < 0.04 | < 0.04 | < 0.03 | < 0.03 |
| Cyclohexane | ppbv | - | < 0.07 | < 0.07 | 0.11 | < 0.06 |
| Cyclopentane | ppbv | - | 0.05 | < 0.04 | 0.07 | < 0.03 |
| Ethylbenzene | ppbv | - | < 0.05 | < 0.05 | 0.13 | < 0.05 |
| Isobutane | ppbv | - | 1.24 | 0.88 | 3.52 | 0.40 |
| Isopentane | ppbv | - | 0.67 | 0.51 | 1.72 | 0.21 |
| Isoprene | ppbv | - | < 0.04 | < 0.04 | < 0.03 | < 0.03 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Isopropylbenzene | ppbv | - | < 0.07 | < 0.07 | < 0.07 | < 0.06 |
| m,p-Xylene | ppbv | 161 | 0.13 | < 0.07 | 0.55 | < 0.06 |
| m-Diethylbenzene | ppbv | - | < 0.04 | < 0.04 | < 0.03 | < 0.03 |
| m-Ethyltoluene | ppbv | - | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Methylcyclohexane | ppbv | - | 0.07 | < 0.04 | 0.15 | < 0.03 |
| Methylcyclopentane | ppbv | - | 0.09 | < 0.09 | 0.14 | < 0.08 |
| n-Butane | ppbv | - | 2.03 | 1.51 | 3.90 | 0.56 |
| n-Decane | ppbv | - | < 0.11 | < 0.11 | < 0.10 | < 0.09 |
| n-Dodecane | ppbv | - | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| n-Heptane | ppbv | - | 0.07 | < 0.07 | 0.12 | < 0.06 |
| n-Hexane | ppbv | 1990 | 0.24 | < 0.05 | 0.36 | < 0.05 |
| n-Nonane | ppbv | - | < 0.07 | < 0.07 | < 0.07 | < 0.06 |
| n-Octane | ppbv | - | < 0.04 | < 0.04 | 0.06 | < 0.03 |
| n-Pentane | ppbv | - | 0.55 | 0.39 | 1.25 | 0.14 |
| n-Propylbenzene | ppbv | - | < 0.11 | < 0.11 | < 0.10 | < 0.09 |
| n-Undecane | ppbv | - | < 0.9 | < 0.9 | < 0.9 | < 0.8 |
| o-Ethyltoluene | ppbv | - | < 0.04 | < 0.04 | < 0.03 | < 0.03 |
| o-Xylene | ppbv | 161 | < 0.05 | < 0.05 | 0.11 | < 0.05 |
| p-Diethylbenzene | ppbv | - | < 0.04 | < 0.04 | < 0.03 | < 0.03 |
| p-Ethyltoluene | ppbv | - | < 0.07 | < 0.07 | < 0.07 | < 0.06 |
| Styrene | ppbv | - | < 0.07 | < 0.07 | < 0.07 | < 0.06 |
| Toluene | ppbv | 106 | 0.61 | 0.11 | 1.05 | < 0.05 |
| trans-2-Butene | ppbv | - | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| trans-2-Pentene | ppbv | - | < 0.04 | < 0.04 | < 0.03 | < 0.03 |
| Total VOCs [(2)] | ppbv | - | 9.630 | 7.450 | 17.000 | 4.920 |

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.

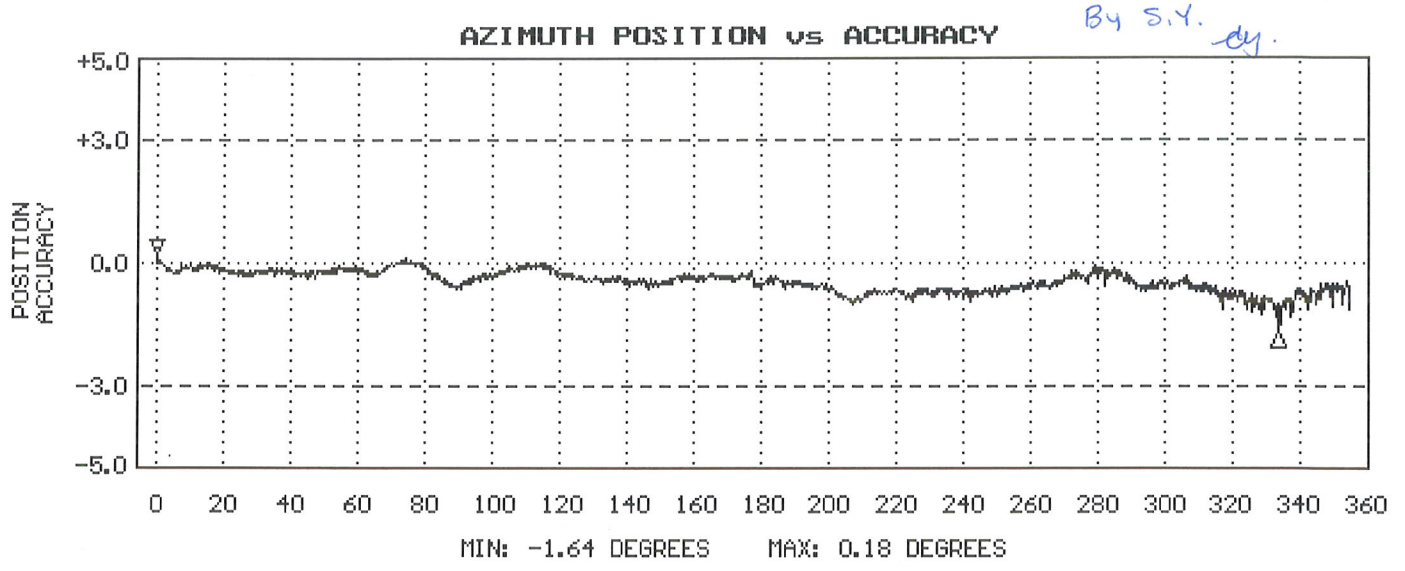
# Appendix A
# Meteorological Station Calibration Report

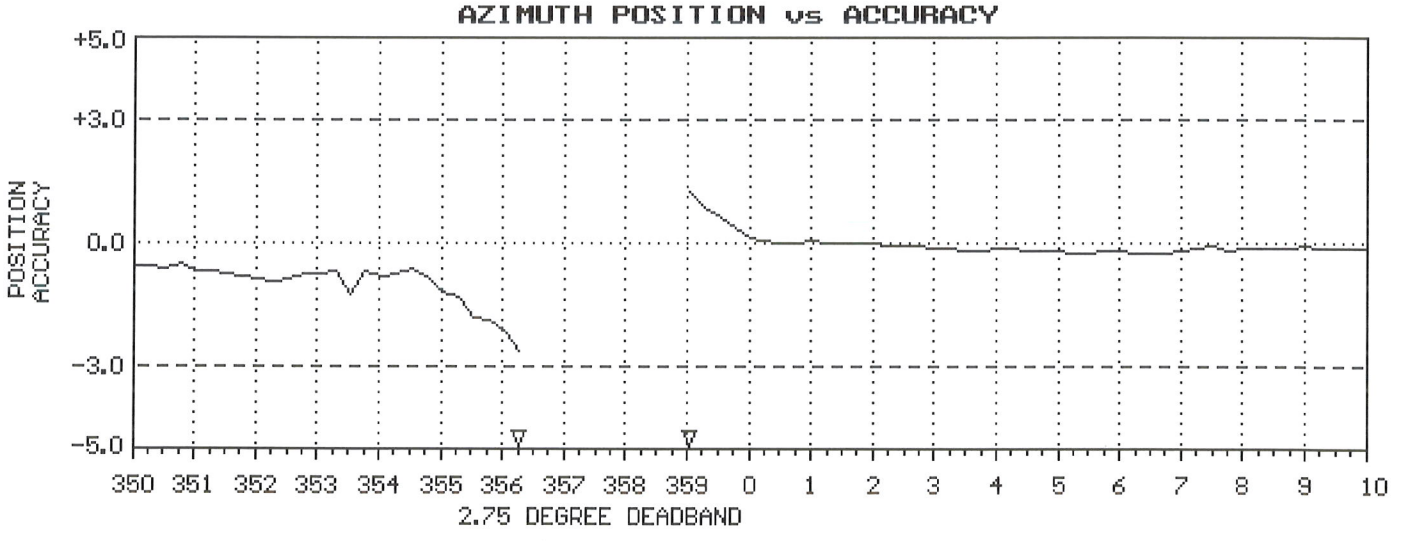
# R. M. YOUNG COMPANY WIND SENSOR CALIBRATION CERTIFICATE

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:** | Mar 18, 2022 | **Model:** | 05305 |
| **Tech.:** | P. Shariaty & S. Davey | **Serial #:** | 149768 |
| **Instrument:** | Continuous Wind Monitor | **Calibration due:** | Annually |
| **Time:** | 10:15 AM - 2:00 PM | **Temperature:** | 4°C |

| Pre-Calibration Inspection | Y/N |
|---|---|
| Is the wind direction < +/- 10° from compass observation? | Y |
| 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) |
| 180 | 181 | Y | 26.1 | 26.0 | Y |
| 210 | 213 | Y | 20.5 | 20.4 | Y |
| 240 | 242 | Y | 15.4 | 15.3 | Y |
| 270 | 272 | Y | 10.2 | 10.2 | Y |
| 300 | 303 | Y | 5.1 | 5.1 | Y |
| 330 | 332 | Y | | | |
| 0 | 4 | Y | | | |
| 30 | 31 | Y | | | |
| 60 | 61 | Y | | | |
| 90 | 90 | Y | | | |
| 120 | 122 | Y | | | |
| 150 | 151 | Y | | | |

### Comments

Wind monitor (SN:149768) was removed from tower, inspected and the calibration was checked on March 18, 2022. Mechanical bearings and shaft alignment were inspected. Bearings were replaced and instrument was cleaned of any dust buildup. Alignment was in good condition. Other than the bearings and cleaning, no additional maintenance was required. It is recommended that instrument be cleaned biannually and bearings checked/replaced at the 2023 calibration interval. After calibration check, wind monitor was re-installed and sited back to original position.

Calibration Adjustment Required?: No

### Conversion Factors

| m/s | RPM |
|---|---|
| 19.456 | 3800 |
| 15.360 | 3000 |
| 12.800 | 2500 |
| 9.216 | 1800 |
| 7.680 | 1500 |
| 5.632 | 1100 |
| 4.096 | 800 |
| 2.560 | 500 |
| 1.024 | 200 |

# Appendix B
# Sampling Field Sheets

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

A) GENERAL INFORMATION

| | | |
|---|---|---|
| Sample Identification Number: | Organic Test 825 | |
| Sample Canister Location: | Ryley Lift Station -Shed | |
| Sampled by | T.Webb | |
| Sampler Name: | Test 825 | |
| Sample Date: | 23/02/05 | yy/mm/dd |
| Shipping Date to Laboratory: | 23/02/07 | |
| Canister Type (ie. 1 Litre/6 Litre/Other): | 6L | |
| Canister Serial No.: | 28886 | |
| Flow Controller Serial No.: | H/L578699/A0334390-5 | |

B) SAMPLE SET UP

| | Set up Conditions | Sample Retrieval |
|---|---|---|
| Date: | 23/01/31 | 23/02/06 |
| Ambient Temperature °C (inside shed): | 14.4 | 17.4 |
| Barometric Pressure (mm Hg): | 700 | 695 |
| Canister Pressure Gauge Reading (- Inches Hg): | (-)27.1 | (-)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: | Cloudy |
| Describe facility operations that may affect sampling event: | None |
| Comments: | |

| | | | | |
|---|---|---|---|---|
| **FIELD SHEET** | | | | |
| **$PM_{10}$ (Partisol Monitoring Unit)** | | | | |
| **CLEAN HARBORS CANADA INC** | | | | |
| **RYLEY, ALBERTA** | | | | |
| | | | | |
| A) GENERAL INFORMATION | | | | |
| | | | | |
| Filter ID: | C9694304 | | | |
| PO Number: | 231517 | | | |
| Partisol Sampler ID/Serial Number: | 2000 FRM-AE / 200FB209860905 | | | |
| Test number : | Particulate Test 825 | | | |
| Sample Date: | 23/02/05 | | yy/mm/dd | |
| Shipping Date to Laboratory: | 23/02/07 | | | |
| PM10 Analysis Trigger Weight (mg): | 1.20 | | weight which PM10 conc. > 50 µg/$m^3$ | |
| | | | | |
| B) SAMPLING INFORMATION | | | | |
| **SAMPLE START** | | | | |
| Sampling Start Date: | 23/02/05 | | | |
| Sampling Start Time: | 00:00 | | | |
| Current Instrument Date: | 23/01/31 | | | |
| Current Instrument Time: | 11:41 | | | |
| Ambient Temperature °C: | -8.4 | | | |
| Barometric Pressure ( mm Hg): | 700 | | | |
| Leak Check: | Pass | | (Pass/Fail) | |
| Clean PM10 Inlet: | Yes | | (Yes/No) | |
| Weather Conditions Sampling date : | Cloudy | | | |
| Weather Conditions set up: | Partly Cloudy | | | |
| | | | | |
| **SAMPLE RETRIEVAL** | | | | |
| Sampled by | T. Webb | | | |
| Sampling End Date: | 23/02/06 | | | |
| Sampling End Time: | 00:00 | | | |
| Current Instrument Date: | 23/02/06 | | | |
| Current Instrument Time: | 10:56 | | | |
| Run Status: | OK | | (Ensure Run Status is OK) | |
| Total Sampling Time (Hours): | 24 | | | |
| Volume Sampled (m^3): | 23.9 | | | |
| Average Flow Rate (L/min): | 16.7 L/min | | | |
| AmbT °C : | -0.6 | | | |
| Barometric Pressure ( mm Hg) : | 695 | | | |
| Sample Filter Temperature °C : | 0.0 | | | |
| Flow Rate Coefficient of Variation (%CV): | 0.2 | | | |
| Weather Conditions : | Cloudy | | | |
| Leak Check: | Pass | | (Pass/Fail) | |
| | | | | |
| **FIELD BLANK** | | | (Once every quarter) | |
| Was a field blank collected | No | | (Yes/No) | |
| Filter ID: | | | | |
| Filter Batch Number: | | | | |
| Current Instrument Date: | | | | |
| Current Instrument Time: | | | | |
| | | | | |
| C) OBSERVATIONS | | | | |
| | | | | |
| Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event? | No | | | |
| | | | | |
| | | | | |
| Describe facility operations that may affect sampling event: | | | | |
| | | | | |
| | | | | |
| Comments: | | | | |
| | | | | |
| | | | | |

