APPENDIX 24 2024 AIR QUALITY MONITORING REPORT

AGNICO EAGLE

MELIADINE GOLD MINE

2024 Air Quality Monitoring Report

In Accordance with NIRB Project Certificate No. 006

Prepared by:
Agnico Eagle Mines Limited – Meliadine Division

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EXECUTIVE SUMMARY

In accordance with Nunavut Impact Review Board (NIRB) Project Certificate No. 006 (NIRB, 2022), and as described in the Meliadine Air Quality Monitoring Plan, Agnico Eagle Mines Limited (Agnico Eagle) continued ambient outdoor air quality monitoring at the Meliadine Mine near Rankin Inlet in 2024.

Monitoring onsite in 2024 included year-round measurements of dustfall, NO_2, and SO_2 over one-month averaging periods using passive sampling devices, as well as active monitoring of suspended particulates (24-h TSP, $PM_{2.5}$, and PM_{10}) on a six-day cycle. Summertime dustfall transect sampling was conducted at three locations along the All-Weather Access Road (AWAR) and one location along the Rankin Inlet Bypass Road.

Dustfall results are compared to various regulatory guidelines for recreational and industrial land uses (Alberta Environment and Parks, 2019; GNWT, 2023) for context. These guidelines relate to nuisance and aesthetic concerns only. Across all onsite dustfall monitoring stations (DF-4, DF-5, DF-6, and DF-7), three of 48 samples exceeded Alberta's industrial area guideline (AB-Ind), which is anticipated to occur occasionally. An additional five samples exceeded Alberta's recreational area guideline (AB-Rec) only. Dustfall rates were highest at DF-4, which is directly downwind of the mine site and in close proximity to Tiriganiaq Open Pit 1. Generally, an increase in measured dustfall rates has occurred since mid-2017 as site activity has increased, as anticipated. An increase in the frequency of dustfall peaks occurred in 2024, particularly at location DF-4. With receipt of an amended production lease, this station is planned to be re-located in 2025 to sallow for future mine development in this area.

For AWAR and Bypass Road dustfall monitoring transects (DF-1, DF-2, DF-3, and DF-WT, summer-only sampling), average rates of dustfall were similar to or less than to those observed historically. Even in very close proximity to the road (25 m), average rates of dustfall over the summer season continue to be less than the AB-Rec guideline. Dust suppressant in the form of calcium chloride dry product was applied along the full length of the AWAR in June, July, and August.

Suspended particulates (TSP, $PM_{2.5}$, and PM_{10}) are scheduled to be measured over 24-h averaging periods every 6 days in two locations (DF-5 and DF-7) using two sets of Partisol air samplers. In 2024, minimal data loss occurred, and 348 of 366 possible samples were collected. With the exception of a single TSP sample (March 13, DF-7), and a single $PM_{2.5}$/PM_{10} sampling date (August 10, both locations), all values were less than regulatory guidelines for the 24-h averaging time (relevant Government of Nunavut Ambient Air Quality Standards (GN, 2011), Canadian Ambient Air Quality Standards (CAAQS; CCME, 2012, 2020a & b), and/or BC Ambient Air Quality Objectives (BC, 2021)) and maximum model predictions in the Final Environmental Impact Statement (FEIS) (Golder, 2014). Measured concentrations of metals of relevance (cadmium and iron) in TSP were also less than FEIS-selected 24-h health-based screening values and FEIS maximum model predictions, with the exception of a single 24-h sample for iron at the northern/upwind (DF-7) sampling location. Occasional elevated values for suspended particulates in individual field samples are likely caused by localized events, and these results are not considered indicative of any trends towards mine-related air quality concerns. Annual averages for suspended particulates were less than relevant regulatory guidelines and 2014 FEIS predictions in all cases.

Using monthly-average measurements, calculated annual average concentrations of NO_2 and SO_2 did not exceed regulatory guidelines (GN guidelines, CAAQS) or 2014 FEIS maximum model predictions.

Stack testing was performed in August, 2024 for the two onsite incinerators. For both incinerators, the measured concentration of mercury was less than the GN guideline for this parameter (GN Environmental Guideline for the Burning and Incineration of Solid Waste, January 2012). For one of the two incinerators, the measured concentration of total dioxins and furans exceeded the guideline. Further information can be found in the 2024 Annual Report main document.

Agnico Eagle is required by Environment Canada's Greenhouse Gas Emissions Reporting Program (GHGRP) to track greenhouse gas emissions. Calculated emissions for the Meliadine Mine (including Rankin Inlet operations) were reported on May 31, 2024 for the 2023 year. Total emissions were 138,128 tonnes CO_2e, which is less than the FEIS-predicted maximum of 317,000 tonnes CO_2e.

Since monitoring results in 2024 were within applicable air quality standards and FEIS predictions, and/or did not indicate any air quality trends of concern at this time, no adaptive management measures for air quality are planned for 2025.

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SECTION 1 • INTRODUCTION

1.1. Background and Objectives

The Meliadine Gold Mine (the Mine) near Rankin Inlet, Nunavut is subject to the terms and conditions of the amended Project Certificate 006 issued by the Nunavut Impact Review Board (NIRB) in accordance with the Nunavut Agreement Article 12.5.12 on March 2, 2022 (NIRB, 2022).

In accordance with Conditions 1, 2, 3, and 27b of the Project Certificate, Agnico Eagle maintains the Meliadine Air Quality Monitoring Plan (the Plan) to describe the program for onsite ambient air quality monitoring. Condition 5 of the Project Certificate is addressed through the Incineration Management Plan, and results are reported separately in the Annual Report, with a brief summary presented here.

The overall goal of the air quality monitoring program is to confirm the effectiveness of mitigation measures identified in the Project's environmental assessment by measuring key air quality parameters, and in doing so, determine if alternative mitigation strategies are required to further reduce emissions from the mine.

In accordance with the NIRB Project Certificate and the Plan, air quality monitoring for the Meliadine Mine includes year-round analysis of suspended particulates, dustfall, NO_2 and SO_2. A real time meteorological station has been installed at the site and recorded meteorological data is reported. A summary of the air quality monitoring program according to the Air Quality Monitoring Plan (Version 3, June 2020) is shown in Table 1. Monitoring according to the pre-construction objectives occurred from 2012 - 2016. In 2017, the project entered the construction phase, which continued in 2018. In 2019, the project entered the operations phase.

Table 1. Air quality monitoring objectives according to the Air Quality Monitoring Plan (Version 3, June 2020).

Project Phase	Program Objective	Monitoring Equipment
Pre-construction (2012 – 2016)	• To obtain baseline data in order to be able to compare with construction and operation phases	• Three dustfall jars (passive) onsite • Three dustfall jars along AWAR
Construction (2017 – 2018)	• To verify compliance with applicable standards • To apply mitigation measures if necessary	• One TSP/PM_{10} sampling unit (Partisol model 2025) • One passive NO_2 – SO_2 monitor • Four dustfall jars (passive) onsite • Three dustfall jars (passive) along AWAR
Operations (2019 +)	• To verify the predicted concentrations of TSP, PM_{10}, and $PM_{2.5}$ • To verify that the mitigation measures considered integral to the Project are being incorporated as planned, and are effective	• Two TSP sampling units (Partisol model 2025i) (DF-5, DF-7) • Two PM_{10}/$PM_{2.5}$ sampling units (Partisol Model 2025i-D) (DF-5, DF-7) • Two passive NO_2–SO_2 monitors (DF-5, DF-7) • Four dustfall jars (passive) onsite (DF-4, DF-5, DF-6, DF-7)

Project Phase	Program Objective	Monitoring Equipment
		• Three dustfall (passive) monitoring transects along AWAR (km 4, 10, 23 – DF-1, DF-2, DF-3) and one along the Rankin Inlet Bypass Road (DF-WT) – summer season • Background dustfall (passive) monitoring at a reference station – summer season

1.2. Reporting

According to the site's Air Quality Monitoring Plan, this comprehensive report on results of the program is provided to the NIRB by March 31 annually. This report provides results for monitoring conducted throughout the 2024 calendar year, as well as summaries of historical data.

1.3. Program Summary

The 2024 air quality and dustfall monitoring program is summarized in Table 2 and described below, including any deviations from the Plan. Monitoring locations are shown in Figure 1.

Table 2. Planned air quality monitoring locations and parameters. *Any deviations in the sampling plan in 2024 are in italics.* Data loss for each monitoring station is described in Section 2.

Monitoring Station	UTM (15V)	Parameters	Frequency	General Location	Location Description
DF-WT	542890E 6967093N	Dustfall transect	Summer only	Rankin Inlet Bypass Road	1.3 km northwest of Nipissar Lake and ~500m southeast (downwind) of community quarry sites. Samples at 60, 120, 300 m on each side of the road and 1000 m on the east side.
DF-1	544073E 6970759N	Dustfall transect	Summer only	AWAR	AWAR km 4 South of Iqalugaarjuup Nunanga Park. Samples at 25, 100, and 300 m on each side of the road.
DF-2	546621E 6973334N	Dustfall transect	Summer only	AWAR	AWAR km 10 East of Iqalugaarjuup Nunanga Park. Samples at 25, 100, and 300 m on each side of the road.
DF-3	544899E 6981387N	Dustfall transect	Summer only	AWAR	AWAR km 23 North of Iqalugaarjuup Nunanga Park. Samples at 25, 100, and 300 m on each side of the road.

Monitoring Station	UTM (15V)	Parameters	Frequency	General Location	Location Description
DF-4	540014E 6987836N	Dustfall	Year-round	Onsite	Approx. 380 m south of Tiriganiaq Open Pit 1. Downwind of main mine site.
DF-5	542226E 6988507N	Dustfall NO_2, SO_2 TSP, PM_{10}, $PM_{2.5}$	Year-round	Onsite	500 m south-east of the exploration camp. Downwind of main mine site facilities.
DF-6	537586E 6989096N	Dustfall	Year-round	Onsite	Approx. 600 m west of main mine site facilities (cross-wind).
DF-7	537143E 6991176N	Dustfall NO_2, SO_2 TSP, PM_{10}, $PM_{2.5}$	Year-round	Onsite	Approx. 500 m northwest (upwind) of the emulsion plant and 1.5 KM from the main mine site facilities (TSF).
DF-8 (also called DF-REF)	525656E 7001656N Or alternative *2024: 533321E 6998540N*	Dustfall	Summer only	Reference	North end of Meliadine Lake. UTM approximate. Reference stations may be rotated.

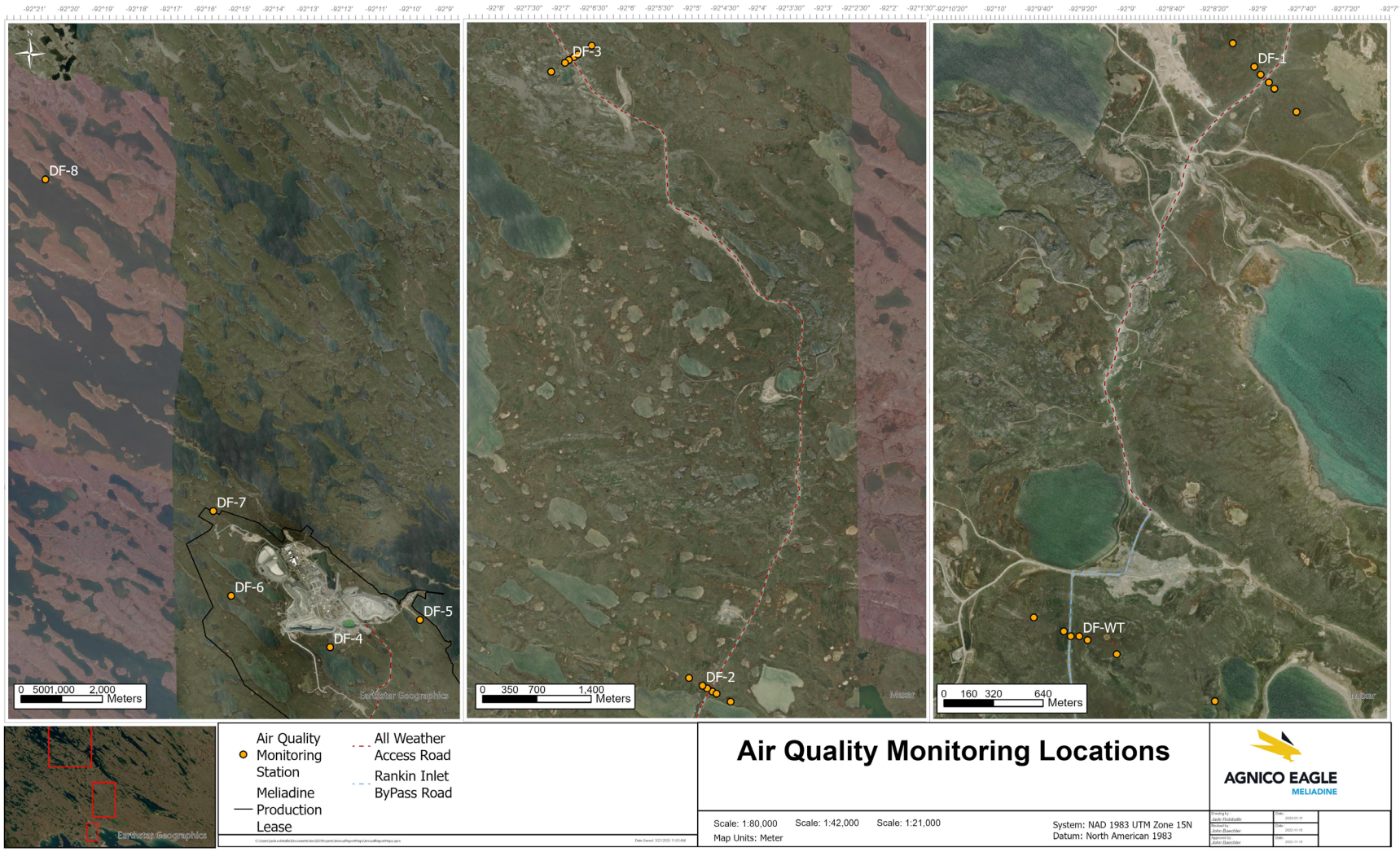

Figure 1. Air quality monitoring locations

SECTION 2 • METHODS

2.1. Sampling Methodology

2.1.1. Suspended Particulates

Suspended particulates (TSP, PM_{10}, $PM_{2.5}$) were scheduled to be sampled over 24-h averaging periods every six days using a Partisol Plus Model 2025i Sequential Air Sampler (TSP) and a Partisol Plus Model 2025i-D Dichotomous Sequential Air Sampler ($PM_{2.5}$/PM_{10}) at monitoring locations DF-5 and DF-7 (Figure 1). Partisol samplers draw in a stream of ambient air at a controlled flow rate, and particulates are collected on a pre-weighed filter supplied by an accredited laboratory. The exposed filter is then shipped back to the laboratory and re-weighed to measure the total accumulated particulates. Travel blanks (pre-weighed filters that were not run through Partisol instuments) were sent with each shipment. TSP filters are also analyzed by the laboratory for metals of relevance to the project, as described in the Plan.

In 2024, suspended particulate sampling was scheduled every six days beginning January 1 and ending December 26. Dates for which data loss occurred for various reasons are shown in Table 3. As described in the Air Quality Monitoring Plan some data loss is anticipated, particularly during the winter months, due to the extreme weather conditions at the Meliadine Mine. Agnico Eagle has been working diligently to reduce Partisol operational downtime through regular instrument inspections, preventive maintenance, spare parts stockpiling, and technician training, along with scheduled onsite maintenance and calibration visits performed by the supplier annually.

Overall, data loss in 2024 continued to be reduced compared to previous years. In total, 95%, or 348 of 366 possible samples were collected, compared to 90% in 2023, and 78% in both 2021 and 2022. For each of the four Partisol units, data loss for 2024 is considered minor, with rates of 3 – 10%, or 2 - 6 of 61 possible samples (Table 3). Equipment checks were performed during nearly every sample run, and no extended periods of downtime occurred for any unit. Shuttle errors were the most common cause of sample loss. During weekly checks, technicians had to manually initiate sample sequences when filter exchanges failed on approximately 12 occasions (note 3 on Table 3).

Table 3. Summary of Partisol data loss. Check mark indicates sample was collected over 24 h from midnight to midnight, without issue.

Sample Date	TSP		$PM_{2.5}$/PM_{10}	
	DF-5	DF-7	DF-5	DF-7
2024-01-01	✓	Set-up error[2]	✓	✓
2024-01-07	✓	✓	✓	✓
2024-01-13	✓	✓	✓	✓
2024-01-19	✓	✓	✓	✓
2024-01-25	✓	✓	✓	✓
2024-01-31	✓	✓[3]	✓	✓[3]
2024-02-06	✓	✓	✓	✓
2024-02-12	Equipment failure[1]	✓	✓	✓
2024-02-18	✓	✓	✓	✓
2024-02-24	✓	✓	✓	✓

Sample Date	TSP		$PM_{2.5}/PM_{10}$	
	DF-5	DF-7	DF-5	DF-7
2024-03-01	✓	✓	Equipment failure[1]	✓
2024-03-07	✓	✓	✓	✓
2024-03-15	✓	✓	Equipment failure[1]	✓[3]
2024-03-19	✓	✓	✓	✓
2024-03-25	✓	✓	✓	✓
2024-03-31	✓	✓	✓	✓
2024-04-06	✓	✓	✓	✓
2024-04-12	✓	✓	✓	✓
2024-04-18	✓	✓	✓	✓
2024-04-24	✓	✓	✓	✓
2024-04-30	✓	✓	✓[3]	✓
2024-05-06	✓	✓	✓[3]	✓
2024-05-12	✓	✓	✓	✓
2024-05-18	✓	✓	✓	✓
2024-05-24	✓	✓	✓	✓
2024-05-30	✓	✓	✓	✓
2024-06-05	✓	✓	✓	Equipment failure[1]
2024-06-11	✓	✓	Equipment failure[1]	Set-up error[2]
2024-06-17	✓	✓	Equipment failure[1]	✓
2024-06-23	✓	✓	✓	✓
2024-06-29	✓	✓	✓	✓
2024-07-05	✓	✓	✓	✓
2024-07-11	✓	Equipment failure[1]	✓	✓
2024-07-17	✓	Equipment failure[1]	✓	✓
2024-07-23	✓	✓	✓	✓
2024-07-29	✓	✓	✓	✓
2024-08-04	Equipment failure[1]	✓	✓	✓
2024-08-10	✓[3]	✓	✓	✓
2024-08-16	✓[3]	✓	✓	✓
2024-08-22	✓	✓	✓	✓
2024-08-28	✓	✓	✓	✓
2024-09-03	✓	✓	Equipment failure[1]	✓
2024-09-09	✓	✓	✓	✓
2024-09-15	✓	Equipment failure[1]	✓	✓
2024-09-21	✓	✓	Set-up error[2]	✓
2024-09-27	✓	✓	✓	✓
2024-10-03	✓	✓	✓	✓
2024-10-09	✓	✓	✓	✓
2024-10-15	✓	✓	✓	✓
2024-10-21	✓	✓	✓	✓

Sample Date	TSP		$PM_{2.5}/PM_{10}$	
	DF-5	DF-7	DF-5	DF-7
2024-10-27	✓	✓	✓	✓
2024-11-02	✓[3]	✓	✓	✓
2024-11-08	✓	✓	Equipment failure[1]	✓
2024-11-14	✓	✓	✓	✓
2024-11-20	✓[3]	✓	✓	✓
2024-11-26	✓	✓	✓	✓
2024-12-02	✓	✓	✓	✓
2024-12-08	✓	✓	✓[3]	✓
2024-12-14	✓	✓	✓[3]	✓
2024-12-20	✓	✓	✓[3]	✓
2024-12-26	✓	✓	✓	✓

[1]Equipment failure (e.g. power failure, filter exchange error, broken parts, torn filter).

