Winter 2024-2025 Atmospheric Compliance Monitoring Program Report

Hope Bay Mine (Doris and Madrid)

Prepared for:

Agnico Eagle Mines Limited

Prepared by:

Nunami Stantec Limited

October 28, 2025

Project No.: 160930542

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STANTEC LIMITED

Limitations and Sign-off

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Executive Summary

This report presents the results of ambient air quality, dustfall, nitrogen dioxide and meteorological monitoring conducted by Agnico Eagle Mines Limited. (Agnico Eagle) at the Doris and Madrid Sites (the Sites) from October 2024 to April 2025 (Winter 2024 – 2025). The monitoring program is outlined in the Air Quality Management Plan (AQMP; TMAC 2016, 2019). To calculate annual average concentrations for requisite parameters, data from May to September 2024 (already reported by Agnico Eagle in the Q1-Q3 2024 Ambient Monitoring Report (Nunami Stantec 2025)) were also utilized in this report.

Monitoring around the Doris and Madrid Sites continued using the same methods/locations as in previous years.

The Winter 2024 – 2025 monitoring program included the following:

- Snow core sampling for dustfall at six locations in the vicinity of the Doris Site and nine locations in the vicinity of the Madrid Site utilizing snow cores over the period October 19, 2024, to April 29 – 30, 2025.
- Total Suspended Particulate (TSP) and particulate less than 2.5 microns ($PM_{2.5}$) using continuous monitors at one location at the Doris site.
- Nitrogen Dioxide (NO_2) using a continuous monitor at one location at the Doris site.
- Meteorological monitoring for wind speed, wind direction, temperature, relative humidity, snowfall, rainfall, solar radiation, and barometric pressure at one location. The meteorological data were used in the interpretation of the air quality measurements.

The results of the Winter 2024 – 2025 ambient monitoring were compared to:

1. Relevant ambient air quality Standards, Objectives and Guidelines (SOGs). In March 2023, the Nunavut Department of Environment (ENV) issued an Environmental Guideline for Ambient Air Quality (Government of Nunavut 2023) that supersedes the previous 2011 version (Government of Nunavut 2011) and contains updated objectives for NO_2 and removed the standards for TSP. This report utilizes the updated NO_2 objectives but continues to compare TSP to the standards in the 2011 Guideline for consistency.
2. Dustfall predictions downwind of the Tailings Impoundment Area (TIA) included in the 2016 Doris North Project Certificate and Type A Water License Amendment Application (the 2016 Amendment)
3. The Madrid Project dispersion model predictions for dustfall presented in the Final Environmental Impact Statement (FEIS) Air Quality Assessment (Nunami Stantec, 2017)

A summary of the results and conclusions of the Winter 2024 – 2025 compliance monitoring program are presented in Table ES-1.

Table ES-1 Summary of Winter 2024 – 2025 Compliance Monitoring Results

Measurement Parameter	Monitoring Period	Averaging Period	Results	Report Section	Action
Dustfall using Snow Core Sampling – Doris Site	October 2024 - April 2025	30-day	• All measurements are below the ambient air quality objective for industrial and commercial areas. • All measurements are less than the maximum dustfall predictions in the 2017 FEIS.	4.1.1	Results Satisfactory
Dustfall using Snow Core Sampling – Madrid Site	October 2024 - April 2025	30-day	• All measurements are below the ambient air quality objective for industrial and commercial areas. • All measurements are less than the maximum dustfall predictions in the 2017 FEIS.	4.1.2	Results Satisfactory
TSP	October 2024 – April 2025	24-hour	• All measurements are below the 2011 Government of Nunavut (GN) ambient air quality objective. • All measurements are less than or equal to the maximum 2017 FEIS prediction.	4.2.1	Results Satisfactory
	May 2024 – April 2025	annual	• The annual geometric mean of the measured TSP concentrations is below the 2011 Government of Nunavut (GN) air quality objective.	4.2.1	Results Satisfactory
$PM_{2.5}$	May 2024 – April 2025	24-hour	• The measured 98th percentile concentration is below the GN air quality objective and the Canadian Ambient Air Quality Standards (CAAQS). • The measured 98th percentile concentration is above the maximum 2017 FEIS prediction but is within the expected range of variability for the dispersion modelling predictions.	4.2.2	Results Satisfactory
	May 2024 – April 2025	annual	• The measured annual average concentration is below the GN air quality objective and the CAAQS. • The maximum measured annual average concentration is less than the maximum 2017 FEIS prediction.	4.2.2	Results Satisfactory

Measurement Parameter	Monitoring Period	Averaging Period	Results	Report Section	Action
NO_2	October 2024 – April 2025	1-hour	• The 98th percentile of the measured daily maximum 1-hour average NO_2 concentrations from May 2024 to April 2025 is below the GN air quality objective and the CAAQS.	4.3	Results Satisfactory
	May 2024 – April 2025	annual	• The annual average is below the GN ambient air quality objective and the CAAQS.	4.3	

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Abbreviations

µg	Microgram
AAAQO	Alberta Ambient Air Quality Objective
Agnico Eagle	Agnico Eagle Mines Limited
ALS	ALS Laboratory Group
AMSL	Above Mean Sea Level
ASTM	American Society for Testing and Materials International
BC	British Columbia
BC MoE	British Columbia Ministry of the Environment
CAAQS	Canadian Ambient Air Quality Standards
CCME	Canadian Council of Ministers of the Environment
cm	Centimetre
ECCC	Environment and Climate Change Canada
ENV	Nunavut Department of Environment
FEIS	Final Environmental Impact Statement
GN	Government of Nunavut
hr	Hour
km	Kilometre
m	Metre
m^2	Square metre
m^3	Cubic metre
mg	Milligram

mg/100-cm^2/30-days	Milligram per 100 square centimetres per 30-day period
mg/L	Milligram per Litre
NIRB	Nunavut Impact Review Board
NO_2	Nitrogen Dioxide
Nunami Stantec	Nunami Stantec Ltd.
PM	Particulate Matter
PM_{10}	Particulate Matter less than 10 µm in diameter
$PM_{2.5}$	Particulate Matter less than 2.5 µm in diameter
Projects	Doris and Madrid Projects
PDA	Project Development Area
ppb	Parts per billion
QA/QC	Quality Assurance/Quality Control
Sites	Doris and Madrid Sites
SOGs	Standards, Objectives and Guidelines
SOP	Standard Operating Procedure
SWE	Snow-Water Equivalent
TIA	Tailings Impoundment Area (Doris)
TMAC	TMAC Resources Inc.
TSP	Total Suspended Particulate
TSS	Total Suspended Solids
US	United States
US EPA	United States Environmental Protection Agency

1 Introduction

This report presents the results of ambient air quality, dustfall, nitrogen dioxide (NO_2) and meteorological monitoring conducted by Agnico Eagle Mines Limited. (Agnico Eagle) at the Hope Bay Mine Doris and Madrid Sites (the Sites) from October 2024 to April 2025 (Winter 2024 – 2025). The monitoring program is outlined in the Air Quality Management Plan (AQMP; TMAC 2016, 2019). To calculate annual average concentrations for requisite parameters, data from May to September 2024 (already reported by Agnico Eagle in the Q1-Q3 2024 Ambient Monitoring Report (Nunami Stantec 2025)) were also utilized in this report.

The Winter 2024 – 2025 monitoring program included the following:

- Snow core sampling for dustfall at six locations in the vicinity of the Doris Site utilizing snow cores over the period October 19, 2024 (first snow fall with consistent sub-zero temperature) to April 29 – 30, 2025.
- Snow core sampling for dustfall at nine locations in the vicinity of the Madrid Site utilizing snow cores over the period October 19, 2024, to April 30, 2025.
- TSP and $PM_{2.5}$ using continuous particulate monitors at one location at the Doris site.
- NO_2 using a continuous monitor at one location at the Doris site.
- Meteorological monitoring for wind speed, wind direction, temperature, relative humidity, snowfall, rainfall, solar radiation, and barometric pressure at one location. The meteorological data were used in the interpretation of the air quality measurements.

No dustfall jar sampling is conducted during the winter period.

The results of the Winter 2024 – 2025 ambient monitoring were compared to:

- Relevant ambient air quality Standards, Objectives and Guidelines (SOGs). In March 2023, the Nunavut Department of Environment (ENV) issued an Environmental Guideline for Ambient Air Quality (Government of Nunavut 2023) that supersedes the previous 2011 version (Government of Nunavut 2011) and contains updated objectives for NO_2 and removed the standards for TSP. This report utilizes the updated NO_2 objectives but continues to compare TSP to the standards in the 2011 Guideline for consistency.
- Dustfall predictions downwind of the Tailings Impoundment Area (TIA) included in the 2016 Doris North Project Certificate and Type A Water License Amendment Application (the 2016 Amendment); and,
- The Madrid Project dispersion model predictions for dustfall presented in the Final Environmental Impact Statement (FEIS) Air Quality Assessment (Nunami Stantec 2017).

Madrid North activities in Winter 2024 – 2025 corresponds with the operations phase air quality assessment presented in the Madrid-Boston Project 2017 FEIS (Nunami Stantec 2017), so this study was used for comparison to the Madrid measurements. Activities at the Doris Site in Winter 2024–2025 most closely correspond to the operations phase of the Madrid-Boston Project, so the Doris measurements were compared to the 2017 FEIS and the 2016 Amendment modelling of TIA deposition. Operations at both the Doris and Madrid North sites were reduced in 2024 – 2025 due to the mine being in temporary Care and Maintenance.

2 Ambient Monitoring Data Comparisons

The results of the Winter 2024 – 2025 ambient monitoring were compared to relevant air quality standards, objective and guidelines and Doris / Madrid Sites dispersion modelling studies, as detailed in the following sections.

2.1 Air Quality Standards, Objectives and Guideline

Ambient air quality Standards, Objectives and Guidelines (SOGs) have been developed by the Canadian federal government and individual provinces and territories to assist or mandate the management of common air contaminants.

The assessment incorporates the Nunavut Environmental Guideline for Ambient Air Quality (Government of Nunavut 2023 and 2011). The ENV issued an updated Guideline in 2023 that supersedes the 2011 version and contains updated objectives for NO_2 and removed the standards for TSP. This report utilizes the updated NO_2 objectives but continues to compare TSP to the standards in the 2011 Guideline for consistency. Nunavut does not have guidelines or standards for some of the air contaminants. In these cases, guidelines, objectives, or standards from the Alberta government (Alberta Environment and Parks 2019) have been used.

The ambient air quality SOGs that are used in this report are summarized in Table 2.1.