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

1. SAMPLING INFORMATION

| | | | | |
|---|---|---|---|---|
| Sample ID | Test #825 | | | |
| Lab Filter ID | HV-22-12-03 | | | |
| Start Sampling | 2 | 5 | 0 | 2023 |
| | mm | dd | hr | |
| Stop Sampling | 2 | 6 | 0 | 2023 |
| | mm | dd | hr | |
| Timer Initial: | 130.64 | | | |
| Timer Final: | 154.80 | | | |
| | 24.16 | | | |
| Total Sampling Time | 24 hr | 10 min | 1450 | |
| Average Flow Rate | cfm | | | |
| Actual m3/min | 1.236 | | | |
| Air Volume | 1791.7 cubic metres | | | |
| Net TSP Weight | g | | | |
| TSP Concentration | mg/m3 | | | |
| TSP Analysis Trigger Weight | 89.6 mg | weight which TSP conc. > 50 µg/$m^3$ | | |

3. OBSERVATIONS

Comments:

Instrument Last Calibrated: 9-Dec-22

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**
**VOLATILE ORGANIC COMPOUNDS**
**CLEAN HARBORS CANADA INC**
**RYLEY, ALBERTA**

A) GENERAL INFORMATION

| | | |
|---|---|---|
| Sample Identification Number: | Organic Test 826 | |
| Sample Canister Location: | Ryley Lift Station -Shed | |
| Sampled by | T.Webb | |
| Sampler Name: | Test 826 | |
| Sample Date: | 23/02/11 | yy/mm/dd |
| Shipping Date to Laboratory: | 23/02/15 | |
| Canister Type (ie. 1 Litre/6 Litre/Other): | 6L | |
| Canister Serial No.: | 28933 | |
| Flow Controller Serial No.: | H/L578699/A0334390-5 | |

B) SAMPLE SET UP

| | Set up Conditions | Sample Retrieval |
|---|---|---|
| Date: | 23/02/06 | 23/02/14 |
| Ambient Temperature °C (inside shed): | 17.0 | 22.4 |
| Barometric Pressure (mm Hg): | 695 | 702 |
| Canister Pressure Gauge Reading (- Inches Hg): | (-)27.1 | (-)7 |
| Sample Time: | 24 | 24 |

C) OBSERVATIONS

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

| | | | | |
|---|---|---|---|---|
| **FIELD SHEET** | | | | |
| **$PM_{10}$ (Partisol Monitoring Unit)** | | | | |
| **CLEAN HARBORS CANADA INC** | | | | |
| **RYLEY, ALBERTA** | | | | |
| | | | | |
| A) GENERAL INFORMATION | | | | |
| | | | | |
| Filter ID: | C1165501 | | | |
| PO Number: | 231517 | | | |
| Partisol Sampler ID/Serial Number: | 2000 FRM-AE / 200FB209860905 | | | |
| Test number : | Particulate Test 826 | | | |
| Sample Date: | 23/02/11 | | yy/mm/dd | |
| Shipping Date to Laboratory: | 23/02/15 | | | |
| PM10 Analysis Trigger Weight (mg): | 1.21 | | weight which PM10 conc. > 50 µg/$m^3$ | |
| | | | | |
| B) SAMPLING INFORMATION | | | | |
| **SAMPLE START** | | | | |
| Sampling Start Date: | 23/02/11 | | | |
| Sampling Start Time: | 00:00 | | | |
| Current Instrument Date: | 23/02/06 | | | |
| Current Instrument Time: | 11:30 | | | |
| Ambient Temperature °C: | 0.9 | | | |
| Barometric Pressure ( mm Hg): | 695 | | | |
| Leak Check: | Pass | | (Pass/Fail) | |
| Clean PM10 Inlet: | Yes | | (Yes/No) | |
| Weather Conditions Sampling date : | Mostly cloudy | | | |
| Weather Conditions set up: | Mostly cloudy | | | |
| | | | | |
| **SAMPLE RETRIEVAL** | | | | |
| Sampled by | T. Webb | | | |
| Sampling End Date: | 23/02/12 | | | |
| Sampling End Time: | 00:00 | | | |
| Current Instrument Date: | 23/02/14 | | | |
| Current Instrument Time: | 14:00 | | | |
| Run Status: | OK | | (Ensure Run Status is OK) | |
| Total Sampling Time (Hours): | 24 | | | |
| Volume Sampled (m^3): | 24.1 | | | |
| Average Flow Rate (L/min): | 16.7 L/min | | | |
| AmbT °C : | -5.0 | | | |
| Barometric Pressure ( mm Hg) : | 702 | | | |
| Sample Filter Temperature °C : | -4.4 | | | |
| Flow Rate Coefficient of Variation (%CV): | 0.1 | | | |
| Weather Conditions : | Partly cloudy | | | |
| Leak Check: | Pass | | (Pass/Fail) | |
| | | | | |
| **FIELD BLANK** | | | (Once every quarter) | |
| Was a field blank collected | No | | (Yes/No) | |
| Filter ID: | | | | |
| Filter Batch Number: | | | | |
| Current Instrument Date: | | | | |
| Current Instrument Time: | | | | |
| | | | | |
| C) OBSERVATIONS | | | | |
| | | | | |
| Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event? | No | | | |
| | | | | |
| | | | | |
| Describe facility operations that may affect sampling event: | | | | |
| | | | | |
| | | | | |
| Comments: | | | | |
| | | | | |
| | | | | |

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

## 1. SAMPLING INFORMATION

| | | | | |
|---|---|---|---|---|
| Sample ID | Test #826 | | | |
| Lab Filter ID | HV-22-12-07 | | | |
| Start Sampling | 2 mm | 11 dd | 0 hr | 2023 |
| Stop Sampling | 2 mm | 12 dd | 0 hr | 2023 |
| Timer Initial: | 154.80 | | | |
| Timer Final: | 178.42 | | | |
| | 23.62 | | | |
| Total Sampling Time | 23 hr | 37 min | 1417 | |
| Average Flow Rate | cfm | | | |
| Actual m3/min | 1.236 | | | |
| Air Volume | 1751.7 cubic metres | | | |
| Net TSP Weight | g | | | |
| TSP Concentration | mg/m3 | | | |
| TSP Analysis Trigger Weight | 87.6 mg | weight which TSP conc. > 50 µg/$m^3$ | | |

## 3. OBSERVATIONS

Comments: Small tear in filter noticed after removing from filter holder after sampling.

Instrument Last Calibrated: 9-Dec-22

## 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**
**VOLATILE ORGANIC COMPOUNDS**
**CLEAN HARBORS CANADA INC**
**RYLEY, ALBERTA**

A) GENERAL INFORMATION

| | | |
|---|---|---|
| Sample Identification Number: | Organic Test 827 | |
| Sample Canister Location: | Ryley Lift Station -Shed | |
| Sampled by | T.Webb | |
| Sampler Name: | Test 827 | |
| Sample Date: | 23/02/17 | yy/mm/dd |
| Shipping Date to Laboratory: | 23/02/22 | |
| Canister Type (ie. 1 Litre/6 Litre/Other): | 6L | |
| Canister Serial No.: | 32197 | |
| Flow Controller Serial No.: | H/L578699/A0334390-5 | |

B) SAMPLE SET UP

| | Set up Conditions | Sample Retrieval |
|---|---|---|
| Date: | 23/02/16 | 23/02/21 |
| Ambient Temperature °C (inside shed): | 27.4 | 16.5 |
| Barometric Pressure (mm Hg): | 695 | 704 |
| Canister Pressure Gauge Reading (- Inches Hg): | (-)27.1 | (-)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: | Mostly cloudy |
| Describe facility operations that may affect sampling event: | None |
| Comments: | |

| | | | | |
|---|---|---|---|---|
| **FIELD SHEET** | | | | |
| **$PM_{10}$ (Partisol Monitoring Unit)** | | | | |
| **CLEAN HARBORS CANADA INC** | | | | |
| **RYLEY, ALBERTA** | | | | |
| | | | | |
| A) GENERAL INFORMATION | | | | |
| | | | | |
| Filter ID: | C1167717 | | | |
| PO Number: | 231517 | | | |
| Partisol Sampler ID/Serial Number: | 2000 FRM-AE / 200FB209860905 | | | |
| Test number : | Particulate Test 827 | | | |
| Sample Date: | 23/02/17 | | yy/mm/dd | |
| Shipping Date to Laboratory: | 23/02/22 | | | |
| PM10 Analysis Trigger Weight (mg): | 1.21 | | weight which PM10 conc. > 50 µg/$m^3$ | |
| | | | | |
| B) SAMPLING INFORMATION | | | | |
| **SAMPLE START** | | | | |
| Sampling Start Date: | 23/02/17 | | | |
| Sampling Start Time: | 00:00 | | | |
| Current Instrument Date: | 23/02/16 | | | |
| Current Instrument Time: | 12:59 | | | |
| Ambient Temperature °C: | -0.1 | | | |
| Barometric Pressure ( mm Hg): | 695 | | | |
| Leak Check: | Pass | | (Pass/Fail) | |
| Clean PM10 Inlet: | Yes | | (Yes/No) | |
| Weather Conditions Sampling date : | Mostly Cloudy | | | |
| Weather Conditions set up: | Mostly Cloudy | | | |
| | | | | |
| **SAMPLE RETRIEVAL** | | | | |
| Sampled by | T. Webb | | | |
| Sampling End Date: | 23/02/18 | | | |
| Sampling End Time: | 00:00 | | | |
| Current Instrument Date: | 23/02/21 | | | |
| Current Instrument Time: | 13:30:00 PM | | | |
| Run Status: | OK | | (Ensure Run Status is OK) | |
| Total Sampling Time (Hours): | 24 | | | |
| Volume Sampled (m^3): | 24.1 | | | |
| Average Flow Rate (L/min): | 16.7 L/min | | | |
| AmbT °C : | -16.2 | | | |
| Barometric Pressure ( mm Hg) : | 704 | | | |
| Sample Filter Temperature °C : | -13.2 | | | |
| Flow Rate Coefficient of Variation (%CV): | 0 | | | |
| Weather Conditions : | Mostly Cloudy | | | |
| Leak Check: | Pass | | (Pass/Fail) | |
| | | | | |
| **FIELD BLANK** | | | (Once every quarter) | |
| Was a field blank collected | No | | (Yes/No) | |
| Filter ID: | | | | |
| Filter Batch Number: | | | | |
| Current Instrument Date: | | | | |
| Current Instrument Time: | | | | |
| | | | | |
| C) OBSERVATIONS | | | | |
| | | | | |
| Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event? | No | | | |
| | | | | |
| | | | | |
| Describe facility operations that may affect sampling event: | | | | |
| | | | | |
| | | | | |
| Comments: | | | | |
| | | | | |
| | | | | |

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

## 1. SAMPLING INFORMATION

| | | | | |
|---|---|---|---|---|
| Sample ID | Test #827 | | | |
| Lab Filter ID | HV-22-12-19 | | | |
| Start Sampling | 2 | 17 | 0 | 2023 |
| | mm | dd | hr | |
| Stop Sampling | 2 | 18 | 0 | 2023 |
| | mm | dd | hr | |
| Timer Initial: | 178.42 | | | |
| Timer Final: | 202.13 | | | |
| | 23.71 | | | |

| | | | | | |
|---|---|---|---|---|---|
| Total Sampling Time | 23 | hr | 43 | min | 1423 |
| Average Flow Rate | | cfm | | | |
| Actual m3/min | 1.236 | | | | |
| Air Volume | 1758.3 | cubic metres | | | |
| Net TSP Weight | | g | | | |
| TSP Concentration | | mg/m3 | | | |
| TSP Analysis Trigger Weight | 87.9 | mg | weight which TSP conc. > 50 µg/$m^3$ | | |

## 3. OBSERVATIONS

Comments: Small tear in filter noticed after removing from filter holder after sampling.