[2]Set-up or logistical error (e.g. sequence not properly initiated, sample lost in transit)

[3]Sampling initiated at a time other than 00:00, typically when runs were manually started following a filter exchange error.

2.1.2. Dustfall

Dustfall was collected in open vessels containing a purified liquid matrix (de-ionized water and isopropanol), supplied by a commercial analytical laboratory. Particles are deposited and retained in the liquid, which is then analyzed for total and fixed (non-combustible) dustfall by the supplying laboratory. While regulatory guidelines relate to total dustfall, the non-combustible fraction (fixed dustfall) is considered more representative of mine-related activity because it excludes organic components (e.g., pollen, plants, animal particles).

Dustfall jars were deployed according to laboratory specifications for sequential one-month periods at each sampling location, retrieved, re-sealed, and shipped back to the laboratory. Canisters were placed on a stand at 2-m height, with an open bucket-style holder fitted with a wind shield and wires around the rim to deter birds (see Figure 2). Calculated dustfall rates were normalized to 30 days ($mg/cm^2/30$ days). Travel blanks (canisters accompanying samples but not opened) were also sent with each shipment.

In 2024, dustfall monitoring was conducted over approximately 30-day periods for onsite year-round sampling stations DF-4, DF-5, DF-6, and DF-7 (locations in Figure 1). Results are reported here for the period of January 7, 2024 – January 3, 2025. No sample loss occurred.

As described in the Air Quality Monitoring Plan, summer-only transect sampling is planned for AWAR stations DF-1, DF-2, and DF-3, and Bypass Road transect DF-WT. For all four transects, dustfall was collected over three sequential 30-d (approx.) periods from July 7 – August 7, August 7 – September 6, and September 6 – October 6, 2024.

Finally, background reference dustfall station DF-8 was sampled over two 30-d (approx.) periods beginning July 13, and August 15, 2024.

Figure 2: Dustfall sampling stand at the Meliadine Gold Mine.

2.1.3. NO_2 and SO_2

Concentrations of NO_2 and SO_2 by volume (ppb) were analyzed over one-month periods using a passive sampling device provided by Bureau Veritas Laboratories and deployed by Agnico Eagle technicians according to laboratory-identified procedures. Following each sampling period, the sampling device was retrieved and shipped to the commercial laboratory for analysis.

In 2024, the passive samplers for NO_2 and SO_2 were installed at two locations (DF-5 and DF-7; Figure 1). Passive monitoring of NO_2 and SO_2 was conducted over approximately 30-day periods from January 7, 2024 – January 3, 2025. Duplicates and travel blanks for both parameters were also collected monthly. Laboratory reporting includes blank subtraction.

No sample loss occurred in 2024.

2.2. Data Analysis

2.2.1. Suspended Particulates

2.2.1.1. Data Processing

Laboratory-reported results for mass of particulates were used to calculate associated concentrations of TSP, PM_{10} and $PM_{2.5}$ ($\mu g/m^3$) according to the Partisol operating manual, as follows.

TSP is calculated as:

$$TSP = M_{TSP}/V$$

Where: TSP = mass concentration of particulates ($\mu g/m^3$)

M_{TSP} = final mass of TSP filter – initial mass of filter (µg/filter)

V = volume of air drawn in during the sampling period (~24 m^3)

Since the dichotomous unit splits the intake air stream to determine $PM_{2.5}$ and PM_{coarse} ($PM_{10-2.5}$), the volume of air is different for each filter. Calculations are performed as follows.

$PM_{2.5}$ is calculated as:

$$PM_{2.5} = M_{2.5}/V_{2.5}$$

Where: $PM_{2.5}$ = mass concentration of particulates ($\mu g/m^3$)

$M_{2.5}$ = final mass of $PM_{2.5}$ filter – initial mass of filter (µg/filter)

$V_{2.5}$ = volume of air drawn through the $PM_{2.5}$ filter during the sampling period (~21.7 m^3)

And,

PM_{coarse} is calculated as:

$$PM_{coarse} = M_{coarse}/V_{total} – PM_{2.5}(V_{coarse}/V_{total})$$

Where: PM_{coarse} = mass concentration of particulates ($\mu g/m^3$)

M_{coarse} = final mass of PM_{coarse} filter – initial mass of filter (µg/filter)

V_{total} = total volume of air drawn into unit during sampling (~24m^3)

V_{coarse} = volume of air drawn through the PM_{coarse} filter during the sampling period (~2.4 m^3)

Concentration of PM_{10} is then calculated as PM_{coarse} + $PM_{2.5}$.

For comparison to Government of Nunavut Environmental Guidelines for Ambient Air Quality (GN, 2011), concentrations of particulates need to be calculated using air volumes normalized to 25°C and 101.3kPA (standard temperature and pressure; STP). Standardized volumes were recorded by the Partisol unit for each 24-h sampling period and used in calculations.

2.2.1.2. Regulatory Guidelines and FEIS Predictions

Results of suspended particulate monitoring are compared primarily to available Government of Nunavut (GN) Environmental Guidelines for Ambient Air Quality (GN, 2011). Where GN guidelines are not available (i.e. for PM_{10}) results are compared to the BC Air Quality Objective Guidelines (BC, 2021), which is equivalent to the GNWT (2023) guideline for PM_{10}. Beginning in 2023, comparison to Canadian Ambient Air Quality Standards (CAAQS; 2020 or 2025, as available) was also added, for reference (CCME, 2012). CAAQS represent voluntary objectives for an individual site and are typically used at a regional scale for airshed planning purposes. Regulatory guidelines for the measured parameters are provided in Table 4.

In addition to these regulatory guidelines, results are compared to 2014 FEIS (Vol. 5) predictions for maximum concentrations of suspended particulates, for reference. Maximum FEIS air quality predictions for the site study area (SSA) and local study area (LSA) where the stations DF-5 and DF-7 are located, respectively, are shown in Table 4. Various differences between air quality modelling methods and field monitoring results are noted. For example, the Partisol instruments are located using various industry standard considerations such as dispersion modeling results and power availability and are not necessarily located at the predicted location of maximum ground-level concentrations. These are expected to occur in closer proximity to sources in most cases, and with daily variation according to actual site operations and meteorological conditions. In addition, monitoring results include background contributions, whereas model predictions do not. Finally, air quality modeling for total suspended particulates is based on well established, published emission factors for the specified sources under evaluation, and typically is for particle sizes < 44 µm. Larger particle sizes are assumed to be deposited very close to the source, without any significant period of suspension, and therefore limited impact on air quality. However, the upper particle size for TSP collected through Partisol TSP samplers is not specifically limited, and therefore it is possible that larger particles will be deposited on filters.

Table 4. Regulatory guidelines and 2014 FEIS predictions for outdoor ambient suspended particulates.

Parameter	Averaging Time	Regulatory Guideline		FEIS Prediction ($\mu g/m^3$)	
		Jurisdiction	Guideline Value ($\mu g/m^3$)	SSA (represented by DF-5)	LSA (represented by DF-7)
$PM_{2.5}$	24-h	GN	30	55.2	19.6
		CAAQS	27*		
	Annual	CAAQS	8.8^	-	-
PM_{10}	24-h	BC	50	104.0	58.2
Total Suspended Particulate (TSP)	24-h	GN	120	213.7	122.3
	Annual‡	GN	60	16.8	17.0

GN: Government of Nunavut Environmental Guidelines for Ambient Air Quality (GN, 2011)
BC: British Columbia Ambient Air Quality Objectives (BC, 2021)
CAAQS: 2020 Canadian Ambient Air Quality Standards (CCME, 2012)
FEIS: 2014 Final Environmental Impact Statement (Golder, 2014a) predictions for maximum suspended particulate matter concentrations within the Meliadine Site Study Area (SSA) and Local Study Area (LSA).
*The 3-year average of the annual 98th percentile of the daily 24-hour average concentrations.
^The 3-year average of the annual arithmetic average of the daily 24-hour average concentrations.
‡GN guideline applies to the geometric mean and FEIS prediction applies to the arithmetic mean.

In recognition of Term and Condition 1b of the Project Certificate, concentrations of metals of relevance to the Project (iron and cadmium[1]) are measured in TSP samples. Results for this size fraction are expected to over-estimate actual exposure via inhalation, but TSP filters are more likely to provide sufficient material for detection in laboratory analyses than smaller size fractions. Results are compared to the FEIS-selected health-based screening values for chronic inhalation (Golder, 2014b; Volume 10, Appendix 10-2), shown in Table 5, as well as FEIS-predicted maximum concentrations of contaminants for locations Camp (as represented by DF-5) and Receptor 1 (as represented by DF-7) (Golder, 2014b; Volume 10).

[1] These metals were selected for monitoring in suspended particulate (according to T&C 1b) because they were the only metals screened in as contaminants of potential concern (COPCs) for analysis of chronic inhalation risk in the FEIS (Golder, 2014b, Vol. 10). Ultimately, risk-based exposure estimates were not required to be calculated (iron – see discussion below) or met targets (cadmium).

These screening guidelines and predictions will provide context for interpreting the results of trace metals analysis in TSP samples.

As noted in the 2014 FEIS (Golder, 2014b), the 24-h health-based screening value for iron inhalation is based on toxicity of particulate matter, not toxicity of the chemical itself. As a result, iron was not required to be carried forward as a COPC for quantitative risk evaluation, because risk from particulate matter inhalation was evaluated separately (as it is in this Air Quality Monitoring Plan). Any exceedance of the screening value for iron is therefore not considered of toxicological concern in itself; rather, PM_{10} and $PM_{2.5}$ results are reviewed in comparison to regulatory guideline values for inhalable particulate matter (as described above and shown in Table 4).

For cadmium, no exceedance of the 24-h health-based screening value (0.025 µg/m^3) was predicted in the 2014 FEIS. The maximum modeled concentration (0.00106 µg/m^3) for one of six mining scenarios evaluated was predicted to marginally exceed the annual health-based screening value (0.001 µg/m^3) for the Camp location (DF-5) only (ultimately, risk-based exposure estimates met acceptability criteria). While cadmium has been measured in TSP samples in recognition of T&C 1b, comparisons are only made with the 24-h screening value, because laboratory detection limits exceed the annual screening value. All measured concentrations of cadmium have been less than the laboratory detection limit to date.

In 2024, Health Canada recommended that Agnico Eagle consider monitoring of arsenic in TSP (comment HC-03 on the 2023 Annual Report). Although arsenic was not identified as a COPC for inhalation risk in the 2014 FEIS, Agnico Eagle evaluated the feasibility of this analysis, and found that laboratory detection limits for arsenic in particulate filters exceed the FEIS-selected 24-h screening value by about 2x. Agnico Eagle is therefore assessing other strategies for targeted monitoring of potential mine-related impacts of arsenic in dust. It is noted that to date, monitoring results for both inhalable suspended particulate fractions and other metals of relevance (cadmium) in TSP have remained below regulatory guidelines and FEIS screening values.

Table 5. FEIS-selected health-based screening values for chronic inhalation (24-h), and FEIS-predicted maximum concentrations of cadmium and iron for monitoring locations Receptor 1 and Camp.

Contaminant	FEIS Values (24-h) – Golder (2014b)		
	Selected Health-Based Screening Value (µg/m^3)	Prediction – Camp (DF-5) (µg/m^3)	Prediction – Receptor 1 (near DF-7) (µg/m^3)
Cadmium	0.025*	0.0180	0.0030
Iron	4^	8.7300	3.7000
*The 24-h screening value was not predicted to be exceeded. See discussion in text. ^Iron screening value is based on toxicity of particulate matter, not iron itself. See discussion in text.			

2.2.2. Dustfall

No standards for dustfall are available for Nunavut. Results of the dustfall analysis are therefore compared to Alberta's Ambient Air Quality Guideline for recreational areas for total dustfall of 0.53 mg/cm^2/30d (AB-Rec) and commercial/industrial guideline of 1.58 mg/cm^2/30d (AB-Ind), to provide context (Table 6). The GNWT (2023) guideline of 0.87 mg/cm^2/30d is also considered here. These guidelines are based on

aesthetic or nuisance concerns and are to be used for airshed planning and management, as a general performance indicator, and to assess local concerns.

Dustfall rates are additionally analyzed for indications of spatial trends to look at differences between transect locations, upwind and downwind locations, and distance from the road. A temporal analysis also checks for consistently increasing trends in the measured dustfall rates year-over-year.

Based on measurements for other mines in Nunavut (Meadowbank Complex), it is anticipated that guidelines for recreational areas may regularly be exceeded in close proximity to the AWAR or mine site, and that guidelines for industrial areas may occasionally be exceeded. However, exceedance of these guidelines does not necessarily indicate that impacts to ecological endpoints (e.g. vegetation or wildlife) are occurring. Impacts of dust deposition (including potential contaminants in dustfall) on the aquatic and terrestrial environments are assessed through the Aquatic Effects Monitoring Program (AEMP) (water and sediment quality monitoring) and Terrestrial Environment Management and Monitoring Program (TEMMP) (soil and vegetation sampling).

Table 6. Regulatory guidelines for dustfall (nuisance or aesthetic concerns).

Parameter	Jurisdiction	Regulatory Guideline	
Dustfall	AB	Recreational/Residential areas (AB-Rec)	0.53 mg/cm^2/30d
		Commercial/Industrial areas (AB-Ind)	1.58 mg/cm^2/30d
	GNWT (2023)	Industrial/Other	0.87 mg/cm^2/30d
AB: Alberta Ambient Air Quality Objectives and Guidelines (AB, 2019) GNWT: Government of the Northwest Territories Ambient Air Quality Monitoring Guideline (GNWT, 2023)			

2.2.3. NO_2 and SO_2

Monthly NO_2 and SO_2 sampling results are averaged across the calendar year and compared with GN Environmental Guidelines for Ambient Air Quality (GN, 2011) and for reference, to the Canadian Ambient Air Quality Standards (CAAQS; 2020 and 2025) for the annual averaging time (CCME, 2020a & b) (Table 7).

A comparison to FEIS maximum model predictions plus FEIS-assumed background concentrations for NO_2 and SO_2 is also included (Table 7), along with a review of historical data for spatial and temporal trends. Similar caveats apply in these comparisons as noted for particulate matter in Section 2.2.1.2.

Table 7. Regulatory guidelines and 2014 FEIS predictions for annual average concentrations of NO_2 and SO_2.

Compound	Regulatory Guideline		FEIS Prediction (Max.) (+ Background; Annual Average)	
	Jurisdiction	Guideline Value (Annual Average)	SSA (DF-5)	LSA (DF-7)
NO_2	GN	32 ppb	23.3 + 0.05 ppb	12.1 +0.05 ppb
	CAAQS (2020, 2025)	17.0, 12.0 ppb*		
SO_2	GN	11 ppb	0.1 +0.2 ppb	0.0 + 0.2 ppb
	CAAQS (2020, 2025)	5.0, 4.0 ppb*		

GN: Government of Nunavut Environmental Guidelines for Ambient Air Quality (GN, 2011)
CAAQS: 2020 and 2025 Canadian Ambient Air Quality Standards (CCME, 2020a,b)
FEIS: 2014 Final Environmental Impact Statement (Golder, 2014a) predictions for maximum annual average NO_2 and SO_2 within the Meliadine Site Study Area (SSA) and Local Study Area (LSA).
*The average over a single calendar year of all 1-hour average concentrations.

2.3. QA/QC

According to the Plan, QA/QC procedures for the monitoring program included the following:

2.3.1. Suspended Particulates

- Travel blanks (laboratory prepared cartridges that travel with the samples but are not exposed to the atmosphere) were collected monthly for the two sampling locations (DF-5 and DF-7), and sent with every shipment. Of the 24 trip blanks, eight were at or below detection limits (<3 µg/filter), with a maximum result of 48 µg/filter (April). This is well within the range of results observed in exposed filters (generally from <3 to 4000 µg/filter). No data correction is applied, but trip blank results are considered in data interpretation where relevant.
- An accredited laboratory was used for pre-sample preparation and determining sample weights;
- Samples and data were collected by appropriately trained personnel; and
- Qualified personnel interpreted the flow data and confirmed ambient particulate concentrations based on laboratory results.

2.3.2. Dustfall

- A travel blank (laboratory prepared samples that travel with the samples but are not exposed to the atmosphere) was sent with all shipments in 2024 (12 in total).