2.2 Dispersion Model Prediction Comparisons

Air quality dispersion models employ assumptions to simplify the random behaviour of the atmosphere into short periods of average behaviour. These assumptions limit the capability of the model to replicate every individual meteorological event. To compensate for these simplifications, a full year of meteorological data are applied to evaluate a wide range of possible conditions. Regulatory models are also designed to have a bias toward over estimation of contaminant concentrations (e.g., to be conservative under most conditions).

The 2017 FEIS modelling is expected to be conservative because the emission rates used in the modeling were conservatively estimated based on a combination of emission factors, engineering estimates and maximum production levels, and the dispersion modeling is expected to be conservative. The dispersion modelling utilized a maximum emissions scenario that was expected to result in the maximum predicted concentration of each contaminant outside of the modelled property boundary. On a day-to-day basis, the actual Doris-Madrid operations will likely differ from the maximum emissions scenario; and therefore, measured concentrations may differ from the model predictions for the location of the monitor.

2.2.1 Doris Site

During winter 2024 – 2025 Doris site had reduced operations due to the mine being in temporary Care and Maintenance with the suspension of production at the Hope Bay Mine. Of the scenarios assessed for the Doris site in the 2017 FEIS (construction and operation), these activities more closely correspond to the operations phase of the Madrid-Boston Project (as the construction scenario considered the Doris site operating plus construction activities that would generate additional emissions relative to the operations scenario). The 2017 FEIS predicted deposition rates in the vicinity of the monitors varied between 7.4 and 25.7 mg/100 cm^2/30-days.

The 2016 Doris North Project Certificate and Type A Water License Amendment Application (the 2016 Amendment) also contained predictions for dustfall. The Amendment predicted that Tailings Impoundment Area (TIA) maximum monthly dustfall contributions (modelled over three years) would be more than 53 mg/100-cm^2/30-days up to 250 m from the TIA and would drop to 2.1 mg/100-cm^2/30-days at approximately 1 km from the TIA. These predictions were for dustfall resulting from the subaerial deposition of tailings in the TIA only and did not include dust emissions from any other sources (e.g., unpaved roads) or project phases (e.g., construction), nor did these predictions include background (non-project related) dust contributions.

Dustfall measurements for the Doris Site were compared to the 2016 Amendment/2017 FEIS modelling for dustfall locations downwind of the TIA and the 2017 FEIS modelling for all other dustfall locations. Maximum Doris site FEIS predictions for TSP $PM_{2.5}$ and NO_2 are presented in Table 2.1.

Table 2.1 Ambient Air Quality Standards, Objectives and Guidelines Compared to the 2017 FEIS Predictions

Contaminant	Units	Averaging Period	Nunavut Ambient Air Quality Guidelines [a]	Guidelines or Standards from Other Government Agencies		Maximum 2017 FEIS Predictions at Monitoring Sites	
				Value	Agency	Doris	Madrid
Total Suspended Particulate (TSP)	µg/m^3	24-hour	120	-	-	69.9	-
		Annual (geometric mean)	60	-	-	13.3	-
Particulate Matter <2.5 µm diameter ($PM_{2.5}$)	µg/m^3	24-hour	27	27 [b]	CAAQS [d]	12.1	-
		Annual	8.0	8.8 [c]	CAAQS [d]	5.0	-
Dust Deposition	mg/100-cm²/30 days	30-day	-	158 (commercial and industrial areas)	Alberta Ambient Air Quality Objectives and Guidelines [e]	7.4 - 27.5	10.6 - 54
Nitrogen Dioxide	µg/m^3 (ppb)	1-hour	83 (42) [f]	83 (42) [f]	CAAQS [h]	253 (134)	-
		Annual	23 (12) [g]	23 (12) [g]	CAAQS [h]	65.4 (34.6)	-

Note:

Dash (-) = not applicable

a: Reference: Government of Nunavut 2023 (2011 version for TSP)

b: The 24-hour $PM_{2.5}$ value is calculated from the 3-year average of the annual 98th percentile of the daily 24-hour average concentration.

c: The annual $PM_{2.5}$ value is calculated from the 3-year average of the annual average concentrations.

d: Canadian Ambient Air Quality Standards for O_3 and $PM_{2.5}$. Reference: CCME 2020.

e: Reference: Alberta Environment and Parks 2020.

f: The 1-hour NO_2 value is calculated from the 3-year average of the 98th percentile of the daily maximum 1-hour average concentrations over a calendar year.

g: The annual NO_2 value is calculated from the average of all 1-hour average concentrations over a single calendar year. Reference: CCME 2025

h: Canadian Ambient Air Quality Standard for NO_2. Reference: CCME 2025.

2.2.2 Madrid Site

Dustfall measurements made in the vicinity of the Madrid North site (under reduced operations in Winter 2024 – 2025) were compared to operations predictions made in the air quality modelling study in the 2017 FEIS for the Madrid-Boston Project (Nunami Stantec 2017). Operations phase dustfall predictions in the 2017 FEIS at the locations of the Madrid dust fall monitoring sites ranged from 10.6 to 54 mg/100-cm²/30-days.

3 Monitoring Program Description

3.1 Monitoring Siting Criteria

Nunavut does not have established siting requirements for ambient air samplers. Therefore, the siting criteria from the BC MoE (BC MoE 2020) and the United States Environmental Protection Agency (US EPA 1999, 2009) were used. The monitoring locations were determined based in part on the results of the dispersion modelling in the 2017 FEIS, with the specific site for each monitor selected based on the following criteria:

- A stable 120 VAC power source is available (for continuous monitoring)
- The sampler is not in an area of future infrastructure development
- The sampler inlet is mounted at a height of 2 to 15 m above ground level (for continuous monitoring)
- The locations are accessible year-round
- The sampler is away from structures, vegetation, and topographic features
- Dustfall samplers are sited up and down wind of the surface facilities and zones of high activity, considering the dominant wind direction during the summer months
- The samplers are more than 20 m away from structures, vegetation, and topographic features

3.2 Dustfall

Dustfall is the measure of airborne particulate that has settled onto a given surface. The main dust generation sources will be from wind erosion from tailings facilities, the use of the crushers, and the movement of vehicles and large equipment on site. The dustfall monitoring program measures the quantities of dust deposited near project sites. Dustfall is monitored using dustfall canisters in the summer and by snow core sampling in the winter. Results of the monitoring program can be used to modify dust management procedures at the site, if required. Since dustfall measurements are a non-continuous methodology requiring laboratory analysis, the sampling is only used to retroactively confirm the effectiveness of mitigation measures. Real-time dust management on the site is carried out through application of water or approved chemical dust suppressants based on on-site observations of dust generation.

3.2.1 Doris Dustfall

Dustfall monitoring at the Doris site is undertaken at six locations, including a control station. The reasons for each selected location are provided in Table 3.1 and shown in Figure 3.1 (except for ControlDF, which is shown in Figure 3.2).

Table 3.1 Reasons for Doris Site Dustfall Sampling Locations

Station	Reason for Selected Location	UTM Coordinates (Zone 13W)		Elevation (m above mean sea level)
		Easting (m)	Northing (m)	
DFA1	This location has historical data and represents dustfall from the general site area, is located downwind of crushing activities, and close to the camp and mill site.	433731	7559047	28
CDF4	This station is located approximately 200 m away from Quarry 2, where crushing activities occur, to monitor dustfall from crushing activities.	432616	7558982	80
TIA-DF1	This station is located approximately 250 m downwind of the TIA tailings beach at a distance which corresponds with the maximum predicted monthly Project-generated dustfall of 53 mg/100-cm^2/30-days in the 2016 Amendment.	435881	7556806	51
TIA-DF2	This station is located approximately 1.65 km downwind (east) of the TIA tailings beach. This location is approximately 300 m west (upwind) of the location predicted to have a maximum annual TIA-generated dustfall level of 23 mg/100-cm^2/year (1.9 mg/100-cm^2/30-days) in the 2016 Amendment.	437318	7557017	46
TIA-DF3	This station is located approximately 3 km downwind of the TIA tailings beach at a distance which corresponds with minimal annual predicted Project-generated dustfall.	438574	7557252	23
ControlDF	This station is located well away from potential project contributions and represents background conditions. The station is approximately 2 km southwest of Windy Camp.	430993	7549219	35

Legend

- Location of Highest Activity during Monitoring Period
- Project Development Area (PDA)
- Roads

0 1 2 km

1:35,000 (At Original document size of 11x17)

Notes

1. Coordinate System: NAD 1983 UTM Zone 13N
2. Service Layer Credits: World Boundaries and Places: Esri, HERE, Garmin, NRCan
   World Imagery: Earthstar Geographics
   World Street Map: Esri, HERE, Garmin, NGA, USGS