Instrument Last Calibrated: 9-Dec-22

## 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**
**VOLATILE ORGANIC COMPOUNDS**
**CLEAN HARBORS CANADA INC**
**RYLEY, ALBERTA**

A) GENERAL INFORMATION

| | | |
|---|---|---|
| Sample Identification Number: | Organic Test 828 | |
| Sample Canister Location: | Ryley Lift Station -Shed | |
| Sampled by | T.Webb | |
| Sampler Name: | Test 828 | |
| Sample Date: | 23/02/23 | yy/mm/dd |
| Shipping Date to Laboratory: | 23/02/27 | |
| Canister Type (ie. 1 Litre/6 Litre/Other): | 6L | |
| Canister Serial No.: | 28917 | |
| Flow Controller Serial No.: | H/L578699/A0334390-5 | |

B) SAMPLE SET UP

| | Set up Conditions | Sample Retrieval |
|---|---|---|
| Date: | 23/02/21 | 23/02/24 |
| Ambient Temperature °C (inside shed): | 16.5 | 14.2 |
| Barometric Pressure (mm Hg): | 703 | 700 |
| 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: | Partly Cloudy |
| Describe facility operations that may affect sampling event: | None |
| Comments: | |

| | | | | |
|---|---|---|---|---|
| **FIELD SHEET** | | | | |
| **$PM_{10}$ (Partisol Monitoring Unit)** | | | | |
| **CLEAN HARBORS CANADA INC** | | | | |
| **RYLEY, ALBERTA** | | | | |
| | | | | |
| A) GENERAL INFORMATION | | | | |
| | | | | |
| Filter ID: | C1165503 | | | |
| PO Number: | 231517 | | | |
| Partisol Sampler ID/Serial Number: | 2000 FRM-AE / 200FB209860905 | | | |
| Test number : | Particulate Test 828 | | | |
| Sample Date: | 23/02/23 | | yy/mm/dd | |
| Shipping Date to Laboratory: | 23/02/27 | | | |
| PM10 Analysis Trigger Weight (mg): | 1.35 | | weight which PM10 conc. > 50 µg/$m^3$ | |
| | | | | |
| B) SAMPLING INFORMATION | | | | |
| **SAMPLE START** | | | | |
| Sampling Start Date: | 23/02/23 | | | |
| Sampling Start Time: | 00:00 | | | |
| Current Instrument Date: | 23/02/21 | | | |
| Current Instrument Time: | 13:52 | | | |
| Ambient Temperature °C: | -14.8 | | | |
| Barometric Pressure ( mm Hg): | 703 | | | |
| Leak Check: | Pass | | (Pass/Fail) | |
| Clean PM10 Inlet: | Yes | | (Yes/No) | |
| Weather Conditions Sampling date : | Light Snow, cloudy | | | |
| Weather Conditions set up: | Light Snow, cloudy | | | |
| | | | | |
| **SAMPLE RETRIEVAL** | | | | |
| Sampled by | T. Webb | | | |
| Sampling End Date: | 23/02/24 | | | |
| Sampling End Time: | 00:00 | | | |
| Current Instrument Date: | 23/02/24 | | | |
| Current Instrument Time: | 13:34 | | | |
| Run Status: | OK | | (Ensure Run Status is OK) | |
| Total Sampling Time (Hours): | 24 | | | |
| Volume Sampled (m^3): | 26.9 | | | |
| Average Flow Rate (L/min): | 16.7 L/min | | | |
| AmbT °C : | -21.6 | | | |
| Barometric Pressure ( mm Hg) : | 700 | | | |
| Sample Filter Temperature °C : | -17.1 | | | |
| Flow Rate Coefficient of Variation (%CV): | 0.2 | | | |
| Weather Conditions : | Partly Cloudy | | | |
| Leak Check: | Pass | | (Pass/Fail) | |
| | | | | |
| **FIELD BLANK** | | | (Once every quarter) | |
| Was a field blank collected | No | | (Yes/No) | |
| Filter ID: | | | | |
| Filter Batch Number: | | | | |
| Current Instrument Date: | | | | |
| Current Instrument Time: | | | | |
| | | | | |
| C) OBSERVATIONS | | | | |
| | | | | |
| Was there significant precipitation (e.g., >1/2-inch rain) within 24 hours prior to (or during) the sampling event? | No | | | |
| | | | | |
| | | | | |
| Describe facility operations that may affect sampling event: | | | | |
| | | | | |
| | | | | |
| Comments: | | | | |
| | | | | |
| | | | | |

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

1. SAMPLING INFORMATION

| | | | | |
|---|---|---|---|---|
| Sample ID | Test #828 | | | |
| Lab Filter ID | HV-22-12-06 | | | |
| Start Sampling | 2 | 23 | 0 | 2023 |
| | mm | dd | hr | |
| Stop Sampling | 2 | 24 | 0 | 2023 |
| | mm | dd | hr | |
| Timer Initial: | 202.13 | | | |
| Timer Final: | 226.39 | | | |
| | 24.26 | | | |
| Total Sampling Time | 24 hr | 16 min | 1456 | |
| Average Flow Rate | cfm | | | |
| Actual m3/min | 1.236 | | | |
| Air Volume | 1799.1 cubic metres | | | |
| Net TSP Weight | g | | | |
| TSP Concentration | mg/m3 | | | |
| TSP Analysis Trigger Weight | 90.0 mg | weight which TSP conc. > 50 µg/$m^3$ | | |

3. OBSERVATIONS

Comments:

Instrument Last Calibrated: 9-Dec-22

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 # 99 | | | |
| Lab Filter ID | HVF-22-04-017 | | | |
| Start Sampling | 1 | 31 | 11 | 2023 |
| | mm | dd | hr | |
| Stop Sampling | 3 | 1 | 15 | 2023 |
| | mm | dd | hr | |
| Timer Initial: | 2389.12 | | | |
| Timer Final: | 2415.5 | | | |

| | | | |
|---|---|---|---|
| Total Sampling Time | 26 hr | 23 min | 1463 |
| Average Flow Rate | | cfm | |
| Actual m3/min | 1.237 | | |
| Air Volume | 1809.7 | cubic metres | |
| Net TSP Weight | | g | |
| TSP Concentration | | mg/m3 | |

3. OBSERVATIONS

Comments:

Instrument Last Calibrated: 9-Dec-22

3. GUIDELINES

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

Sample was collected in accordance with the above guidelines.

Sampler's Signature: 

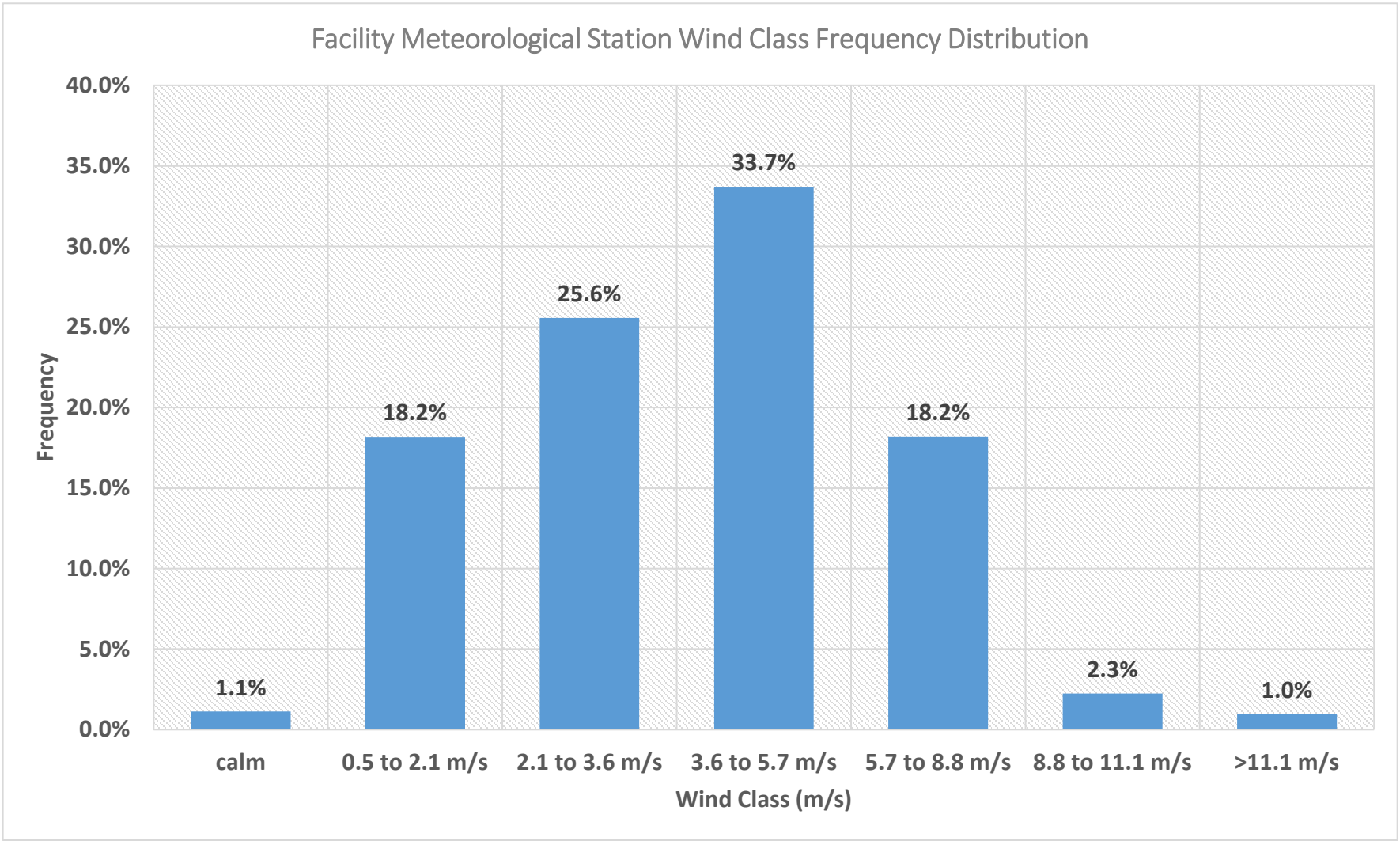
Comments:

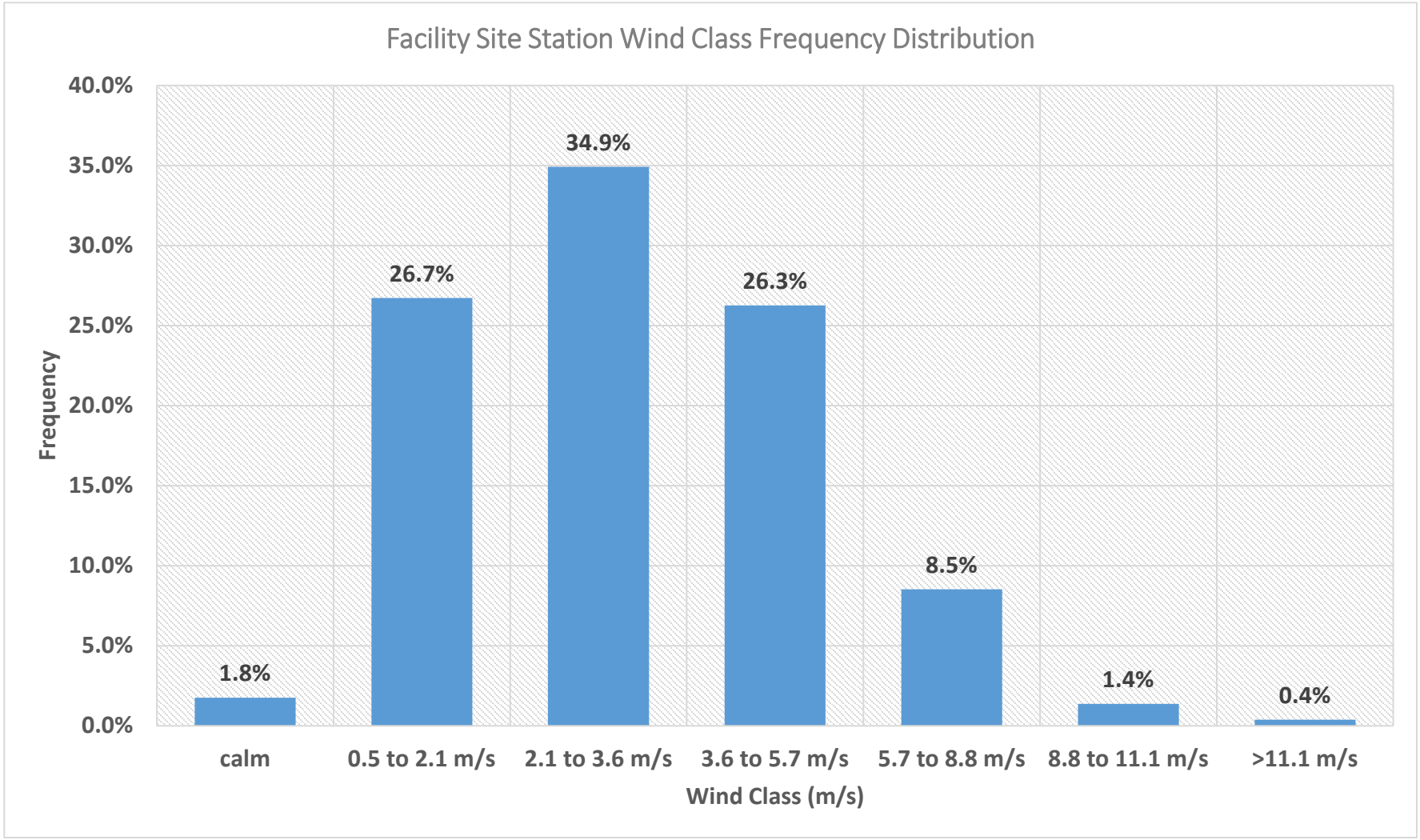
2. SAMPLING INFORMATION

| | | | | |
|---|---|---|---|---|
| Sample ID | School Test # 99 | | | |
| Lab Filter ID | HVF-22-04-018 | | | |
| Start Sampling | 1 | 31 | 11 | 2023 |
| | mm | dd | hr | |
| Stop Sampling | 3 | 1 | 15 | 2023 |
| | mm | dd | hr | |
| Timer Initial: | 2933.09 | | | |
| Timer Final: | 2997.05 | | | |

