



DEPARTMENT OF ENVIRONMENT AND CLIMATE CHANGE

## **2024 AIR QUALITY MONITORING REPORT**

**May 2025**



## Executive Summary

The air quality in communities across the province is generally considered to be good as the air quality standards are rarely exceeded for the pollutants being measured. On occasion, communities in close proximity to an industrial operation may experience episodic decreases in the quality of the air; however, these episodes tend to be brief in nature and are rarely at levels that exceed the air quality standards. Elevated levels of air pollutants can also occur due to long-range transport from mainland Canada, the United States, and Europe but these events are also episodic in nature and infrequently produce levels that exceed the air quality standards. On the local level, emissions from sources such as vehicular traffic, forest fires and woodstoves also impact the provincial air quality.

In 2024 however, on July 12, 2024, a wildfire near Labrador City forced the evacuation of about 9,000 people from Labrador West (the largest-ever evacuation in Newfoundland and Labrador's history). Also, fires started north and south of the resort town of Jasper and grew out of control, and on July 22 they forced a mass evacuation of 25,000 residents, workers, and visitors. The fires merged and swept through the town, destroying approximately one-third of the town's structures. The unusually long fire season in Canada in 2023 that lasted into the autumn caused these fires to smolder through the winter and about 150 re-ignited as early as February 2024 and, by early May, large wildfires had broken out in Alberta, British Columbia and Manitoba and soon thereafter in Saskatchewan, the Northwest Territories and the aforementioned one in Newfoundland & Labrador. Smoke from fires reduced air quality through the United States and Canada and reached as far as Mexico and Europe. These fires impacted the air quality in all parts of the province. Most National Air Pollution Surveillance (NAPS) and industrial monitoring stations recorded exceedances of the PM<sub>2.5</sub> air quality standard during the year as a result of the wildfires. Additionally, during the year, there were numerous instances where the levels measured at a station operated by an industrial facility approached or exceeded the associated air quality standard. In many of these instances, fugitive dust liftoff was a primary source. Volcanic activity from Iceland was also recorded by ambient air monitors, particularly PM monitors, in the province.

The year 2024 saw the second-highest wildfire carbon emissions since the Copernicus Atmosphere Monitoring Service measurements began in 2003, behind only the historically destructive 2023 season. Over 5.3 million hectares of area burned and approximately 70% of the land burned had been in Alberta, British Columbia, Saskatchewan, and the Northwest Territories.

In 2023, the methodology for calculating 24-hour particulate concentrations was modified. Historically 24-hour particulate concentrations were based on calendar days as

this was an artifact of monitors only able to collect 24-hour / daily grab samples. With the advent of continuous particulate sampling monitors, the 24-hour concentration can be calculated every hour, i.e. a rolling 24-hour average, while allowing for the better capture of episodic events. This methodology change has been applied to all pertinent historical data.

This report of 2024 data is the 16<sup>th</sup> annual and presents all the air quality monitoring results from both the federal / provincial operated NAPS network as well as the stations operated by industrial facilities in the province. Both datasets undergo a rigorous quality assurance procedure to ensure that the highest level of data confidence is achieved. All datasets are subject to historical revisions.

This report does not provide commentary on the data contained herein except in situations where there has been a technological change in the data collection system, there was a series of exceedances, or there has been a change in industrial operating conditions which would lead to a change in emissions.

The 2024 air quality monitoring results are summarized below.

## Sulphur Dioxide - 2024

Operator	Air Quality Monitoring Location	Maximum 1-hour Concentration	Maximum 3-hour Concentration	Maximum 24-hour Concentration	Annual Concentration
<b>Regulatory Limit (ppb)</b>	<b>344</b>	<b>229</b>	<b>115</b>	<b>23</b>	
<b>NAPS</b>	St. John's	2.9	2.2	0.7	0.2
	Mt. Pearl	1.4	1.1	0.5	0.1
	Corner Brook	10.2	8.6	2.2	0.5
<b>NL HYDRO</b>	Butterpot Road	21.2	12.9	4.8	0.6
	Green Acres Road	83.8	40.7	6.9	0.6
	Indian Pond Drive	38.5	35.3	17.2	0.8
	Indian Pond Road	56.3	34.4	17.0	0.5
	Lawrence Pond Road	30.4	16.9	4.9	0.6
<b>BRAYA</b>	Arnold's Cove	7.9	1.3	1.1	0.5
	Come by Chance	4.0	3.5	2.7	1.3
	Sunnyside	8.2	5.3	1.3	0.5
	Property Boundary	30.6	13.1	2.9	0.5
<b>IOC</b>	Dog Park	31.0	25.1	9.7	0.6
	Hudson Drive	29.1	17.2	7.2	0.4
	Smokey Mountain II	23.6	17.1	4.1	0.4
<b>CBPP</b>	Main Street	14.4	11.2	2.2	0.5
<b>TACORA RESOURCES</b>	Bond Street	20.6	11.3	3.2	0.5

Observations in ppb

\* based on limited data

\*\* insufficient data to calculate

## PM<sub>2.5</sub> - 2024

Operator	Air Quality Monitoring Location	Maximum 24-hour Concentration	Annual Concentration
	Regulatory Limit (µg/m <sup>3</sup> )	25	8.8
NAPS	St. John's	22.4	5.4
	Mt. Pearl	21.6	5.2
	Grand Falls-Windsor	22.1	4.7
	Corner Brook	16.4	3.5
	Burin	18.5	4.2
NL HYDRO	Butterpot Road	15.9	4.6
	Green Acres Road	16.5	5.8
	Indian Pond Drive	15.9	4.0
	Indian Pond Road	17.4	5.4
	Lawrence Pond Road	16.6	4.6
	Holyrood Property Boundary	15.5	4.3
BRAYA	Arnold's Cove	18.2	4.4
	Come by Chance	14.9	4.7
	Sunnyside	17.2	4.2
	Property Boundary	18.5	4.5
IOC	Dog Park	49.1	5.6
	Hudson Drive (Firehall)	56.5	4.5
	Smokey Mountain II	50.0	6.4
TACORA RESOURCES	Bond Street (Prov. Bldg.)	49.8	5.4
	Cabot Drive (Smallwood)	38.6	5.9
CBPP	Main Street	30.9	6.1
VALE	Community Centre (AM1)	20.1	4.3
	Access Road (AM3)	18.6	4.1
	Accommodation Building	63.7	5.3
CFI	Director Drive	17.5*	4.1*
CEMEX (AML)	Property Boundary	8.5*	3.6*
TSMC	Camp Site	64.8	5.0

Observations in µg/m<sup>3</sup>

\* based on limited data

\*\* insufficient data to calculate

## Nitrogen Dioxide - 2024

Operator	Air Quality Monitoring Location	Maximum 1-hour Concentration	Maximum 24-hour Concentration	Annual Concentration
	<b>Regulatory Limit (ppb)</b>	<b>213</b>	<b>106</b>	<b>53</b>
<b>NAPS</b>	St. John's	59.6	18.4	4.6
	Mt. Pearl	22.6	6.3	1.0
	Grand Falls-Windsor	22.9	4.5	1.2
	Corner Brook	29.1	8.5	2.2
	Burin	14.3	2.0	0.4
<b>NL HYDRO</b>	Butterpot Road	14.5	3.4	0.4
	Green Acres Road	21.1	5.1	0.6
	Indian Pond Drive	22.6	6.5	0.5
	Indian Pond Road	15.8	6.4	0.5
	Lawrence Pond Road	15.4	2.8	0.5
<b>IOC</b>	Dog Park	34.7	16.5	2.4
	Hudson Drive (Firehall)	38.3	20.4	2.6
	Smokey Mountain II	39.4	17.7	1.9
<b>VALE</b>	Comm. Centre (AM1)	8.7	1.8	0.5
	Access Road (AM3)	21.7	2.5	0.8
	Crusher Building	53.9	28.8	4.7
	Accommodation Building	53.6	33.0	8.9
<b>CFI</b>	Director Drive	14.6	2.1	0.6
<b>TSMC</b>	Camp Site	68.4	9.8	1.7

Observations in ppb

\* based on limited data

\*\* insufficient data to calculate

## Ozone - 2024

Operator	Air Quality Monitoring Location	Maximum 1-hour Concentration	Maximum 8-hour Concentration
	<b>Regulatory Limit (ppb)</b>	<b>82</b>	<b>44</b>
NAPS	St. John's	56.6	43.3
	Mt. Pearl	51.1	47.2
	Grand Falls-Windsor	52.9	49.2
	Corner Brook	46.0	44.7
	Burin	59.0	47.6
	Port aux Choix	49.5	46.5
IOC	Hudson Drive (Firehall)	59.8	50.4

Observations in ppb

\* based on limited data

## PM<sub>10</sub> - 2024

Operator	Air Quality Monitoring Location	Maximum 24-hour Concentration
	<b>Regulatory Limit (µg/m<sup>3</sup>)</b>	<b>50</b>
NAPS	St. John's	56.7
	Mt. Pearl	37.6
	Grand Falls-Windsor	172.0
	Corner Brook	42.4
	Burin	30.2
IOC	Hudson Drive (Firehall)	127.0
CBPP	Main Street	83.8
VALE	Comm. Centre (AM1)	30.6
	Access Road (AM3)	29.0
CEMEX	Property Boundary	21.6*

Observations in µg/m<sup>3</sup>

\* based on limited data

\*\* insufficient data to calculate



## Total Particulate Matter - 2024

Operator	Air Quality Monitoring Location	Maximum 24-hour Concentration	Annual Concentration
	<b>Regulatory Limit (µg/m<sup>3</sup>)</b>	120	60
NL HYDRO	Green Acres Road	27.5	11.9
	Indian Pond Drive	57.9	14.0
	Indian Pond Road	33.5	13.5
	Lawrence Pond Road	48.4	12.6
	Holyrood Property Boundary	52.0	17.6
IOC	Dog Park	382.9	20.6
	Hudson Drive (Firehall)	360.9	33.1
	Smokey Mountain II	209.5	15.4
TACORA RESOURCES	Bond Street (Prov. Bldg.)	171.4	18.9
	Cabot Drive (Smallwood)	120.0	16.6
CBPP	Main Street	221.4	23.1
VALE	Port Site	259.3	16.9
CFI	Director Drive	21.5 *	7.1*

Observations in µg/m<sup>3</sup>

\* based on limited data

\*\* insufficient data to calculate

## Carbon Monoxide - 2024

Operator	Air Quality Monitoring Location	Maximum 1-hour Concentration	Maximum 8-hour Concentration
	<b>Regulatory Limit (ppm)</b>	<b>30.582</b>	<b>13.107</b>
NAPS	St. John's	1.3	0.4
	Mt. Pearl	0.4	0.3
	Grand Falls-Windsor	0.6	0.4
	Corner Brook	0.8	0.6
	Burin	0.4	0.2

Observations in ppm

\* based on limited data

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## Disclaimer

All data presented in this report has been subjected to quality assurance and quality control procedures. The Department of Environment and Climate Change does not warrant any data contained herein or the use of this data for other purposes. The Department accepts no liability for inaccurate data, or any misrepresentation or misuse of the data contained in this report.