Project Location
Hope Bay,
Nunavut

160930542 REVA
Prepared by JAS on 2025-10-21
Technical Review by Greg Crooks on 2020-10-28

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Figure No.
3-1

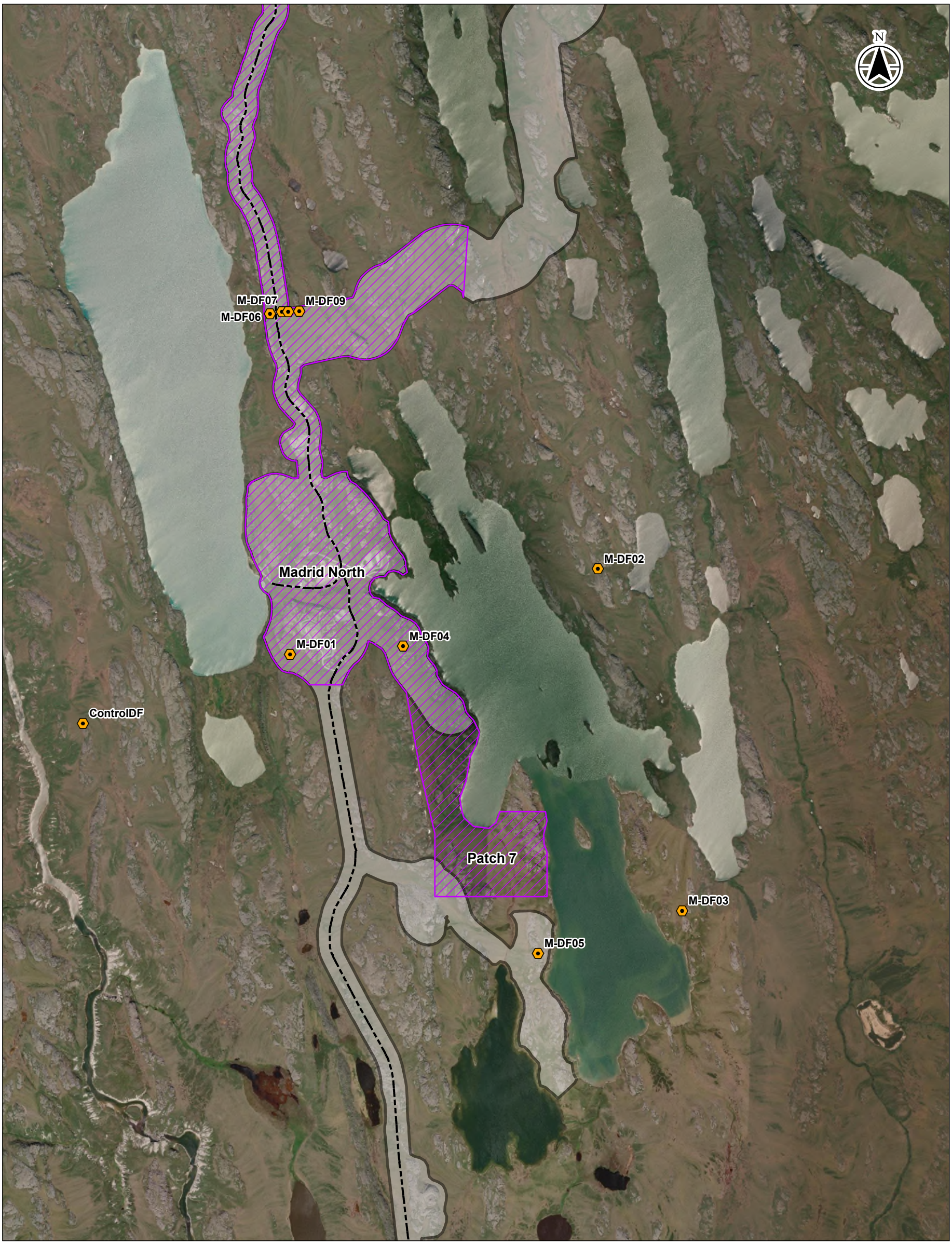
Title
Locations of the Doris Ambient Monitoring Stations

3.2.2 Madrid Dustfall

Dustfall monitoring stations around the Madrid site were installed in the Spring of 2019. Dustfall monitoring was undertaken at nine locations around the Madrid North and Madrid South locations, including a control station in the predominantly upwind location and three locations to quantify dustfall with perpendicular distance from the Windy Road (e.g., Doris to Madrid). The reasons for each selected location are provided in Table 3.2 and are shown in Figure 3.2.

Table 3.2 Reasons for Madrid Site Dustfall Location Selection

Station	Reason for Selected Location	UTM Coordinates (Zone 13W)		Elevation (m above mean sea level)
		Easting (m)	Northing (m)	
M-DF01	Control station in a predominantly upwind location to the Madrid sites – in the vicinity of the Windy Radio Tower.	432840	7549835	26
M-DF02	This station is located in the vicinity of the predicted maximum dustfall along the property boundary for the overall Madrid operations – 2 km east of Madrid North processing plant.	435586	7550597	44
M-DF03	This station is located in the vicinity of the predicted maximum dustfall along the property boundary in the vicinity of Madrid South operations – 2 km east of the Madrid South Portal.	436338	7547550	45
M-DF04	Station is located to assess the maximum impact inside the property boundary but outside the PDA near the Madrid North operations – along vent raise pad access road east of the ore stockpile.	433848	7549908	44
M-DF05	Station is located to assess the maximum impact inside the property boundary but outside the PDA near the Madrid South operations – along shore of Patch Lake east of the waste rock pile.	435052	7547168	52
M-DF06	Upwind station for roadway dustfall study – 50 m west of Doris-Madrid All-Weather Road.	432661	7552874	62
M-DF07	Downwind station for roadway dustfall study – 50 m east of Doris-Madrid All-Weather Road (in a perpendicular line to road).	432768	7552891	62
M-DF08	Downwind station for roadway dustfall study 100 m east of Doris-Madrid All-Weather Road (in a perpendicular line to road).	432823	7552891	66
M-DF09	Downwind station for roadway dustfall study (200 m east of Doris-Madrid All-Weather Road (in a perpendicular line to road).	432922	7552895	45



Legend

- Location of Highest Activity during Monitoring Period
- Project Development Area (PDA)
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Notes

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Project Location
Hope Bay,
Nunavut

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Figure No.
3-2

Title
Locations of the Madrid Ambient Monitoring Stations

3.2.3 Sampling Methods

Dustfall collection is a passive monitoring method which provides a measure of particulates that would be directly deposited onto vegetation or soil. The basis of the methodologies is that field-deposited dust is collected in a manner that is quantifiable in terms of area (cm^2) and exposure length (days), and that samples are then sent to a laboratory for analysis. Dustfall is monitored at each station via dustfall canisters during the summer and through snow core sampling in the winter.

Snow core sampling for the Doris site was instituted in 2016 to record dustfall during the winter months due to issues with using the canister method during winter months. Snow core sampling was implemented at the Madrid dustfall stations starting in Winter 2019-2020. At each dustfall station, snow core subsamples are collected using a snow corer to retrieve a cylindrical snow core from the snowpack. A minimum of three snow cores are collected along a transect at each monitoring location. The samples are composited in the field to produce a single representative composite snow sample for the location. Composite samples are bagged, labelled, and shipped to an accredited laboratory (ALS Laboratory Group (ALS)) for processing. Processing of snow cores require filtration, drying and weighing in the laboratory. For quality assurance/quality control (QA/QC), a duplicate sample is collected from one of the snow core sampling locations.

In the event that the snow depth is insufficient at a location to collect a snow core sample, a bucket method is used. This entails collecting scoop samples through the entire depth of the snow and depositing them into a pre-weighed bucket of known dimensions, measuring the weight of the snow sample and then bagging, labelling and shipping the sample to the laboratory.

Snow core samples are analyzed by the laboratory as water samples and are reported in units of mg/L. These units are converted to dustfall units of mg/100-cm^2 and standardized to mg/100cm^2/30-days over the monitoring period. The surface loading rate was calculated by multiplying the parameter concentration (mg/L or mg/1000 cm^3) by the average snow-water-equivalent of the transect samples (measured in cm of water) and dividing by the number of days snow had accumulated (time from the first snowfall to the sampling day).

The accuracy of the snow core sampling method is dependent on several factors including accurately determining the length of time over which the sampled snow on ground had been accumulating, snow drifting affecting particulate accumulations, and potential contamination/disturbance of the snowpack by wildlife or human activity. Dustfall measurements using snow core sampling should therefore be considered approximate with comparisons to regulatory criteria made for informational purposes only.

3.2.4 Data Analysis

Standardized dustfall is compared to the Alberta AAQO for dustfall (Table 2.1) as Nunavut does not currently have a dustfall standard. Analysis of temporal trends is undertaken to identify any trends in the measured dustfall levels with time of year or meteorological conditions. A qualitative comparison to the 2017 FEIS and 2016 Amendment predictions was also made. Review of dustfall levels with distance from the tailings management areas was also made to determine spatial trends in dustfall.

3.2.5 Schedule

Winter dustfall is collected at the end of winter (late April/early May). The snow core composite sample reflects cumulative winter dust deposition since the date of first snowfall to remain on ground to the sampling period end (approximately October through May, inclusive).

3.3 Suspended Particulate Monitoring ($PM_{2.5}$ and TSP)

Suspended particulate matter includes both airborne solid and low-vapour-pressure liquid particles having aerodynamic diameters ranging in size from 0.01 to about 44 µm. The generation of particulate matter results from the movement of vehicles, mobile equipment, crushing, blasting, bulk handling and storage and other activities associated with mineral processing and construction. Wind erosion from sources such as tailings can also generate particulate emissions.

3.3.1 Sample Location

Sampling is conducted at monitoring location DFA1 at the Doris site. This location is free from obstructions and nearby pollutant sources that may cause interference in suspended particulate monitoring.

3.3.2 Sampling Methods

At the Doris site, ambient particulate monitoring for TSP and $PM_{2.5}$ in Winter 2024 – 2025 used Thermo Scientific 5014i continuous particulate monitors following the protocols described in the 2019 version of the Agnico Eagle AQMP (TMAC 2019). The Thermo Scientific monitors are housed inside a temperature-controlled shelter to ensure the monitors are maintained within their required operating temperature range.

The instruments are calibrated and maintained following Environment and Climate Change Canada (ECCC) protocols given in the document National Air Pollution Surveillance Network Quality Assurance and Quality Control Guidelines (ECCC 2021).

Agnico Eagle technicians visit the station bi-weekly and perform checks to ensure the equipment is working properly.

3.3.3 Data Analysis

Data collected from the continuous monitors were screened for any suspicious data including outliers, instrumentation drift and missing data. The particulate sampling provides 24-hour average ground-level concentrations for each size fraction. These were compared to the relevant 24-hour and annual standards (Table 2.1). In addition, temporal trends of the TSP and $PM_{2.5}$ ambient concentrations were examined, taking into consideration the time of year and meteorological conditions during the sampling period.

3.3.4 Schedule

The Thermo Fisher Scientific Model 5014i Beta Monitors operate continuously, collecting hourly average particulate concentrations.

3.4 Nitrogen Dioxide (NO_2) Monitoring Program

3.4.1 Sample Location

Sampling is conducted at monitoring location DFA1 at the Doris site. This location is free from obstructions and nearby pollutant sources that may cause interference in suspended particulate monitoring.

3.4.2 Sampling Methods

Ambient NO_2 is measured using a Thermo Scientific 42qi continuous NOx monitor following the protocol described in the 2019 version of the Agnico Eagle AQMP (TMAC 2019). The NO_2 monitor is housed inside the same temperature-controlled shelter as the two continuous particulate monitors to ensure the monitors are maintained within their required operating temperature range.

The instrument is calibrated and maintained following ECCC protocols given in the document National Air Pollution Surveillance Network Quality Assurance and Quality Control Guidelines (ECCC 2021).

3.4.3 Data Analysis

Data collected from the continuous monitor was screened for any suspicious data including outliers, instrumentation drift and missing data. The NO_2 monitor currently records 5-minute average concentrations that were then averaged to produce hourly, daily, and annual average concentrations following ECCC protocols. The results were compared to the relevant 1-hour, 24-hour and annual standards (Table 2.1).

3.4.4 Schedule

The Thermo Scientific 42qi operates continuously, collecting 5-minute average NO_2 concentrations.

3.5 Meteorological Monitoring Program

The Doris meteorological station has recorded air temperature, relative humidity, wind speed and direction, precipitation, and solar radiation since 2004. Barometric pressure has been recorded since 2010.