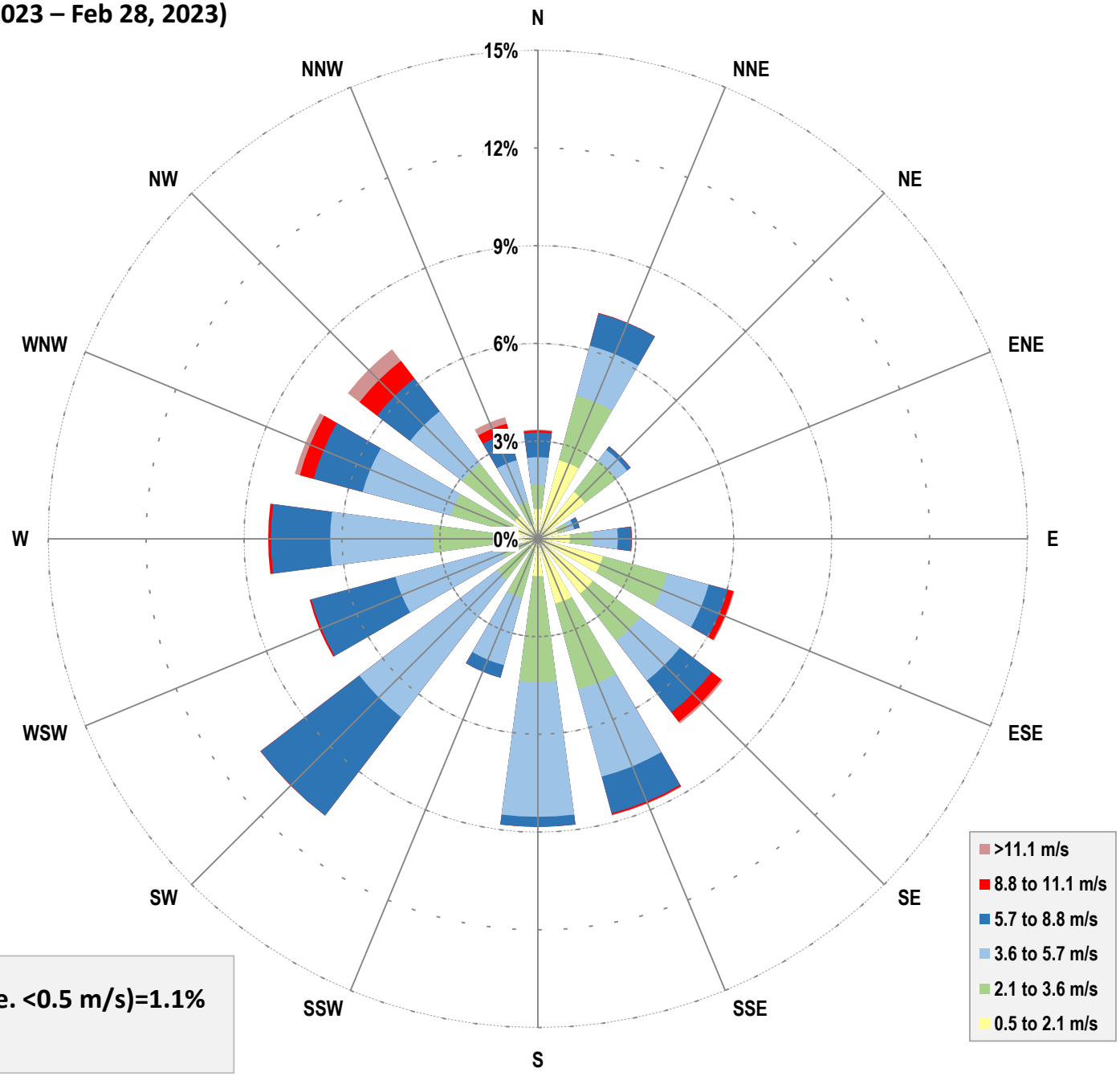
| | | | | | |
|---|---|---|---|---|---|
| Total Sampling Time | 63 | hr | 58 | min | 3838 |
| Average Flow Rate | | cfm | | | |
| Actual m3/min | 1.248 | | | | |
| Air Volume | 4789.8 | cubic metres | | | |
| Net TSP Weight | | g | | | |
| TSP Concentration | | mg/m3 | | | |

# Appendix C
# Wind Class Frequency Distribution Graphs and Wind Rose


Facility Meteorological Station Wind Class Frequency Distribution
Frequency
40.0%
35.0%
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
1.1%
18.2%
25.6%
33.7%
18.2%
2.3%
1.0%
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)

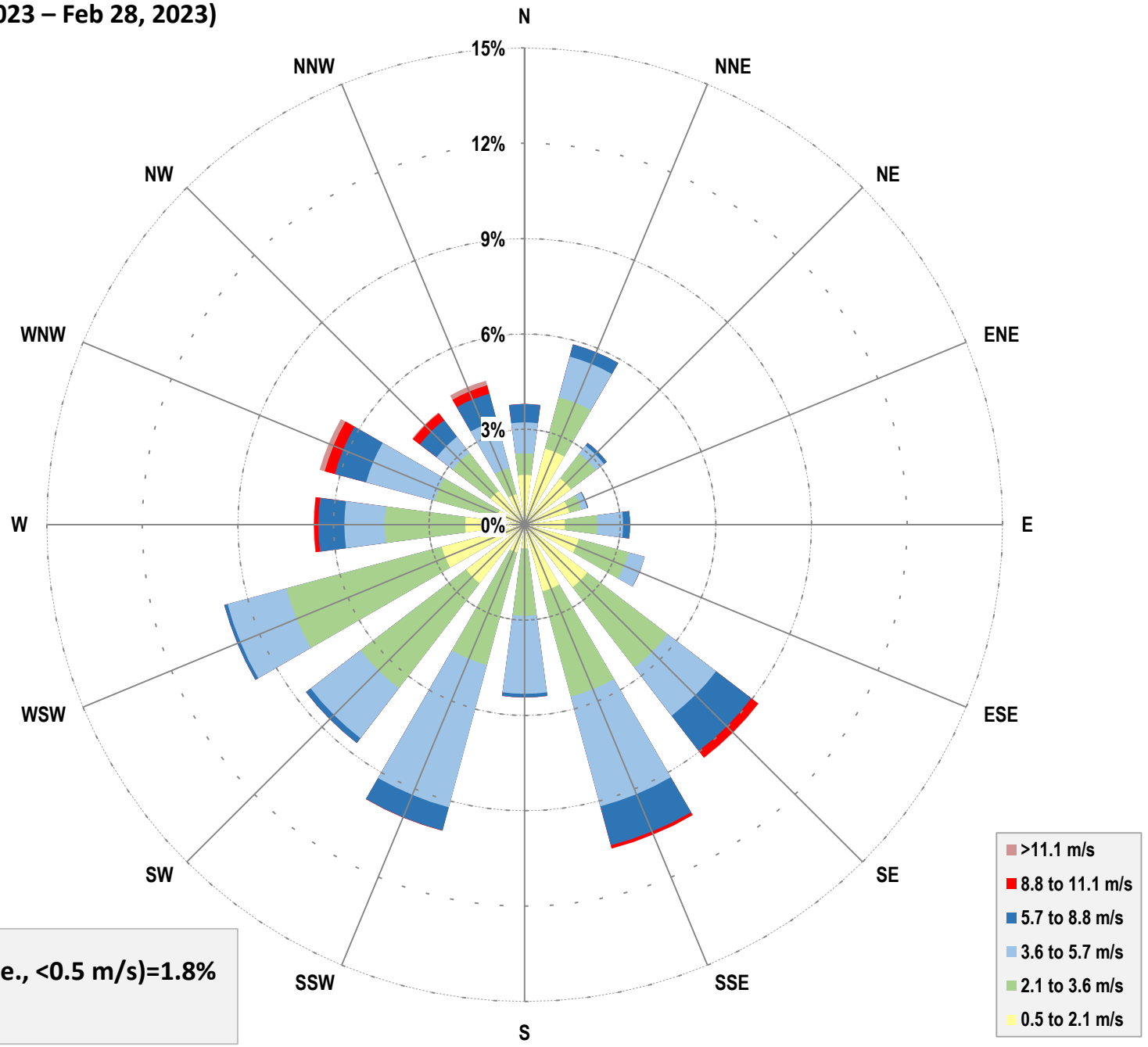

Facility Site Station Wind Class Frequency Distribution
40.0%
35.0%
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
Frequency
1.8%
26.7%
34.9%
26.3%
8.5%
1.4%
0.4%
calm
0.5 to 2.1 m/s
2.1 to 3.6 m/s
3.6 to 5.7 m/s
5.7 to 8.8 m/s
8.8 to 11.1 m/s
>11.1 m/s
Wind Class (m/s)

**Clean Harbors Facility Meteorological Station**
**(Feb 1, 2023 – Feb 28, 2023)**




**calms (i.e. <0.5 m/s)=1.1%**

**Clean Harbors Facility Site Station**
**(Feb 1, 2023 – Feb 28, 2023)**




**calms (i.e., <0.5 m/s)=1.8%**

# 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 # 99 HVF-22-04-017
**Matrix:** Air Filter
**CANISTER ID:**
**PRIORITY:** Normal
**DESCRIPTION:**
**DATE SAMPLED:** 31-Jan-23
**DATE RECEIVED:** 06-Mar-23
**REPORT CREATED:** 24-Mar-23
**REPORT NUMBER:** 23030034
**VERSION:** Version 01

| Lab ID | Parameter | Qualifier | Result | Units | RDL | Method | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23030034-001 | Antimony | | 172 | ng/Filter | 0.30 | AC-021 | 22-Mar-23 |
| 23030034-001 | Arsenic | | 520 | ng/Filter | 0.30 | AC-021 | 22-Mar-23 |
| 23030034-001 | Barium | | 593000 | ng/Filter | 300 | AC-021 | 22-Mar-23 |
| 23030034-001 | Beryllium | | 72.5 | ng/Filter | 0.60 | AC-021 | 22-Mar-23 |
| 23030034-001 | Boron | | 30000000 | ng/Filter | 600 | AC-021 | 22-Mar-23 |
| 23030034-001 | Cadmium | | 511 | ng/Filter | 0.80 | AC-021 | 22-Mar-23 |
| 23030034-001 | Chromium | | 7110 | ng/Filter | 20 | AC-021 | 22-Mar-23 |
| 23030034-001 | Cobalt | | 453 | ng/Filter | 0.50 | AC-021 | 22-Mar-23 |
| 23030034-001 | Copper | | 155000 | ng/Filter | 20 | AC-021 | 22-Mar-23 |
| 23030034-001 | Iron | | 781000 | ng/Filter | 80 | AC-021 | 22-Mar-23 |
| 23030034-001 | Lead | | 7570 | ng/Filter | 0.70 | AC-021 | 22-Mar-23 |
| 23030034-001 | Mercury | K, T, U | < 0.70 | ng/Filter | 0.70 | AC-021 | 22-Mar-23 |
| 23030034-001 | Nickel | | 5200 | ng/Filter | 5.0 | AC-021 | 22-Mar-23 |
| 23030034-001 | Selenium | | 171 | ng/Filter | 4.0 | AC-021 | 22-Mar-23 |
| 23030034-001 | Silver | | 112 | ng/Filter | 0.50 | AC-021 | 22-Mar-23 |
| 23030034-001 | Thallium | I | 0.38 | ng/Filter | 0.20 | AC-021 | 22-Mar-23 |
| 23030034-001 | Uranium | | 47.1 | ng/Filter | 0.200 | AC-021 | 22-Mar-23 |

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing
Date: March 24, 2023 Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

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

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

# ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT



| CLIENT SAMPLE ID | CANISTER ID | Matrix | DATE SAMPLED |
|---|---|---|---|
| Ryley Facility Test # 99 HVF-22-04-017 | | Air Filter | 31-Jan-23 |

**DESCRIPTION:**

**REPORT NUMBER:** 23030034 **REPORT CREATED:** 24-Mar-23 **VERSION:** Version 01

| Lab ID | Parameter | Qualifier | Result | Units | RDL | Method | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23030034-001 | Vanadium | | 5490 | ng/Filter | 0.40 | AC-021 | 22-Mar-23 |
| 23030034-001 | Zinc | | 543000 | ng/Filter | 1000 | AC-021 | 22-Mar-23 |
| 23030034-001 | Zirconium | K, T, U | < 1.0 | ng/Filter | 1.0 | AC-021 | 22-Mar-23 |
| 23030034-001 | Particulate Weight | | 46.3 | mg | 0.1 | Research | 13-Mar-23 |

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

Date: March 24, 2023

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

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

# ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT



| CLIENT SAMPLE ID | CANISTER ID | Matrix | DATE SAMPLED |
|---|---|---|---|
| Ryley School Test # 99 HVF-22-04-018 | | Air Filter | 31-Jan-23 |

**DESCRIPTION:**

**REPORT NUMBER:** 23030034 **REPORT CREATED:** 24-Mar-23 **VERSION:** Version 01

| Lab ID | Parameter | Qualifier | Result | Units | RDL | Method | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23030034-002 | Antimony | | 272 | ng/Filter | 0.30 | AC-021 | 22-Mar-23 |
| 23030034-002 | Arsenic | | 636 | ng/Filter | 0.30 | AC-021 | 22-Mar-23 |
| 23030034-002 | Barium | K, T, U | < 300 | ng/Filter | 300 | AC-021 | 22-Mar-23 |
| 23030034-002 | Beryllium | K, T, U | < 0.60 | ng/Filter | 0.60 | AC-021 | 22-Mar-23 |
| 23030034-002 | Boron | | 9320000 | ng/Filter | 600 | AC-021 | 22-Mar-23 |
| 23030034-002 | Cadmium | | 515 | ng/Filter | 0.80 | AC-021 | 22-Mar-23 |
| 23030034-002 | Chromium | | 9270 | ng/Filter | 20 | AC-021 | 22-Mar-23 |
| 23030034-002 | Cobalt | | 775 | ng/Filter | 0.50 | AC-021 | 22-Mar-23 |
| 23030034-002 | Copper | | 2150000 | ng/Filter | 200 | AC-021 | 22-Mar-23 |
| 23030034-002 | Iron | | 1530000 | ng/Filter | 80 | AC-021 | 22-Mar-23 |
| 23030034-002 | Lead | | 6120 | ng/Filter | 0.70 | AC-021 | 22-Mar-23 |
| 23030034-002 | Mercury | K, T, U | < 0.70 | ng/Filter | 0.70 | AC-021 | 22-Mar-23 |
| 23030034-002 | Nickel | | 5130 | ng/Filter | 5.0 | AC-021 | 22-Mar-23 |
| 23030034-002 | Selenium | | 260 | ng/Filter | 4.0 | AC-021 | 22-Mar-23 |
| 23030034-002 | Silver | | 1260 | ng/Filter | 0.50 | AC-021 | 22-Mar-23 |
| 23030034-002 | Thallium | | 23.9 | ng/Filter | 0.20 | AC-021 | 22-Mar-23 |
| 23030034-002 | Uranium | K, T, U | < 0.200 | ng/Filter | 0.200 | AC-021 | 22-Mar-23 |
| 23030034-002 | Vanadium | | 6220 | ng/Filter | 0.40 | AC-021 | 22-Mar-23 |
| 23030034-002 | Zinc | K, T, U | < 1000 | ng/Filter | 1000 | AC-021 | 22-Mar-23 |
| 23030034-002 | Zirconium | K, T, U | < 1.0 | ng/Filter | 1.0 | AC-021 | 22-Mar-23 |
| 23030034-002 | Particulate Weight | | 65.0 | mg | 0.1 | Research | 13-Mar-23 |

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

Date: March 24, 2023

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

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



## Revision History

| Order ID | Ver | Date | Reason |
|---|---|---|---|
| 23030034 | 01 | 24-Mar-23 | 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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## Order Comments

23030034

Send results to Stan Yuha. Send invoice to Robbi Gooding.