- Total dustfall results for trip blanks were most commonly between non-detect (0.001 mg/cm^2/30d) and 0.1 mg/cm^2/30d, with one sample (February) reported at 0.358 mg/cm^2/30d.
- These results are similar to those observed in 2022 and 2023 and indicate that dustfall measurements for samples may regularly be elevated by up to 0.1 mg/cm^2/30d due to sample preparation or travel-related contamination, with potential for greater values occasionally.
- Results for fixed dustfall were more consistent, with most values at 0.05 mg/cm^2/30d or less. Occasionally, peaks in total dustfall without corresponding peaks in fixed dustfall are also observed in sample canisters.
- Travel blank results are considered in data interpretation, with discussion if applicable, but no data corrections are applied.

- An accredited laboratory was used for sample preparation and analysis; and
- Samples were collected by appropriately trained personnel.

2.3.3. Passive NO_2-SO_2

- Throughout the year, field duplicates were collected for SO_2 and NO_2 at DF-5 and DF-7 (results presented in Section 3.3);
- Travel blanks were also collected monthly for both parameters, and according to standard laboratory procedures, those results are subtracted from test canister results prior to reporting by the analytical laboratory.
  - Results for SO_2 travel blanks in 2024 ranged from below detection (0.1 ppb) to 0.3 ppb.
  - Results for NO_2 travel blanks in 2024 ranged from 0.2 – 1.3 ppb.
- An accredited laboratory was used for pre-sample preparation and sample analysis;
- Samples were collected by appropriately trained personnel; and
- Qualified personnel interpreted ambient NO_2-SO_2 concentrations based on laboratory results.

SECTION 3 • MONITORING RESULTS

3.1. Suspended Particulates

3.1.1. Current Year TSP, PM_{10} and $PM_{2.5}$

In 2024, suspended particulate sampling was scheduled to occur every six days beginning January 1. Data loss is discussed in Section 2.1.1 and available results are shown in Figures 3, 4, and 5.

With the exception of a single TSP sample (March 13, DF-7), and a single $PM_{2.5}/PM_{10}$ sampling date (August 10, both locations), all values were less than the relevant regulatory guideline (GN/BC/CAAQS), and FEIS maximum model prediction for the 24-h averaging time. Single exceedances are likely to have been caused by localized dust events, and these results are therefore not considered indicative of any trends towards mine-related air quality concerns.

Annual average concentrations of TSP calculated for January 1 – December 26, 2024 are provided in Table 8, along with historical results. In all cases, measured concentrations for the annual average have been less than the GN guideline and FEIS predictions for maximum concentrations.

Annual average concentrations of $PM_{2.5}$ calculated for January 1 – December 26, 2024 are provided in Table 9. This size fraction has been measured since 2019, but 2023 was the first year of data comparison to an annual average guideline (CAAQS). For both sites, measured concentrations for the annual average have been less than the CAAQS value.

Table 8. Measured and predicted annual average concentrations of TSP for Meliadine monitoring stations DF-5 and DF-7.

Year	DF-5 (µg/m³)		DF-7 (µg/m³)	
	Geometric mean	Arithmetic mean	Geometric mean	Arithmetic mean
	GN Guideline: 60	*FEIS Prediction: 16.8*	*GN Guideline: 60*	*FEIS Prediction: 17.0*
2021	3.4	6.0	3.9	10.0
2022	5.5	16.5	3.0	4.3
2023	5.3	9.5	4.4	13.4
2024	7.4	13.4	7.0	16.8

Table 9. Measured and predicted annual arithmetic mean concentrations of $PM_{2.5}$ for Meliadine monitoring stations DF-5 and DF-7.

Year	DF-5 (µg/m³)	DF-7 (µg/m³)
	CAAQS (2020): 8.8 µg/m³	
2023	2.1	2.1
2024	3.2	3.5

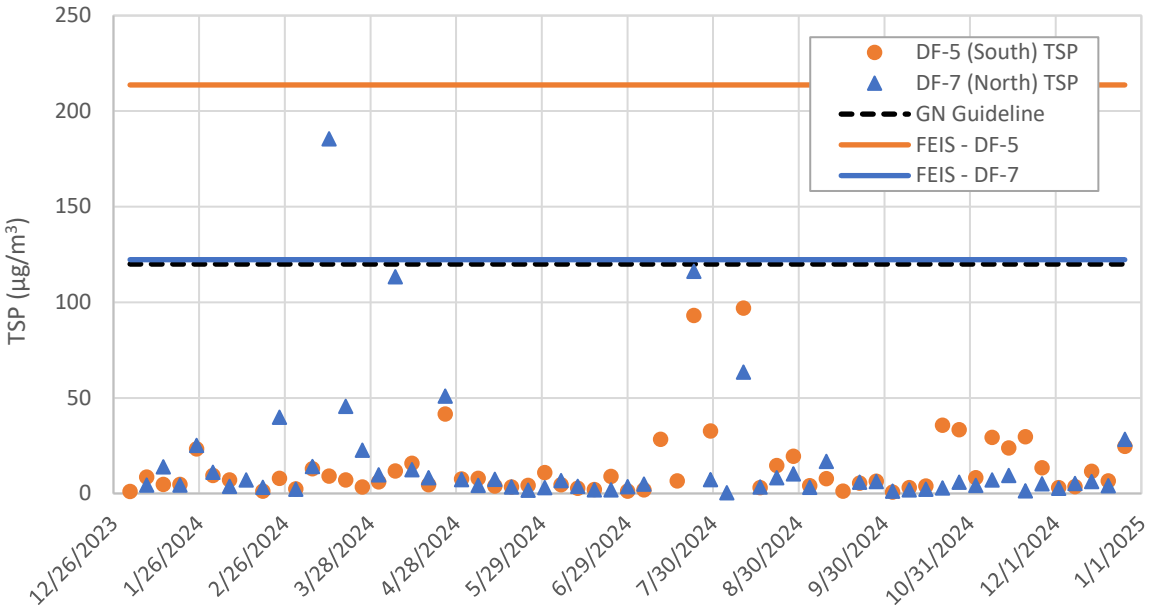

Figure 3. 24-h measured concentrations of total suspended particulates (TSP) at monitoring stations DF-5 and DF-7 at the Meliadine site (points). Lines indicate the Government of Nunavut (GN) guideline and 2014 FEIS maximum model predictions.

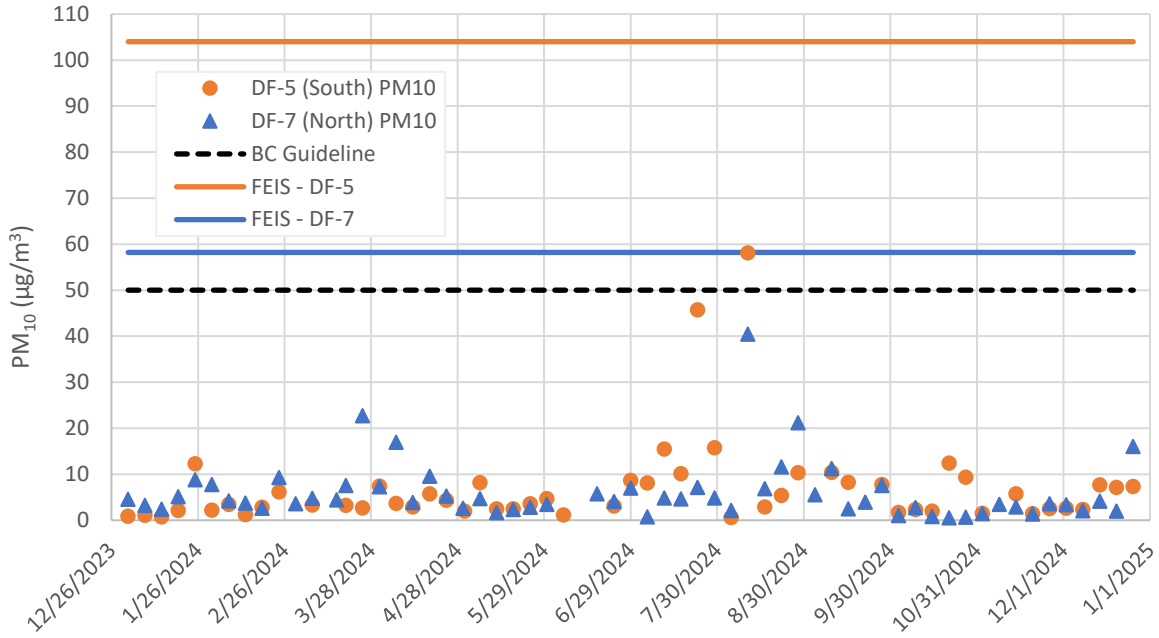

Figure 4. 24-h measured concentrations of PM10 at monitoring stations DF-5 and DF-7 at the Meliadine site (points). Lines indicate the BC guideline and 2014 FEIS maximum model predictions.

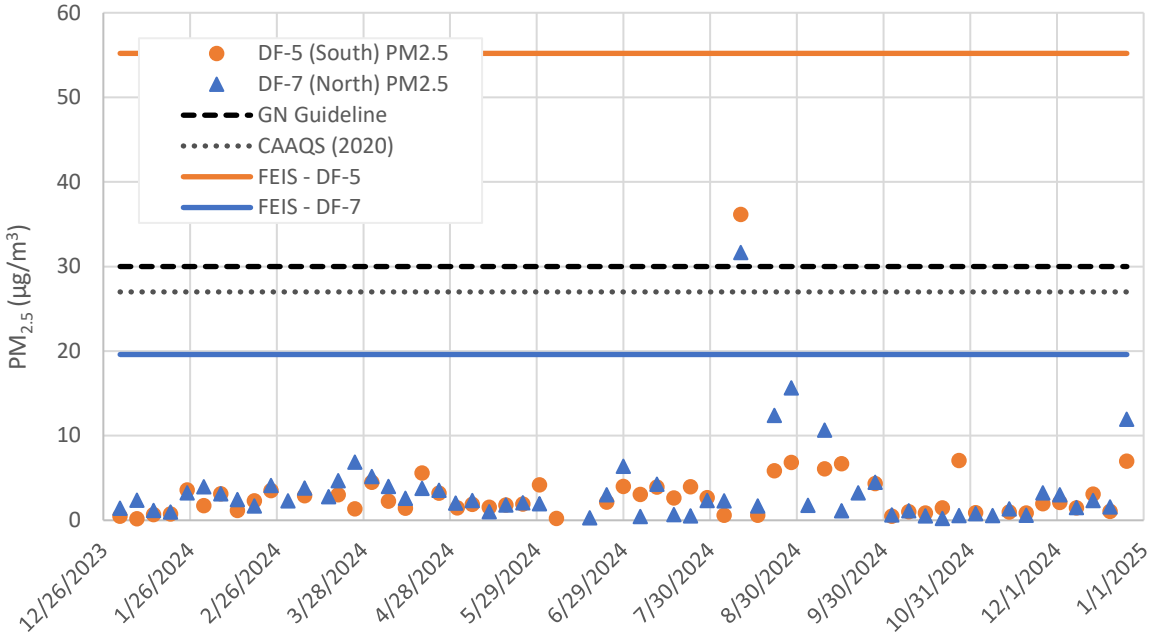

Figure 5. 24-h measured concentrations of PM2.5 at monitoring stations DF-5 and DF-7 at the Meliadine site (points). Lines indicate the Government of Nunavut (GN) guideline, Canadian Ambient Air Quality Standard (CAAQS), and 2014 FEIS maximum model predictions.

3.1.2. Historical TSP, PM_{10} and $PM_{2.5}$

Monitoring for suspended particulates first began in December 2018 and all historical data is provided in Figures 6, 7, and 8. Partisol instruments were inactive from early 2019 to October 2020, when they were sent for maintenance. To date, five individual TSP samples (from both locations, various dates) and one set of $PM_{2.5}/PM_{10}$ samples (both locations, August 10, 2024) have exceeded regulatory guidelines and/or FEIS predictions for the 24-h averaging time. Overall, no trends towards increasing air quality concerns above guidelines or impact predictions are evident.

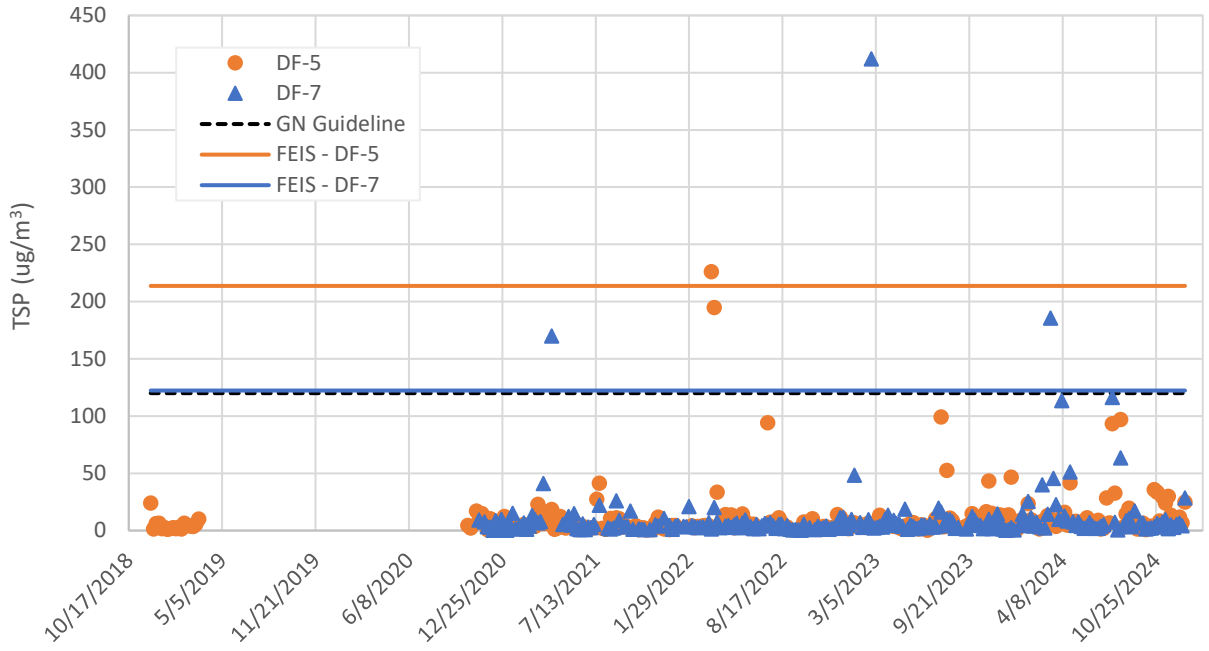

Figure 6. Historical 24-h measured concentrations of total suspended particulates (TSP) at monitoring stations DF-5 and DF-7 at the Meliadine site (points). Lines indicate the Government of Nunavut (GN) guideline and 2014 FEIS maximum model predictions for each station.

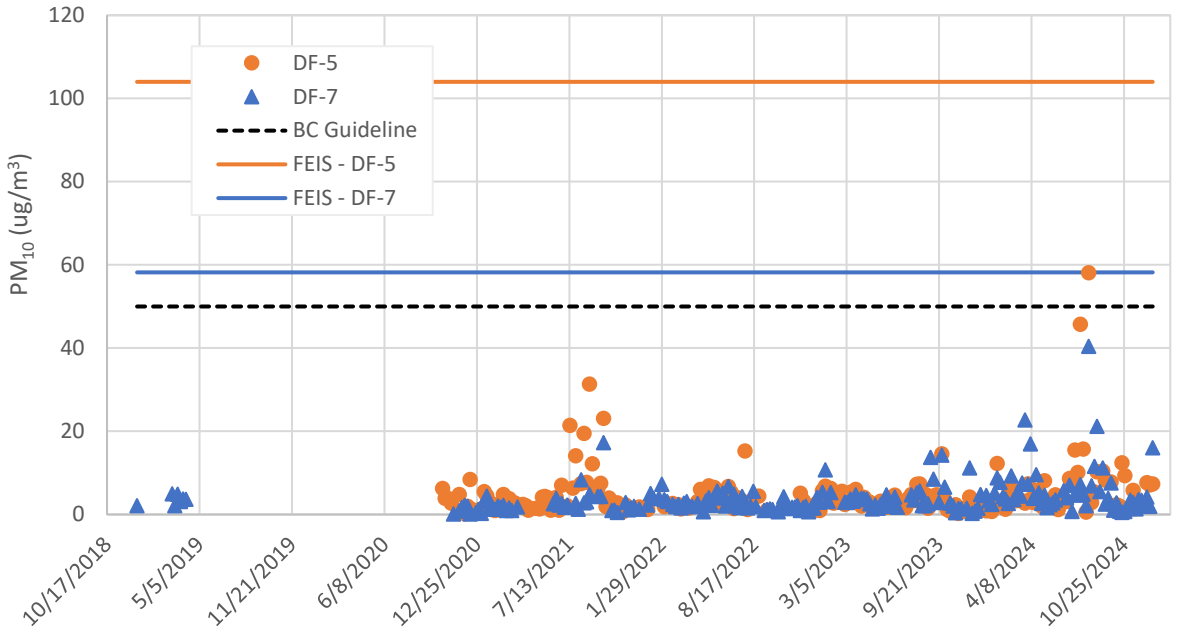

Figure 7. Historical 24-h measured concentrations of PM10 at monitoring stations DF-5 and DF-7 at the Meliadine site (points). Lines indicate the BC guideline and 2014 FEIS maximum model predictions for each station.