In 2022, amendments to the *Air Pollution Control Regulations, 2004* were promulgated; now cited as *Air Pollution Control Regulations, 2022*. Of particular note, the units of measurement for gases in the air quality standards were changed from micrograms per cubic metre ( $\mu\text{g}/\text{m}^3$ ) to parts per billion (ppb) for consistency with field monitors. Care is therefore required when comparing the results from previous annual reports to this 2024 annual report.

All data presented herein may be subject to future revision.

## 1.0 Introduction

The air quality in Newfoundland and Labrador is monitored through a joint effort between the Department of Environment and Climate Change, and Environment and Climate Change Canada via the National Air Pollution Surveillance (NAPS) network. In 2024, the Department operated stations at six locations as part of the NAPS network. Additionally, the major industrial operations in the province are required to monitor the air quality near their operations for select pollutants. The Department audits the operation of these industrial air quality monitoring networks on a regular basis.

In general, the air quality in the province is good as indicated by the levels recorded at the various monitors. In 2024 however, smoke from the aforementioned wildfires had a major impact on the air quality in all parts of the province. Most National Air Pollution Surveillance (NAPS) and industrial monitoring stations recorded numerous exceedances of the PM<sub>2.5</sub> air quality standard during the year as a result of the wildfires. Additionally, during the year, there were numerous instances where the levels measured at a station operated by an industrial facility approached or exceeded the associated air quality standard. In many of these instances, fugitive dust liftoff was a primary source. Volcanic activity from Iceland also impacted air monitors, particularly those measuring particulate matter.

Local emissions, such as those from vehicular traffic and woodstoves also impact air quality.

This report provides a two-year tabular summary information and a five-year graphical trend for each air quality monitor in Newfoundland and Labrador which were either operated or audited by the Department in 2024. All air quality monitoring stations, including those operated by industrial operations, are required to meet minimum performance criteria as set out in the *National Air Pollution Surveillance (NAPS) Program Quality Assurance/Quality Control (QA/QC) Guidelines*, and those defined in the *Departmental Guidelines for Ambient Air Monitoring*:

(<https://www.gov.nl.ca/ecc/files/env-protection-science-gd-ppd-065.pdf>).

Additionally, all data has gone through a data validation and quality assurance process to account for any anomalous readings or system malfunctions.

In this report, Section 2 provides an overview of the air quality monitoring networks in the province, a description of the pollutants being measured, and their associated air quality standard. Section 3 provides results from the monitors in the NAPS network; while Section 4 provides results from the air quality monitoring networks operated at industrial facilities.

## 1.1 Definitions

The following definitions are used throughout this report:

AQHI	Air Quality Health Index
Braya	Braya Renewable Fuels
CBPP	Corner Brook Pulp and Paper
CFI	Canada Fluorspar Inc.
CO	carbon monoxide
IOC	Iron Ore Company of Canada
mg/m <sup>3</sup>	milligrams per cubic metre
NAPS	National Air Pollution Surveillance
NO <sub>2</sub>	nitrogen dioxide
NO <sub>x</sub>	oxides of nitrogen
O <sub>3</sub>	ozone
PM <sub>2.5</sub>	particulate matter less than or equal to 2.5 microns
PM <sub>10</sub>	particulate matter less than or equal to 10 microns
ppb	parts per billion
SO <sub>2</sub>	sulphur dioxide
TPM	total particulate matter
TSMC	Tata Steel Minerals Canada
µg/m <sup>3</sup>	micrograms per cubic metre
Vale	Vale Newfoundland and Labrador

## 2.0 Air Quality Monitoring Network

Seven pollutants are measured at the air quality monitoring networks in the province, though not all networks monitor all pollutants. The monitored pollutants are sulphur dioxide ( $\text{SO}_2$ ); oxides of nitrogen ( $\text{NO}_x$ ) (which includes nitric oxide ( $\text{NO}$ ) and nitrogen dioxide ( $\text{NO}_2$ )); carbon monoxide ( $\text{CO}$ ); total particulate matter (TPM); particles less or equal to than 10 microns ( $\text{PM}_{10}$ ); particles less than or equal to 2.5 microns ( $\text{PM}_{2.5}$ ); and ozone ( $\text{O}_3$ ). Volatile organic compounds (VOCs) are also measured on a one-in-six-day cycle at the NAPS station in St. John's, but the data is not included in this report.

### 2.1 Pollutants

#### 2.1.1 Oxides of Nitrogen ( $\text{NO}_x$ )

In a combustion process,  $\text{NO}_x$  is produced through three mechanisms, namely thermal  $\text{NO}_x$ , fuel  $\text{NO}_x$  and prompt  $\text{NO}_x$ . Thermal  $\text{NO}_x$  is the primary source of  $\text{NO}_x$  and is formed as a high temperature dissociation and subsequent reaction of nitrogen ( $\text{N}_2$ ) and oxygen ( $\text{O}_2$ ). It is produced in the hottest part of the flame and its formation increases exponentially with the flame temperature. Fuel  $\text{NO}_x$  is formed by the reaction of nitrogen compounds chemically bound in liquid or solid fuels with oxygen in the combustion air and can account for up to 50% of total  $\text{NO}_x$  emissions. Prompt  $\text{NO}_x$  is formed from the rapid reaction of atmospheric nitrogen with hydrocarbon radicals, and typically under partially fuel-rich conditions.

$\text{NO}_2$  is the primary component of concern in  $\text{NO}_x$  emissions. Though typically less than 10% of the  $\text{NO}_x$  emitted from the combustion of fuel is emitted as  $\text{NO}_2$ , the remaining 90%+ is emitted as  $\text{NO}$ , which is subsequently converted to  $\text{NO}_2$  in reactions with various oxidants and ozone as the plume is transported downwind from the source. The rate of  $\text{NO}_2$  formation varies with time of day, season, temperature, wind speed, solar radiation and the availability of oxidants to help drive the chemical reactions.

$\text{NO}_2$  is a reddish-brown gas with a pungent odour, which upon reaction with other atmospheric compounds, becomes a major contributor to smog, acid rain, inhalable particulates and reduced visibility. At significant levels and exposure, inhalation may result in irritation and burning to the skin and eyes, nose and throat. Prolonged exposure may result in permanent lung damage.

#### 2.1.2 Particulate Matter (PM)

Particulate matter is the term for particles and aerosols found in the air, including dust, dirt, soot, smoke, and liquid droplets, and can be large and dark enough to be seen with

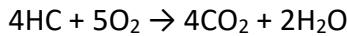
the naked eye or so small that they can only be detected with an electron microscope. Many manmade and natural sources emit particulate matter directly while others emit gaseous pollutants that react in the atmosphere to form particulate matter.

The size of the particulate has important health considerations. Particulate matter less than or equal to 10 microns in diameter (PM<sub>10</sub>) poses a health concern because it can be inhaled into and accumulate in the respiratory system. Particulate matter less than or equal to 2.5 microns in diameter (PM<sub>2.5</sub>) is believed to pose the greatest health risks as it can lodge deeply into the lungs; a PM<sub>2.5</sub> particle is approximately 1/30<sup>th</sup> the average width of a human hair. Typically, these smaller particles are suspended in the air for long periods of time. Total particulate matter (TPM) is the term applied to any particle suspended in the atmosphere, but depending on the air quality monitoring method, is typically limited to particulate matter less than 44 microns. Particulate larger than 10 microns is typically associated with a nuisance issue rather than a health issue.

### 2.1.3 Carbon Monoxide (CO)

Carbon monoxide is a colourless and odourless gas which reduces the delivery of oxygen to the body's organs. For those with heart disease, exposure to low doses can result in chest pain. For healthier people, exposure to higher levels affects the central nervous system.

Incomplete oxidation of fuel results in the formation of CO. In simplified terms, the generic stoichiometric combustion equation for complete combustion is:



However, if sufficient oxygen (O<sub>2</sub>) is not present to complete the combustion of the hydrocarbon fuel (HC), then the oxidation to carbon dioxide (CO<sub>2</sub>) and water (H<sub>2</sub>O) is not completed and hence CO is emitted.

### 2.1.4 Sulphur Dioxide (SO<sub>2</sub>)

Levels of sulphur dioxide (SO<sub>2</sub>) present in the air are typically directly related to the concentration of sulphur in fuel and the quantity of fuel being combusted. Upon combustion, approximately 98% of the sulphur in the fuel will oxidize to form SO<sub>2</sub>, with the remaining 2% producing sulphur trioxide (SO<sub>3</sub>). The emitted SO<sub>2</sub> can also further oxidize to SO<sub>3</sub> and react with water to produce acid rain in the form of sulphuric acid (H<sub>2</sub>SO<sub>4</sub>).

Short-term exposures to SO<sub>2</sub> have shown adverse respiratory effects including bronchoconstriction and increased asthma symptoms.

### 2.1.5 Ozone (O<sub>3</sub>)

Ground-level ozone is not directly emitted into the air, but rather is formed by chemical reactions between NO<sub>x</sub> and volatile organic compounds (VOCs) in the presence of ultraviolet (UV) radiation. Ozone is a primary component of smog.

Breathing ozone can trigger a variety of health problems including chest pain, coughing, throat irritation, and congestion. It can also worsen bronchitis, emphysema, and asthma as well as reduce lung function and inflame the linings of the lungs, permanently scarring lung tissue under repeated exposure.