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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:** Robbi Gooding
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 # 825 HV-22-12-03
**Matrix:** Air Filter
**CANISTER ID:**
**PRIORITY:** Normal
**DESCRIPTION:** Hi-Vol Filter
**DATE SAMPLED:** 05-Feb-23 0:00
**DATE RECEIVED:** 09-Feb-23
**REPORT CREATED:** 27-Feb-23
**REPORT NUMBER:** 23020072
**VERSION:** Version 01

| Lab ID | Parameter | Qualifier | Result | Units | RDL | Method | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23020072-003 | Particulate Weight | | 30.5 | mg | 0.1 | Research | 14-Feb-23 |

Report certified by: Andrea Conner, Admin Assistant On behalf of: Adam Malcolm, Manager, Chemical Testing
Date: February 27, 2023 Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

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# ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT



| CLIENT SAMPLE ID | CANISTER ID | Matrix | DATE SAMPLED |
|---|---|---|---|
| PM10 Test # 825 C9694304 | | Air Filter | 05-Feb-23 0:00 |

**DESCRIPTION:** PM10 Filter

**REPORT NUMBER:** 23020072 **REPORT CREATED:** 27-Feb-23 **VERSION:** Version 01

| Lab ID | Parameter | Qualifier | Result | Units | RDL | Method | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23020072-002 | Particulate Weight | | 0.166 | mg | 0.004 | AC-029 | 13-Feb-23 |

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

Date: February 27, 2023 Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

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# ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT



| CLIENT SAMPLE ID | CANISTER ID | Matrix | DATE SAMPLED |
|---|---|---|---|
| VOCs and TNMOC Test # 825 | 28886 | Ambient Air | 05-Feb-23 0:00 |

**DESCRIPTION:** Air Canister

**REPORT NUMBER:** 23020072 **REPORT CREATED:** 27-Feb-23 **VERSION:** Version 01

| Lab ID | Parameter | Qualifier | Result | Units | RDL | Method | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23020072-001 | Total Non-Methane Organic Carbon | K, T, U | < 0.09 | ppmv | 0.09 | NA-028 | 15-Feb-23 |
| 23020072-001 | 1,2,3-Trimethylbenzene | K, T, U | < 0.09 | ppbv | 0.09 | AC-058 | 14-Feb-23 |
| 23020072-001 | 1,2,4-Trimethylbenzene | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 14-Feb-23 |
| 23020072-001 | 1,3,5-Trimethylbenzene | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 14-Feb-23 |
| 23020072-001 | 1-Butene/Isobutylene | K, T, U | < 0.11 | ppbv | 0.11 | AC-058 | 14-Feb-23 |
| 23020072-001 | 1-Hexene/2-Methyl-1-pentene | K, T, U | < 0.12 | ppbv | 0.12 | AC-058 | 14-Feb-23 |
| 23020072-001 | 1-Pentene | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 14-Feb-23 |
| 23020072-001 | 2,2,4-Trimethylpentane | K, T, U | < 0.04 | ppbv | 0.04 | AC-058 | 14-Feb-23 |
| 23020072-001 | 2,2-Dimethylbutane | K, T, U | < 0.04 | ppbv | 0.04 | AC-058 | 14-Feb-23 |
| 23020072-001 | 2,3,4-Trimethylpentane | K, T, U | < 0.04 | ppbv | 0.04 | AC-058 | 14-Feb-23 |
| 23020072-001 | 2,3-Dimethylbutane | K, T, U | < 0.16 | ppbv | 0.16 | AC-058 | 14-Feb-23 |
| 23020072-001 | 2,3-Dimethylpentane | K, T, U | < 0.04 | ppbv | 0.04 | AC-058 | 14-Feb-23 |
| 23020072-001 | 2,4-Dimethylpentane | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 14-Feb-23 |
| 23020072-001 | 2-Methylheptane | K, T, U | < 0.04 | ppbv | 0.04 | AC-058 | 14-Feb-23 |
| 23020072-001 | 2-Methylhexane | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 14-Feb-23 |
| 23020072-001 | 2-Methylpentane | I | 0.11 | ppbv | 0.04 | AC-058 | 14-Feb-23 |
| 23020072-001 | 3-Methylheptane | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 14-Feb-23 |
| 23020072-001 | 3-Methylhexane | I | 0.05 | ppbv | 0.04 | AC-058 | 14-Feb-23 |
| 23020072-001 | 3-Methylpentane | I | 0.11 | ppbv | 0.04 | AC-058 | 14-Feb-23 |
| 23020072-001 | Benzene | I | 0.13 | ppbv | 0.05 | AC-058 | 14-Feb-23 |
| 23020072-001 | cis-2-Butene | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 14-Feb-23 |
| 23020072-001 | cis-2-Pentene | K, T, U | < 0.04 | ppbv | 0.04 | AC-058 | 14-Feb-23 |
| 23020072-001 | Cyclohexane | K, T, U | < 0.07 | ppbv | 0.07 | AC-058 | 14-Feb-23 |
| 23020072-001 | Cyclopentane | I | 0.05 | ppbv | 0.04 | AC-058 | 14-Feb-23 |
| 23020072-001 | Ethylbenzene | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 14-Feb-23 |

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

Date: February 27, 2023 Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

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# ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT



| CLIENT SAMPLE ID | CANISTER ID | Matrix | DATE SAMPLED |
|---|---|---|---|
| VOCs and TNMOC Test # 825 | 28886 | Ambient Air | 05-Feb-23 0:00 |

**DESCRIPTION:** Air Canister

**REPORT NUMBER:** 23020072 **REPORT CREATED:** 27-Feb-23 **VERSION:** Version 01

| Lab ID | Parameter | Qualifier | Result | Units | RDL | Method | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23020072-001 | Isobutane | | 1.24 | ppbv | 0.05 | AC-058 | 14-Feb-23 |
| 23020072-001 | Isopentane | | 0.67 | ppbv | 0.07 | AC-058 | 14-Feb-23 |
| 23020072-001 | Isoprene | K, T, U | < 0.04 | ppbv | 0.04 | AC-058 | 14-Feb-23 |
| 23020072-001 | Isopropylbenzene | K, T, U | < 0.07 | ppbv | 0.07 | AC-058 | 14-Feb-23 |
| 23020072-001 | m,p-Xylene | I | 0.13 | ppbv | 0.07 | AC-058 | 14-Feb-23 |
| 23020072-001 | m-Diethylbenzene | K, T, U | < 0.04 | ppbv | 0.04 | AC-058 | 14-Feb-23 |
| 23020072-001 | m-Ethyltoluene | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 14-Feb-23 |
| 23020072-001 | Methylcyclohexane | I | 0.07 | ppbv | 0.04 | AC-058 | 14-Feb-23 |
| 23020072-001 | Methylcyclopentane | I | 0.09 | ppbv | 0.09 | AC-058 | 14-Feb-23 |
| 23020072-001 | n-Butane | | 2.03 | ppbv | 0.04 | AC-058 | 14-Feb-23 |
| 23020072-001 | n-Decane | K, T, U | < 0.11 | ppbv | 0.11 | AC-058 | 14-Feb-23 |
| 23020072-001 | n-Dodecane | K, T, U | < 0.5 | ppbv | 0.5 | AC-058 | 14-Feb-23 |
| 23020072-001 | n-Heptane | I | 0.07 | ppbv | 0.07 | AC-058 | 14-Feb-23 |
| 23020072-001 | n-Hexane | I | 0.24 | ppbv | 0.05 | AC-058 | 14-Feb-23 |
| 23020072-001 | n-Octane | K, T, U | < 0.04 | ppbv | 0.04 | AC-058 | 14-Feb-23 |
| 23020072-001 | n-Pentane | | 0.55 | ppbv | 0.07 | AC-058 | 14-Feb-23 |
| 23020072-001 | n-Propylbenzene | K, T, U | < 0.11 | ppbv | 0.11 | AC-058 | 14-Feb-23 |
| 23020072-001 | n-Undecane | K, T, U | < 0.9 | ppbv | 0.9 | AC-058 | 14-Feb-23 |
| 23020072-001 | n-Nonane | K, T, U | < 0.07 | ppbv | 0.07 | AC-058 | 14-Feb-23 |
| 23020072-001 | o-Ethyltoluene | K, T, U | < 0.04 | ppbv | 0.04 | AC-058 | 14-Feb-23 |
| 23020072-001 | o-Xylene | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 14-Feb-23 |
| 23020072-001 | p-Diethylbenzene | K, T, U | < 0.04 | ppbv | 0.04 | AC-058 | 14-Feb-23 |
| 23020072-001 | p-Ethyltoluene | K, T, U | < 0.07 | ppbv | 0.07 | AC-058 | 14-Feb-23 |
| 23020072-001 | Styrene | K, T, U | < 0.07 | ppbv | 0.07 | AC-058 | 14-Feb-23 |
| 23020072-001 | Toluene | | 0.61 | ppbv | 0.05 | AC-058 | 14-Feb-23 |

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

Date: February 27, 2023 Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

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# ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT



| CLIENT SAMPLE ID | CANISTER ID | Matrix | DATE SAMPLED |
|---|---|---|---|
| VOCs and TNMOC Test # 825 | 28886 | Ambient Air | 05-Feb-23 0:00 |

**DESCRIPTION:** Air Canister

**REPORT NUMBER:** 23020072 **REPORT CREATED:** 27-Feb-23 **VERSION:** Version 01

| Lab ID | Parameter | Qualifier | Result | Units | RDL | Method | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23020072-001 | trans-2-Butene | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 14-Feb-23 |
| 23020072-001 | trans-2-Pentene | K, T, U | < 0.04 | ppbv | 0.04 | AC-058 | 14-Feb-23 |

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

Date: February 27, 2023 Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

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## Revision History

| Order ID | Ver | Date | Reason |
|---|---|---|---|
| 23020072 | 01 | 27-Feb-23 | Report created |

# Methods

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

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

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

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# Qualifiers

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

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## Order Comments

23020072

Test # 825. Send results to Stan Yuha. Send invoice to Stephanie Dennis.

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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:** Robbi Gooding
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 # 826 - Filter # HV-22-12-07

**Matrix:** Air Filter

**CANISTER ID:**

**PRIORITY:** Normal

**DESCRIPTION:** Hi-Vol Filter

**DATE SAMPLED:** 11-Feb-23 0:00

**DATE RECEIVED:** 16-Feb-23

**REPORT CREATED:** 27-Feb-23

**REPORT NUMBER:** 23020160

**VERSION:** Version 01

| Lab ID | Parameter | Qualifier | Result | Units | RDL | Method | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23020160-003 | Particulate Weight | | 37.0 | mg | 0.1 | Research | 14-Feb-23 |

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

Date: February 27, 2023

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

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# ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT



| CLIENT SAMPLE ID | CANISTER ID | Matrix | DATE SAMPLED |
|---|---|---|---|
| PM10 Test # 826 - Filter # C1165501 | | Air Filter | 11-Feb-23 0:00 |

**DESCRIPTION:** PM10 Filter

**REPORT NUMBER:** 23020160 **REPORT CREATED:** 27-Feb-23 **VERSION:** Version 01

| Lab ID | Parameter | Qualifier | Result | Units | RDL | Method | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23020160-002 | Particulate Weight | | 0.099 | mg | 0.004 | AC-029 | 21-Feb-23 |

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

Date: February 27, 2023 Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

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# ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT



| CLIENT SAMPLE ID | CANISTER ID | Matrix | DATE SAMPLED |
|---|---|---|---|
| VOCs and TNMOC Test # 826 | 28933 | Ambient Air | 11-Feb-23 0:00 |