3.5.1 Sampling Location

The meteorological station was chosen in consultation with ECCC and Health Canada officials and is located at UTM coordinates 432840 E, 7549835 N (Zone 13W).

3.5.2 Sampling Methods

The meteorological station is a self-contained, solar/battery-powered system and includes instrumentation to measure hourly values of temperature, wind speed, wind direction, relative humidity, solar radiation, and rainfall. Data is recorded by a data logger located at the station and is downloaded manually.

3.5.3 Data Analysis

Meteorological data are analyzed on a monthly basis and compiled into summary tables. Data validity checks are conducted, and missing / invalid data are flagged. For the Winter 2024 – 2025 period, 75 hours of wind speed and wind direction data were invalidated, with 39 of these hours invalidated due to calibration/maintenance activities or icing of the sensor. The remaining 36 hours were invalidated due to calm conditions. The data recovery rates for all meteorological instruments in this period were better than 95%.

3.5.4 Schedule

Meteorological data is collected continuously and is downloaded at the beginning of each month, or on an as-needed basis.

4 Monitoring Program Results and Discussion

4.1 Snow Core Dustfall Results

4.1.1 Doris Site

The measurement period for each snow core sample at the Doris site is provided in Table 4.1. Measured dustfall rates estimated for each monitoring location in 2024 – 2025 are summarized in Table 4.2.

Table 4.1 Snow Core Sampling Periods – Doris Site

Snow Core Station	Date of First Snowfall	Sample Date	Sample Time (days)
CDF4	10/19/2024	4/30/2025	193
DFA1		4/30/2025	193
TIA-DF1		4/29/2025	192
TIA-DF2		4/29/2025	192
TIA-DF3		4/29/2025	192
ControlDF		4/29/2025	192

Table 4.2 Measured Deposition from Snow Core Sampling – Doris Site

Snow Core Station	Alberta Ambient Air Quality Objective (AAAQO) (mg/100-cm²/30-days)	Measured Dustfall Level (mg/100-cm²/30-days)	Percentage of AAAQO (Commercial and Industrial Area)
CDF4	158 (commercial and industrial areas)	2.8	2%
DFA1		2.1	1%
TIA-DF1		10	7%
TIA-DF2		2.5	2%
TIA-DF3		4.2	3%
ControlDF		0.5	0.3%

Dustfall levels estimated from the snow core sampling ranged from 0.5 mg/100-cm^2/30-days (at ControlDF) to 10 mg/100-cm^2/30-days (at TIA-DF1) during the October 2024 to April 2025 monitoring period (192 to 193 days). All measured dustfall levels are less than the AAAQO of 158 mg/100-cm^2/30-days for commercial and industrial areas. The maximum measured dustfall (10 mg/100-cm^2/30 days) occurred at Station TIA-DF1 which is located downwind of the TIA.

The dustfall measurements at locations TIA-DF1, TIA-DF2 and TIA-DF3 (monitoring locations downwind of the TIA) are consistent with the predicted dustfall level in the 2016 Amendment modelling of

<53 mg/100 cm²/30-days outside of 250 m from the TIA. The dustfall rates from all Doris Site monitoring stations were less than the maximum predicted dustfall level at each location in the 2017 FEIS modelling.

4.1.2 Madrid Site

The measurement period for each snow core sample at the Madrid Site is provided in Table 4.3. Measured dustfall rates estimated for each monitoring location in 2024-2025 are summarized in Table 4.4. Snow core measurements were collected from all Madrid locations in 2024-2025.

Table 4.3 Snow Core Sampling Periods – Madrid Site

Snow Core Station	Date of First Snowfall [a]	Sample Date	Sample Time (days)
MDF01	10/19/2024	4/30/2025	193
MDF02		4/30/2025	193
MDF03		4/30/2025	193
MDF04		4/30/2025	193
MDF05		4/30/2025	193
MDF06		4/30/2025	193
MDF07		4/30/2025	193
MDF08		4/30/2025	193
MDF09		4/30/2025	193

Table 4.4 Measured Deposition Rates from Snow Core Sampling – Madrid Site

Snow Core Station	Alberta Ambient Air Quality Objective (AAAQO) (mg/100-cm²/30-days)	Measured Dustfall Level (mg/100-cm²/30-days)	Percentage of AAAQO (Commercial and Industrial Area)
MDF01	158 (commercial and industrial areas)	0.8	1%
MDF02		4.8	3%
MDF03		2.2	1%
MDF04		4.5	3%
MDF05		4.1	3%
MDF06		13	8%
MDF07		6.4	4%
MDF08		7.4	5%
MDF09		8.6	5%

Dustfall levels estimated from the snow core sampling ranged from 0.8 mg/100-cm^2/30-days (at MDF01) to 13 mg/100-cm^2/30-days (MDF06) during the October 2024 to April 2025 monitoring period (193 days). All measured dustfall levels were less than the AAAQO of 158 mg/100-cm^2/30-days for commercial and industrial areas. The maximum deposition rate (13 mg/100-cm^2/30-days) occurred at Station MDF06 which is 50 m west of the Doris-Madrid All-Weather Road.

The dustfall rates from all Madrid Site monitoring stations were less than the maximum predicted dustfall level at each location in the 2017 FEIS modelling.

4.2 Particulate Matter Monitoring

TSP and $PM_{2.5}$ ambient monitoring is conducted at location DFA1. A summary of the measured ambient TSP and $PM_{2.5}$ concentrations for the study period are presented in Table 4.5. Table 4.6 provides a summary of the data recovery rates for the reporting period. Calibration records are presented in Appendix A.

Table 4.5 Summary of Ambient TSP and $PM_{2.5}$ Measurements

Parameter	Air Quality Standard / Objective		24-Hour Average (µg/m³)				Annual Average (µg/m³)	
	24-Hour	Annual	Maximum [a]	98th Percentile [b]	Range	% of Criteria	Average	% of Criteria
TSP	120	60	70	-	1.3 - 70	58%	5.8	10%
$PM_{2.5}$	27	8.8	19	19	0.7 - 19	69%	4.7	53%

Notes:
a: Results reported for October 2024 to April 2025
b: Results reported for May 2024 to April 2025

Table 4.6 Summary of Data Recovery Rates for Continuous Particulate Sampling (Oct 2024 – Apr 2025)

Month	Data Recovery Rate (%)	
	TSP	$PM_{2.5}$
October 2024	97%	86%
November 2024	97%	92%
December 2024	97%	97%
January 2025	97%	51%
February 2025	98%	60%
March 2025	99%	84%
April 2025	98%	98%
Annual (May 2024 – April 2025)	96%	83%

4.2.1 TSP

The annual (May 2024 to April 2025) data recovery rate for TSP is 96% which is above the data recovery objective of 75% required for calculating an annual average concentration. The monthly recovery rates for the continuous TSP monitoring are above the data recovery objective of 75% for all months in the Winter 2024 – 2025 period.

The maximum measured 24-hour average TSP concentration in the October 2024 to April 2025 period was 70 µg/m^3 which is 58% of the 2011 Government of Nunavut (GN) air quality objective. This concentration is equal to the maximum predicted TSP concentration in the 2017 FEIS of 70 µg/m^3.

TSP monitoring data for May - September 2024 which have been previously reported, were used in conjunction with the October 2024 – April 2025 TSP measurements to calculate an annual average concentration. The annual geometric mean of the measured TSP concentrations for the period May 2024 to April 2025 was 5.8 µg/m^3 which is 10% of the 2011 Government of Nunavut (GN) air quality objective. This concentration is below the maximum predicted annual average TSP concentration in the 2017 FEIS of 13 µg/m^3.

A time history plot of measured 24-hour average TSP concentrations for the period October 2024 to April 2025 is presented in Figure 4.1. TSP concentrations were low throughout the monitoring period with some higher levels seen in February 2025.

4.2.2 $PM_{2.5}$

The annual (May 2024 – April 2025) $PM_{2.5}$ data recovery rate was 83% which is above the objective for calculating an annual average concentration. Other than January and February 2025, the monthly recovery rates for the continuous $PM_{2.5}$ monitoring are above the data recovery objective of 75%. The data recovery rates in January and February 2025 were due to a combination of factors, including pump malfunction as a result of the low ambient temperatures, and the filter tape needing to be replaced.

The calculated 98th percentile of the measured 24-hour average $PM_{2.5}$ concentrations in the one-year period of May 2024 to April 2025 was 19 µg/m^3 which is below the GN air quality objective/ Canadian Ambient Air Quality Standard (CAAQS) of 27 µg/m^3. An explicit comparison to the CAAQS cannot be made as two-years of valid data are not available, as such comparison to the CAAQS is provided for informational purposes only; not to assess compliance. The 98th percentile of the measured 24-hour average $PM_{2.5}$ concentrations is greater than the maximum predicted 98th percentile $PM_{2.5}$ concentration in the 2017 FEIS of 12.1 µg/m^3 but is within the expected range of variability for dispersion models.

The annual average of the measured $PM_{2.5}$ concentrations for the period of May 2024 to April 2025 is 4.7 µg/m^3, which is less than the CAAQS of 8.8 µg/m^3. As with the 24-hour CAAQS, compliance with the annual average CAAQS requires averaging daily measurements in each of three consecutive calendar years, with a valid comparison requiring valid data for a minimum of two of the three years. Since two years of valid data are not available, comparison to the annual CAAQS is provided for informational purposes only; not to assess compliance. The measured annual average concentration is below the maximum predicted annual average $PM_{2.5}$ concentration in the 2017 FEIS of 5.0 µg/m^3. A time history plot

of measured 24-hour average $PM_{2.5}$ concentrations for the period October 2024 to April 2025 is presented in Figure 4.2. $PM_{2.5}$ concentrations were generally low throughout the winter 2024 – 2025 period.

4.2.3 Trends in Ambient Particulate

Table 4.7 below provides a comparison of maximum measured 24-hour and annual average TSP and $PM_{2.5}$ concentrations over the last three winter periods. Similar maximum 24-hour average TSP concentrations were measured over the last three winter periods and ranged from 37% to 58% of the Guideline. The highest measured 24-hour average $PM_{2.5}$ concentration occurred in winter 2024 – 2025 and was 69% of the guideline.

Table 4.7 Summary of Measured TSP/$PM_{2.5}$ Concentrations for 2021 - 2025

Contaminant	Averaging Period	Criteria	Oct 2022 – Apr 2023	Oct 2023 – Apr 2024	Oct 2024 – Apr 2025
TSP	24-hour	120	46	44	70
	Annual [a]	60	N/A	N/A	5.8
$PM_{2.5}$	24-hour	27	12	16	19
	Annual [b]	8.8	N/A	3.4	4.7

Note:
a: geometric mean
b: arithmetic mean
N/A - Data recovery rate below target for calculating a valid annual average.