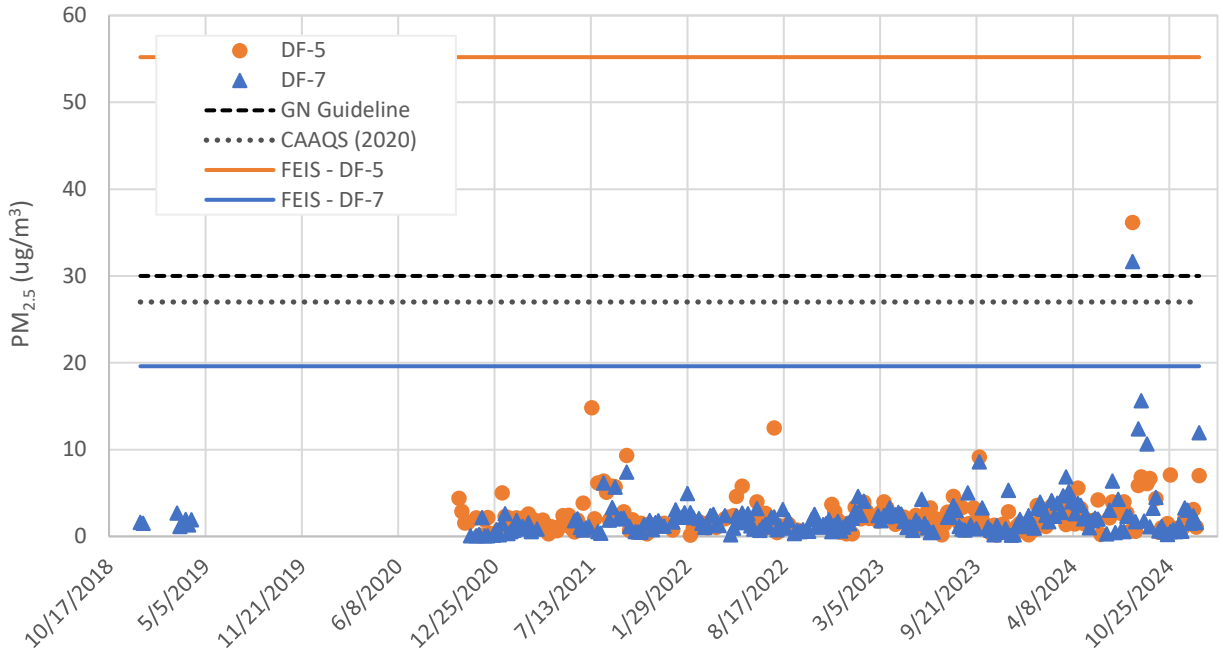

Figure 8. Historical 24-h measured concentrations of PM2.5 at monitoring stations DF-5 and DF-7 at the Meliadine site (points). Lines indicate the Government of Nunavut (GN) guideline, Canadian Ambient Air Quality Standard (CAAQS; 2020), and 2014 FEIS maximum model predictions for each station.

3.1.3. Metals

Concentrations of cadmium and iron measured in TSP samples are shown in Figures 9 and 10 along with the 2014 FEIS-selected health-based screening value and FEIS maximum model predictions (Section 2.2.1).

Where laboratory-reported results (µg/filter) were below the detection limit, ½ the limit was used in volumetric calculations which were performed using Partisol-recorded STP-corrected intake volumes (m^3). For station DF-7, the FEIS maximum model prediction for cadmium (0.003 µg/m^3) is less than the volumetric concentration calculated using ½ the laboratory detection limit (0.004 µg/m^3). As a result, the prediction is not plotted on Figure 9, and a comparison to this value will be discussed for samples where detections occur.

For both analyses, the majority of results were less than the laboratory detection limit. With the exception of a single sample for iron (DF-7, March 13), all results were also less than the FEIS-selected health-based screening values and maximum FEIS model predictions. The March 13 result for DF-7 corresponds to the highest-recorded TSP sample (185 µg/m^3), which is the only sample that also exceeded the GN guideline for 24-h TSP. As noted in Section 2.2.1.2, the threshold screening value for iron is based on toxicity of particulate, not the iron itself, and on this date, results for PM_{10} and $PM_{2.5}$ (inhalable fraction) were well below health-based screening values. The DF-7 station is also located northwest of the mine site, and throughout the March 13 sampling period, winds were blowing from the northwest (daily records in Appendix A, hourly records were also reviewed), placing the sampling station fully upwind of the mine facilities. As a result, it is likely that the recorded TSP concentration on this date was an isolated dust event, primarily consisting of larger particle sizes, and not related to ongoing mine activities.

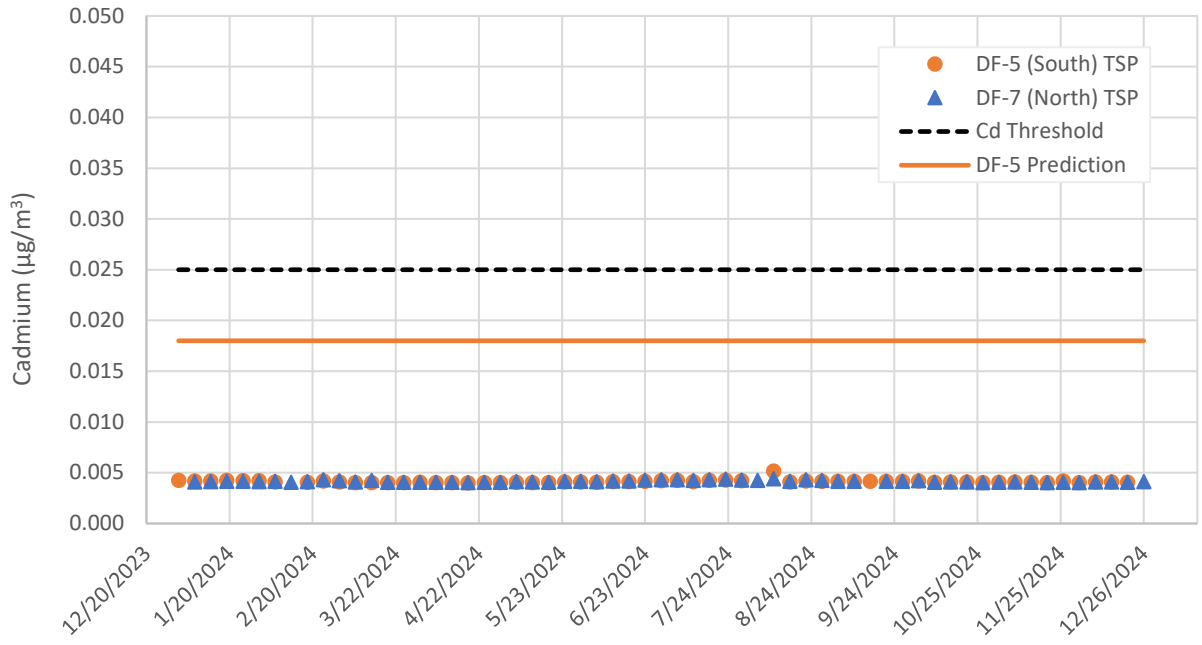

Figure 9. Measured concentrations of cadmium in 24-h TSP samples collected from stations DF-5 and DF-7 at the Meliadine site (points). Dashed line indicates the 2014 FEIS-selected health-based screening value (Cd Threshold), and solid line indicate the FEIS maximum model-predicted value for the DF-5 (see discussion in text for DF-7).

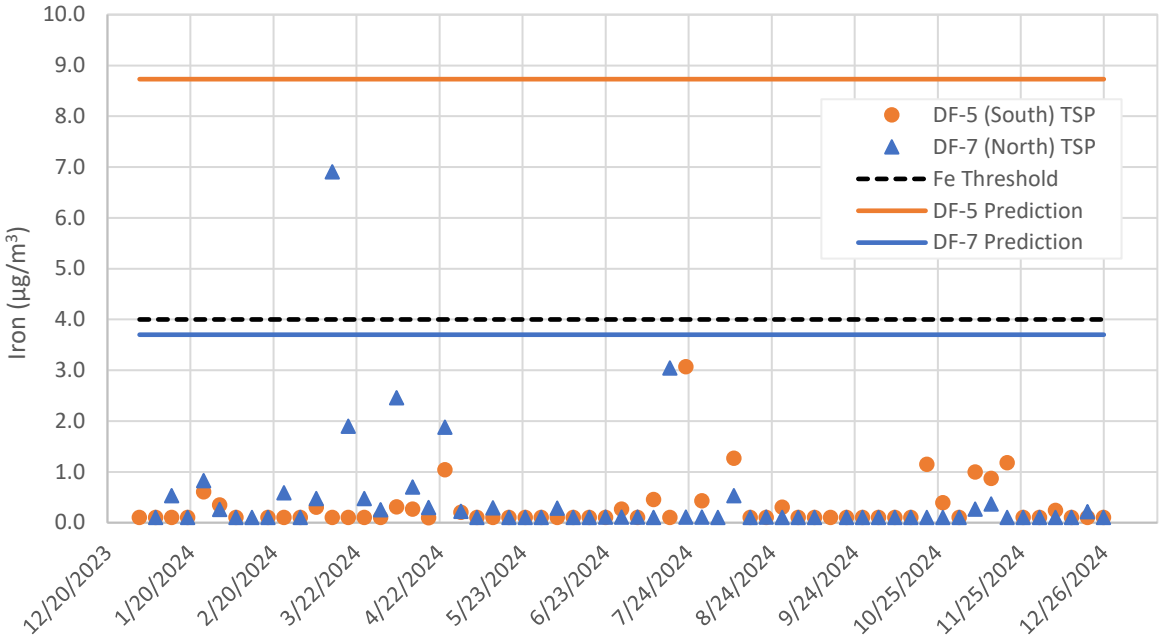

Figure 10. Measured concentrations of iron in 24-h TSP samples collected from stations DF-5 and DF-7 at the Meliadine site (points). Dashed line indicates the 2014 FEIS-selected health-based screening value (Fe Threshold), and solid lines indicate the FEIS maximum model-predicted values.

3.2. Dustfall

3.2.1. Year-Round Sampling Locations

Results for the 2024 dustfall sampling program (30 day-normalized rates of dustfall) for monitoring stations DF-4, DF-5, DF-6, and DF-7 are provided in Figures 11 – 14. Values below the detection limit (0.001 mg/cm^2/30 d) are plotted as ½ the limit. Samples are plotted by the collection start date. To provide context, the Alberta Ambient Air Quality Guidelines for recreational/residential areas (AB-Rec) and industrial/commercial areas (AB-Ind) for total dustfall are indicated, along with the GNWT (2023) guideline.

As discussed in Section 2.2.2, it is anticipated that guidelines for recreational areas may regularly be exceeded in close proximity to the AWAR or mine site, and that guidelines for industrial areas may occasionally be exceeded. In 2024, one sample exceeded AB-Ind at each of DF-4, DF-5, and DF-7. At DF-4, four additional samples exceeded AB-Rec. This station is on the (predominantly) downwind edge of the Meliadine site, and higher rates of dustfall may be anticipated in this location.

Historical results for total dustfall since 2012 along with the maximum measured background concentration (DF-8 (Table 2), assessed 2019 – 2024) are provided in Figure 15 for assessment of trends over time. Background concentrations at DF-8 measured since 2019 have ranged from 0.04 to 0.36 mg/cm^2/30d, with an average of 0.12 mg/cm^2/30d (n = 12). Generally, an increase in measured dustfall rates occurred after mid-2017 when the construction period began, and site activity increased. Rates in late 2021- 2023 appeared generally less than those recorded earlier in the operations period (2019-2020).

An increase in the frequency of peaks occurred in 2024, particularly at location DF-4, likely as a result of the expansion activities at the western and eastern extremities of Tiriganiaq Open Pit 1,. This station is planned to be re-located in 2025 to permit future mining operations in this area (changes are described in an update to the Air Quality Monitoring Plan). Overall, results still infrequently exceed even recreational area guidelines (<17% of total dustfall samples each year). With limited (six) samples exceeding the industrial area guideline to date, historical results suggest that best management practices in place for dust mitigation continue to be implemented effectively to control nuisance-level emissions.

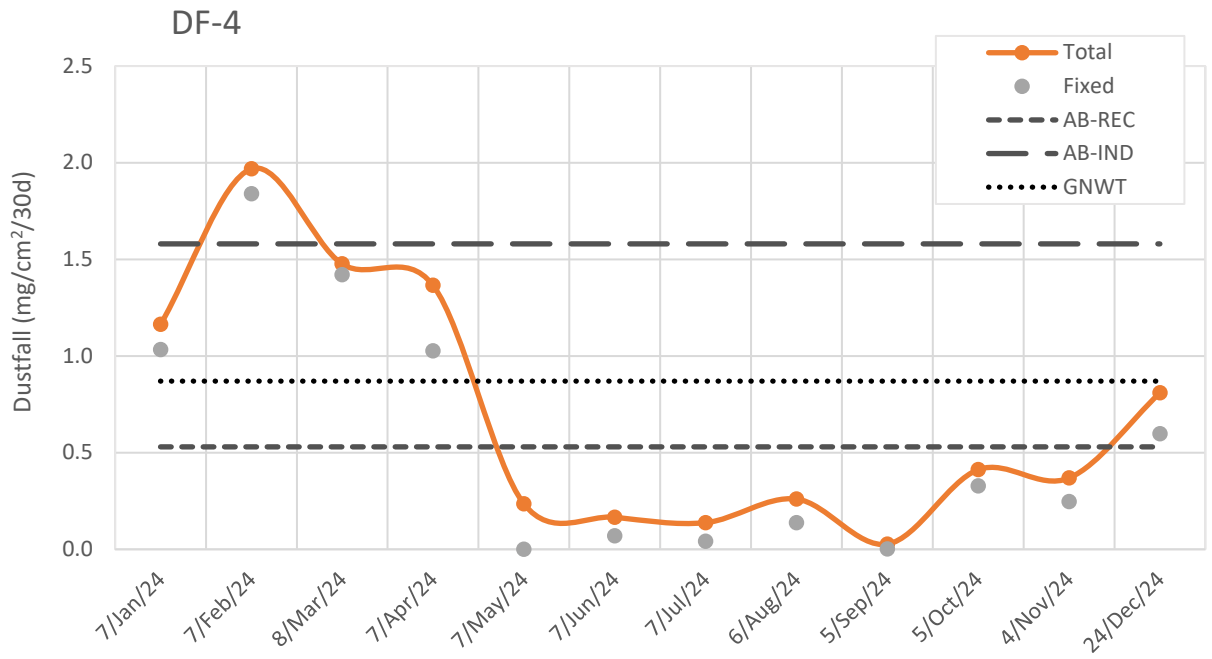

Figure 11. 30-day-normalized rates of total and fixed dustfall at sampling location DF-4 at the Meliadine site. Symbols represent start date of sample collection. Dashed lines indicate regulatory guidelines.

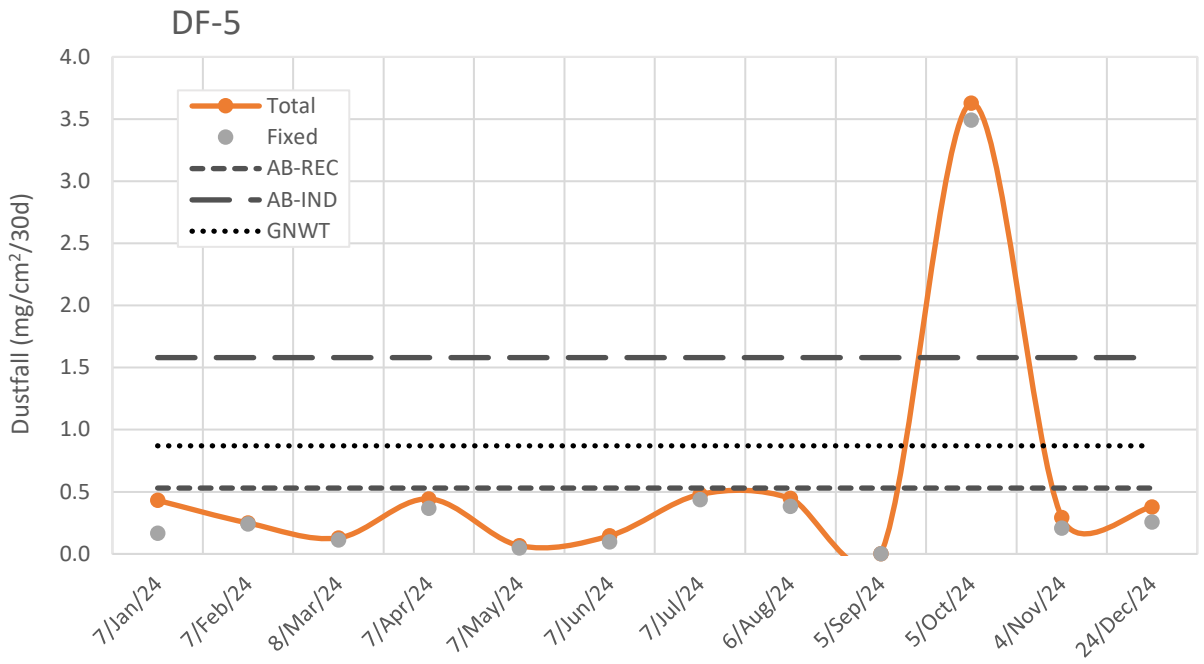

Figure 12. 30-day-normalized rates of total and fixed dustfall at sampling location DF-5 at the Meliadine site. Symbols represent start date of sample collection. Dashed lines indicate regulatory guidelines.

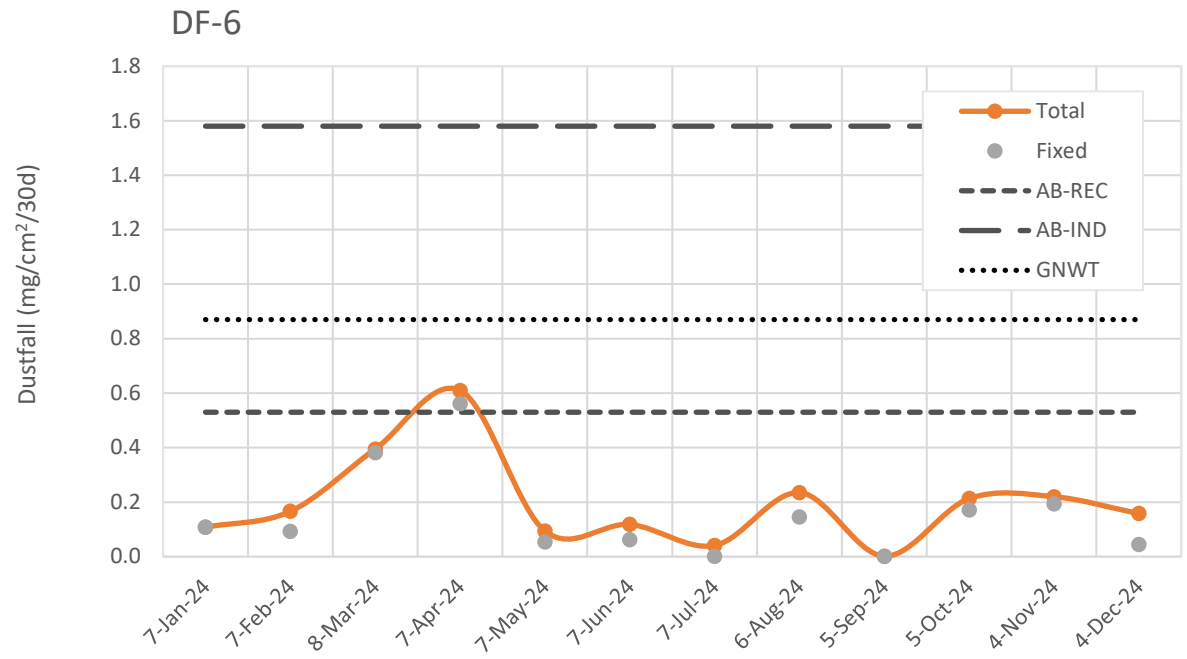

Figure 13. 30-day-normalized rates of total and fixed dustfall at sampling location DF-6 at the Meliadine site. Symbols represent start date of sample collection. Dashed lines indicate regulatory guidelines.