**DESCRIPTION:** Air Canister

**REPORT NUMBER:** 23020160 **REPORT CREATED:** 27-Feb-23 **VERSION:** Version 01

| Lab ID | Parameter | Qualifier | Result | Units | RDL | Method | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23020160-001 | Total Non-Methane Organic Carbon | K, T, U | < 0.09 | ppmv | 0.09 | NA-028 | 17-Feb-23 |
| 23020160-001 | 1,2,3-Trimethylbenzene | K, T, U | < 0.09 | ppbv | 0.09 | AC-058 | 24-Feb-23 |
| 23020160-001 | 1,2,4-Trimethylbenzene | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 24-Feb-23 |
| 23020160-001 | 1,3,5-Trimethylbenzene | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 24-Feb-23 |
| 23020160-001 | 1-Butene/Isobutylene | K, T, U | < 0.11 | ppbv | 0.11 | AC-058 | 24-Feb-23 |
| 23020160-001 | 1-Hexene/2-Methyl-1-pentene | K, T, U | < 0.12 | ppbv | 0.12 | AC-058 | 24-Feb-23 |
| 23020160-001 | 1-Pentene | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 24-Feb-23 |
| 23020160-001 | 2,2,4-Trimethylpentane | K, T, U | < 0.04 | ppbv | 0.04 | AC-058 | 24-Feb-23 |
| 23020160-001 | 2,2-Dimethylbutane | K, T, U | < 0.04 | ppbv | 0.04 | AC-058 | 24-Feb-23 |
| 23020160-001 | 2,3,4-Trimethylpentane | K, T, U | < 0.04 | ppbv | 0.04 | AC-058 | 24-Feb-23 |
| 23020160-001 | 2,3-Dimethylbutane | K, T, U | < 0.16 | ppbv | 0.16 | AC-058 | 24-Feb-23 |
| 23020160-001 | 2,3-Dimethylpentane | K, T, U | < 0.04 | ppbv | 0.04 | AC-058 | 24-Feb-23 |
| 23020160-001 | 2,4-Dimethylpentane | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 24-Feb-23 |
| 23020160-001 | 2-Methylheptane | K, T, U | < 0.04 | ppbv | 0.04 | AC-058 | 24-Feb-23 |
| 23020160-001 | 2-Methylhexane | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 24-Feb-23 |
| 23020160-001 | 2-Methylpentane | I | 0.06 | ppbv | 0.04 | AC-058 | 24-Feb-23 |
| 23020160-001 | 3-Methylheptane | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 24-Feb-23 |
| 23020160-001 | 3-Methylhexane | K, T, U | < 0.04 | ppbv | 0.04 | AC-058 | 24-Feb-23 |
| 23020160-001 | 3-Methylpentane | K, T, U | < 0.04 | ppbv | 0.04 | AC-058 | 24-Feb-23 |
| 23020160-001 | Benzene | I | 0.07 | ppbv | 0.05 | AC-058 | 24-Feb-23 |
| 23020160-001 | cis-2-Butene | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 24-Feb-23 |
| 23020160-001 | cis-2-Pentene | K, T, U | < 0.04 | ppbv | 0.04 | AC-058 | 24-Feb-23 |
| 23020160-001 | Cyclohexane | K, T, U | < 0.07 | ppbv | 0.07 | AC-058 | 24-Feb-23 |
| 23020160-001 | Cyclopentane | K, T, U | < 0.04 | ppbv | 0.04 | AC-058 | 24-Feb-23 |
| 23020160-001 | Ethylbenzene | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 24-Feb-23 |

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

Date: February 27, 2023 Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

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# ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT



| CLIENT SAMPLE ID | CANISTER ID | Matrix | DATE SAMPLED |
|---|---|---|---|
| VOCs and TNMOC Test # 826 | 28933 | Ambient Air | 11-Feb-23 0:00 |

**DESCRIPTION:** Air Canister

**REPORT NUMBER:** 23020160 **REPORT CREATED:** 27-Feb-23 **VERSION:** Version 01

| Lab ID | Parameter | Qualifier | Result | Units | RDL | Method | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23020160-001 | Isobutane | | 0.88 | ppbv | 0.05 | AC-058 | 24-Feb-23 |
| 23020160-001 | Isopentane | | 0.51 | ppbv | 0.07 | AC-058 | 24-Feb-23 |
| 23020160-001 | Isoprene | K, T, U | < 0.04 | ppbv | 0.04 | AC-058 | 24-Feb-23 |
| 23020160-001 | Isopropylbenzene | K, T, U | < 0.07 | ppbv | 0.07 | AC-058 | 24-Feb-23 |
| 23020160-001 | m,p-Xylene | K, T, U | < 0.07 | ppbv | 0.07 | AC-058 | 24-Feb-23 |
| 23020160-001 | m-Diethylbenzene | K, T, U | < 0.04 | ppbv | 0.04 | AC-058 | 24-Feb-23 |
| 23020160-001 | m-Ethyltoluene | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 24-Feb-23 |
| 23020160-001 | Methylcyclohexane | K, T, U | < 0.04 | ppbv | 0.04 | AC-058 | 24-Feb-23 |
| 23020160-001 | Methylcyclopentane | K, T, U | < 0.09 | ppbv | 0.09 | AC-058 | 24-Feb-23 |
| 23020160-001 | n-Butane | | 1.51 | ppbv | 0.04 | AC-058 | 24-Feb-23 |
| 23020160-001 | n-Decane | K, T, U | < 0.11 | ppbv | 0.11 | AC-058 | 24-Feb-23 |
| 23020160-001 | n-Dodecane | K, T, U | < 0.5 | ppbv | 0.5 | AC-058 | 24-Feb-23 |
| 23020160-001 | n-Heptane | K, T, U | < 0.07 | ppbv | 0.07 | AC-058 | 24-Feb-23 |
| 23020160-001 | n-Hexane | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 24-Feb-23 |
| 23020160-001 | n-Octane | K, T, U | < 0.04 | ppbv | 0.04 | AC-058 | 24-Feb-23 |
| 23020160-001 | n-Pentane | | 0.39 | ppbv | 0.07 | AC-058 | 24-Feb-23 |
| 23020160-001 | n-Propylbenzene | K, T, U | < 0.11 | ppbv | 0.11 | AC-058 | 24-Feb-23 |
| 23020160-001 | n-Undecane | K, T, U | < 0.9 | ppbv | 0.9 | AC-058 | 24-Feb-23 |
| 23020160-001 | n-Nonane | K, T, U | < 0.07 | ppbv | 0.07 | AC-058 | 24-Feb-23 |
| 23020160-001 | o-Ethyltoluene | K, T, U | < 0.04 | ppbv | 0.04 | AC-058 | 24-Feb-23 |
| 23020160-001 | o-Xylene | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 24-Feb-23 |
| 23020160-001 | p-Diethylbenzene | K, T, U | < 0.04 | ppbv | 0.04 | AC-058 | 24-Feb-23 |
| 23020160-001 | p-Ethyltoluene | K, T, U | < 0.07 | ppbv | 0.07 | AC-058 | 24-Feb-23 |
| 23020160-001 | Styrene | K, T, U | < 0.07 | ppbv | 0.07 | AC-058 | 24-Feb-23 |
| 23020160-001 | Toluene | I | 0.11 | ppbv | 0.05 | AC-058 | 24-Feb-23 |

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

Date: February 27, 2023 Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

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

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(780) 632-8211

# ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT



| CLIENT SAMPLE ID | CANISTER ID | Matrix | DATE SAMPLED |
|---|---|---|---|
| VOCs and TNMOC Test # 826 | 28933 | Ambient Air | 11-Feb-23 0:00 |

**DESCRIPTION:** Air Canister

**REPORT NUMBER:** 23020160 **REPORT CREATED:** 27-Feb-23 **VERSION:** Version 01

| Lab ID | Parameter | Qualifier | Result | Units | RDL | Method | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23020160-001 | trans-2-Butene | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 24-Feb-23 |
| 23020160-001 | trans-2-Pentene | K, T, U | < 0.04 | ppbv | 0.04 | AC-058 | 24-Feb-23 |

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

Date: February 27, 2023 Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

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

## Revision History

| Order ID | Ver | Date | Reason |
|---|---|---|---|
| 23020160 | 01 | 27-Feb-23 | Report created |

# Methods

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

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

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

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# Qualifiers

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

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## Order Comments

23020160

Test # 826. Send results to Stan Yuha. Send invoice to Stephanie Dennis.

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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:** Robbi Gooding
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 # 827 - Filter # HV-22-12-19

**Matrix:** Air Filter

**CANISTER ID:**

**PRIORITY:** Normal

**DESCRIPTION:** Hi-Vol Filter

**DATE SAMPLED:** 17-Feb-23 0:00

**DATE RECEIVED:** 23-Feb-23

**REPORT CREATED:** 06-Mar-23

**REPORT NUMBER:** 23020209

**VERSION:** Version 01

| Lab ID | Parameter | Qualifier | Result | Units | RDL | Method | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23020209-003 | Particulate Weight | | 42.0 | mg | 0.1 | Research | 28-Feb-23 |

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

Date: March 6, 2023

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

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# ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT



| CLIENT SAMPLE ID | CANISTER ID | Matrix | DATE SAMPLED |
|---|---|---|---|
| PM10 Test # 827 - Filter # C1167717 | | Air Filter | 17-Feb-23 0:00 |

**DESCRIPTION:** PM10 Filter

**REPORT NUMBER:** 23020209 **REPORT CREATED:** 06-Mar-23 **VERSION:** Version 01

| Lab ID | Parameter | Qualifier | Result | Units | RDL | Method | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23020209-002 | Particulate Weight | | 0.179 | mg | 0.004 | AC-029 | 24-Feb-23 |

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

Date: March 6, 2023

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

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# ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT



| CLIENT SAMPLE ID | CANISTER ID | Matrix | DATE SAMPLED |
|---|---|---|---|
| VOCs and TNMOC Test # 827 | 32197 | Ambient Air | 17-Feb-23 0:00 |

**DESCRIPTION:** Air Canister

**REPORT NUMBER:** 23020209 **REPORT CREATED:** 06-Mar-23 **VERSION:** Version 01

| Lab ID | Parameter | Qualifier | Result | Units | RDL | Method | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23020209-001 | Total Non-Methane Organic Carbon | K, T, U | < 0.09 | ppmv | 0.09 | NA-028 | 23-Feb-23 |
| 23020209-001 | 1,2,3-Trimethylbenzene | K, T, U | < 0.09 | ppbv | 0.09 | AC-058 | 24-Feb-23 |
| 23020209-001 | 1,2,4-Trimethylbenzene | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 24-Feb-23 |
| 23020209-001 | 1,3,5-Trimethylbenzene | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 24-Feb-23 |
| 23020209-001 | 1-Butene/Isobutylene | K, T, U | < 0.10 | ppbv | 0.10 | AC-058 | 24-Feb-23 |
| 23020209-001 | 1-Hexene/2-Methyl-1-pentene | K, T, U | < 0.12 | ppbv | 0.12 | AC-058 | 24-Feb-23 |
| 23020209-001 | 1-Pentene | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 24-Feb-23 |
| 23020209-001 | 2,2,4-Trimethylpentane | K, T, U | < 0.03 | ppbv | 0.03 | AC-058 | 24-Feb-23 |
| 23020209-001 | 2,2-Dimethylbutane | K, T, U | < 0.03 | ppbv | 0.03 | AC-058 | 24-Feb-23 |
| 23020209-001 | 2,3,4-Trimethylpentane | K, T, U | < 0.03 | ppbv | 0.03 | AC-058 | 24-Feb-23 |
| 23020209-001 | 2,3-Dimethylbutane | K, T, U | < 0.15 | ppbv | 0.15 | AC-058 | 24-Feb-23 |
| 23020209-001 | 2,3-Dimethylpentane | K, T, U | < 0.03 | ppbv | 0.03 | AC-058 | 24-Feb-23 |
| 23020209-001 | 2,4-Dimethylpentane | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 24-Feb-23 |
| 23020209-001 | 2-Methylheptane | I | 0.06 | ppbv | 0.03 | AC-058 | 24-Feb-23 |
| 23020209-001 | 2-Methylhexane | I | 0.10 | ppbv | 0.05 | AC-058 | 24-Feb-23 |
| 23020209-001 | 2-Methylpentane | I | 0.16 | ppbv | 0.03 | AC-058 | 24-Feb-23 |
| 23020209-001 | 3-Methylheptane | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 24-Feb-23 |
| 23020209-001 | 3-Methylhexane | I | 0.09 | ppbv | 0.03 | AC-058 | 24-Feb-23 |
| 23020209-001 | 3-Methylpentane | I | 0.17 | ppbv | 0.03 | AC-058 | 24-Feb-23 |
| 23020209-001 | Benzene | I | 0.14 | ppbv | 0.05 | AC-058 | 24-Feb-23 |
| 23020209-001 | cis-2-Butene | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 24-Feb-23 |
| 23020209-001 | cis-2-Pentene | K, T, U | < 0.03 | ppbv | 0.03 | AC-058 | 24-Feb-23 |
| 23020209-001 | Cyclohexane | I | 0.11 | ppbv | 0.07 | AC-058 | 24-Feb-23 |
| 23020209-001 | Cyclopentane | I | 0.07 | ppbv | 0.03 | AC-058 | 24-Feb-23 |
| 23020209-001 | Ethylbenzene | I | 0.13 | ppbv | 0.05 | AC-058 | 24-Feb-23 |

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

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

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# ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT



| CLIENT SAMPLE ID | CANISTER ID | Matrix | DATE SAMPLED |
|---|---|---|---|
| VOCs and TNMOC Test # 827 | 32197 | Ambient Air | 17-Feb-23 0:00 |