Figure 4.1 Summary of Measured 24-hour Average TSP Concentrations (Oct 2024 – Apr 2025)

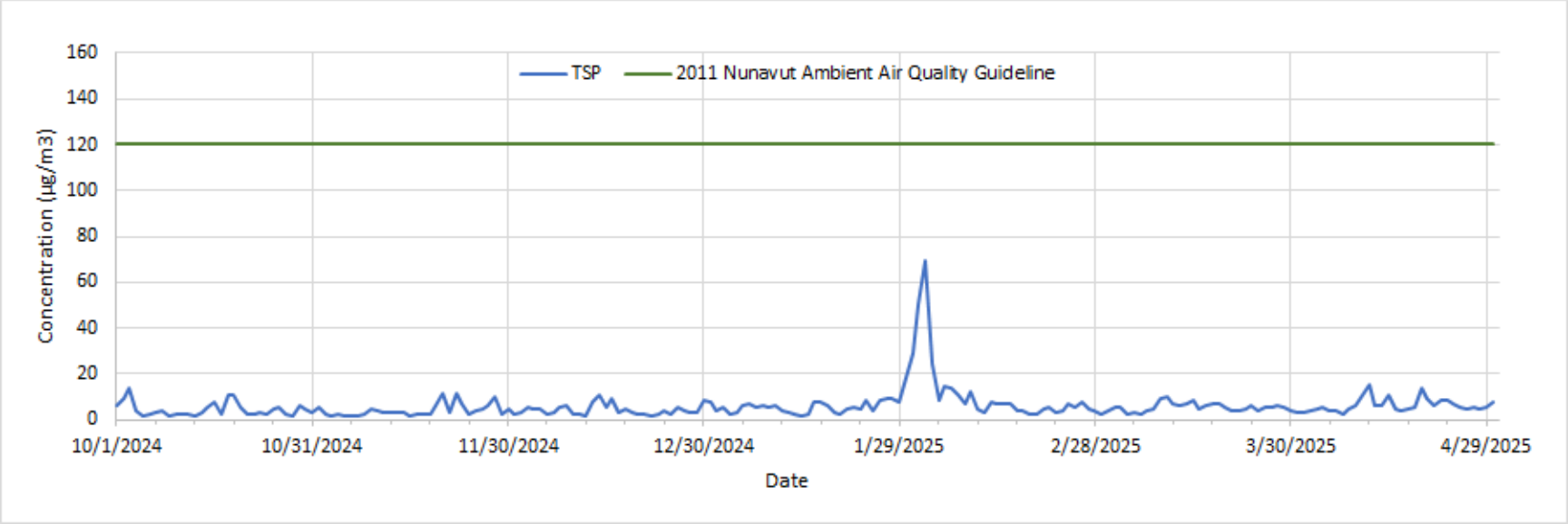
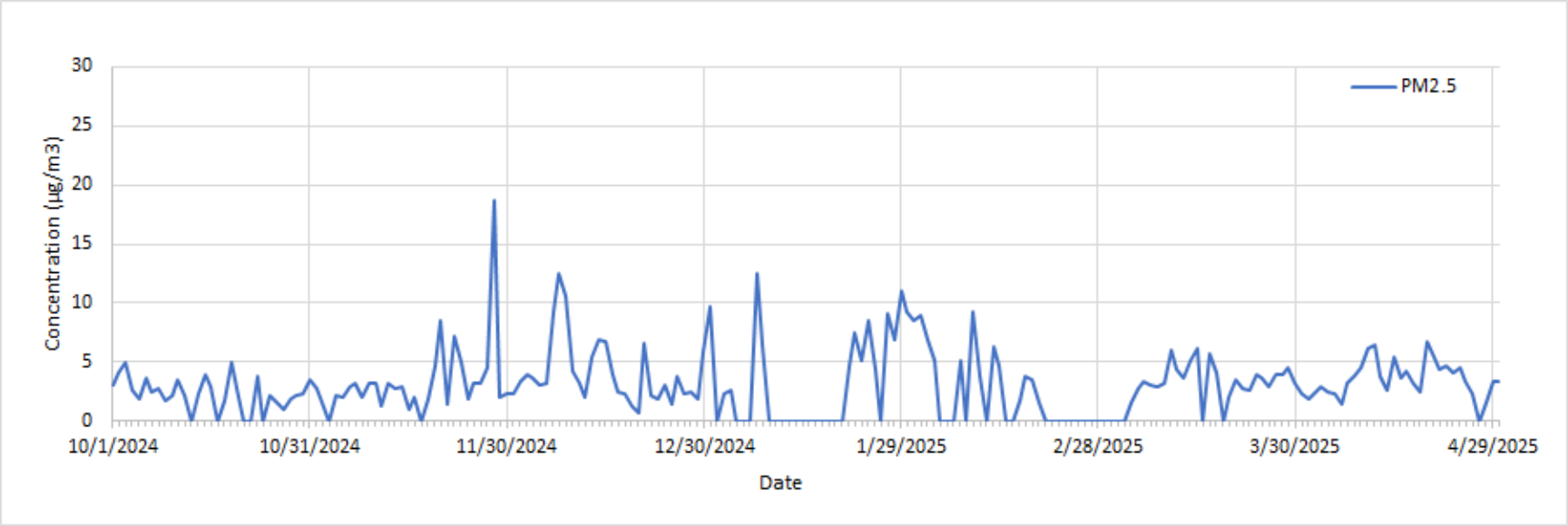


Figure 4.2 Summary of Measured 24-hour Average $PM_{2.5}$ Concentrations (Oct 2024 – Apr 2025)



4.3 Nitrogen Dioxide (NO_2)

NO_2 ambient monitoring in Winter 2024 - 2025 was conducted at location DFA1 at the Doris site. A summary of the measured ambient NO_2 concentrations for the study period are presented and compared to the relevant hourly, and annual standards in Table 4.8. Data recovery rates are presented in Table 4.9. The annual data recovery rate for NO_2 is 96% which is above the data recovery objective of 75% required for calculating an annual average concentration. Calibration records are presented in Appendix A.

Table 4.8 Summary of NO_2 Monitoring Results

Averaging Period	Units	Air Quality Standard/Objective	Agency	Measured Value	% of Criteria
1-hour (98th percentile) [a]	ppb	42	GN Ambient Air Quality Objective / CAAQS	15	N/A[b]
Annual [a]	ppb	12		0.9	N/A[c]

Notes:
a: Results reported for May 2024 to April 2025
b: Comparison to the CAAQS requires a minimum of two years of data over calendar years.
c: Comparison to the CAAQS requires an average over a calendar year.

Table 4.9 Summary of Data Recovery Rates for Continuous NO_2 Sampling (Oct 2024 – Apr 2025)

Month	NO_2 Data Recovery Rate
October 2024	96%
November 2024	96%
December 2024	96%
January 2025	96%
February 2025	96%
March 2025	96%
April 2025	96%
Annual (May 2024 – April 2025)	96%

The calculated 98th percentile of the measured daily maximum 1-hour average NO_2 concentrations in the May 2024 to April 2025 period was 15 ppb which is below the GN air quality objective and the CAAQS of 42 ppb.

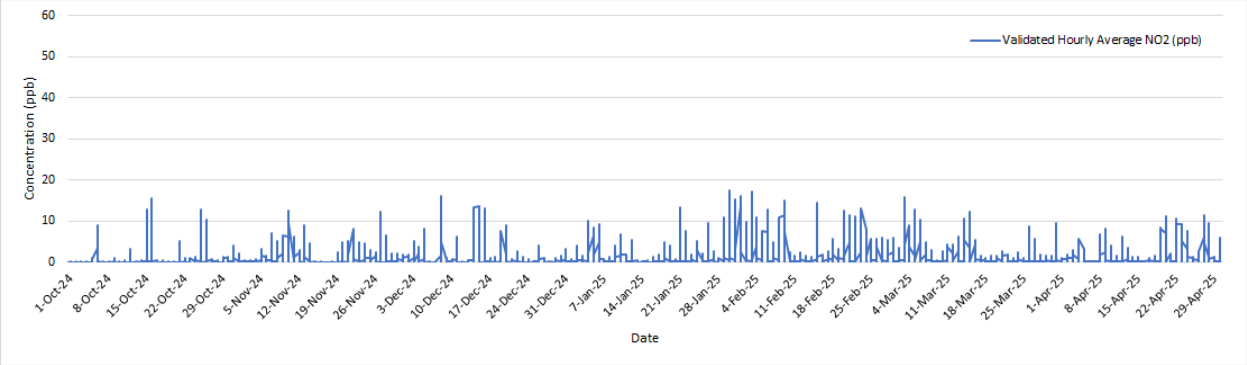
As more than three years of NO_2 measurements have been collected, comparisons were made to the NO_2 CAAQS. The available three years of data are not calendar years, therefore the comparisons to the NO_2 CAAQS are provided for informational purposes only. A summary of the 98th percentile daily maximum 1-hour and annual average NO_2 concentrations in each 1-year period, and the average of the three periods, is presented in Table 4.10. The NO_2 measurements over the three-year period are less than both the daily and annual CAAQS.

Table 4.10 Comparison of NO_2 Measurements to the CAAQS

CAAQS Metric	Averaging Period	CAAQS (ppb)	Concentration (ppb)				Percentage of CAAQS
			May 2022 – April 2023	May 2023 – April 2024	May 2024 – April 2025	CAAQS Metric Value	
98th Percentile Daily Maximum 1-Hour Average Concentrations	Hourly	42	25	15	15	18	43%
Maximum Annual Average	Annual	12	1.2	1.0	0.9	1.1	6%

A time history plot of measured 1-hour average NO_2 concentrations for the period October 2024 to April 2025 is presented in Figure 4.3. NO_2 concentrations were generally low throughout the monitoring period.

Figure 4.3 Time History of Measured 1-hour Average NO_2 Concentrations (Oct 2024 – Apr 2025)



4.4 Meteorology

A summary of the maximum, minimum, and average of the hourly average meteorological parameters in each month of October 2024 to April 2025 is presented in Table 4.11.

Monthly wind roses showing the measured directionality and speed for the period October 2024 to April 2025 are presented in Figure 4.4. The length of the radial barbs gives the total percent frequency of winds from the indicated direction, while portions of the barbs of different widths indicate the frequency associated with each wind speed category.

Winds over the seven-month period occurred predominantly from northwesterly, westerly and southeasterly directions. Higher wind speeds occurred most frequently from the northwesterly / westerly.