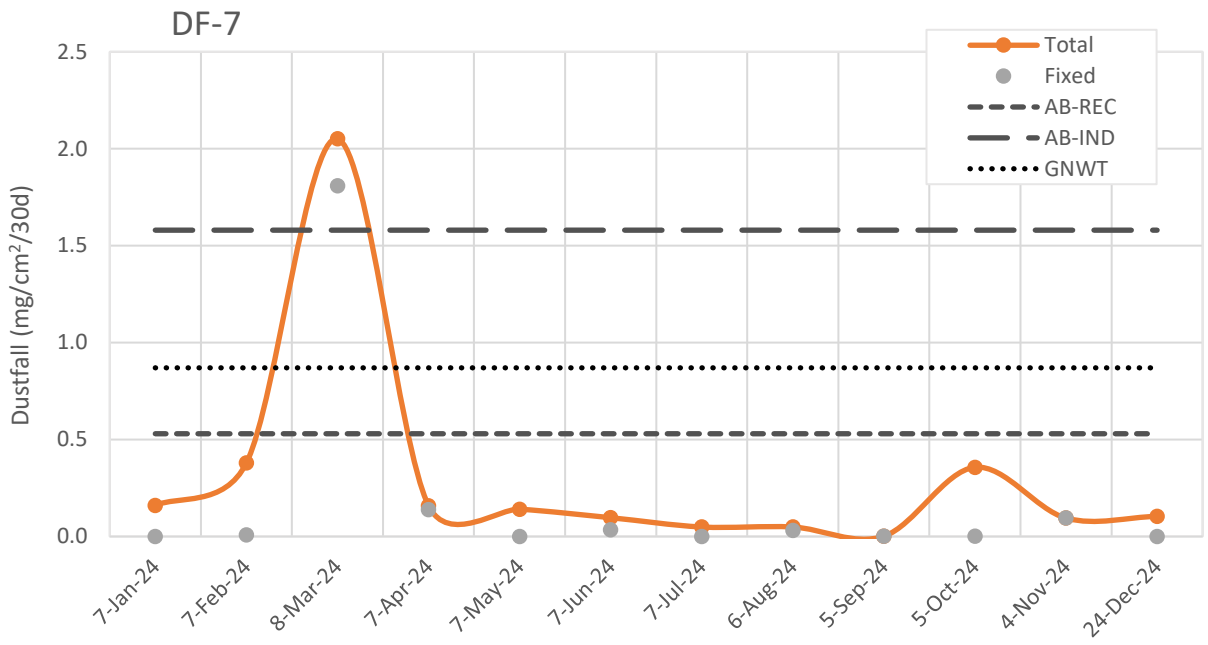

Figure 14. 30-day-normalized rates of total and fixed dustfall at sampling location DF-7 at the Meliadine site. Symbols represent start date of sample collection. Dashed lines indicate regulatory guidelines.

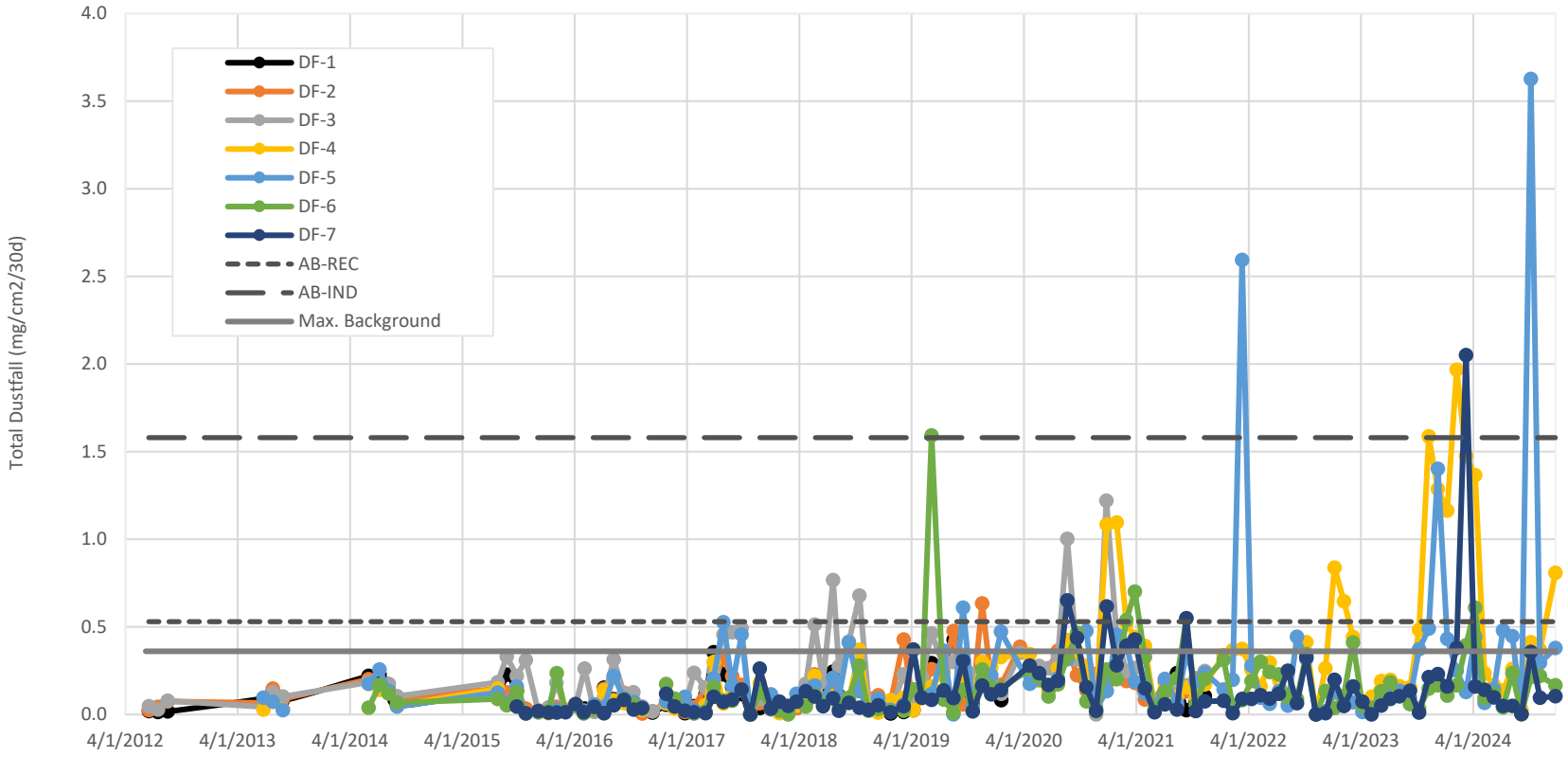

Figure 15. Historical 30-day-normalized rates of total dustfall for year-round sampling stations at the Meliadine site. Symbols represent start date of sample collection. Dashed lines indicate the regulatory guidelines. Max. background is from samples at DF-8 since 2019. Pre-construction occurred from 2012 – 2016, construction occurred from 2017 – 2018, and operations have occurred since 2019. Year-round sampling at DF-1, DF-2, and DF-3 ceased at the end of 2021 in favour of summer-only transects.

3.2.2. AWAR Dustfall Transects

Dustfall data collected at AWAR transects DF-1, DF-2, DF-3, and Bypass Road transect DF-WT in 2024 are provided in Figures 16 – 19. Two dustfall jarss were found to have fallen from their stands at the time of pick-up but still contained liquid. The results are included here with that in mind (Round 2/August 7 – September 6 samples for DF-1, 100 m west; Bypass Road, 300 m east).

For all AWAR transects, rates of dustfall declined below the AB-Rec guideline within 100 m of the road, and in many cases within 25 m of the road. No samples exceeded the AB-Ind guideline of 1.58 mg/cm^2/30 d.

For the Rankin Inlet Bypass Road transect DF-WT, two anomalous results occurred during the September – October sampling event. Results at 60 m west (predominantly upwind from the road) and 120 m east (predominantly downwind from the road) exceeded the AB-Ind guideline. Otherwise, all results were less than the AB-Rec guideline at all distances from the road. Since samples at closer distances on the predominantly downwind side of the road (60 m east) were well below guidelines and area baseline, these results are suggestive of a localized event, and not road-related concerns towards increasing dustfall.

Historical annual average total dustfall data for all AWAR transects (DF-1, DF-2, and DF-3) combined are shown in Figure 20. For each year, data are averaged across samplings transects and monitoring events (two to three sequential 30-d periods). In 2024, average rates of dustfall along the AWAR for the summer season continued to remain below guidelines for recreational areas, for all sampling distances (as close as 25 m from the road).

Total dust suppressant application in 2024 was similar to 2022 and 2023, but less than 2021 (see Section 7.1.1). Traffic rates along the AWAR in 2024 were similar to those recorded in 2023 [2].

[2] A review of traffic rates will be provided in Meliadine's 2024 Terrestrial Environment Management and Monitoring Plan Report, an appendix of the 2024 Annual Report to the NIRB.

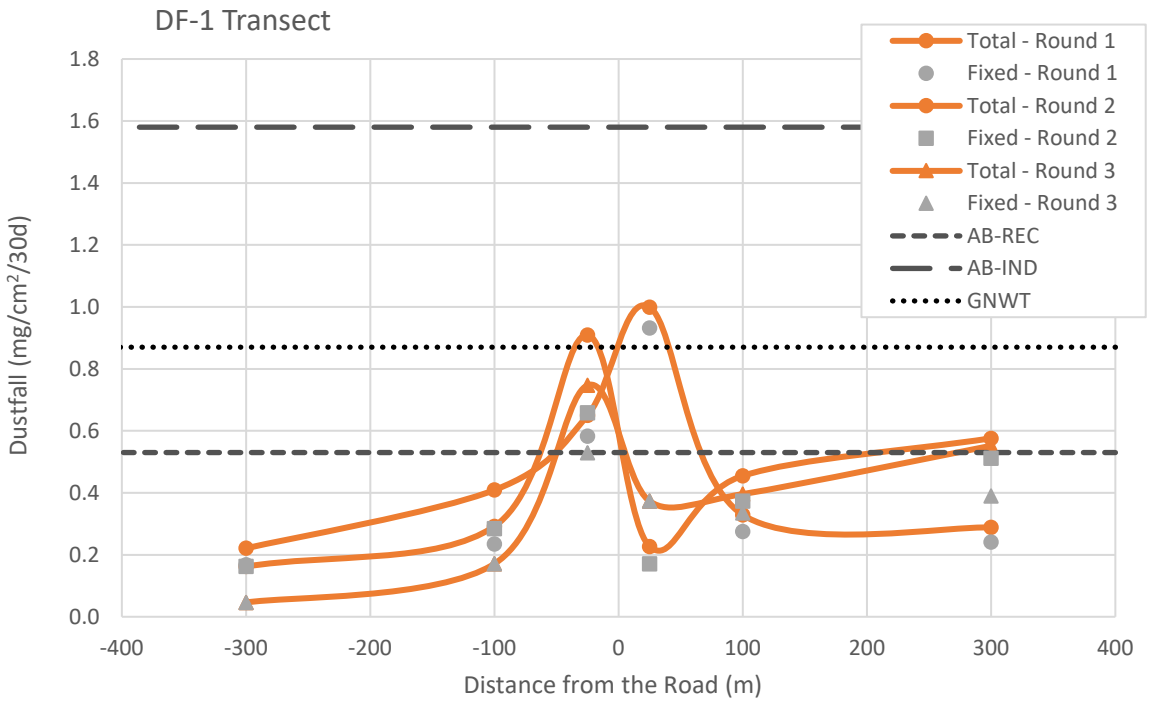

Figure 16. 30-day-normalized rates of total and fixed dustfall for transect DF-1 along the Meliadine AWAR in 2024. Negative values represent the west (upwind) side of the road. Dashed lines indicate various regulatory guidelines (see text).

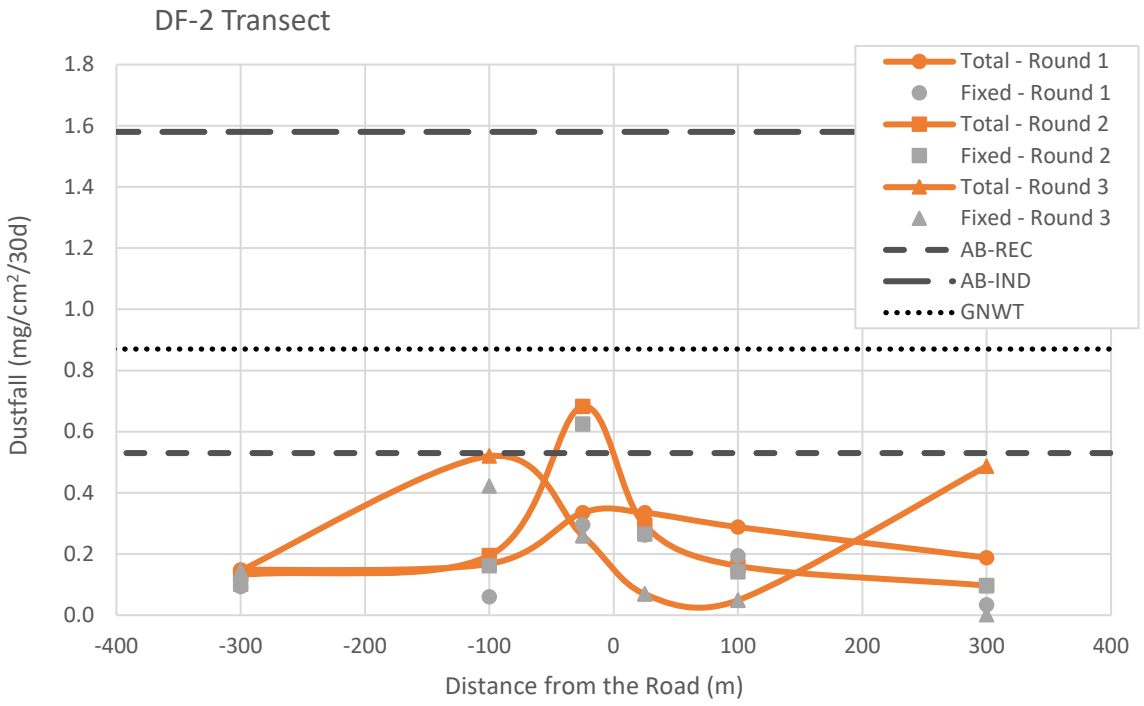

Figure 17. 30-day-normalized rates of total and fixed dustfall for transect DF-2 along the Meliadine AWAR in 2024. Negative values represent the west (upwind) side of the road. Dashed lines indicate various regulatory guidelines (see text).

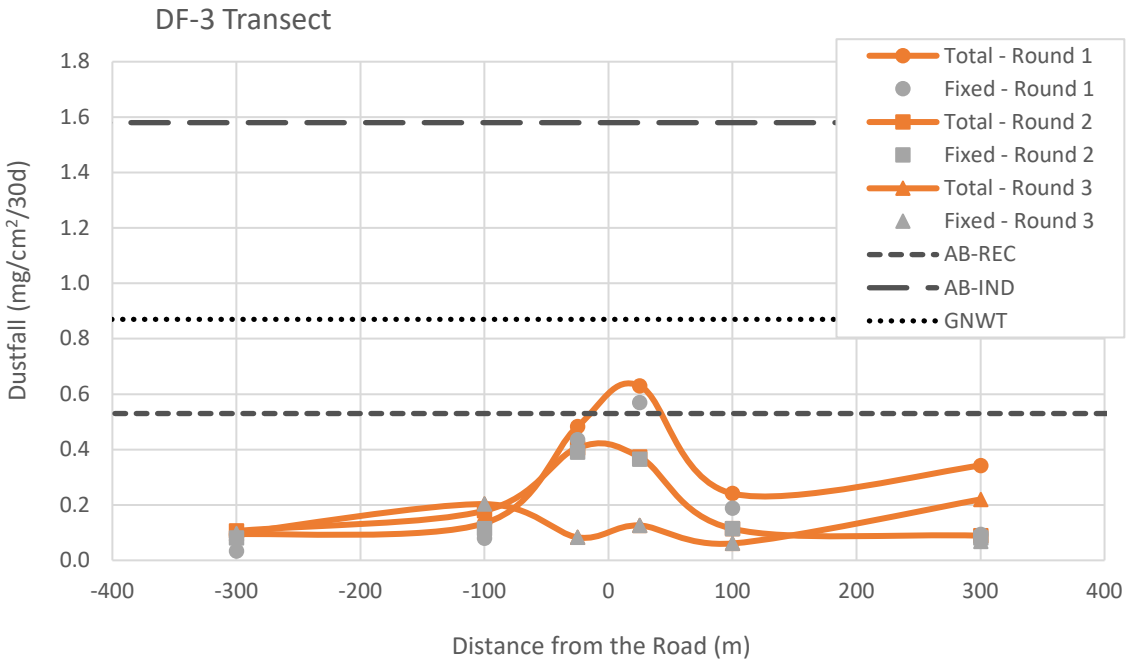

Figure 18. 30-day-normalized rates of total and fixed dustfall for transect DF-3 along the Meliadine AWAR in 2024. Negative values represent the west (upwind) side of the road. Dashed lines indicate various regulatory guidelines (see text).