**DESCRIPTION:** Air Canister

**REPORT NUMBER:** 23020209 **REPORT CREATED:** 06-Mar-23 **VERSION:** Version 01

| Lab ID | Parameter | Qualifier | Result | Units | RDL | Method | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23020209-001 | Isobutane | | 3.52 | ppbv | 0.05 | AC-058 | 24-Feb-23 |
| 23020209-001 | Isopentane | | 1.72 | ppbv | 0.07 | AC-058 | 24-Feb-23 |
| 23020209-001 | Isoprene | K, T, U | < 0.03 | ppbv | 0.03 | AC-058 | 24-Feb-23 |
| 23020209-001 | Isopropylbenzene | K, T, U | < 0.07 | ppbv | 0.07 | AC-058 | 24-Feb-23 |
| 23020209-001 | m,p-Xylene | | 0.55 | ppbv | 0.07 | AC-058 | 24-Feb-23 |
| 23020209-001 | m-Diethylbenzene | K, T, U | < 0.03 | ppbv | 0.03 | AC-058 | 24-Feb-23 |
| 23020209-001 | m-Ethyltoluene | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 24-Feb-23 |
| 23020209-001 | Methylcyclohexane | I | 0.15 | ppbv | 0.03 | AC-058 | 24-Feb-23 |
| 23020209-001 | Methylcyclopentane | I | 0.14 | ppbv | 0.09 | AC-058 | 24-Feb-23 |
| 23020209-001 | n-Butane | | 3.90 | ppbv | 0.03 | AC-058 | 24-Feb-23 |
| 23020209-001 | n-Decane | K, T, U | < 0.10 | ppbv | 0.10 | AC-058 | 24-Feb-23 |
| 23020209-001 | n-Dodecane | K, T, U | < 0.5 | ppbv | 0.5 | AC-058 | 24-Feb-23 |
| 23020209-001 | n-Heptane | I | 0.12 | ppbv | 0.07 | AC-058 | 24-Feb-23 |
| 23020209-001 | n-Hexane | | 0.36 | ppbv | 0.05 | AC-058 | 24-Feb-23 |
| 23020209-001 | n-Octane | I | 0.06 | ppbv | 0.03 | AC-058 | 24-Feb-23 |
| 23020209-001 | n-Pentane | | 1.25 | ppbv | 0.07 | AC-058 | 24-Feb-23 |
| 23020209-001 | n-Propylbenzene | K, T, U | < 0.10 | ppbv | 0.10 | AC-058 | 24-Feb-23 |
| 23020209-001 | n-Undecane | K, T, U | < 0.9 | ppbv | 0.9 | AC-058 | 24-Feb-23 |
| 23020209-001 | n-Nonane | K, T, U | < 0.07 | ppbv | 0.07 | AC-058 | 24-Feb-23 |
| 23020209-001 | o-Ethyltoluene | K, T, U | < 0.03 | ppbv | 0.03 | AC-058 | 24-Feb-23 |
| 23020209-001 | o-Xylene | I | 0.11 | ppbv | 0.05 | AC-058 | 24-Feb-23 |
| 23020209-001 | p-Diethylbenzene | K, T, U | < 0.03 | ppbv | 0.03 | AC-058 | 24-Feb-23 |
| 23020209-001 | p-Ethyltoluene | K, T, U | < 0.07 | ppbv | 0.07 | AC-058 | 24-Feb-23 |
| 23020209-001 | Styrene | K, T, U | < 0.07 | ppbv | 0.07 | AC-058 | 24-Feb-23 |
| 23020209-001 | Toluene | | 1.05 | ppbv | 0.05 | AC-058 | 24-Feb-23 |

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

Date: March 6, 2023

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

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# ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT



| CLIENT SAMPLE ID | CANISTER ID | Matrix | DATE SAMPLED |
|---|---|---|---|
| VOCs and TNMOC Test # 827 | 32197 | Ambient Air | 17-Feb-23 0:00 |

**DESCRIPTION:** Air Canister

**REPORT NUMBER:** 23020209 **REPORT CREATED:** 06-Mar-23 **VERSION:** Version 01

| Lab ID | Parameter | Qualifier | Result | Units | RDL | Method | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23020209-001 | trans-2-Butene | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 24-Feb-23 |
| 23020209-001 | trans-2-Pentene | K, T, U | < 0.03 | ppbv | 0.03 | AC-058 | 24-Feb-23 |

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

Date: March 6, 2023

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

## Revision History

| Order ID | Ver | Date | Reason |
|---|---|---|---|
| 23020209 | 01 | 06-Mar-23 | Report created |

# Methods

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

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

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

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# Qualifiers

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

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## Order Comments

23020209

Test # 827. Send results to Stan Yuha. Send invoice to Stephanie Dennis.

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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:** Robbi Gooding
PO Box 390
2 km N of Hwy 14 on Sec Road 854 50114 RR 173
Ryley
AB T0B 4A0

**CLIENT SAMPLE ID:** HI-VOL Test # 828 - Filter # HV-22-12-06

**Matrix:** Air Filter

**CANISTER ID:**

**PRIORITY:** Normal

**DESCRIPTION:**

**DATE SAMPLED:** 23-Feb-23 0:00

**DATE RECEIVED:** 28-Feb-23

**REPORT CREATED:** 15-Mar-23

**REPORT NUMBER:** 23020218

**VERSION:** Version 01

| Lab ID | Parameter | Qualifier | Result | Units | RDL | Method | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23020218-003 | Particulate Weight | | 31.0 | mg | 0.1 | Research | 13-Mar-23 |

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

Date: March 15, 2023

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

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# ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT



| CLIENT SAMPLE ID | CANISTER ID | Matrix | DATE SAMPLED |
|---|---|---|---|
| PM10 Test # 828 - Filter # C1165503 | | Air Filter | 23-Feb-23 0:00 |

**DESCRIPTION:**

**REPORT NUMBER:** 23020218 **REPORT CREATED:** 15-Mar-23 **VERSION:** Version 01

| Lab ID | Parameter | Qualifier | Result | Units | RDL | Method | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23020218-002 | Particulate Weight | | 0.141 | mg | 0.004 | AC-029 | 03-Mar-23 |

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

Date: March 15, 2023

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

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

# ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT



| CLIENT SAMPLE ID | CANISTER ID | Matrix | DATE SAMPLED |
|---|---|---|---|
| VOCs and TNMOC Test # 828 | 28917 | Ambient Air | 23-Feb-23 0:00 |

**DESCRIPTION:**

**REPORT NUMBER:** 23020218 **REPORT CREATED:** 15-Mar-23 **VERSION:** Version 01

| Lab ID | Parameter | Qualifier | Result | Units | RDL | Method | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23020218-001 | Total Non-Methane Organic Carbon | K, T, U | < 0.08 | ppmv | 0.08 | NA-028 | 28-Feb-23 |
| 23020218-001 | 1,2,3-Trimethylbenzene | K, T, U | < 0.08 | ppbv | 0.08 | AC-058 | 28-Feb-23 |
| 23020218-001 | 1,2,4-Trimethylbenzene | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 28-Feb-23 |
| 23020218-001 | 1,3,5-Trimethylbenzene | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 28-Feb-23 |
| 23020218-001 | 1-Butene/Isobutylene | K, T, U | < 0.09 | ppbv | 0.09 | AC-058 | 28-Feb-23 |
| 23020218-001 | 1-Hexene/2-Methyl-1-pentene | K, T, U | < 0.11 | ppbv | 0.11 | AC-058 | 28-Feb-23 |
| 23020218-001 | 1-Pentene | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 28-Feb-23 |
| 23020218-001 | 2,2,4-Trimethylpentane | K, T, U | < 0.03 | ppbv | 0.03 | AC-058 | 28-Feb-23 |
| 23020218-001 | 2,2-Dimethylbutane | K, T, U | < 0.03 | ppbv | 0.03 | AC-058 | 28-Feb-23 |
| 23020218-001 | 2,3,4-Trimethylpentane | K, T, U | < 0.03 | ppbv | 0.03 | AC-058 | 28-Feb-23 |
| 23020218-001 | 2,3-Dimethylbutane | K, T, U | < 0.14 | ppbv | 0.14 | AC-058 | 28-Feb-23 |
| 23020218-001 | 2,3-Dimethylpentane | K, T, U | < 0.03 | ppbv | 0.03 | AC-058 | 28-Feb-23 |
| 23020218-001 | 2,4-Dimethylpentane | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 28-Feb-23 |
| 23020218-001 | 2-Methylheptane | K, T, U | < 0.03 | ppbv | 0.03 | AC-058 | 28-Feb-23 |
| 23020218-001 | 2-Methylhexane | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 28-Feb-23 |
| 23020218-001 | 2-Methylpentane | K, T, U | < 0.03 | ppbv | 0.03 | AC-058 | 28-Feb-23 |
| 23020218-001 | 3-Methylheptane | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 28-Feb-23 |
| 23020218-001 | 3-Methylhexane | K, T, U | < 0.03 | ppbv | 0.03 | AC-058 | 28-Feb-23 |
| 23020218-001 | 3-Methylpentane | K, T, U | < 0.03 | ppbv | 0.03 | AC-058 | 28-Feb-23 |
| 23020218-001 | Benzene | I | 0.05 | ppbv | 0.05 | AC-058 | 28-Feb-23 |
| 23020218-001 | cis-2-Butene | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 28-Feb-23 |
| 23020218-001 | cis-2-Pentene | K, T, U | < 0.03 | ppbv | 0.03 | AC-058 | 28-Feb-23 |
| 23020218-001 | Cyclohexane | K, T, U | < 0.06 | ppbv | 0.06 | AC-058 | 28-Feb-23 |
| 23020218-001 | Cyclopentane | K, T, U | < 0.03 | ppbv | 0.03 | AC-058 | 28-Feb-23 |
| 23020218-001 | Ethylbenzene | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 28-Feb-23 |

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

Date: March 15, 2023 Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

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

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

# ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT



| CLIENT SAMPLE ID | CANISTER ID | Matrix | DATE SAMPLED |
|---|---|---|---|
| VOCs and TNMOC Test # 828 | 28917 | Ambient Air | 23-Feb-23 0:00 |

**DESCRIPTION:**

**REPORT NUMBER:** 23020218 **REPORT CREATED:** 15-Mar-23 **VERSION:** Version 01

| Lab ID | Parameter | Qualifier | Result | Units | RDL | Method | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23020218-001 | Isobutane | | 0.40 | ppbv | 0.05 | AC-058 | 28-Feb-23 |
| 23020218-001 | Isopentane | | 0.21 | ppbv | 0.06 | AC-058 | 28-Feb-23 |
| 23020218-001 | Isoprene | K, T, U | < 0.03 | ppbv | 0.03 | AC-058 | 28-Feb-23 |
| 23020218-001 | Isopropylbenzene | K, T, U | < 0.06 | ppbv | 0.06 | AC-058 | 28-Feb-23 |
| 23020218-001 | m,p-Xylene | K, T, U | < 0.06 | ppbv | 0.06 | AC-058 | 28-Feb-23 |
| 23020218-001 | m-Diethylbenzene | K, T, U | < 0.03 | ppbv | 0.03 | AC-058 | 28-Feb-23 |
| 23020218-001 | m-Ethyltoluene | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 28-Feb-23 |
| 23020218-001 | Methylcyclohexane | K, T, U | < 0.03 | ppbv | 0.03 | AC-058 | 28-Feb-23 |
| 23020218-001 | Methylcyclopentane | K, T, U | < 0.08 | ppbv | 0.08 | AC-058 | 28-Feb-23 |
| 23020218-001 | n-Butane | | 0.56 | ppbv | 0.03 | AC-058 | 28-Feb-23 |
| 23020218-001 | n-Decane | K, T, U | < 0.09 | ppbv | 0.09 | AC-058 | 28-Feb-23 |
| 23020218-001 | n-Dodecane | K, T, U | < 0.5 | ppbv | 0.5 | AC-058 | 28-Feb-23 |
| 23020218-001 | n-Heptane | K, T, U | < 0.06 | ppbv | 0.06 | AC-058 | 28-Feb-23 |
| 23020218-001 | n-Hexane | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 28-Feb-23 |
| 23020218-001 | n-Octane | K, T, U | < 0.03 | ppbv | 0.03 | AC-058 | 28-Feb-23 |
| 23020218-001 | n-Pentane | I | 0.14 | ppbv | 0.06 | AC-058 | 28-Feb-23 |
| 23020218-001 | n-Propylbenzene | K, T, U | < 0.09 | ppbv | 0.09 | AC-058 | 28-Feb-23 |
| 23020218-001 | n-Undecane | K, T, U | < 0.8 | ppbv | 0.8 | AC-058 | 28-Feb-23 |
| 23020218-001 | n-Nonane | K, T, U | < 0.06 | ppbv | 0.06 | AC-058 | 28-Feb-23 |
| 23020218-001 | o-Ethyltoluene | K, T, U | < 0.03 | ppbv | 0.03 | AC-058 | 28-Feb-23 |
| 23020218-001 | o-Xylene | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 28-Feb-23 |
| 23020218-001 | p-Diethylbenzene | K, T, U | < 0.03 | ppbv | 0.03 | AC-058 | 28-Feb-23 |
| 23020218-001 | p-Ethyltoluene | K, T, U | < 0.06 | ppbv | 0.06 | AC-058 | 28-Feb-23 |
| 23020218-001 | Styrene | K, T, U | < 0.06 | ppbv | 0.06 | AC-058 | 28-Feb-23 |
| 23020218-001 | Toluene | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 28-Feb-23 |

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

Date: March 15, 2023 Inquiries: (780) 632 8403 E-mail: EAS.Results@innotechalberta.ca

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

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

# ENVIRONMENTAL ANALYTICAL SERVICES

TEST REPORT



| CLIENT SAMPLE ID | CANISTER ID | Matrix | DATE SAMPLED |
|---|---|---|---|
| VOCs and TNMOC Test # 828 | 28917 | Ambient Air | 23-Feb-23 0:00 |

**DESCRIPTION:**

**REPORT NUMBER:** 23020218 **REPORT CREATED:** 15-Mar-23 **VERSION:** Version 01

| Lab ID | Parameter | Qualifier | Result | Units | RDL | Method | Analysis Date |
|---|---|---|---|---|---|---|---|
| 23020218-001 | trans-2-Butene | K, T, U | < 0.05 | ppbv | 0.05 | AC-058 | 28-Feb-23 |
| 23020218-001 | trans-2-Pentene | K, T, U | < 0.03 | ppbv | 0.03 | AC-058 | 28-Feb-23 |

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

Date: March 15, 2023

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

## Revision History

| Order ID | Ver | Date | Reason |
|---|---|---|---|
| 23020218 | 01 | 15-Mar-23 | Report created |

# Methods

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

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

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

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



# 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

23020218

Test # 828. Send results to Stan Yuha. Send invoice to Stephanie Dennis.