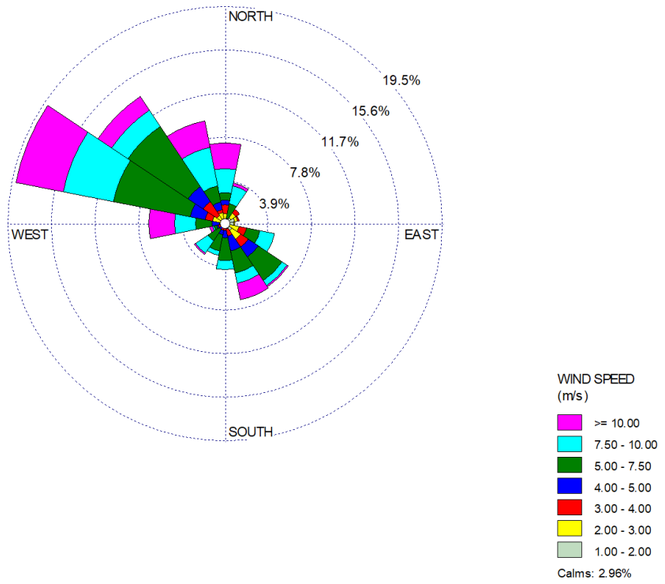
Table 4.11 Summary of Meteorological Measurements (Oct 2024 – Apr 2025)

Date	Average Air Temperature	Minimum Daily Air Temperature[a]	Maximum Daily Air Temperature[b]	Absolute Minimum Temperature[c]	Absolute Maximum Temperature[d]	Average Wind Speed	Maximum Instantaneous Wind Speed	Time of Maximum Instantaneous Wind Speed	Total Precipitation	Total Rainfall	Total SWE	Average Relative Humidity	Average Solar Radiation	Total Bright Sunshine Hours	Station Pressure
(mm-yy)	(°C)	(°C)	(°C)	(°C)	(°C)	(m/s)	(m/s)	(mm/dd/yyyy)	(mm)	(mm)	(mm)	(%)	(W/m^2)	(hours)	(kpa)
Oct-24	-2.5	-4.6	-0.1	-15.0	7.9	6.6	29.4	10/19/2024 4:13	36.0	11.6	24.5	87.4	26.0	45.0	100.1
Nov-24	-13.9	-17.4	-10.1	-26.4	-1.2	4.7	18.0	11/15/2024 21:44	10.7	0.0	10.7	83.4	4.3	2	101.2
Dec-24	-22.5	-25.7	-18.8	-32.0	-11.2	5.8	18.2	12/14/2024 21:31	11.5	0.0	11.5	78.3	0.3	0	101.2
Jan-25	-27.2	-31.0	-23.2	-37.4	-11.7	5.6	21.3	1/30/2025 22:53	11.0	0.0	11.0	75.3	2.8	0	101.3
Feb-25	-24.4	-27.9	-21.1	-34.8	-11.7	7.6	21.8	2/1/2025 3:58	9.3	0.0	9.3	74.9	34.6	0	101.2
Mar-25	-25.4	-28.4	-22.8	-34.4	-17.5	6.3	17.6	3/18/2025 5:38	7.7	0.0	7.7	75.9	106.1	0	101.1
Apr-25	-16.6	-20.8	-13.0	-31.1	-0.8	5.8	19.4	4/7/2025 4:25	6.8	0.0	6.8	79.3	198.0	0	101.1
Average	-18.9	-22.3	-15.6	-30.2	-6.6	6.1	20.8		13.3	1.7	11.6	79.2	53.1	6.7	101.0
Max	-2.5	-4.6	-0.1	-15.0	7.9	7.6	29.4		36.0	11.6	24.5	87.4	198.0	45.0	101.3
Min	-27.2	-31.0	-23.2	-37.4	-17.5	4.7	17.6		6.8	0.0	6.8	74.9	0.3	0.0	100.1
Total									93.1	11.6	81.5				

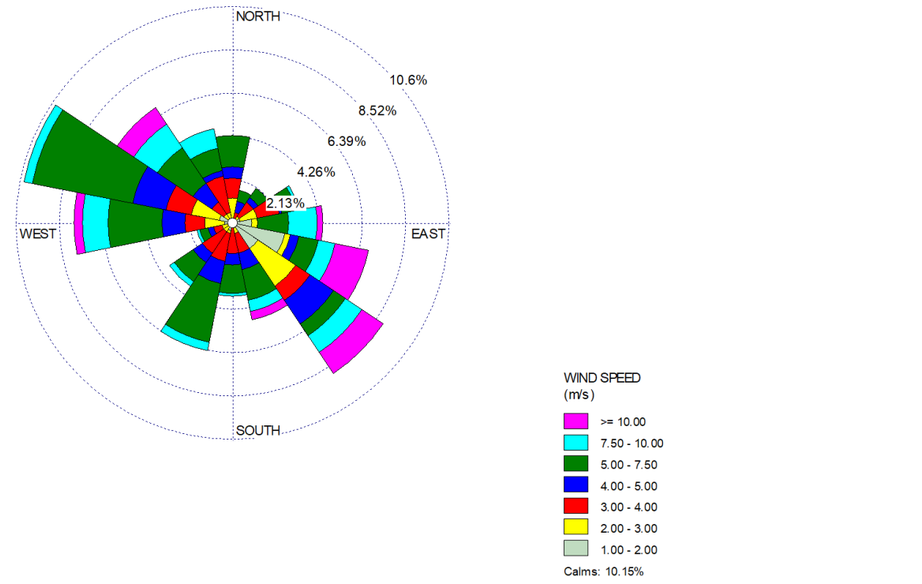
Notes:
a: The Minimum Daily Air Temperature is the minimum of the daily average temperatures in the month.
b: The Maximum Daily Air Temperature is the maximum of the daily average temperatures in the month.
c: The Absolute Minimum Temperature is the lowest hourly average temperature recorded for the month.
d: The Absolute Maximum Temperature is the highest hourly average temperature recorded for the month.

Figure 4.4 Monthly and Study Period Wind Roses for the October 2024 – April 2025 Monitoring Period