## 2.2 Air Quality Standards

The maximum concentrations of air pollutants considered to be protective of the environment are defined in the *Air Pollution Control Regulations, 2022*. Note that under these regulations, the air quality standards for gases were changed from  $\mu\text{g}/\text{m}^3$  to ppb for consistency with pollutant monitors. Also in 2024 data, the methodology for calculating 24-hour particulate concentrations was modified. Historically 24-hour particulate concentrations were based on calendar days as this was an artifact of monitors only able to collect 24-hour / daily grab samples. With the advent of continuous particulate sampling monitors, the 24-hour concentration can be calculated every hour, i.e. a rolling 24-hour average, while allowing for the better capture of episodic events. This methodology change has been applied to all pertinent historical data.

For the pollutants discussed in the report, the air quality standards are detailed in Table 2.2.1.

**TABLE 2.2.1 - AIR QUALITY STANDARDS IN NEWFOUNDLAND AND LABRADOR**

Pollutant	Averaging Period	Concentration (ppb)	Concentration ( $\mu\text{g}/\text{m}^3$ )
Carbon Monoxide (CO)	1-hour	30582	---
	8-hour	13107	---
Nitrogen Dioxide (NO <sub>2</sub> )	1-hour	213	---
	24-hour	106	---
	1-year	53	---
Ozone (O <sub>3</sub> )	1-hour	82	---
	8-hour	44	---
Particulate Matter < 2.5 microns (PM <sub>2.5</sub> )	24-hour	---	25
	1-year	---	8.8
Particulate Matter < 10 microns (PM <sub>10</sub> )	24-hour	---	50
Particulate Matter Total (TPM)	24-hour	---	120
	1-year	---	60
Sulphur Dioxide (SO <sub>2</sub> )	1-hour	344	---
	3-hour	229	---
	24-hour	115	---
	1-year	23	---

<https://assembly.nl.ca/Legislation/sr/regulations/rc220011.htm>

## 2.3 Air Quality Monitoring in Newfoundland and Labrador

Table 2.3.1 provides the coordinates (latitudes and longitudes) of each air quality monitoring station that measured pollutants during 2024 while Table 2.3.2 provides the listing of the pollutants measured at each of these stations. Figure 2.3.1 provides a picture of a typical air quality monitoring station.

**TABLE 2.3.1 - AIR QUALITY MONITORING STATION LOCATIONS**

OPERATOR	STATION LOCATION	COORDINATES (WGS-84)	
		LATITUDE	LONGITUDE
ENVIRONMENT AND CLIMATE CHANGE + ENVIRONMENT AND CLIMATE CHANGE CANADA (NAPS)	Water Street, St. John's	47.5604	-52.7114
	Old Placentia Road, Mount Pearl	47.5051	-52.7949
	Macpherson Avenue, Corner Brook	48.9521	-57.9222
	Scott Avenue, Grand Falls-Windsor	48.9270	-55.6597
	Fisher Street, Port aux Choix	50.7123	-57.3643
	Main Street, Burin	47.0991	-55.1985
NL HYDRO	Butterpot Road	47.3976	-53.1099
	Green Acres Road	47.4324	-53.1004
	Indian Pond Drive	47.4549	-53.0890
	Indian Pond Road	47.4503	-53.0823
	Lawrence Pond Road	47.4636	-53.0418
	Property Boundary	47.4498	-53.0941
BRAYA RENEWABLE FUELS	Main Road, Come by Chance	47.8480	-53.9713
	Spencers Cove Road, Arnold's Cove	47.7659	-53.9864
	Goulding Avenue, Sunnyside	47.8602	-53.9252
	Property Boundary	47.8000	-53.9910
CORNER BROOK PULP AND PAPER	Main Street	48.9549	-57.9446

OPERATOR	STATION LOCATION	COORDINATES (WGS-84)	
		LATITUDE	LONGITUDE
IRON ORE COMPANY OF CANADA	Dog Park, Labrador City	52.9304	-66.9105
	Hudson Drive, Labrador City	52.9455	-66.9102
	Smokey Mountain II	52.9768	-66.9210
VALE NEWFOUNDLAND AND LABRADOR LIMITED	Voisey's Bay Accommodations	56.3394	-62.0973
	Voisey's Bay Crusher	56.3365	-62.1054
	Voisey's Bay Port	56.4208	-62.0560
	Long Harbour Community Centre	47.4304	-53.8207
	Long Harbour Property Boundary	47.4329	-53.7984
TACORA RESOURCES	Bond Street, Wabush	52.9083	-66.8714
	Cabot Drive, Wabush	52.8974	-66.8630
CANADA FLUORSPAR INC.	Director Drive, St. Lawrence	46.9133	-55.4003
CEMEX	Property Boundary	48.5258	-59.0376
TATA STEEL MINERALS CANADA	Camp Site	54.8774	-67.0615

**TABLE 2.3.2 - POLLUTANTS MEASURED, AIR QUALITY MONITORING STATIONS**

OPERATOR	STATION LOCATION	POLLUTANT						
		SO <sub>2</sub>	NO <sub>x</sub> / NO <sub>2</sub>	O <sub>3</sub>	TPM	PM <sub>10</sub>	PM <sub>2.5</sub>	CO
ENVIRONMENT AND CLIMATE CHANGE + ENVIRONMENT AND CLIMATE CHANGE CANADA (NAPS)	Water Street, St. John's	✓	✓	✓		✓	✓	✓
	Old Placentia Road, Mount Pearl	✓	✓	✓		✓	✓	✓
	Macpherson Avenue, Corner Brook	✓	✓	✓		✓	✓	✓
	Scott Avenue, Grand Falls-Windsor			✓	✓	✓	✓	✓
	Fisher Street, Port aux Choix			✓				
	Main Street, Burin		✓	✓		✓	✓	✓
NL HYDRO	Butterpot Road	✓	✓				✓	
	Green Acres Road	✓	✓		✓		✓	
	Indian Pond Drive	✓	✓		✓		✓	
	Indian Pond Road	✓	✓		✓		✓	
	Lawrence Pond Road	✓	✓		✓		✓	
	Property Boundary				✓		✓	
BRAYA RENEWABLE FUELS	Main Road, Come by Chance	✓					✓	
	Spencers Cove Road, Arnold's Cove	✓					✓	
	Goulding Avenue, Sunnyside	✓					✓	
	Property Boundary	✓					✓	
CORNER BROOK PULP AND PAPER	Main Street	✓			✓	✓	✓	
IRON ORE COMPANY OF CANADA	Dog Park, Labrador City	✓	✓		✓		✓	
	Hudson Drive, Labrador City	✓	✓	✓	✓	✓	✓	
	Smokey Mountain II	✓	✓		✓		✓	

OPERATOR	STATION LOCATION	POLLUTANT						
		SO <sub>2</sub>	NO <sub>x</sub> / NO <sub>2</sub>	O <sub>3</sub>	TPM	PM <sub>10</sub>	PM <sub>2.5</sub>	CO
VALE NEWFOUNDLAND AND LABRADOR LIMITED	Voisey's Bay Accommodations		✓				✓	
	Voisey's Bay Crusher		✓					
	Voisey's Bay Port				✓			
	Long Harbour Community Centre		✓			✓	✓	
	Long Harbour Property Boundary		✓			✓	✓	
TACORA RESOURCES	Bond Street, Wabush	✓			✓		✓	
	Cabot Drive, Wabush				✓		✓	
CANADA FLUORSPAR INC.	Director Drive, St. Lawrence		✓		✓		✓	
CEMEX	Property Boundary					✓	✓	
TATA STEEL MINERALS CANADA	Camp Site		✓				✓	

**FIGURE 2.3.1 - TYPICAL AIR QUALITY MONITORING STATION**



NAPS air quality monitoring station in Mt. Pearl

## 2.4 Air Quality Health Index (AQHI)

The Air Quality Health Index (AQHI) is a numerical scale designed to help an individual understand what the air quality means to their health. Ranging from 1 to 10+, the higher the number on the scale the greater the health risk associated with air quality. Specifically, the AQHI health messages are defined in Table 2.4.1.

The AQHI is calculated on an hourly basis and considers the combined relative health risks of O<sub>3</sub>, PM<sub>2.5</sub> and NO<sub>2</sub>. Data for the calculation of AQHI is currently being collected at the NAPS stations and at the Hudson Drive (Firehall) station operated by the Iron Ore Company of Canada. The hourly AQHI is published to the Environment and Climate Change Canada weather office website.

[http://weather.gc.ca/airquality/pages/provincial\\_summary/nl\\_e.html](http://weather.gc.ca/airquality/pages/provincial_summary/nl_e.html)

TABLE 2.4.1 - AQHI HEALTH MESSAGES

AQHI READING	HEALTH RISK LEVEL	HEALTH MESSAGES	
		GENERAL POPULATION	AT RISK POPULATION
1-3	LOW	Ideal air quality for outdoor activities.	Enjoy your usual outdoor activities.
4-6	MODERATE	No need to modify your usual outdoor activities unless you experience symptoms such as coughing and throat irritation.	Consider reducing or rescheduling strenuous activities outdoors if you are experiencing symptoms.
7-10	HIGH	Consider reducing or rescheduling strenuous activities outdoors if you experience symptoms such as coughing and throat irritation.	Reduce or reschedule strenuous activities outdoors. Children and the elderly should also take it easy.
10+	VERY HIGH	Reduce or reschedule strenuous activities outdoors, especially if you experience symptoms such as coughing and throat irritation.	Avoid strenuous activities outdoors. Children and the elderly should also avoid outdoor physical exertion.

## 2.5 Data Validity and Acceptability

All air quality monitoring data monitored in both the NAPS network and the industrial air quality monitoring network undergoes a quality assurance and quality control procedure before being published. This procedure ensures that any anomalous readings or questionable data is not incorporated into the published dataset. Elements of this procedure account for:

- Routine calibration and auditing of the analyzers
- Zero correction of the baseline drift and noise
- Analyzer “Status Flag” activation
- Shelter temperature analysis
- Statistical rendering of outliers

Further details on the quality assurance and quality control procedures can be found in the Departmental *Guidelines for Ambient Air Monitoring (GD-PPD-065)* (<https://www.gov.nl.ca/ecc/files/env-protection-science-gd-ppd-065.pdf>) and in the *National Air Pollution Surveillance (NAPS) Program Quality Assurance/Quality Control (QA/QC) Guidelines*.