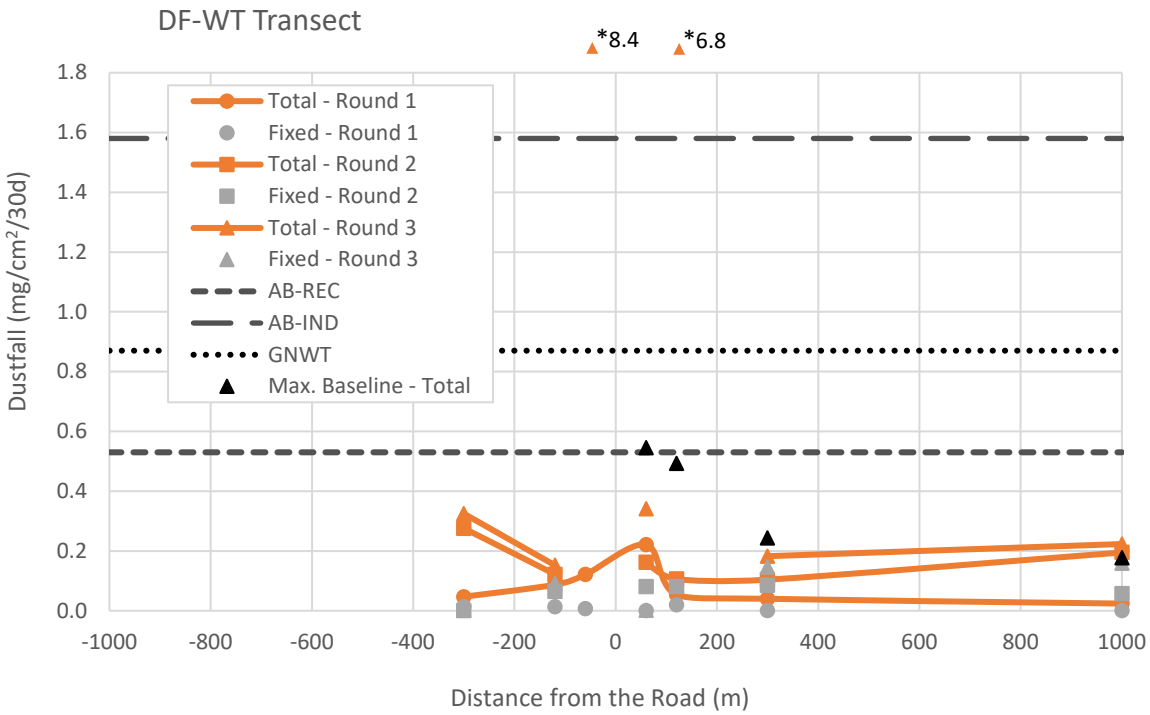

Figure 19. 30-day-normalized rates of total and fixed dustfall for transect DF-WT along the Rankin Inlet By-pass Road in 2024. Negative values represent the west (upwind) side of the road. Dashed lines indicate various regulatory guidelines. Background values are maximum recorded total dustfall rates observed in July and August, 2017 and 2018, pre-construction. * Results at 60 m west (upwind) and 120 m east (downwind) – see text.

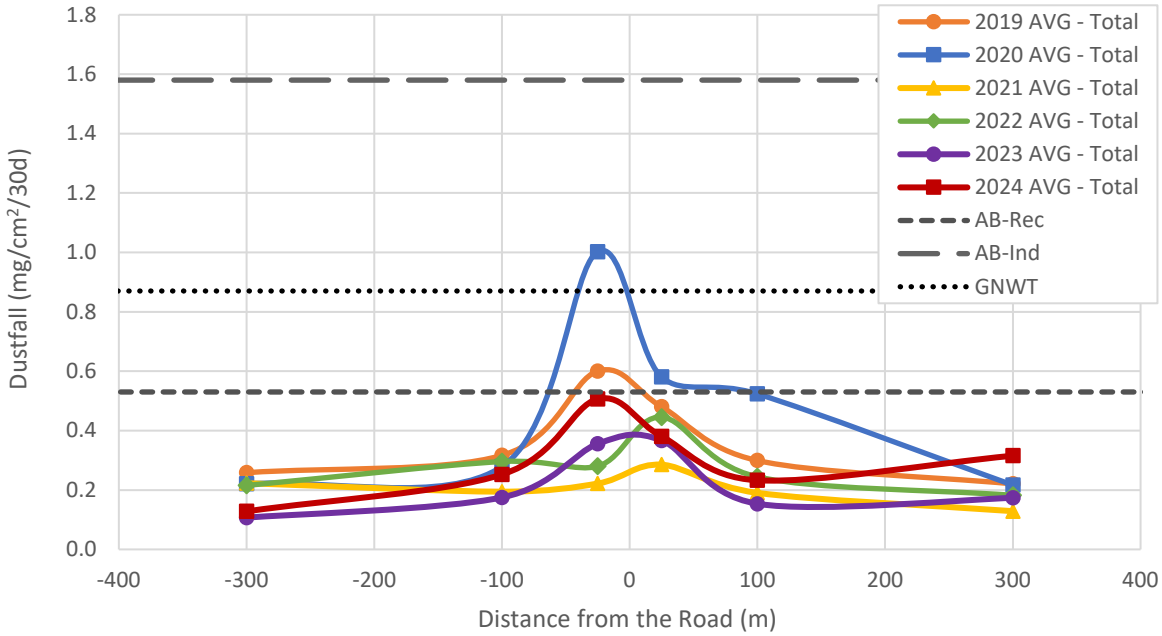

Figure 20. Average 30-day-normalized rates of total dustfall for summertime sampling transects DF-1, DF-2, and DF-3 along the Meliadine AWAR. Symbols represent average measured dustfall across transects and sampling dates (2-3 consecutive 30-d periods) within each year. Negative values represent the west (upwind) side of the road. Dashed lines indicate the regulatory guidelines.

3.3. NO_2 and SO_2

3.3.1. NO_2

Monthly-average NO_2 trends in 2024 are presented in Figure 21, and historical results (collected since 2017) are presented in Figure 22. Samples are plotted by the collection start date, and values below the laboratory detection limit are plotted as ½ the limit. In 2024, monthly average concentrations of NO_2 varied between non-detect (<0.1) and 2.3 ppb, which is similar to the range observed historically. No clear trends between sampling stations or over time are evident in either dataset. No guidelines or FEIS predictions apply to monthly averages.

Annual arithmetic mean concentrations since sampling began (2017 – 2024) were calculated for each station from monthly average values, using ½ the laboratory detection limit where reported concentrations were less than this value (Table 10). In 2024, annual mean concentrations of NO_2 were 0.66 ppb for both DF-5 and DF-7. These are both less than the GN guideline of 32 ppb for the annual average, the 2025 CAAQS of 12.0 ppb, and the maximum predicted concentrations (2014 FEIS) adjusted for assumed background concentrations (23.4 ppb and 12.2 ppb for the SSA (DF-5) and LSA (DF-7), respectively).

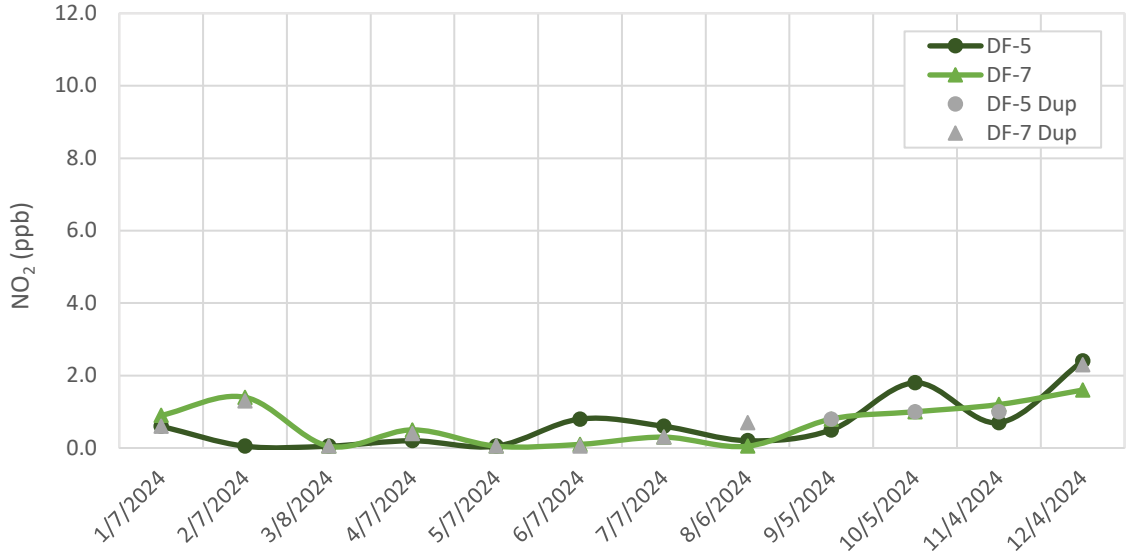

Figure 21. Monthly average concentrations of NO_2 at DF-5 and DF-7. Symbols represent the collection start date. Y-axis is scaled to the 2025 CAAQS annual average guideline (12.0 ppb), for context. No guidelines or FEIS predictions apply to monthly averages.

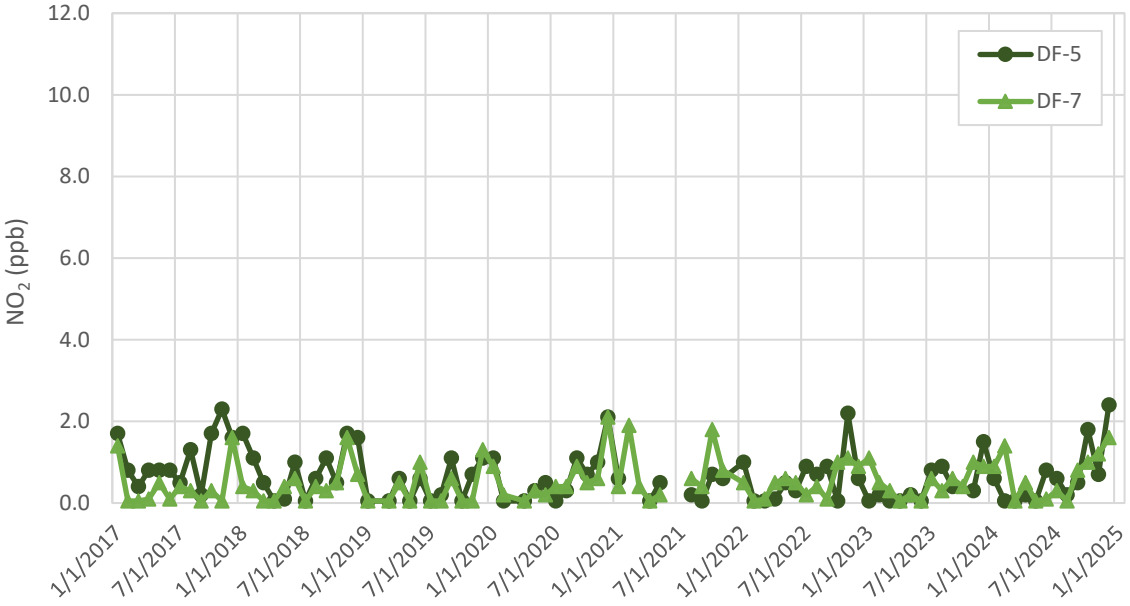

Figure 22. Historical measured monthly average concentrations of NO^2 at DF-5 and DF-7. Y-axis is scaled to the 2025 CAAQS annual average guideline (12.0 ppb), for context. No guidelines or FEIS predictions apply to monthly averages.

Table 10. Annual average concentrations of NO_2 at Meliadine monitoring stations DF-5 and DF-7, measured using passive sampling devices deployed over 1-month periods (n = # samples per year).

Station	Year	CAAQS 2020 & 2025 (ppb)	GN Guideline (ppb)	2014 FEIS Prediction (ppb)	n	NO_2 (ppb)
DF-5	2017	17	32	23.4	11	1.03
	2018				12	0.83
	2019				11	0.46
	2020				11	0.66
	2021	12			7	0.39
	2022				12	0.61
	2023				11	0.41
	2024				12	0.66
DF-7	2017	17	32	12.2	11	0.30
	2018				12	0.52
	2019				11	0.29
	2020				11	0.60
	2021	12			9	0.73
	2022				12	0.50
	2023				12	0.50
	2024				12	0.66

3.3.2. SO_2

Monthly-average concentrations of SO_2 in 2024 are presented in Figure 23, and historical results collected since 2017 are presented in Figure 24. Samples are referred to by the collection start date, and values below the laboratory detection limit are plotted as ½ the limit. In 2024, SO_2 was not detectable (<0.1 ppb) in the majority of samples and duplicates (19 of 36), with a maximum measured value of 0.4 ppb. With limited detections above the laboratory limit historically, no clear trends between sampling stations or over time are evident. No guidelines or FEIS predictions apply to monthly averages.

Annual arithmetic mean concentrations of SO_2 since sampling began (2017 – 2024) were calculated for each station from monthly average values, using ½ the laboratory detection limit where reported concentrations were less than this value (Table 11). In 2024, annual mean concentrations of SO_2 were 0.13 and 0.10 ppb for DF-5 and DF-7, respectively. These are both less than the GN guideline of 11 ppb, 2025 CAAQS of 4.0 ppb, and the 2014 FEIS maximum predicted values of 0.3 ppb and 0.2 ppb for the SSA (DF-5) and LSA (DF-7), respectively.

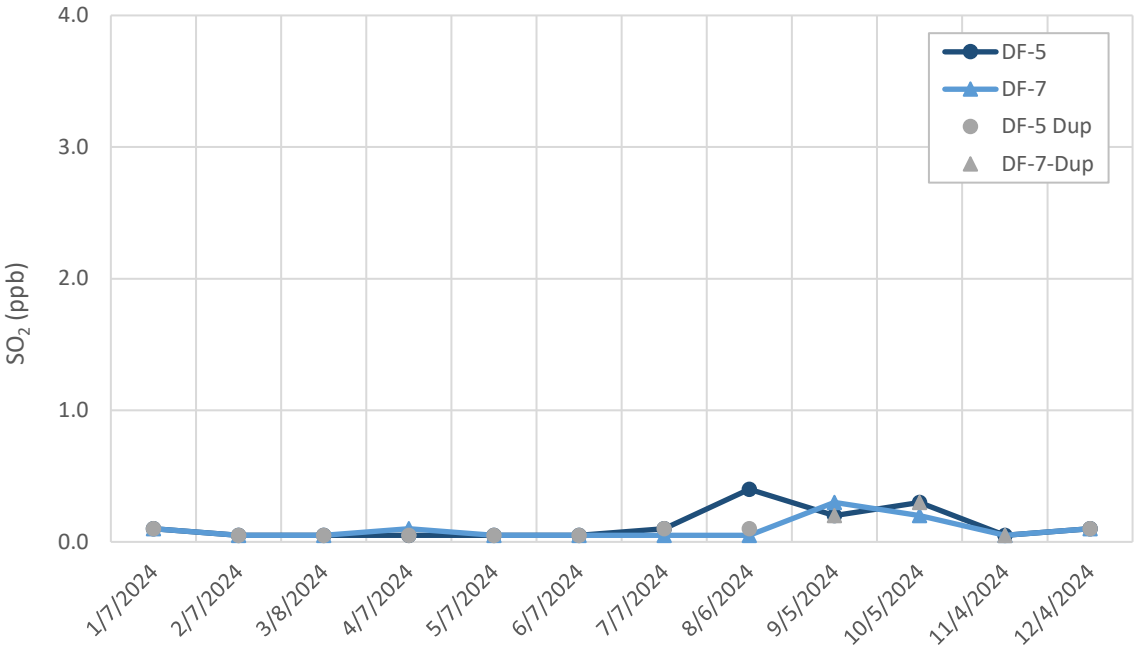

Figure 23. Monthly average concentrations of SO2 at DF-5 and DF-7 in 2024. Symbols represent the collection start date. Y-axis is scaled to the 2025 CAAQS value for the annual average (4.0 ppb), for context. No guidelines or FEIS predictions apply to monthly averages.

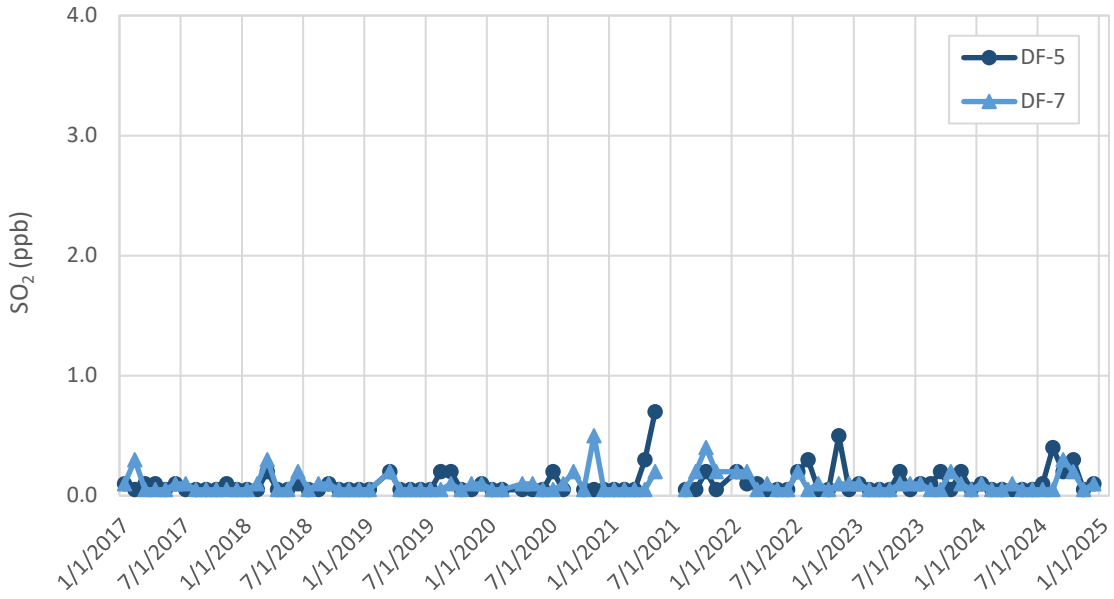

Figure 24. Historical measured monthly average concentrations of SO2 at DF-5 and DF-7. Y-axis is scaled to the 2025 CAAQS value for the annual average (4.0 ppb), for context. No guidelines or FEIS predictions apply to monthly averages.