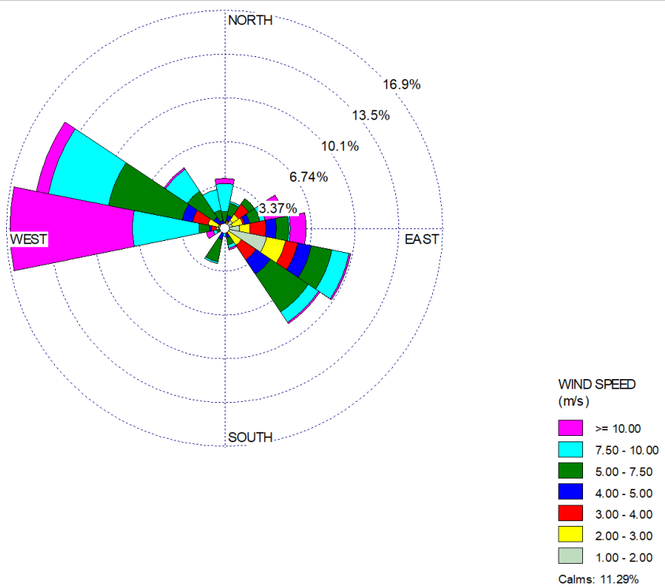
October 2024



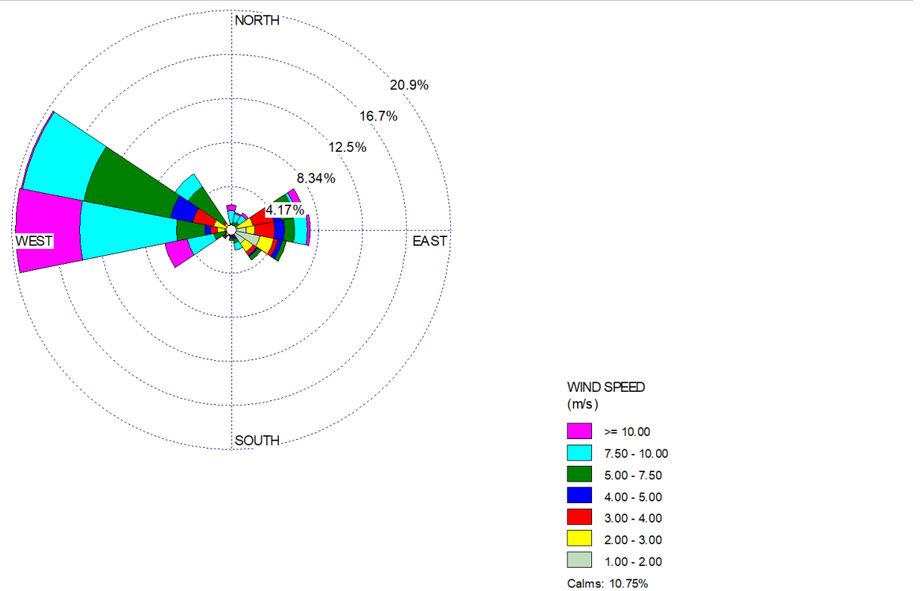
November 2024



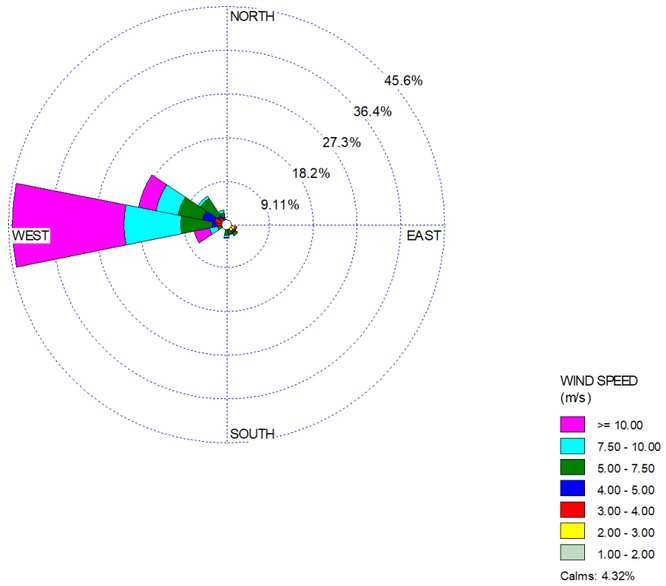
December 2024



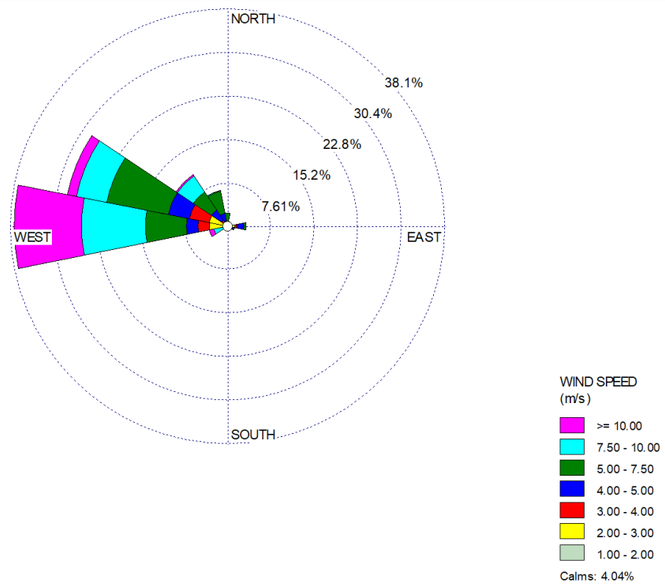
January 2025



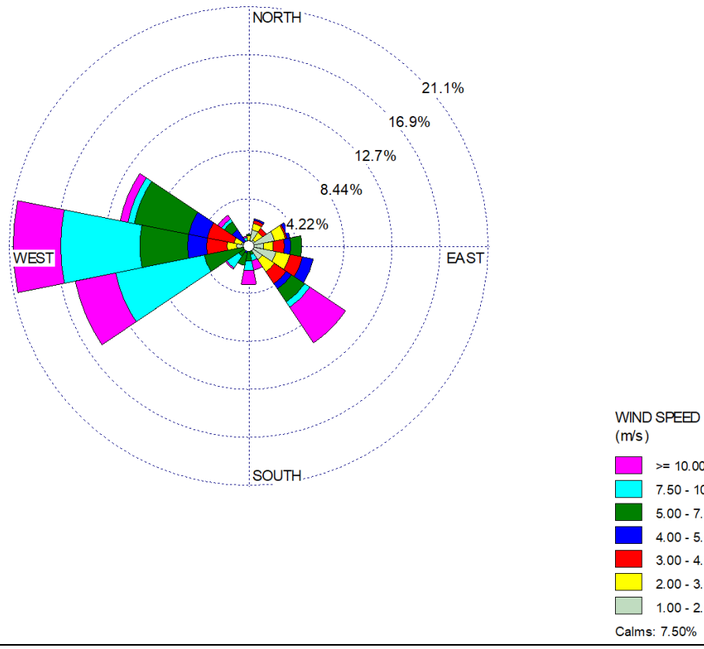
February 2025



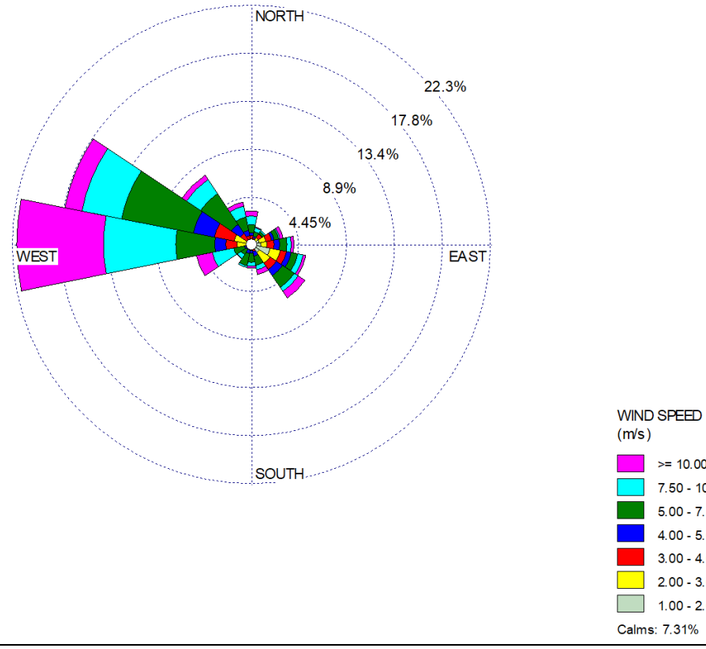
March 2025



April 2025



October 2024 – April 2025



5 Conclusions

This report presents the results of ambient air quality, dustfall, NO_2 and meteorological monitoring conducted at the Doris and Madrid Sites (the Sites) from October 2024 to April 2025 as outlined under the Air Quality Management Plan (AQMP; TMAC 2016, 2019). To calculate annual average concentrations for requisite parameters, data from May to September 2024 (already reported by Agnico Eagle in the Q1-Q3 2024 Ambient Monitoring Report (Nunami Stantec 2025)) was also utilized and are included in this report.

The Winter 2024 – 2025 monitoring program included the following:

- Snow core sampling for dustfall at six locations in the vicinity of the Doris Site and at nine locations in the vicinity of the Madrid Site utilizing snow cores over the period October 19, 2024, to April 29 - 30, 2025.
- Monitoring of TSP and $PM_{2.5}$ using continuous monitors at one location at the Doris site.
- Monitoring of NO_2 using a continuous monitor at one location at the Doris site.
- Meteorological monitoring for wind speed, wind direction, temperature, relative humidity, snowfall, rainfall, solar radiation, and barometric pressure at one location. The meteorological data were used in the interpretation of the air quality measurements.

The main results and findings of the report are presented below.

Snow Core Dustfall Sampling – Doris Site

- Dustfall levels estimated from the snow core sampling ranged from 0.5 mg/100-cm^2/30-days (at ControlDF) to 10 mg/100-cm^2/30-days (TIA-DF1).
- The dustfall levels for all stations were below the AAAQO of 158 mg/100-cm^2/30-days for commercial and industrial areas.
- The dustfall rates from all Doris Site monitoring stations were less than the maximum predicted dustfall level at each location in the 2017 FEIS modelling.

Snow Core Dustfall Sampling – Madrid Site

- Dustfall levels estimated from the snow core sampling ranged from 0.8 mg/100-cm^2/30-days (at MDF01) to 13 mg/100-cm^2/30-days (at MDF06).
- All measured dustfall levels were less than the AAAQO of 158 mg/100-cm^2/30-days for commercial and industrial areas.
- The dustfall rates for all Madrid Site monitoring stations were less than their maximum predicted dustfall level at each location in the 2017 FEIS modelling.

Particulate Monitoring

- The maximum measured 24-hour average TSP concentration was 70 µg/m^3 which is 58% of the 2011 GN air quality objective. This concentration is equal to the maximum predicted TSP concentration in the 2017 FEIS of 70 µg/m^3.
- The annual geometric mean of the measured TSP concentrations for the period May 2024 to April 2025 was 5.8 µg/m^3 which is 10% of the 2011 Government of Nunavut (GN) air quality objective. This concentration is below the maximum predicted annual average TSP concentration in the 2017 FEIS of 13 µg/m^3.
- The calculated 98th percentile of the measured 24-hour average $PM_{2.5}$ concentrations in the one-year period of May 2024 to April 2025 was 19 µg/m^3 which is below the GN air quality objective and the CAAQS of 27 µg/m^3.
- The 98th percentile of the measured 24-hour average $PM_{2.5}$ concentrations is greater than the maximum predicted 98th percentile $PM_{2.5}$ concentration in the 2017 FEIS of 12 µg/m^3 but is within the expected range of variability for dispersion models.
- The annual average of the measured $PM_{2.5}$ concentrations for the period of May 2024 to April 2025 is 4.7 µg/m^3, which is less than the CAAQS of 8.8 µg/m^3. The measured annual average concentration is below the maximum predicted annual average $PM_{2.5}$ concentration in the 2017 FEIS of 5.0 µg/m^3.
- Assessment with respect to the $PM_{2.5}$ CAAQS is provided for informational purposes only, as an explicit comparison to the CAAQS requires a minimum of two years of valid data, which are unavailable at this time.

Nitrogen Dioxide Monitoring

- The calculated 98th percentile of the measured daily maximum 1-hour average NO_2 concentrations in the one-year period of May 2024 to April 2025 is 15 ppb which is below the GN air quality objective and the CAAQS of 42 ppb.
- The maximum measured annual average NO_2 concentration is well below the corresponding GN air quality objective / CAAQS and FEIS predictions.
- As more than three years of NO_2 measurements have been collected, comparisons were made to the NO_2 CAAQS. The available three years of data are not calendar years; therefore, the comparisons to the NO_2 CAAQS are provided for informational purposes only. The NO_2 measurements over the three-year period are less than both the daily and annual CAAQS.

6 References

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Appendix A Continuous Monitor Calibration Records

CD Nova Thermo 5014i Calibration Inspection

Work Order Number N240202
Customer Name Agnico Eagle Hope Bay
Instrument Part Number 5014i TSP instrument
Instrument Serial Number CM19221001
Date March 23 2024

Description	As found	Standard	As found variance	Allowable variance	Adjusted to	Final variance
Ambient Air Temperature	21.4	23.3	1.90	+/- 0.2°C	23.3	0.00
Ambient Relative Humidity	16.7	13	3.70	+/- 3%	13	0.00
Flow Temperature	22	23.3	-1.30	+/- 0.2°C	23.3	0.00
Barometer Pressure	761.2	763.6	2.40	+/- 5 mmHg	763.6	0.00
Vacuum Pressure Span	37	70.8	91.35%	50-70 mmHg	70.8	Pass
Flow Pressure Span	18.8	33.3	77.13%	20-30 mmHg	33.3	Pass
Flow calibration	16.67	15.2	-8.82%	+/- 2%	15.2	0.00%
Mass Calibration	6733.5	6957.5			6957.5	

Auto Detector Calibration

Initial High Voltage	N/A	**Final High Voltage**	1450
Initial Beta Count	N/A	**Final Beta Count**	12074

Leak Test

Start Value VAC	96.8	mmHg		
Start Value FLOW	16.67	LPM		
Leak Check Adapter VAC	157	mmHg		
Leak Check Adapter FLOW	16.63	LPM		
Flow Variance	0.24%	LPM	+/-2.5%	Pass

Standards Used	Description	S/N	Calibration Date
Flow	Streamline Pro	220102	22-Jun-23
Temperature	Vaisala HM40	U0340443	7-Jun-23
Pressure	Streamline Pro	220102	22-Jun-23
Relative Humidity	Vaisala HM40	U0340443	7 June 2023
Manometer	Dwyer 475-3FM	C627071-00	Jan 19, 2024
Technical Data	Thermo Manual Waver number W1903 dated October 1, 2018		
	Thermo Fisher Procedure Number 106430-00 revision A		

Firmware updated to:
Calibration Complete By Dan Molloy, Service Manager, Western Region