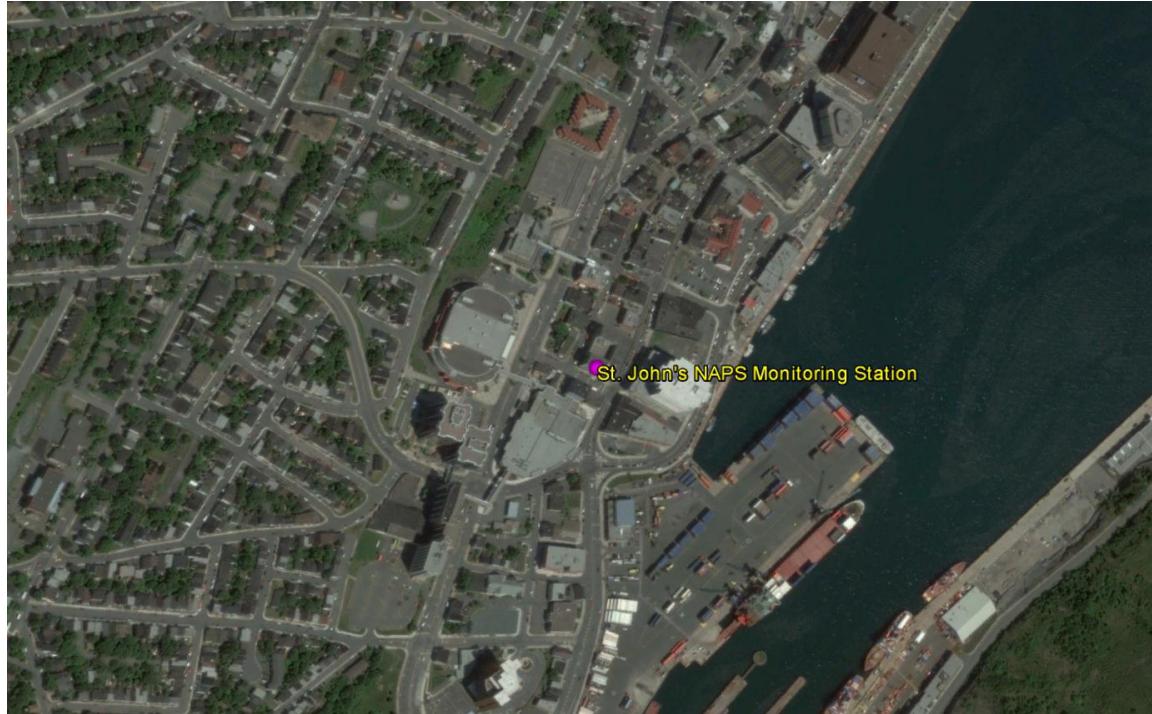
### 3.0 National Air Pollution Surveillance (NAPS) Network

The NAPS network in the province is primarily established to monitor the air quality in urbanized settings and in neighbourhoods away from the influences of industrial operations. In 2024, there were six sites operational, and of the six, three had a complete suite of air quality monitoring ( $\text{SO}_2$ ,  $\text{PM}_{2.5}$ ,  $\text{PM}_{10}$ ,  $\text{NO}_x / \text{NO}_2$ , CO and  $\text{O}_3$ ). Two sites operated with a subset of monitors ( $\text{PM}_{2.5}$ ,  $\text{PM}_{10}$ ,  $\text{NO}_x / \text{NO}_2$ , CO and  $\text{O}_3$ ). These five NAPS stations provide the data necessary to calculate the hourly AQHI. A sixth NAPS station monitors  $\text{O}_3$  only. It is noted that the monitoring of  $\text{SO}_2$  and CO is being phased out of the NAPS network at the Grand Falls-Windsor and Burin stations.

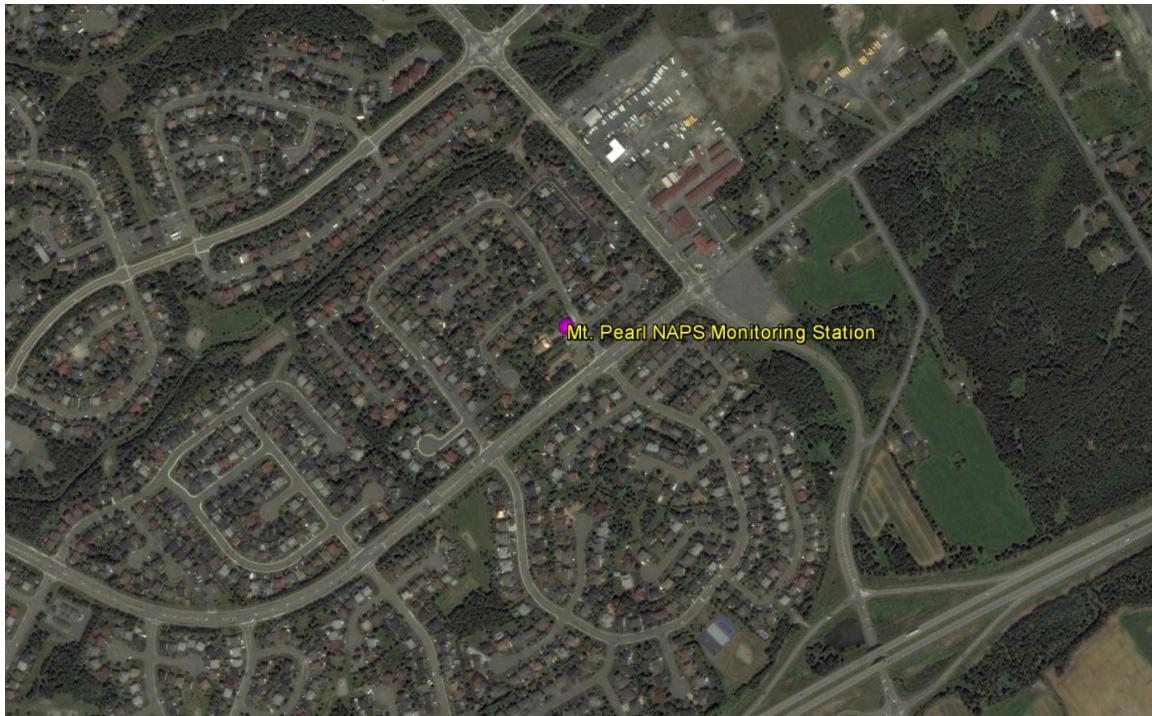
The three sites with a complete suite of air quality monitoring were located in St. John's on Water Street, in Mt. Pearl on Old Placentia Road, and in Corner Brook on Macpherson Avenue. The two sites with the subset of air quality monitoring are located in Burin at the Highway Depot and in Grand Falls-Windsor on Scott Avenue. The station that monitored  $\text{O}_3$  only was located at the Town Depot in Port aux Choix.

The maps identifying the location of the NAPS stations in the St. John's and Mt. Pearl are presented in Figures 3.0.1 and 3.0.2, while the location of the Grand Falls Windsor station is presented in Figure 3.0.3. The location of the Corner Brook station is presented in Figure 3.0.4 while Figure 3.0.5 presents the location of the Port aux Choix Station. The location of the Burin station is presented in Figure 3.0.6.