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.*

**Sample ID:** 23030034-001 **Priority:** Normal

**Customer ID:** Clean Harbours
**Cust Samp ID:** Ryley Facility Test # 99 HVF-22-04-017

**Sample Reception: Environmental Analytical Services**
PO Bag 4000
Vegreville, AB T9C 1T4
Phone: (780) 632-8284 Fax: (780) 632-8620
Shipping: Highway 16 A & 75 St

**ANALYSIS REQUEST FORM**

**Project Code:** _____
**Client Code:** _____
**Invoice Code:** _____
**Date Rec'd (D/M/Y):** RECEIVED MAR 06 2023
**Rec'd By:** _____

**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 # 232128
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 # 99 | Filter Number # HVF-22-04-017 | 31/01/23 | | Particulate weight ICP-MS analysis |
| | | 1/03/23 | 26.38 hrs | |
| Ryley School Test # 99 | Filter Number # HVF-22-04-018 | 31/01/23 | | Particulate weight ICP-MS analysis |
| | | 1/03/23 | 63.96 hrs | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

**Sample ID:** 23020072-001 **Priority:** Normal

**Customer ID:** Clean Harbours
**Cust Samp ID:** VOCs and TNMOC Test #: 825

# 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

| | |
|---|---|
| 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: | Robbi Gooding, Stephanie Dennis |
| Phone: | 780-663-3828 |
| Email: | Gooding.Robbi@cleanharbors.com, Dennis.Stephanie@cleanharbors.com |
| Project ID: | Test 825 |
| PO #: | 0000231517 |

**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 it is performed as a separate order**

**Trigger Weight for Analysis (PM10): 1.20 mg**

**Trigger Weight for Analysis (HI-VOL): 89.6 mg**

Date Received – Lab Use Only

RECEIVED
FEB 0 9 2023

| Lab Sample No. | Client Sample ID | Sample Source/ Description | Canister Number/ Sampler ID | Date Sampled (dd/mm/yy) From / To | Time Sampled (24 hour) From / To | Analysis Requested |
|---|---|---|---|---|---|---|
| 1 | VOCs and TNMOC Test Number: 825 | Canister | 28886 | 05/02/23 | 00:00 | VOC PAMS & TNMOC |
| | | | | 06/02/23 | 00:00 | |
| 2 | PM10 Test Number: 825 | PM10 filter | C9694304 | 05/02/23 | 00:00 | FLT Particulate Weight (& metals if over trigger weight)* |
| | | | | 06/02/23 | 00:00 | |
| 3 | HI-VOL Test Number: 825 | HI-VOL Filter | HV-22-12-03 | 05/02/23 | 00:00 | Particulate Weight (& metals if over trigger weight)* |
| | | | | 06/02/23 | 00:00 | |
| | | | | | Total: 24.16 hrs | |
| | | | | | | |
| | | | | | | |

Client Authorization: _____ Laboratory Personnel: _____

*(Signature)* *(Signature)*

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

{00004084;2}

TERMS AND CONDITIONS

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

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

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

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

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

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

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

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

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

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

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

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

red
age
any

**Sample ID:** 23020072-001 **Priority:** Normal

**Customer ID:** Clean Harbours

**Cust Samp ID:** VOCs and TNMOC Test #: 825

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:** 23020072-001 **Priority:** Normal

**Customer ID:** Clean Harbours
**Cust Samp ID:** VOCs and TNMOC Test #: 825

# Filter Shipping Record

RECEIVED
FEB 09 2023

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

Date: Nov. 10/22

Project: Clean Harbors

Prepared by: S Mulenka

| Filter Size | # of Filters in Cassettes | Filter IDs |
|---|---|---|
| 47 mm | 1 | C9694304 |
| | | |
| | | |
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| | | |
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| | | |
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| | | |
| | | |

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: 28886

This cleaned canister meets or exceeds TO-15 Method Specifications

Proofed by: ISQ4 on: NOV 17 2022

Evacuated: JAN 05 2023 Recertified: _____

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

Laboratory Contact Number: 780-632-8403

Sample ID: Test 825

Sampled By: T. Webb

Starting Vacuum: -27.1 "Hg

End Vacuum: -6 "Hg/ psig JMP

**Sample ID:** 23020072-001 **Priority:** Normal

**Customer ID:** Clean Harbours

**Cust Samp ID:** VOCs and TNMOC Test #: 825

**Sample ID:** 23020160-001 **Priority:** Normal

**Customer ID:** Clean Harbours
**Cust Samp ID:** VOCs and TNMOC Test # 826

# 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: | Robbi Gooding, Stephanie Dennis |
| Phone: | 780-663-3828 |
| Email: | Gooding.Robbi@cleanharbors.com, Dennis.Stephanie@cleanharbors.com |
| Project ID: | Test 826 |
| PO #: | 0000231517 |

**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, it is performed as a separate order**
**Trigger Weight for Analysis (PM10): 1.21 mg**
**Trigger Weight for Analysis (HI-VOL): 87.6 mg**

Date Received – Lab Use Only

RECEIVED
FEB 16 2023

| Lab Sample No. | Client Sample ID | Sample Source/ Description | Canister Number/ Sampler ID | Date Sampled (dd/mm/yy) From / To | Time Sampled (24 hour) From / To | Analysis Requested |
|---|---|---|---|---|---|---|
| | VOCs and TNMOC Test Number: 826 | Canister | 28933 | 11/02/23 | 00:00 | VOC PAMS & TNMOC |
| | | | | 12/02/23 | 00:00 | |
| | PM10 Test Number: 826 | PM10 filter | C1165501 | 11/02/23 | 00:00 | FLT Particulate Weight (& metals if over trigger weight)* |
| | | | | 12/02/23 | 00:00 | |
| | HI-VOL Test Number: 826 | HI-VOL Filter | HV-22-12-07 | 11/02/23 | 00:00 | Particulate Weight (& metals if over trigger weight)* |
| | | | | 12/02/23 | 00:00 | |
| | | | | | Total: 23.62 hrs | |
| | | | | | | |
| | | | | | | |

Client Authorization: _____ Laboratory Personnel: _____

*(Signature)* *(Signature)*

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

**Sample ID:** 23020160-001 **Priority:** Normal

**Customer ID:** Clean Harbours
**Cust Samp ID:** VOCs and TNMOC Test # 826

RECEIVED
FEB 16 2023

# Filter Shipping Record

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

Date: Jan 5/23

Project: Clean Harbors

Prepared by: [signature]

| Filter Size | # of Filters in Cassettes | Filter IDs |
|---|---|---|
| 47 mm | 1 | C1165501 |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

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: 28933

This cleaned canister meets or exceeds TO-15 Method Specifications

Proofed by: ISQ4 on: JAN 0 3 2023

Evacuated: JAN 0 9 2023 Recertified: JAN 1 7 2023

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

Laboratory Contact Number: 780-632-8403

Sample ID: Test 826

Sampled By: T. Webb

Starting Vacuum: -27.1 "Hg

End Vacuum: KG -7 "Hg/psig

**Sample ID:** 23020160-001 **Priority:** Normal

**Customer ID:** Clean Harbours

**Cust Samp ID:** VOCs and TNMOC Test # 826

{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:** 23020160-001 **Priority:** Normal

**Customer ID:** Clean Harbours

**Cust Samp ID:** VOCs and TNMOC Test # 826

**Sample ID:** 23020209-001 **Priority:** Normal

**Customer ID:** Clean Harbours
**Cust Samp ID:** VOCs and TNMOC Test # 827

# 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: | Robbi Gooding, Stephanie Dennis |
| Phone: | 780-663-3828 |
| Email: | Gooding.Robbi@cleanharbors.com, Dennis.Stephanie@cleanharbors.com |
| Project ID: | Test 827 |
| PO #: | 0000231517 |

**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, it is performed as a separate order**
**Trigger Weight for Analysis (PM10): 1.21 mg**
**Trigger Weight for Analysis (HI-VOL): 87.9 mg**

Date Received – Lab Use Only

RECEIVED
FEB 2 3 2023

| Lab Sample No. | Client Sample ID | Sample Source/ Description | Canister Number/ Sampler ID | Date Sampled (dd/mm/yy) From / To | Time Sampled (24 hour) From / To | Analysis Requested |
|---|---|---|---|---|---|---|
| | VOCs and TNMOC Test Number: 827 | Canister | 32197 | 17/02/23 | 00:00 | VOC PAMS & TNMOC |
| | | | | 18/02/23 | 00:00 | |
| | PM10 Test Number: 827 | PM10 filter | C1167717 | 17/02/23 | 00:00 | FLT Particulate Weight (& metals if over trigger weight)* |
| | | | | 18/02/23 | 00:00 | |
| | HI-VOL Test Number: 827 | HI-VOL Filter | HV-22-12-19 | 17/02/23 | 00:00 | Particulate Weight (& metals if over trigger weight)* |
| | | | | 18/02/23 | 00:00 | |
| | | | | | Total: 23.71 hrs | |
| | | | | | | |
| | | | | | | |

Client Authorization: _____ Laboratory Personnel: _____

*(Signature)* *(Signature)*

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

**Sample ID:** 23020209-001 **Priority:** Normal

**Customer ID:** Clean Harbours
**Cust Samp ID:** VOCs and TNMOC Test # 827

RECEIVED
FEB 23 2023

# Filter Shipping Record

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

Date: January 31/23

Project: Clean Harbors

Prepared by: M Melenka.

| Filter Size | # of Filters in Cassettes | Filter IDs |
|---|---|---|
| 47 mm | 1 | C1167717 |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

TNMOC 827

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

**Sample ID:** 23020209-001 **Priority:** Normal

**Customer ID:** Clean Harbours
**Cust Samp ID:** VOCs and TNMOC Test # 827

InnoTech ALBERTA

**Canister ID:** 32197

This cleaned canister meets or exceeds TO-15 Method Specifications

Proofed by: ISQ4 on: NOV 0 8 2022

Evacuated: JAN 1 7 2023 Recertified: _____

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

Laboratory Contact Number: 780-632-8403

**Sample ID:** Test 827

**Sampled By:** T. Webb

**Starting Vacuum:** -27.1 "Hg

**End Vacuum:** -6 "Hg/psig

{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.

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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:** 23020209-001 **Priority:** Normal

**Customer ID:** Clean Harbours

**Cust Samp ID:** VOCs and TNMOC Test # 827

**Sample ID:** 23020218-001 **Priority:** Normal

**Customer ID:** Clean Harbours

**Cust Samp ID:** VOCs and TNMOC Test # 828

# 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: | Robbi Gooding, Stephanie Dennis |
| Phone: | 780-663-3828 |
| Email: | Gooding.Robbi@cleanharbors.com, Dennis.Stephanie@cleanharbors.com |
| Project ID: | Test 828 |
| PO #: | 0000231517 |

**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): 1.35 mg**

**Trigger Weight for Analysis (HI-VOL): 90.0 mg**

Date Received – Lab Use Only

RECEIVED
FEB 28 2023

| Lab Sample No. | Client Sample ID | Sample Source/ Description | Canister Number/ Sampler ID | Date Sampled (dd/mm/yy) From / To | Time Sampled (24 hour) From / To | Analysis Requested |
|---|---|---|---|---|---|---|
| | VOCs and TNMOC Test Number: 828 | Canister | 28917 | 23/02/23 | 00:00 | VOC PAMS & TNMOC |
| | | | | 24/02/23 | 00:00 | |
| | PM10 Test Number: 828 | PM10 filter | C1165503 | 23/02/23 | 00:00 | FLT Particulate Weight (& metals if over trigger weight)* |
| | | | | 24/02/23 | 00:00 | |
| | HI-VOL Test Number: 828 | HI-VOL Filter | HV-22-12-06 | 23/02/23 | 00:00 | Particulate Weight (& metals if over trigger weight)* |
| | | | | 24/02/23 | 00:00 | |
| | | | | | Total: 24.26 hrs | |
| | | | | | | |
| | | | | | | |

Client Authorization: _____ Laboratory Personnel: _____

*(Signature)* *(Signature)*

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

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TERMS AND CONDITIONS

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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:** 23020218-001 **Priority:** Normal

**Customer ID:** Clean Harbours

**Cust Samp ID:** VOCs and TNMOC Test # 828

**Sample ID:** 23020218-001 **Priority:** Normal

**Customer ID:** Clean Harbours
**Cust Samp ID:** VOCs and TNMOC Test # 828

RECEIVED
FEB 28 2023

# Filter Shipping Record

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

Date: Jan 5/23

Project: Clean Harbors

Prepared by: S Mulenka

| Filter Size | # of Filters in Cassettes | Filter IDs |
|---|---|---|
| 47 mm | 1 | C1165503 |
| | | |
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| | | |
| | | |
| | | |
| | | |

test 828

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: 28917.

This cleaned canister meets or exceeds TO-15 Method Specifications

Proofed by: ISQ4 on: JAN 03 2023

Evacuated: JAN 09 2023 Recertified: JAN 17 2023

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

Laboratory Contact Number: 780-632-8403

Sample ID: Test 828

Sampled By: T. Webb

| Starting Vacuum: | End Vacuum: -4 KG |
|---|---|
| -27.1 "Hg | -2 "Hg/ psig |

**Sample ID:** 23020218-001 **Priority:** Normal

**Customer ID:** Clean Harbours

**Cust Samp ID:** VOCs and TNMOC Test # 828