Table 11. Annual average concentrations of SO_2 at Meliadine monitoring stations DF-5 and DF-7, measured using passive sampling devices deployed over 1-month periods (n = # samples per year).

Station	Date	CAAQS 2020 & 2025 (ppb)	GN Guideline (ppb)	2014 FEIS Prediction (ppb)	n	SO_2 (ppb)
DF-5	2017	5.0	11	0.3	11	0.07
	2018				12	0.07
	2019				11	0.09
	2020				10	0.07
	2021	4.0			9	0.17
	2022				12	0.14
	2023				12	0.10
	2024				12	0.13
DF-7	2017	5.0	11	0.2	11	0.09
	2018				12	0.10
	2019				11	0.07
	2020				11	0.12
	2021	4.0			9	0.14
	2022				12	0.10
	2023				12	0.08
	2024				12	0.10

SECTION 4 • METEOROLOGICAL MONITORING

As described in the Air Quality Monitoring Plan, a permanent weather station was installed at the Meliadine site, and daily averages or maximum values for the following parameters in 2024 are provided in Appendix A.

- wind speed;
- wind direction;
- temperature;
- solar radiation;
- precipitation; and
- relative humidity.

SECTION 5 • INCINERATOR STACK TESTING

Stack testing for two incinerators (1 and 2) at the Meliadine Mine was performed by Consulair between August 12 and 22, 2024. Results were compared to the GN's Environmental Guideline for the Burning and Incineration of Solid Waste (2012). The associated 2024 Stack Testing Report is provided under separate cover, as an appendix of the 2024 Annual Report to the NIRB.

During the assessment, three tests are performed for each incinerator, and average results are compared to the relevant GN guidelines (based on Canada Wide Standards) for total dioxins and furans and mercury.

For incinerator 1, the average measured concentration of mercury (<0.371 µg/m^3 @ 11% O_2) was less than the GN standard of 20 µg/m^3 @ 11% O_2, but the average measured concentration of total dioxins and furans (0.104 ng TEQ /m^3 @ 11% O_2) exceeded the GN standard (0.08 ng TEQ/m^3 @ 11% O_2). Further information can be found in the 2024 Annual Report main document.

For incinerator 2, the average measured concentration of mercury (<0.384 µg/m^3 @ 11% O_2) was less than the GN standard of 20 µg/m^3 @ 11% O_2, and the average measured concentration of total dioxins and furans (0.0293 ng TEQ /m^3 @ 11% O_2) was less than the GN standard (0.08 ng TEQ/m^3 @ 11% O_2).

SECTION 6 • GREENHOUSE GAS EMISSIONS

Agnico Eagle is required by Environment Canada's Greenhouse Gas Emissions Reporting Program (GHGRP) to track greenhouse gas emissions based on annual fuel consumption, composition and the US EPA's AP-42 emission factors.

In the Meliadine Mine's 2014 FEIS, total GHG emissions from the mine site were conservatively estimated to be not more than 304,000 tonnes/yr CO_2e. Estimated GHG emissions from the additional marine operations at Rankin Inlet were estimated at approximately 13,000 tonnes/yr CO_2e.

Calculated emissions for the Meliadine Mine (including Rankin Inlet operations) were last reported on May 31, 2024, for the 2023 reporting period. Total facility emissions reported for 2023 under ECCC's GHGRP were 138,128 tonnes CO_2e.

SECTION 7 • MITIGATION AND ADAPTIVE STRATEGIES

7.1. Mitigation

Fugitive dust abatement measures were identified in the 2014 FEIS for the operations phase as follows, with comments on their implementation in 2024.

- Best management practices to control fugitive particulate emissions from haul roads and material handling, and the AWAR (see Roads Management Plan for details).
    - 2024: Dust suppressant application and road watering were conducted as described in Section 7.1.1
- Best management practices to control fugitive particulate emissions from the Tailings Storage Facility (TSF) (see Dust Management Plan for details).
    - 2024: Use of approved chemical dust suppressants on the TSF. Testing and trials continue with chemical dust suppressants
    - Rock capping continued to be placed on slopes of the TSF along with dormant cells where tailings were not actively being placed
    - Use of water/ice applications when temperatures were less than 0˚C
    - Use of snow fencing and snow wind rows on dormant cells where tailings are not actively being placed
    - Fabrication and use of mobile windbreaks on active cells of the TSF
- Sources of particulate emissions at the processing facility are controlled through the use of baghouses.
    - 2024: In practice, use of baghouses in the dust collector and exhaust fans
- Enclosures are used to reduce fugitive emissions at the processing facility.
    - 2024: In practice
- Exhaust emissions from non-road vehicles are managed through purchasing equipment that meet Tier 3 emission standards.
    - 2024: New purchases are Tier 4
- Exhaust emissions from non-road vehicles are managed through regular and routine maintenance of vehicles.
    - 2024: In practice
- SO_2 emissions from non-road vehicles and stationary equipment will be reduced through the use of low sulphur diesel fuel (<15 ppm).
    - 2024: Actual fuel in use in ultra-low sulphur fuel (<8 ppm)

A Dust Management Working Group was put in place in 2021 involving several departments from the Meliadine Mine to develop and support initiatives for dust management. Agnico Eagle is committed to continuously improve the environmental performance of the mine infrastructures and will continue to explore potential additional improvements through the Dust Management Working Group.

Overall, since monitoring results to date are generally within applicable air quality criteria and/or 2014 FEIS predictions, no additional or contingency air quality mitigation measures are planned at this time.

7.1.1. Dust Suppressant Application

In 2024, Agnico Eagle conducted detailed record-keeping for dust suppressant application and road watering activities. The complete details (dates, locations, quantities) were recorded, and are retained by the Environment Department. A figure showing locations and dates of dust suppressant (calcium chloride) application along the AWAR and Rankin Inlet By-Pass Road is provided (Figure 25).

As in previous years, onsite watering was conducted as feasible to control dust on haul roads, service roads, pits, waste rock storage facility (WRSF), TSF, and at the crusher. Watering occurred primarily from May - November, with some limited use in January and October. Over the year, a total water application of 7,243 m^3 was recorded.

Applications of calcium chloride occurred at onsite locations (primarily service and haul roads), at Itivia and along the AWAR and Bypass Road in June, July, and August. Applications were completed along the AWAR on = June 13-24, July 3 – 15, and August 5 - 11. A total of 41 bags of $CaCl_2$ product were applied on the AWAR in 2024 (950 kg/bag). Rates of dustfall over the summer season continued to meet regulatory guidelines for recreational areas within 25 – 100 m of the road.

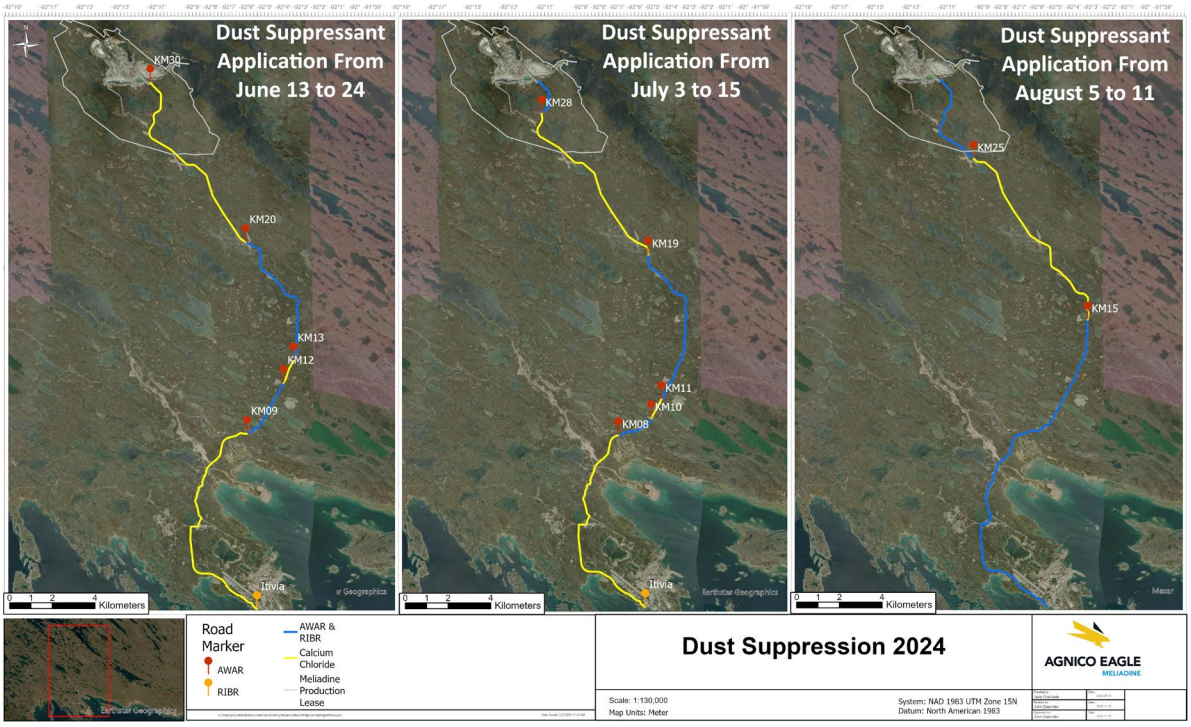

Figure 25. Locations and dates of calcium chloride (dust suppressant) application along the Meliadine AWAR and Rankin Inlet By-Pass Road in 2024.

7.2. Monitoring

No adaptations to monitoring were planned for 2024.

Based on results of this program to date, no changes are specifically recommended in 2025. Adjustments to accommodate new mining areas approved under the 2024 Nunavut Water Board (NWB) Type A Water Licence 2AM-MEL1631 amendment will be required and are discussed in a Plan update submitted with the 2024 Annual Report.

SECTION 8 • REFERENCES

Agnico Eagle, 2020. Meliadine Gold Mine Air Quality Monitoring Plan, Version 3, June 2020.

Alberta Environment and Parks (AB), 2019. Alberta Ambient Air Quality Objectives and Guidelines Summary. Air Policy Branch, Alberta Environment and Parks. Available online at: https://open.alberta.ca/publications/9781460134856

British Columbia (BC) Ministry of the Environment, 2021. British Columbia Ambient Air Quality Objectives. Provincial Air Quality Objective Information Sheet. November, 2021.

Canadian Council of Ministers of the Environment (CCME), 2020a. Guidance Document on Achievement Determination for Canadian Ambient Air Quality Standards (CAAQS) for Nitrogen Dioxide. PN 1608. ISBN 978-1-77202-061-8 PDF.

Canadian Council of Ministers of the Environment (CCME), 2020b. Guidance Document on Achievement Determination for Canadian Ambient Air Quality Standards (CAAQS) for Sulphur Dioxide. PN 1610. ISBN 978-1-77202-063-2 PDF.

Canadian Council of Ministers of the Environment (CCME), 2012. Guidance Document on Achievement Determination Canadian Ambient Air Quality Standards (CAAQS) for Fine Particulate Matter and Ozone. PN 1483. ISBN: 978-1-896997-91-9 PDF

Golder (Golder Associates), 2014a. Final Environmental Impact Statement (FEIS) – Meliadine Gold Project, Nunavut. Volume 5.0 Atmospheric Environment and Impact Assessment. April, 2014.

Golder (Golder Associates), 2014b. Final Environmental Impact Statement (FEIS) – Meliadine Gold Project, Nunavut. Volume 10.0 – Environmental and Human Health Risk Assessment. April 2014.

Government of the Northwest Territories (GNWT), 2023. Ambient Air Quality Monitoring Guideline – In Support of the Environmental Agreements and Memorandums of Understanding with Mine Operators. April, 2023.

Government of Nunavut (GN), Department of Environment, 2011. Environmental Guideline for Ambient Air Quality.

APPENDIX A: DAILY AVERAGE WEATHER DATA

Appendix A - Table 1: Daily average relative humidity (RH), average temperature, average wind speed, average wind direction, average solar radiation, and total precipitation as measured by the Meliadine onsite weather station. Due to a malfunction of temperature and precipitation sensors, some values reported are those recorded at the Rankin Inlet Airport.

Date	Temp. (°C)	RH (%)	Wind Speed (km/h)	Wind Direction (deg.)	Solar Rad. (watts/m^2)	Precipitation (mm)
2023-01-01	-24.4	77	25	348	4	0.34
2023-01-02	-27.7	70	38	328	4	0.12
2023-01-03	-24.0	78	30	319	4	0.03
2023-01-04	-29.0	71	29	311	5	0.13
2023-01-05	-25.7	70	26	324	4	0.00
2023-01-06	-31.6	74	11	325	0	0.08
2023-01-07	-34.2	64	14	321	3	0.02
2023-01-08	-34.9	63	4	187	4	0.02
2023-01-09	-24.1	68	2	111	2	0.14
2023-01-10	-25.0	73	6	18	3	0.00
2023-01-11	-33.1	74	3	340	3	0.00
2023-01-12	-34.3	65	4	342	3	0.08
2023-01-13	-22.1	68	34	349	0	0.00
2023-01-14	-20.7	82	33	356	7	0.00
2023-01-15	-9.6	71	42	19	5	0.00
2023-01-16	-9.9	55	20	77	7	0.27
2023-01-17	-10.6	80	32	8	7	0.35
2023-01-18	-11.6	81	18	16	9	0.20

Date	Temp. (°C)	RH (%)	Wind Speed (km/h)	Wind Direction (deg.)	Solar Rad. (watts/m^2)	Precipitation (mm)
2023-01-19	-18.5	88	8	263	11	0.00
2023-01-20	-22.5	81	13	305	0	0.14
2023-01-21	-27.7	72	14	272	10	0.01
2023-01-22	-33.0	67	24	306	10	0.27
2023-01-23	-26.1	65	6	204	7	0.00
2023-01-24	-28.8	71	13	296	13	1.31
2023-01-25	-26.1	67	21	288	15	0.03
2023-01-26	-27.3	74	11	8	13	1.36
2023-01-27	-36.3	73	14	351	0	9.35
2023-01-28	-29.6	57	7	134	16	0.05
2023-01-29	-18.6	70	15	231	14	0.80
2023-01-30	-26.3	84	10	0	16	0.27
2023-01-31	-27.1	65	6	40	17	0.17
2023-02-01	-15.4	72	9	120	25	0.56
2023-02-02	-14.7	87	13	120	16	0.13
2023-02-03	-11.1	44	20	128	0	0.28
2023-02-04	-17.8	80	14	301	25	0.00
2023-02-05	-29.8	54	16	268	28	0.07
2023-02-06	-33.5	74	13	287	32	0.14
2023-02-07	-34.0	64	4	181	25	0.00
2023-02-08	-29.8	69	5	326	33	0.28

Date	Temp. (°C)	RH (%)	Wind Speed (km/h)	Wind Direction (deg.)	Solar Rad. (watts/m^2)	Precipitation (mm)
2023-02-09	-30.6	69	0	121	29	0.00
2023-02-10	-22.0	70	0	0	0	0.23
2023-02-11	-19.8	84	0	0	43	0.00
2023-02-12	-20.4	81	9	156	28	0.00
2023-02-13	-20.4	71	22	308	39	0.25
2023-02-14	-31.2	49	27	329	40	0.13
2023-02-15	-32.9	67	20	303	41	0.12
2023-02-16	-33.3	65	7	311	42	0.01
2023-02-17	-27.8	66	0	0	0	0.00
2023-02-18	-36.6	62	0	0	79	0.13
2023-02-19	-36.7	61	0	0	42	0.00
2023-02-20	-39.4	38	10	317	49	0.15
2023-02-21	-39.9	58	13	316	57	0.09
2023-02-22	-33.7	58	30	330	45	0.01
2023-02-23	-25.1	45	14	327	52	0.00
2023-02-24	-22.6	42	43	312	0	0.00
2023-02-25	-30.0	50	27	290	65	7.32
2023-02-26	0.0	50	18	306	64	0.21
2023-02-27	-33.7	48	26	326	65	0.24
2023-02-28	-33.8	64	21	330	77	0.10
2023-02-29	-37.4	60	22	325	77	0.09

Date	Temp. (°C)	RH (%)	Wind Speed (km/h)	Wind Direction (deg.)	Solar Rad. (watts/m^2)	Precipitation (mm)
2023-03-01	-36.0	61	21	334	75	0.03
2023-03-02	-33.1	57	25	311	0	0.00
2023-03-03	-31.4	67	13	278	89	0.07
2023-03-04	-32.6	65	3	340	85	0.00
2023-03-05	-28.6	34	9	251	92	0.03
2023-03-06	-26.4	45	13	324	78	0.65
2023-03-07	-28.3	43	2	331	94	1.62
2023-03-08	-17.6	69	10	141	69	0.00
2023-03-09	-16.7	47	14	130	0	3.35
2023-03-10	-15.4	83	28	125	78	0.00
2023-03-11	-15.8	85	29	128	137	1.25
2023-03-12	-11.5	85	9	111	69	2.34
2023-03-13	-18.7	86	21	328	90	2.54
2023-03-14	-18.6	82	13	340	115	0.19
2023-03-15	-23.9	77	10	9	91	0.00
2023-03-16	-19.2	80	30	334	0	0.07
2023-03-17	-17.7	86	27	337	117	0.05
2023-03-18	-23.1	79	9	38	101	0.19
2023-03-19	-28.2	78	30	326	126	1.45
2023-03-20	-30.9	70	21	337	131	0.35
2023-03-21	-22.2	73	24	5	119	0.00