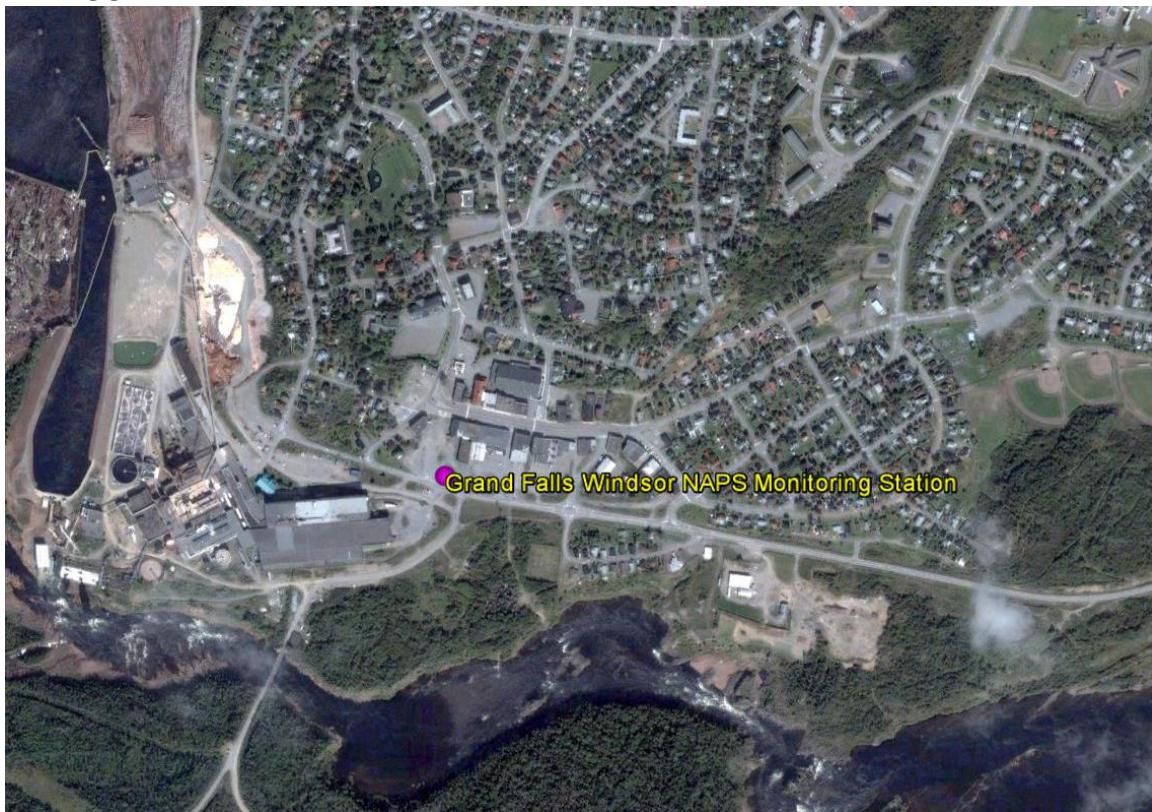
**FIGURE 3.0.1 - NAPS AIR QUALITY MONITORING STATION IN ST. JOHN'S**



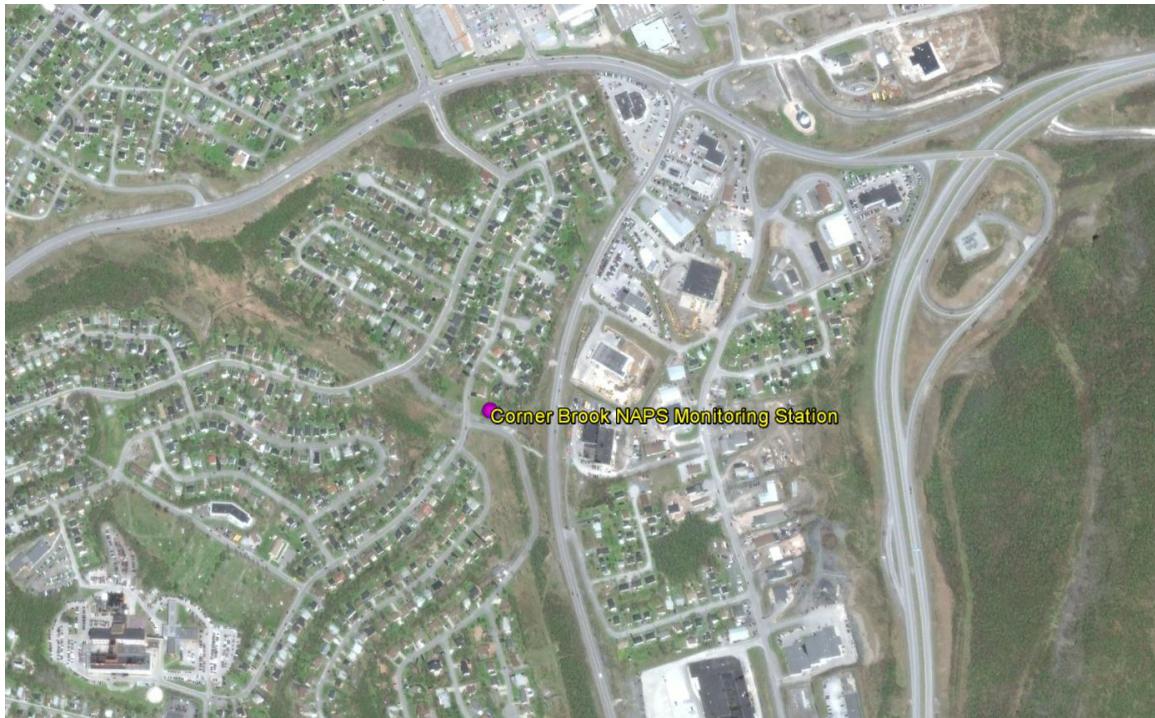
**FIGURE 3.0.2 - NAPS AIR QUALITY MONITORING STATION IN MOUNT PEARL**



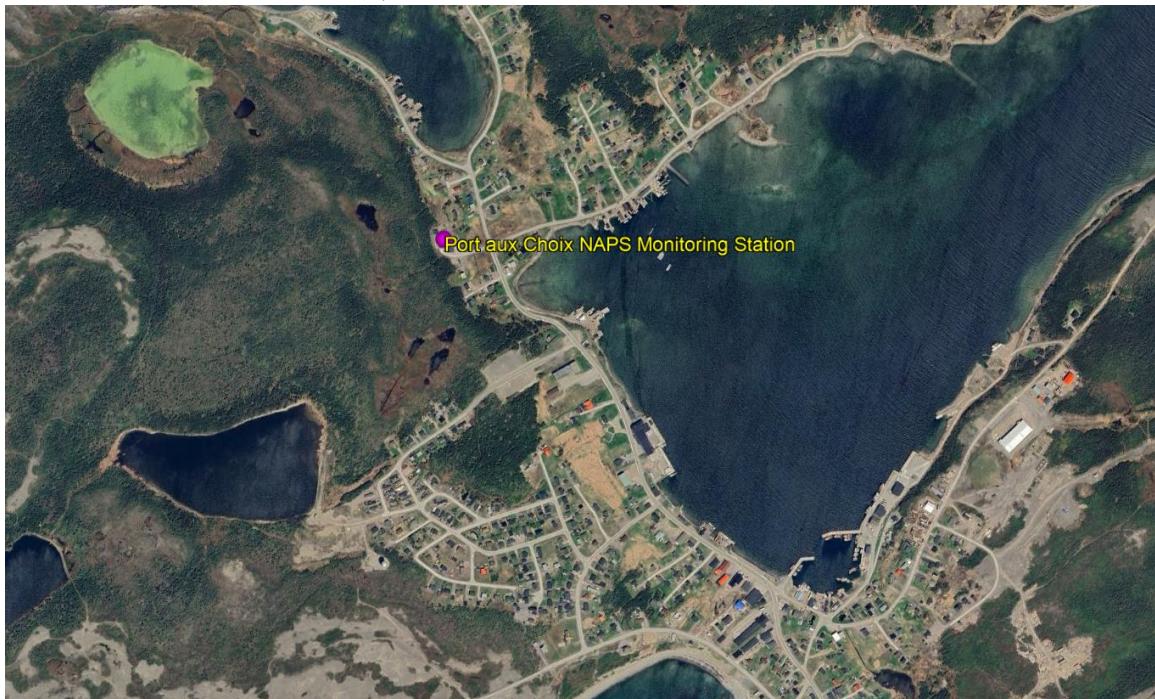
**FIGURE 3.0.3 - NAPS AIR QUALITY MONITORING STATION IN GRAND FALLS-WINDSOR**



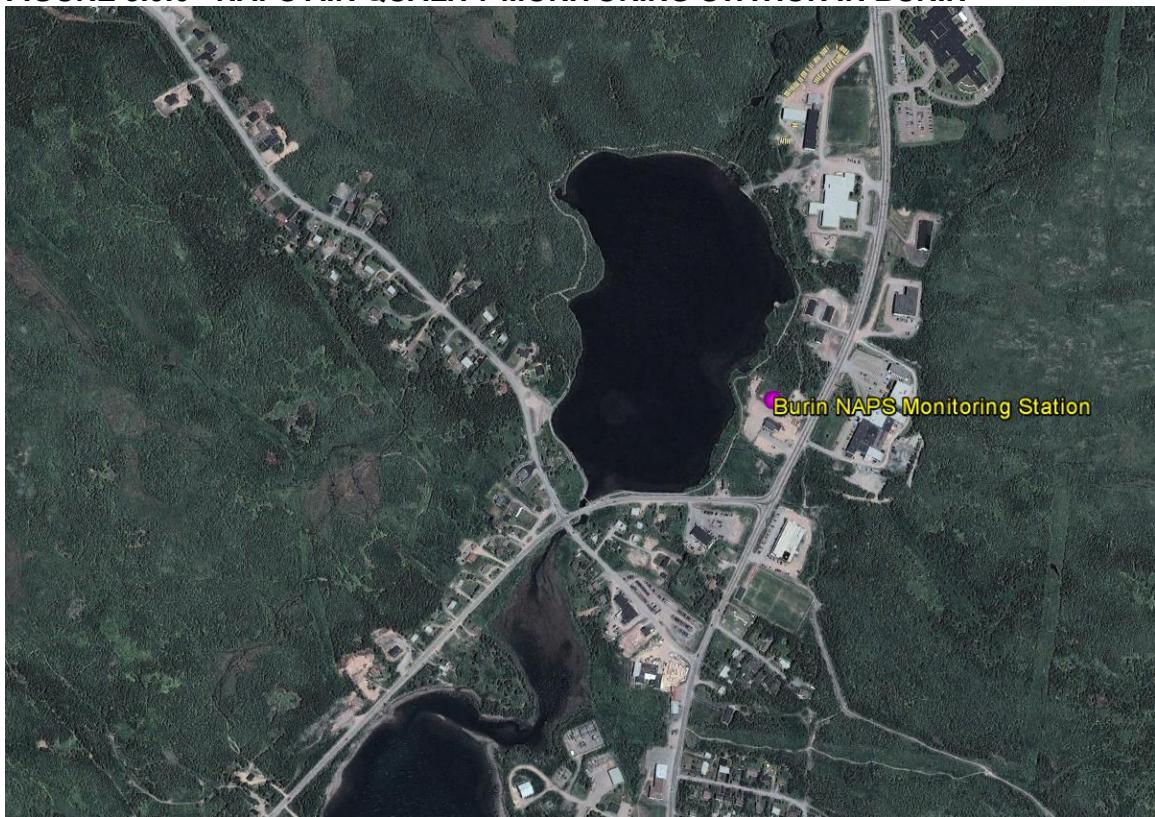
**FIGURE 3.0.4 - NAPS AIR QUALITY MONITORING STATION IN CORNER BROOK**



**FIGURE 3.0.5 - NAPS AIR QUALITY MONITORING STATION IN PORT AUX CHOIX**



**FIGURE 3.0.6 - NAPS AIR QUALITY MONITORING STATION IN BURIN**



### 3.1 St. John's

The St. John's NAPS air quality monitoring station is located on Water Street near the Convention Centre and monitors the levels of SO<sub>2</sub>, NO<sub>x</sub> / NO<sub>2</sub>, CO, O<sub>3</sub>, PM<sub>2.5</sub> and PM<sub>10</sub> on a continuous basis. Air quality monitoring for PM<sub>10</sub> was introduced to the station in September 2019 when the Met One BAM measuring PM<sub>2.5</sub> was replaced with a Teledyne API T640 capable of measuring both PM<sub>10</sub> and PM<sub>2.5</sub>.

For SO<sub>2</sub>, NO<sub>x</sub> / NO<sub>2</sub>, CO, O<sub>3</sub> and PM<sub>2.5</sub>, the air quality standards were not exceeded on any occasion in 2024. For PM<sub>10</sub>, there were twenty-eight exceedances of the 24-hour air quality standard as measured hourly. For this pollutant, the exceedances were related to wildfire smoke.

Tables 3.1.1 through 3.1.5 present the summary information on the level of air contaminants measured at the St. John's NAPS station, while Figures 3.1.1 through 3.1.5 provide a graphical representation of the annual trend of each pollutant. Table 3.1.6 provides a summary of the AQHI while Figure 3.1.6 provides a graphical representation of the percentage of time the AQHI values were below a given level in 2024.