Signature: _____

CD Nova Thermo 5014i Calibration Inspection

Work Order Number N240202
Customer Name Agnico Eagle Hope Bay
Instrument Part Number 5014i
Instrument Serial Number CM19221002
Date March 21 2024

Description	As found	Standard	As found variance	Allowable variance	Adjusted to	Final variance
Ambient Air Temperature	23	23	0.00	+/- 0.2°C	23	0.00
Ambient Relative Humidity	3.4	6.9	-3.50	+/- 3%	6.9	0.00
Flow Temperature	22.9	23	-0.10	+/- 0.2°C	23	0.00
Barometer Pressure	774.8	769.5	-5.30	+/- 5 mmHg	769.5	0.00
Vacuum Pressure Span	46.3	49	5.83%	50-70 mmHg	49	Pass
Flow Pressure Span	22.1	22.4	1.36%	20-30 mmHg	22.4	Pass
Flow calibration	16.67	16.64	-0.18%	+/- 2%	16.67	0.18%
Mass Calibration	6968	6962			6962	

Auto Detector Calibration

Initial High Voltage	1390	**Final High Voltage**	1370	
Initial Beta Count	9830	**Final Beta Count**	9189	

Leak Test

Start Value VAC	85.3	mmHg		
Start Value FLOW	16.64	LPM		
Leak Check Adapter VAC	140	mmHg		
Leak Check Adapter FLOW	16.5	LPM		
Flow Variance	0.85%	LPM	+/-2.5%	Pass

Standards Used	Description	S/N	Calibration Date
Flow	Streamline Pro	220102	22-Jun-23
Temperature	Vaisala HM40	U0340443	7-Jun-23
Pressure	Streamline Pro	220102	22-Jun-23
Relative Humidity	Vaisala HM40	U0340443	7 June 2023
Manometer	Omega 8205	9900599	28 April 2023
Technical Data	Thermo Manual Waver number W1903 dated October 1, 2018		
	Thermo Fisher Procedure Number 106430-00 revision A		

Firmware updated to:
Calibration Complete By Dan Molloy, Service Manager, Western Region

Signature: _____

CD Nova Thermo 5014i Calibration Inspection

Work Order Number N240202
Customer Name Agnico Eagle Hope Bay
Instrument Part Number 5014i PM2.5 instrument
Instrument Serial Number CM19221003
Date March 23 2024

Description	As found	Standard	As found variance	Allowable variance	Adjusted to	Final variance
Ambient Air Temperature	22.6	21.9	-0.70	+/- 0.2°C	21.9	0.00
Ambient Relative Humidity	22.1	22	0.10	+/- 3%	22.1	0.10
Flow Temperature	5	7.7	-2.70	+/- 0.2°C	7.7	0.00
Barometer Pressure	762.8	762.9	0.10	+/- 5 mmHg	762.8	0.10
Vacuum Pressure Span	49.8	51	2.41%	50-70 mmHg	51	Pass
Flow Pressure Span	22.9	23.4	2.18%	20-30 mmHg	23.4	Pass
Flow calibration	16.67	15.57	-6.60%	+/- 2%		-100.00%
Mass Calibration	7124	7071			7071	

Auto Detector Calibration

Initial High Voltage	1360	**Final High Voltage**	1410	
Initial Beta Count	11913	**Final Beta Count**	12731	

Leak Test

Start Value VAC	89.1	mmHg		
Start Value FLOW	16.7	LPM		
Leak Check Adapter VAC	129	mmHg		
Leak Check Adapter FLOW	15.18	LPM		
Flow Variance	10.01%	LPM	+/-2.5%	Pass

Standards Used	Description	S/N	Calibration Date
Flow	Streamline Pro	220102	22-Jun-23
Temperature	Vaisala HM40	U0340443	7-Jun-23
Pressure	Streamline Pro	220102	22-Jun-23
Relative Humidity	Vaisala HM40	U0340443	7 June 2023
Manometer	Dwyer 475-3FM	C627071-00	Jan 19, 2024
Technical Data	Thermo Manual Waver number W1903 dated October 1, 2018		
	Thermo Fisher Procedure Number 106430-00 revision A		

Firmware updated to:
Calibration Complete By Dan Molloy, Service Manager, Western Region

Signature: _____

CD Nova Thermo 5014i Calibration Inspection

Work Order Number	N240202
Customer Name	Agnico Eagle Hope Bay
Instrument Part Number	5014i
Instrument Serial Number	CM19221004
Date	March 21 2024

Description	As found	Standard	As found variance	Allowable variance	Adjusted to	Final variance
Ambient Air Temperature	24	21.9	-2.10	+/- 0.2°C	21.9	0.00
Ambient Relative Humidity	5.7	6.1	-0.40	+/- 3%	6.1	0.00
Flow Temperature	23.1	21.9	1.20	+/- 0.2°C	21.9	0.00
Barometer Pressure	764.3	769.5	5.20	+/- 5 mmHg	769.5	0.00
Vacuum Pressure Span	52	53	1.92%	50-70 mmHg	53	Pass
Flow Pressure Span	22.6	223	886.73%	20-30 mmHg	23	Pass
Flow calibration	16.67	16.46	-1.26%	+/- 2%	16.46	0.00%
Mass Calibration	7054	6988			6988	

Auto Detector Calibration

Initial High Voltage	1370		**Final High Voltage**	1400
Initial Beta Count	11319		**Final Beta Count**	12060

Leak Test

Start Value VAC	53.2	mmHg		
Start Value FLOW	16.67	LPM		
Leak Check Adapter VAC	142	mmHg		
Leak Check Adapter FLOW	16.49	LPM		
Flow Variance	1.09%	LPM	+/-2.5%	Pass

Standards Used	Description	S/N	Calibration Date
Flow	Streamline Pro	220102	22-Jun-23
Temperature	Vaisala HM40	U0340443	7-Jun-23
Pressure	Streamline Pro	220102	22-Jun-23
Relative Humidity	Vaisala HM40	U0340443	7 June 2023
Manometer	Omega 8205	9900599	28 April 2023
Technical Data	Thermo Manual Waver number W1903 dated October 1, 2018		
	Thermo Fisher Procedure Number 106430-00 revision A		

Firmware updated to:

Calibration Complete By Dan Molloy, Service Manager, Western Region

Signature: _____

AND ASSOCIATED COMPANIES

NO-NO2-NOX

Calibration form

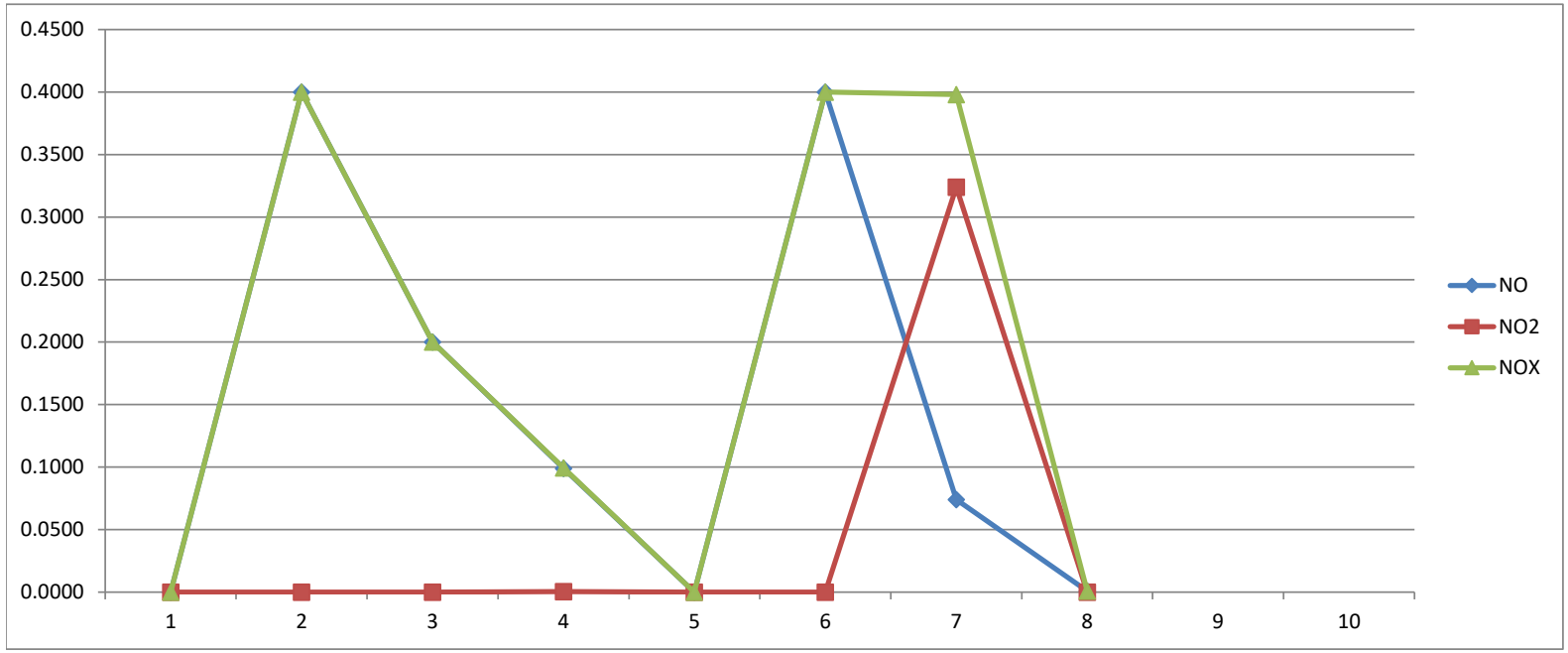
Instrument	42iQ-AAABN
Serial number	1191222768
Customer	Agnico Eagle
Work order	N240202
Date	24-Mar-24

Calibrator	Thermo 146iQ
Calibrator S/N	119122270
Test gas conc.	14.87
Test gas cert.	1505294

Test Point	NO	NO2	NOX	ppm
1	0.0000	0.0000	0.0000	ppm
2	0.4000	0.0000	0.4000	ppm
3	0.2000	0.0000	0.2000	ppm
4	0.0990	0.0004	0.0994	ppm
5	0.0000	0.0000	0.0000	ppm
GPT 1	0.4000	0.0000	0.4000	ppm
GPT 2	0.0740	0.3240	0.3980	ppm
GPT 3	0.0009	0.0000	0.0009	ppm
GPT 4				ppm
GPT 5				ppm

Convertor efficency 99.4%

Instrument Information	
Version	N/A
Firmware	1.6.15.34700
PMT voltage	-835
NO background	2.4
NOX background	2.6
NO coef	0.999
NO2 coef	0.994
NOX coef	0.996



Completed by: Dan Molloy