Date	Temp. (°C)	RH (%)	Wind Speed (km/h)	Wind Direction (deg.)	Solar Rad. (watts/m^2)	Precipitation (mm)
2023-03-22	-27.3	77	24	336	148	0.14
2023-03-23	-20.6	71	1	129	0	0.12
2023-03-24	-25.3	77	21	320	138	0.09
2023-03-25	-22.2	77	14	266	159	0.26
2023-03-26	-22.0	76	5	157	166	0.00
2023-03-27	-19.3	64	8	330	169	0.00
2023-03-28	-21.6	71	17	335	177	0.12
2023-03-29	-21.2	75	25	328	153	0.00
2023-03-30	-28.9	75	15	326	0	0.18
2023-03-31	-32.5	66	13	334	180	0.10
2023-04-01	-20.0	69	2	175	185	0.00
2023-04-02	-10.9	66	11	135	173	0.00
2023-04-03	-11.8	78	16	134	172	0.00
2023-04-04	-9.7	81	22	145	147	0.00
2023-04-05	-10.6	87	16	295	197	0.33
2023-04-06	-16.0	77	11	291	0	0.00
2023-04-07	-7.2	93	15	27	195	6.24
2023-04-08	-8.3	89	15	156	116	0.04
2023-04-09	-4.5	92	3	144	184	0.91
2023-04-10	-4.2	87	14	2	167	0.00
2023-04-11	-7.4	87	14	354	176	0.00

Date	Temp. (°C)	RH (%)	Wind Speed (km/h)	Wind Direction (deg.)	Solar Rad. (watts/m^2)	Precipitation (mm)
2023-04-12	-12.4	84	5	177	174	0.00
2023-04-13	-12.9	88	5	133	0	0.35
2023-04-14	-14.4	88	7	126	302	0.37
2023-04-15	-6.6	68	6	147	224	0.21
2023-04-16	-6.1	73	16	255	207	0.00
2023-04-17	-7.7	86	17	346	185	0.01
2023-04-18	-11.0	85	9	331	239	0.00
2023-04-19	-15.9	76	9	321	221	0.29
2023-04-20	-13.3	80	22	320	0	1.76
2023-04-21	-24.1	77	19	320	256	0.58
2023-04-22	-23.4	76	12	26	263	0.06
2023-04-23	-18.1	71	10	215	245	0.00
2023-04-24	-17.5	76	10	288	164	0.00
2023-04-25	-15.0	76	14	194	184	0.09
2023-04-26	-12.4	79	40	25	194	0.01
2023-04-27	-12.3	86	17	259	0	1.19
2023-04-28	-18.4	84	11	214	285	0.21
2023-04-29	-11.4	80	9	74	209	0.00
2023-04-30	-8.2	80	17	59	179	0.74
2023-05-01	-5.5	87	22	88	267	0.00
2023-05-02	-4.3	85	25	84	262	0.00

Date	Temp. (°C)	RH (%)	Wind Speed (km/h)	Wind Direction (deg.)	Solar Rad. (watts/m^2)	Precipitation (mm)
2023-05-03	-3.5	86	34	89	164	0.00
2023-05-04	-3.6	93	30	54	0	0.72
2023-05-05	-3.4	91	28	46	242	0.00
2023-05-06	-3.8	85	9	7	363	0.00
2023-05-07	-5.7	81	3	174	300	0.20
2023-05-08	-4.9	70	6	196	202	0.00
2023-05-09	-3.3	95	10	176	126	0.15
2023-05-10	-0.1	97	12	37	207	1.48
2023-05-11	-9.7	90	6	0	0	0.62
2023-05-12	-17.0	88	10	308	324	7.58
2023-05-13	-13.3	80	6	182	330	0.05
2023-05-14	-7.5	78	13	145	332	0.00
2023-05-15	-6.5	81	22	125	244	0.00
2023-05-16	-5.8	84	25	122	209	0.03
2023-05-17	-3.3	89	21	117	197	0.00
2023-05-18	-2.0	94	29	68	0	0.08
2023-05-19	-1.7	100	26	64	329	0.00
2023-05-20	-0.4	81	14	45	322	0.02
2023-05-21	-0.5	77	4	34	316	0.10
2023-05-22	-1.2	84	3	284	276	0.03
2023-05-23	-0.3	88	9	240	324	0.09

Date	Temp. (°C)	RH (%)	Wind Speed (km/h)	Wind Direction (deg.)	Solar Rad. (watts/m^2)	Precipitation (mm)
2023-05-24	0.3	82	14	223	315	0.00
2023-05-25	2.9	74	11	195	0	0.00
2023-05-26	0.2	88	12	37	246	0.00
2023-05-27	2.4	78	18	336	332	0.00
2023-05-28	1.5	77	13	302	342	0.01
2023-05-29	3.5	60	9	130	214	0.11
2023-05-30	4.2	79	16	90	277	0.00
2023-05-31	2.6	78	27	86	53	0.00
2023-06-01	0.0	91	1	76	0	6.93
2023-06-02	-1.6	86	12	76	171	0.62
2023-06-03	-1.4	61	19	66	132	1.29
2023-06-04	-0.2	84	21	78	139	0.08
2023-06-05	1.1	88	25	70	240	0.00
2023-06-06	1.3	83	33	62	313	0.00
2023-06-07	3.0	69	22	67	338	0.00
2023-06-08	5.0	60	14	310	1	0.07
2023-06-09	2.4	84	14	280	313	0.00
2023-06-10	8.6	62	10	292	329	0.09
2023-06-11	9.1	67	18	63	168	0.00
2023-06-12	3.3	85	14	28	260	0.00
2023-06-13	4.4	72	9	347	193	0.15

Date	Temp. (°C)	RH (%)	Wind Speed (km/h)	Wind Direction (deg.)	Solar Rad. (watts/m^2)	Precipitation (mm)
2023-06-14	5.0	65	6	185	191	0.00
2023-06-15	5.5	72	6	227	3	1.86
2023-06-16	6.7	69	9	115	301	0.05
2023-06-17	7.6	65	38	58	48	0.00
2023-06-18	3.2	83	19	21	80	10.27
2023-06-19	2.2	91	14	335	135	4.28
2023-06-20	5.5	81	13	280	299	0.11
2023-06-21	9.3	67	10	274	3	0.04
2023-06-22	10.1	80	7	298	3	0.00
2023-06-23	5.6	75	13	314	331	0.00
2023-06-24	8.0	65	11	332	291	0.01
2023-06-25	7.9	67	10	328	291	0.00
2023-06-26	9.4	62	11	309	202	0.04
2023-06-27	8.6	68	18	24	284	0.04
2023-06-28	8.7	67	14	293	335	0.00
2023-06-29	11.0	42	9	316	2	0.03
2023-06-30	12.0	71	9	184	287	0.00
2023-07-01	12.8	44	9	299	306	0.00
2023-07-02	14.9	43	12	177	292	0.00
2023-07-03	10.6	49	27	330	284	1.50
2023-07-04	10.4	49	15	296	294	0.00

Date	Temp. (°C)	RH (%)	Wind Speed (km/h)	Wind Direction (deg.)	Solar Rad. (watts/m^2)	Precipitation (mm)
2023-07-05	8.7	45	7	194	165	0.12
2023-07-06	13.6	50	9	213	0	5.38
2023-07-07	13.0	94	35	302	158	0.28
2023-07-08	9.4	80	24	322	204	0.72
2023-07-09	11.6	55	13	321	275	0.05
2023-07-10	10.9	47	28	279	220	0.14
2023-07-11	10.7	53	44	313	242	3.83
2023-07-12	11.7	54	17	327	322	0.00
2023-07-13	10.0	49	8	188	0	0.02
2023-07-14	10.1	84	6	182	151	0.02
2023-07-15	10.9	75	6	181	308	0.00
2023-07-16	16.4	47	18	244	257	0.00
2023-07-17	11.5	46	11	149	138	0.00
2023-07-18	12.0	43	8	149	314	4.07
2023-07-19	11.1	45	9	182	292	0.00
2023-07-20	14.7	45	7	119	0	0.00
2023-07-21	14.1	90	12	288	298	0.00
2023-07-22	18.8	44	12	301	378	0.02
2023-07-23	21.0	0	19	250	266	0.00
2023-07-24	12.4	0	28	341	176	0.10
2023-07-25	11.8	59	20	255	291	3.44

Date	Temp. (°C)	RH (%)	Wind Speed (km/h)	Wind Direction (deg.)	Solar Rad. (watts/m^2)	Precipitation (mm)
2023-07-26	13.7	46	10	150	227	0.00
2023-07-27	8.0	47	0	217	0	0.00
2023-07-28	11.5	100	9	195	222	0.00
2023-07-29	10.9	50	13	159	282	0.01
2023-07-30	6.6	56	11	147	142	0.10
2023-07-31	7.4	77	6	206	272	3.45
2023-08-01	11.0	52	6	176	160	0.00
2023-08-02	9.9	50	18	12	55	2.76
2023-08-03	11.6	90	6	230	0	2.45
2023-08-04	9.1	84	22	356	221	0.00
2023-08-05	11.4	48	24	347	212	0.07
2023-08-06	11.9	50	18	357	261	0.00
2023-08-07	13.5	44	16	343	239	0.00
2023-08-08	13.9	47	12	284	255	0.00
2023-08-09	19.8	46	3	160	0	0.01
2023-08-10	20.8	39	10	257	0	0.00
2023-08-11	21.6	0	15	259	132	0.00
2023-08-12	20.1	41	10	237	145	0.00
2023-08-13	20.4	45	13	285	164	0.03
2023-08-14	11.1	44	25	83	156	0.00
2023-08-15	12.5	53	25	76	69	0.05

Date	Temp. (°C)	RH (%)	Wind Speed (km/h)	Wind Direction (deg.)	Solar Rad. (watts/m^2)	Precipitation (mm)
2023-08-16	10.6	64	21	66	65	0.01
2023-08-17	9.4	68	5	337	0	0.00
2023-08-18	9.7	85	16	307	236	0.00
2023-08-19	13.4	47	14	233	221	0.00
2023-08-20	11.0	45	12	157	180	0.01
2023-08-21	13.2	47	8	168	89	0.00
2023-08-22	13.0	49	16	335	110	0.00
2023-08-23	13.3	85	10	192	0	3.77
2023-08-24	8.5	76	8	129	0	0.00
2023-08-25	10.2	100	12	123	76	0.00
2023-08-26	11.3	79	45	356	89	2.03
2023-08-27	12.4	59	17	269	195	14.88
2023-08-28	11.2	55	14	194	81	0.00
2023-08-29	11.9	56	24	250	135	3.81
2023-08-30	9.2	58	31	80	46	0.13
2023-08-31	4.9	57	15	340	0	0.01
2023-09-01	6.3	82	15	321	163	0.07
2023-09-02	8.2	48	10	166	82	0.00
2023-09-03	7.7	52	23	66	33	0.29
2023-09-04	5.9	56	31	344	120	22.33
2023-09-05	4.6	54	17	318	167	0.02

Date	Temp. (°C)	RH (%)	Wind Speed (km/h)	Wind Direction (deg.)	Solar Rad. (watts/m^2)	Precipitation (mm)
2023-09-06	5.1	76	19	173	0	0.00
2023-09-07	8.1	52	10	133	0	0.79
2023-09-08	5.2	100	13	137	62	5.81
2023-09-09	6.1	81	14	142	46	5.72
2023-09-10	7.1	80	27	137	57	1.76
2023-09-11	7.8	59	26	240	111	1.65
2023-09-12	9.2	56	17	259	135	0.04
2023-09-13	8.3	50	9	150	87	0.00
2023-09-14	8.6	71	28	101	0	0.10
2023-09-15	7.7	58	12	113	27	26.59
2023-09-16	6.2	58	19	331	57	2.94
2023-09-17	6.2	93	11	287	82	0.11
2023-09-18	6.6	88	10	162	92	0.00
2023-09-19	7.9	81	14	135	33	2.69
2023-09-20	14.4	71	14	117	31	9.90
2023-09-21	8.2	69	8	133	0	22.56
2023-09-22	6.7	100	8	122	42	2.19
2023-09-23	6.5	100	11	103	21	2.72
2023-09-24	6.5	86	16	135	49	10.51
2023-09-25	5.9	70	7	188	53	2.72
2023-09-26	7.2	88	20	137	16	1.82

Date	Temp. (°C)	RH (%)	Wind Speed (km/h)	Wind Direction (deg.)	Solar Rad. (watts/m^2)	Precipitation (mm)
2023-09-27	8.6	60	19	236	0	14.58
2023-09-28	6.8	83	14	233	0	3.08
2023-09-29	5.9	88	16	233	94	0.03
2023-09-30	5.8	54	21	77	22	0.00
2023-10-01	4.9	57	29	42	13	8.75
2023-10-02	3.2	0	17	96	49	10.16
2023-10-03	3.5	0	25	348	51	5.82
2023-10-04	2.2	56	30	284	41	2.65
2023-10-05	1.5	58	15	256	0	0.80
2023-10-06	-0.5	84	11	266	50	0.00
2023-10-07	-0.1	77	10	3	76	0.09
2023-10-08	0.5	51	8	129	67	0.00
2023-10-09	0.9	50	14	141	23	0.32
2023-10-10	1.8	77	12	191	34	0.00
2023-10-11	3.7	64	31	314	0	0.00
2023-10-12	-0.2	0	32	331	0	0.00
2023-10-13	1.3	0	16	343	19	0.00
2023-10-14	1.5	0	14	194	1	0.00
2023-10-15	3.7	-114	25	243	20	0.00
2023-10-16	1.0	-100	24	294	59	371.27
2023-10-17	0.6	-98	14	154	22	0.00

Date	Temp. (°C)	RH (%)	Wind Speed (km/h)	Wind Direction (deg.)	Solar Rad. (watts/m^2)	Precipitation (mm)
2023-10-18	2.2	-78	34	207	13	6.13
2023-10-19	-0.9	-66	39	278	0	15.81
2023-10-20	-2.4	-148	43	288	24	0.00
2023-10-21	-2.8	-104	25	304	43	0.00
2023-10-22	-5.6	-102	20	310	25	0.00
2023-10-23	-5.8	-115	10	134	36	0.00
2023-10-24	-3.2	-122	15	234	38	0.00
2023-10-25	-4.4	-93	22	274	32	0.00
2023-10-26	-7.5	-100	22	304	0	0.00
2023-10-27	-6.3	-135	15	267	42	0.00
2023-10-28	-1.2	-116	18	160	22	0.00
2023-10-29	-1.3	-76	23	203	25	0.00
2023-10-30	-4.1	-48	25	299	27	8.30
2023-10-31	-5.6	-68	45	316	28	0.00
2023-11-01	-5.4	-85	29	327	0	0.00
2023-11-02	-8.9	-134	7	289	0	0.00
2023-11-03	-6.3	-157	11	137	18	0.00
2023-11-04	-0.7	-98	22	83	14	0.00
2023-11-05	-3.5	-20	38	4	18	0.00
2023-11-06	-10.9	-69	16	323	20	0.00
2023-11-07	-8.2	-128	21	69	25	0.00

Date	Temp. (°C)	RH (%)	Wind Speed (km/h)	Wind Direction (deg.)	Solar Rad. (watts/m^2)	Precipitation (mm)
2023-11-08	-11.5	-112	10	229	24	0.00
2023-11-09	-8.0	-112	42	320	0	0.00
2023-11-10	-15.5	-157	21	283	29	0.00
2023-11-11	-17.1	-147	33	290	36	0.00
2023-11-12	-14.1	-162	13	78	13	0.00
2023-11-13	-4.5	-137	47	62	12	0.00
2023-11-14	-10.1	-19	27	347	19	0.00
2023-11-15	-11.3	89	10	56	10	0.00
2023-11-16	-1.9	89	20	119	0	0.00
2023-11-17	-1.0	98	18	127	9	0.00
2023-11-18	-0.6	99	22	131	10	0.00
2023-11-19	-0.3	99	12	248	12	6.77
2023-11-20	-6.8	92	15	13	12	0.00
2023-11-21	-1.6	92	9	85	8	0.00
2023-11-22	-1.4	99	18	4	8	0.00
2023-11-23	-11.6	96	35	334	0	0.00
2023-11-24	-14.6	89	20	308	11	0.00
2023-11-25	-18.2	85	12	224	7	0.00
2023-11-26	-16.7	80	15	194	10	0.00
2023-11-27	-11.8	82	13	242	7	0.00
2023-11-28	-11.1	85	29	14	6	0.00

Date	Temp. (°C)	RH (%)	Wind Speed (km/h)	Wind Direction (deg.)	Solar Rad. (watts/m^2)	Precipitation (mm)
2023-11-29	-15.6	85	22	351	7	0.00
2023-11-30	-20.1	83	25	353	0	0.00
2023-12-01	-25.3	75	17	342	6	0.00
2023-12-02	-24.4	76	11	323	7	0.00
2023-12-03	-21.9	72	3	124	5	0.00
2023-12-04	-24.7	77	14	317	4	0.00
2023-12-05	-26.8	76	10	321	4	0.00
2023-12-06	-31.6	67	9	334	3	0.00
2023-12-07	-33.2	64	9	325	0	0.00
2023-12-08	-24.4	62	5	219	4	0.00
2023-12-09	-21.3	74	12	307	4	0.00
2023-12-10	-21.5	79	12	334	5	0.00
2023-12-11	-18.7	72	17	334	4	0.00
2023-12-12	-19.0	82	18	327	5	0.00
2023-12-13	-21.2	80	8	169	5	0.00
2023-12-14	-22.5	81	16	279	0	0.00
2023-12-15	-26.9	73	20	289	5	0.00
2023-12-16	-27.2	72	16	288	4	0.00
2023-12-17	-28.7	71	15	285	4	0.00
2023-12-18	-28.4	70	11	285	4	0.00
2023-12-19	-29.3	71	13	314	4	0.00

Date	Temp. (°C)	RH (%)	Wind Speed (km/h)	Wind Direction (deg.)	Solar Rad. (watts/m^2)	Precipitation (mm)
2023-12-20	-30.1	69	21	303	2	0.00
2023-12-21	-25.7	75	4	147	0	0.00
2023-12-22	-18.8	85	4	153	1	0.00
2023-12-23	-16.1	87	9	198	2	0.00
2023-12-24	-17.1	85	7	356	1	0.00
2023-12-25	-12.0	89	24	102	1	0.00
2023-12-26	-7.1	89	26	107	2	0.00
2023-12-27	-6.8	94	17	85	5	0.00
2023-12-28	-6.9	93	25	91	0	0.00
2023-12-29	-8.0	90	24	104	2	0.00
2023-12-30	-7.4	93	18	96	4	0.00
2023-12-31	-17.3	94	18	8	4	0.00