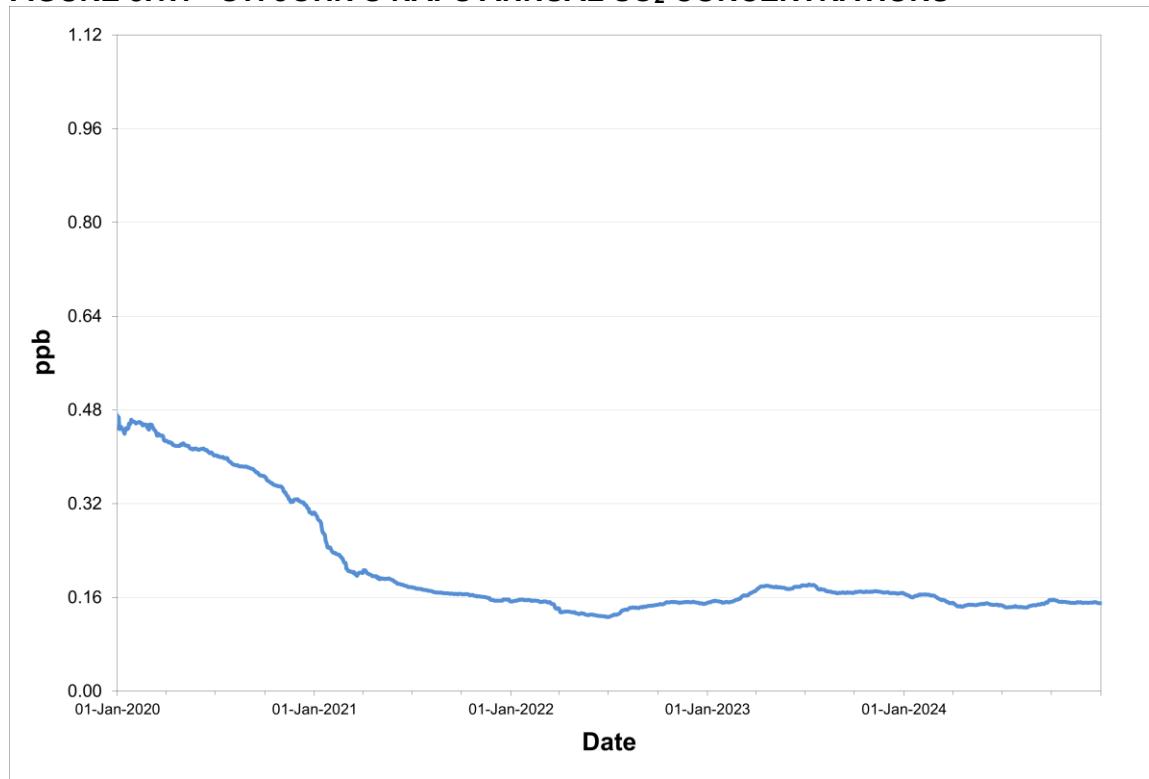
Volatile organic compounds, (VOCs) and PM<sub>2.5</sub> via the EPA Federal Reference Method (FRM) are also measured on a one-in-six-day cycle at this air quality monitoring station, the FRM monitor being installed to meet the ECC NAPS requirement of having at least one Tier II NAPS station per Province. However, the data from these two monitors are not included in this report.

**TABLE 3.1.1 - ST. JOHN'S NAPS SO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid	% Valid	Average	Maximum			Regulatory Exceedances		
		Hours	Hours		1-Hour	3-Hour	24-Hour	1-Hour (>344)	3-Hour (>229)	24-Hour (>115)
2023	January	742	99.7%	0.2	1.8	1.2	0.4	0	0	0
	February	672	100.0%	0.2	1.2	0.9	0.5	0	0	0
	March	744	100.0%	0.3	3.0	1.9	0.6	0	0	0
	April	717	99.6%	0.2	1.4	1.1	0.6	0	0	0
	May	743	99.9%	0.1	0.6	0.5	0.3	0	0	0
	June	718	99.7%	0.2	1.7	1.5	0.4	0	0	0
	July	740	99.5%	0.2	1.5	1.4	0.4	0	0	0
	August	743	99.9%	0.1	1.5	0.6	0.2	0	0	0
	September	719	99.9%	0.2	1.7	1.4	0.5	0	0	0
	October	741	99.6%	0.2	0.8	0.6	0.5	0	0	0
	November	717	99.6%	0.1	1.2	0.8	0.3	0	0	0
	December	741	99.6%	0.1	1.0	0.8	0.3	0	0	0
Annual		8737	99.7%	0.2	3.0	1.9	0.6	0	0	0
2024	January	741	99.6%	0.1	1.5	0.9	0.4	0	0	0
	February	393	56.5%	0.1	1.3	1.1	0.4	0	0	0
	March	743	99.9%	0.2	1.6	1.3	0.6	0	0	0
	April	715	99.3%	0.1	1.6	0.9	0.5	0	0	0
	May	738	99.2%	0.2	1.9	1.1	0.4	0	0	0
	June	719	99.9%	0.1	2.0	1.6	0.4	0	0	0
	July	734	98.7%	0.2	2.9	2.2	0.6	0	0	0
	August	741	99.6%	0.1	1.3	0.8	0.3	0	0	0
	September	716	99.4%	0.3	2.7	1.4	0.7	0	0	0
	October	741	99.6%	0.1	1.4	1.0	0.3	0	0	0
	November	718	99.7%	0.1	0.5	0.4	0.4	0	0	0
	December	739	99.3%	0.1	0.5	0.5	0.2	0	0	0
Annual		8438	96.1%	0.2	2.9	2.2	0.7	0	0	0

Observations in ppb

**FIGURE 3.1.1 - ST. JOHN'S NAPS ANNUAL SO<sub>2</sub> CONCENTRATIONS**

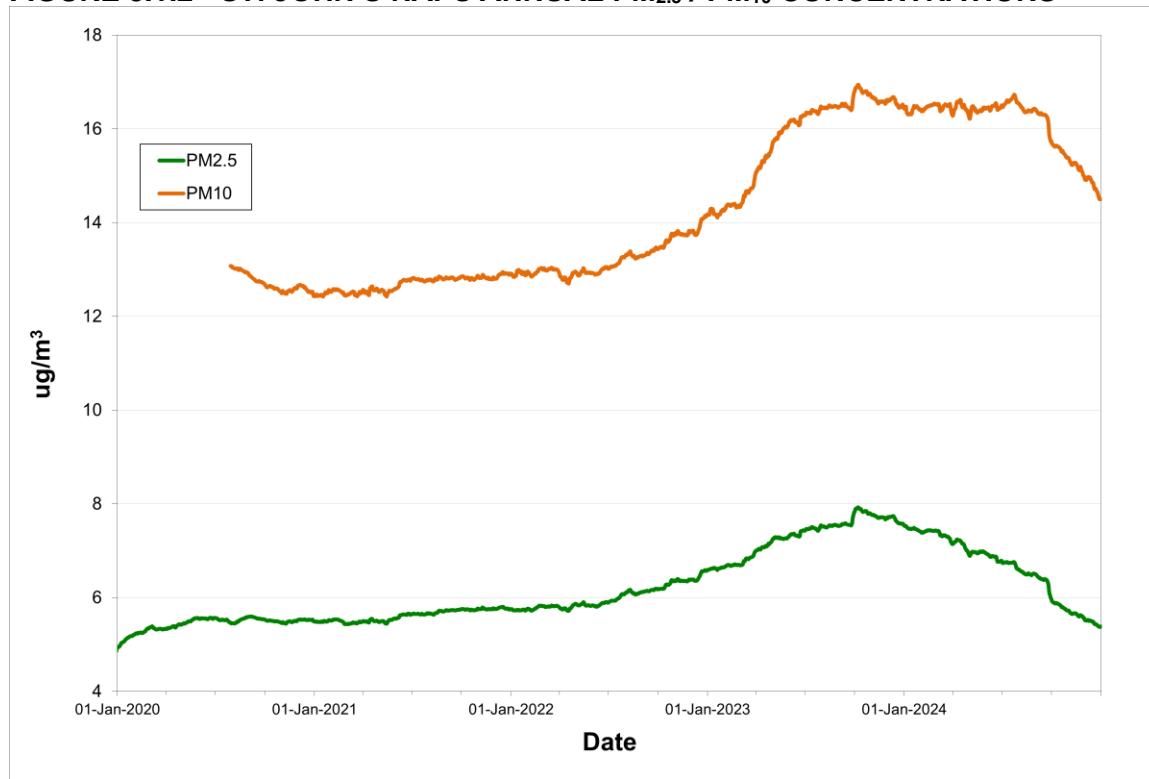


**TABLE 3.1.2 - ST. JOHN'S NAPS PM<sub>2.5</sub> / PM<sub>10</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid 24- Hour	% Valid 24- Hour	Average		24-Hour Maximum		Regulatory Exceedances	
		PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub> (>25)	PM <sub>10</sub> (>50)
2023	January	741	99.6%	6.9	16.2	16.5	45.9	0	0
	February	672	100.0%	6.5	15.1	13.3	32.4	0	0
	March	744	100.0%	9.9	23.1	22.9	50.3	0	2
	April	717	99.6%	10.0	22.6	22.7	44.8	0	0
	May	744	100.0%	7.1	18.9	17.0	44.2	0	0
	June	720	100.0%	7.5	14.2	32.6	50.3	21	2
	July	742	99.7%	8.4	14.8	18.3	27.2	0	0
	August	743	99.9%	6.5	12.0	12.7	20.2	0	0
	September	720	100.0%	9.6	17.4	45.3	72.4	44	34
	October	744	100.0%	6.6	13.5	20.6	31.5	0	0
	November	718	99.7%	5.5	13.1	11.1	31.8	0	0
	December	744	100.0%	6.2	16.3	16.2	31.3	0	0
Annual		8749	99.9%	7.6	16.4	45.3	72.4	65	38
2024	January	740	99.5%	5.2	15.8	10.0	45.3	0	0
	February	394	56.6%	6.1	16.6	12.4	30.7	0	0
	March	744	100.0%	6.7	20.8	15.0	38.7	0	0
	April	718	99.7%	7.6	22.6	22.4	56.7	0	15
	May	741	99.6%	7.2	20.5	20.9	51.8	0	13
	June	392	54.4%	4.4	13.5	8.8	19.6	0	0
	July	181	24.3%	5.4	10.8	13.8	22.1	0	0
	August	744	100.0%	5.5	10.8	13.7	21.1	0	0
	September	718	99.7%	4.2	10.5	11.6	25.2	0	0
	October	743	99.9%	3.8	9.7	8.0	20.7	0	0
	November	720	100.0%	3.9	9.1	11.7	28.8	0	0
	December	744	100.0%	4.3	11.1	10.2	23.9	0	0
Annual		7579	86.3%	5.4	14.5	22.4	56.7	0	28

Observations in  $\mu\text{g}/\text{m}^3$

**FIGURE 3.1.2 - ST. JOHN'S NAPS ANNUAL PM<sub>2.5</sub> / PM<sub>10</sub> CONCENTRATIONS**

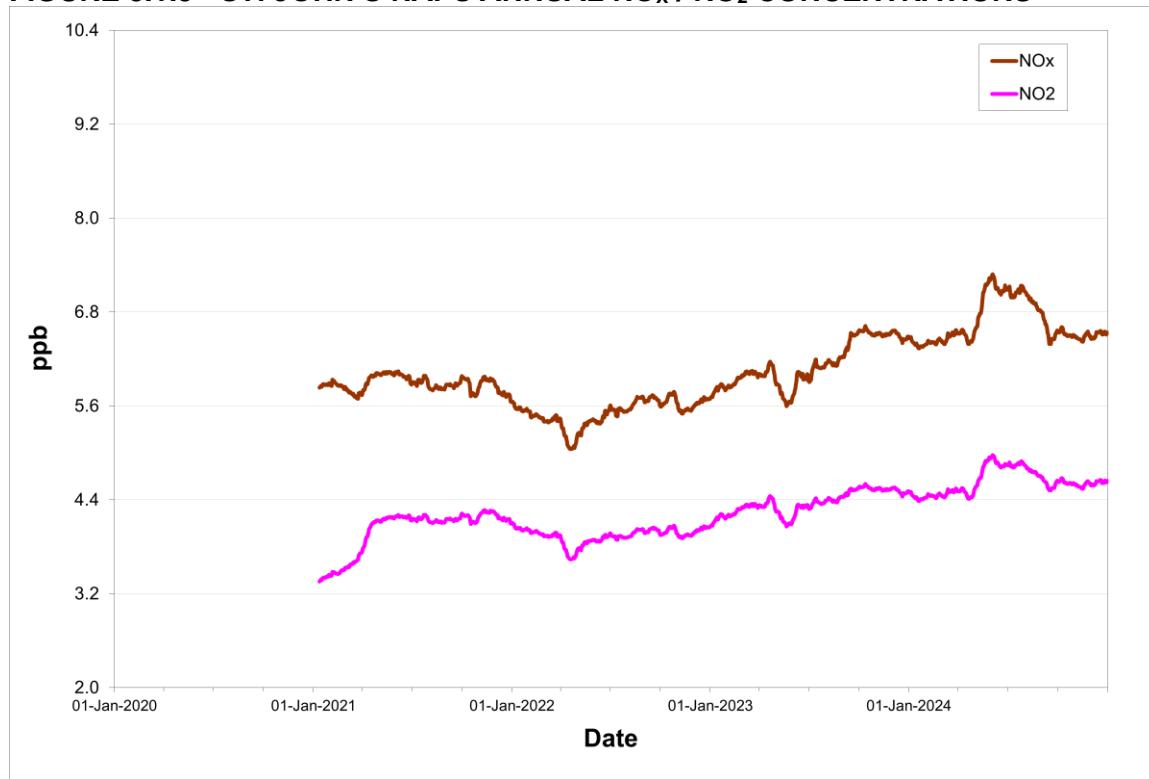


**TABLE 3.1.3 - ST. JOHN'S NAPS NO<sub>x</sub> / NO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average		Maximums				Exceedances	
				NO <sub>x</sub>	NO <sub>2</sub>	1-Hour NO <sub>x</sub>	1-Hour NO <sub>2</sub>	24-Hour NO <sub>x</sub>	24-Hour NO <sub>2</sub>	1-Hour (>213)	24-Hour (>106)
2023	January	740	99.5%	6.5	5.1	49.7	36.6	16.1	13.0	0	0
	February	672	100.0%	6.0	4.7	44.9	29.8	11.6	8.7	0	0
	March	744	100.0%	5.7	4.4	79.1	35.4	16.1	13.3	0	0
	April	716	99.4%	5.3	4.1	69.2	33.2	23.2	15.1	0	0
	May	743	99.9%	4.4	3.1	55.5	32.6	19.0	11.5	0	0
	June	718	99.7%	10.0	6.4	115.3	43.3	40.0	21.4	0	0
	July	741	99.6%	7.2	4.0	103.4	28.6	24.4	11.0	0	0
	August	742	99.7%	6.8	4.4	107.2	27.9	18.8	10.8	0	0
	September	719	99.9%	8.7	4.9	114.6	29.3	28.8	14.8	0	0
	October	741	99.6%	5.8	4.3	59.1	29.8	19.5	11.1	0	0
	November	717	99.6%	6.4	4.8	80.1	33.3	14.8	10.2	0	0
	December	741	99.6%	5.2	4.1	72.5	33.9	15.0	12.3	0	0
Annual		8734	99.7%	6.5	4.5	115.3	43.3	40.0	21.4	0	0
2024	January	741	99.6%	5.2	4.2	38.9	26.2	15.5	12.0	0	0
	February	393	56.5%	6.6	5.4	53.5	31.9	14.1	11.1	0	0
	March	743	99.9%	6.7	5.0	109.4	41.9	21.4	14.5	0	0
	April	716	99.4%	5.4	4.2	67.8	30.8	17.4	14.0	0	0
	May	740	99.5%	12.8	8.1	148.8	41.5	34.6	18.4	0	0
	June	719	99.9%	7.8	5.0	171.4	44.9	31.2	12.9	0	0
	July	737	99.1%	7.3	4.2	121.9	32.2	32.0	15.0	0	0
	August	742	99.7%	3.7	2.6	51.8	25.3	10.0	6.1	0	0
	September	716	99.4%	5.8	4.2	195.7	59.6	21.9	12.9	0	0
	October	742	99.7%	5.1	3.8	52.5	24.7	16.8	11.5	0	0
	November	718	99.7%	6.4	4.9	55.4	28.1	15.4	11.9	0	0
	December	739	99.3%	5.6	4.3	49.6	28.0	14.2	9.8	0	0
Annual		8446	96.2%	6.5	4.6	195.7	59.6	34.6	18.4	0	0

Observations in ppb

**FIGURE 3.1.3 - ST. JOHN'S NAPS ANNUAL NO<sub>x</sub> / NO<sub>2</sub> CONCENTRATIONS**

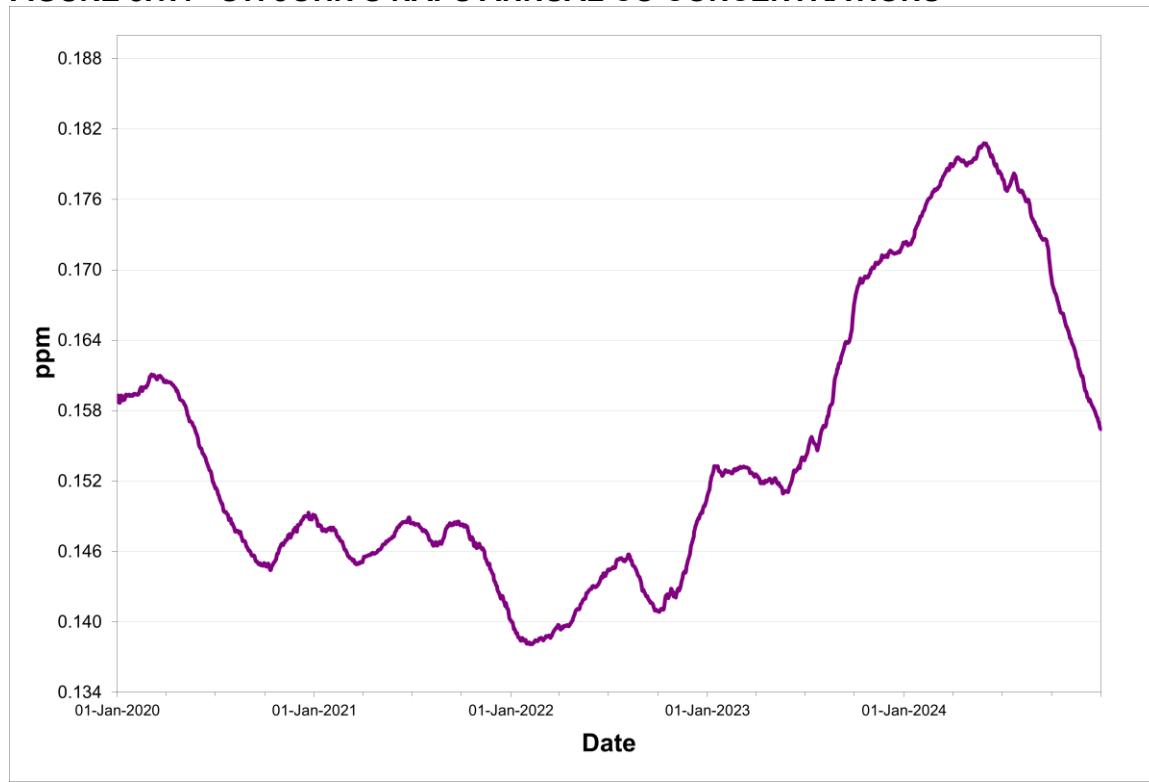


**TABLE 3.1.4 - ST. JOHN'S NAPS CO SUMMARY 2023 & 2024**

Year	Month	# Valid	% Valid	Average	Maximum		Regulatory Exceedances	
		Hours	Hours		1-Hour	8-Hour	1-Hour (>30.582)	8-Hour (>13.107)
2023	January	741	99.6%	0.2	0.6	0.3	0	0
	February	671	99.9%	0.1	0.5	0.3	0	0
	March	744	100.0%	0.2	0.4	0.3	0	0
	April	717	99.6%	0.2	0.3	0.2	0	0
	May	743	99.9%	0.2	0.3	0.2	0	0
	June	717	99.6%	0.2	0.5	0.4	0	0
	July	739	99.3%	0.2	0.5	0.3	0	0
	August	741	99.6%	0.2	0.6	0.4	0	0
	September	718	99.7%	0.2	0.5	0.4	0	0
	October	740	99.5%	0.2	0.4	0.3	0	0
	November	716	99.4%	0.2	0.5	0.4	0	0
	December	740	99.5%	0.2	0.6	0.3	0	0
Annual		8727	99.6%	0.2	0.6	0.4	0	0
2024	January	741	99.6%	0.2	0.6	0.3	0	0
	February	396	56.9%	0.2	0.4	0.2	0	0
	March	743	99.9%	0.2	1.3	0.3	0	0
	April	713	99.0%	0.2	0.3	0.3	0	0
	May	737	99.1%	0.2	0.7	0.4	0	0
	June	719	99.9%	0.1	0.5	0.3	0	0
	July	736	98.9%	0.1	0.4	0.3	0	0
	August	740	99.5%	0.2	0.3	0.2	0	0
	September	692	96.1%	0.2	0.5	0.3	0	0
	October	716	96.2%	0.1	0.4	0.3	0	0
	November	716	99.4%	0.1	0.4	0.3	0	0
	December	739	99.3%	0.1	0.6	0.4	0	0
Annual		8388	95.5%	0.2	1.3	0.4	0	0

Observations in ppm

**FIGURE 3.1.4 - ST. JOHN'S NAPS ANNUAL CO CONCENTRATIONS**

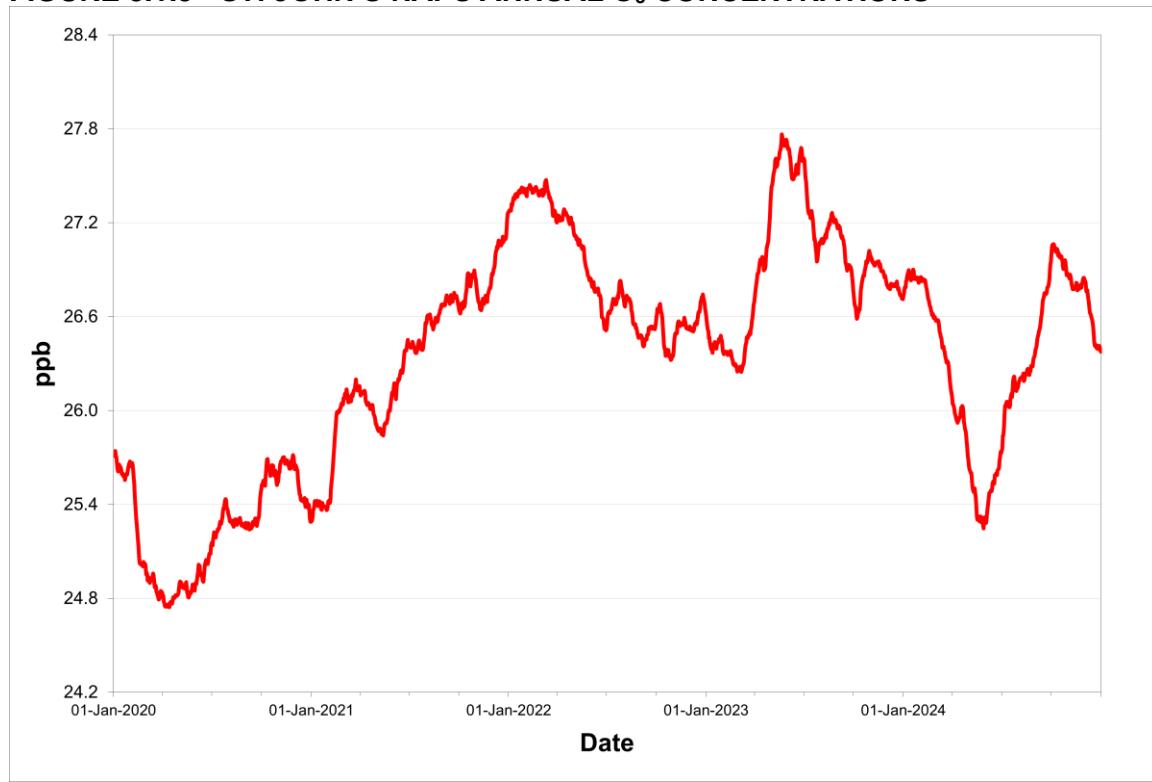


**TABLE 3.1.5 - ST. JOHN'S NAPS O<sub>3</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid	% Valid	Average	Maximum		Regulatory Exceedances	
		Hours	Hours		1-Hour	8-Hour	1-Hour (>82)	8-Hour (>44)
2023	January	741	99.6%	29.5	40.8	39.7	0	0
	February	671	99.9%	32.3	42.8	40.4	0	0
	March	744	100.0%	37.3	45.7	43.6	0	0
	April	717	99.6%	37.9	50.1	48.9	0	7
	May	742	99.7%	30.5	46.7	45.3	0	1
	June	718	99.7%	20.0	35.2	31.2	0	0
	July	738	99.2%	16.5	43.9	35.8	0	0
	August	742	99.7%	20.0	39.8	36.4	0	0
	September	718	99.7%	18.7	36.2	34.1	0	0
	October	741	99.6%	23.9	46.7	44.1	0	1
	November	717	99.6%	24.9	40.2	38.4	0	0
	December	740	99.5%	29.4	40.8	39.5	0	0
Annual		8729	99.6%	26.7	50.1	48.9	0	9
2024	January	741	99.6%	30.9	56.6	39.0	0	0
	February	396	56.9%	31.7	41.5	39.7	0	0
	March	743	99.9%	31.6	42.4	41.2	0	0
	April	715	99.3%	33.2	45.4	43.0	0	0
	May	739	99.3%	25.4	44.2	40.9	0	0
	June	718	99.7%	25.1	44.3	40.0	0	0
	July	735	98.8%	21.0	46.1	43.3	0	0
	August	740	99.5%	22.4	41.7	37.2	0	0
	September	199	27.6%	22.9	30.8	29.6	0	0
	October	687	92.3%	22.7	39.2	36.6	0	0
	November	718	99.7%	24.7	36.7	35.8	0	0
	December	739	99.3%	24.8	39.8	35.0	0	0
Annual		7870	89.6%	26.4	56.6	43.3	0	0

Observations in ppb

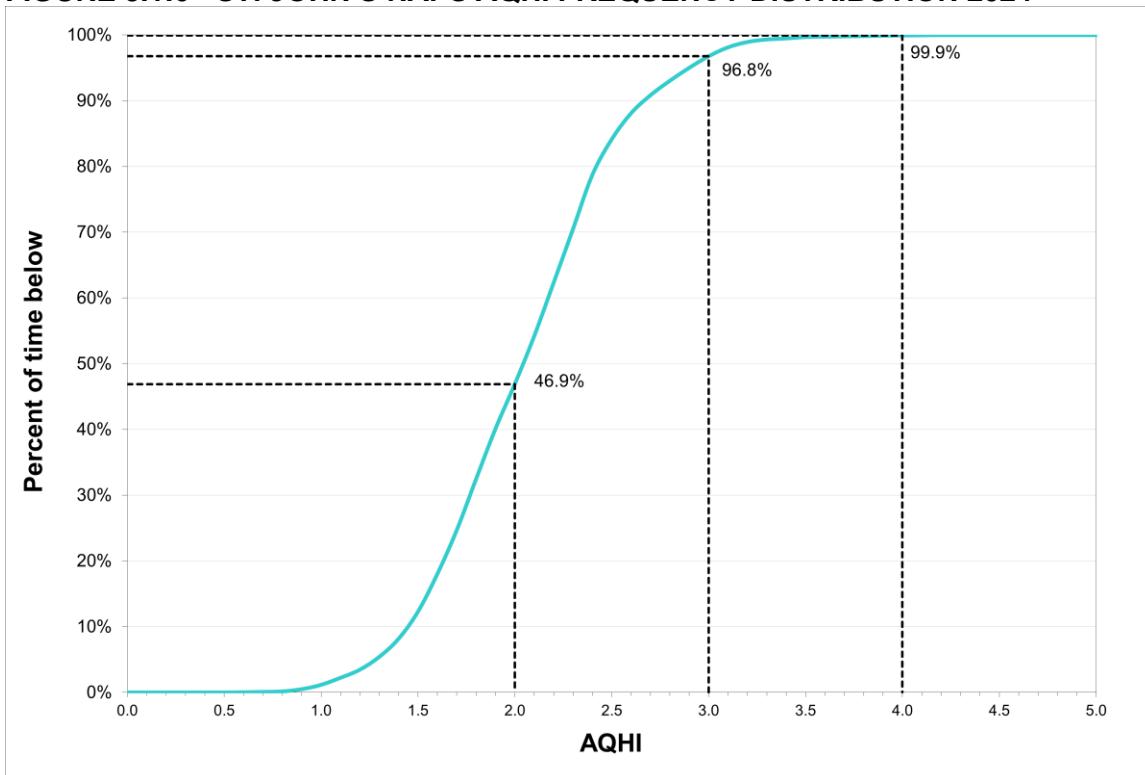
**FIGURE 3.1.5 - ST. JOHN'S NAPS ANNUAL O<sub>3</sub> CONCENTRATIONS**



**TABLE 3.1.6 - ST. JOHN'S NAPS AQHI SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average	Maximum 3-Hour
2023	January	741	99.6%	2.3	4.0
	February	672	100.0%	2.4	3.9
	March	744	100.0%	2.8	4.3
	April	717	99.6%	2.8	3.9
	May	744	100.0%	2.2	3.3
	June	720	100.0%	1.9	4.8
	July	739	99.3%	1.6	3.2
	August	744	100.0%	1.7	3.1
	September	720	100.0%	1.8	4.0
	October	744	100.0%	1.9	2.9
	November	716	99.4%	2.0	3.4
	December	744	100.0%	2.2	3.4
Annual		8745	99.8%	2.1	4.8
2024	January	738	99.2%	2.2	3.5
	February	394	56.6%	2.4	3.2
	March	744	100.0%	2.4	4.1
	April	717	99.6%	2.4	3.5
	May	741	99.6%	2.4	4.1
	June	393	54.6%	2.0	3.2
	July	181	24.3%	1.6	2.9
	August	744	100.0%	1.6	2.6
	September	200	27.8%	1.6	2.1
	October	686	92.2%	1.7	2.8
	November	720	100.0%	1.9	3.2
	December	744	100.0%	1.9	2.9
Annual		7002	79.7%	2.0	4.1

**FIGURE 3.1.6 - ST. JOHN'S NAPS AQHI FREQUENCY DISTRIBUTION 2024**



e.g. 96.8% of the time the AQHI recorded was below 3.0

### 3.2 Mt. Pearl

The Mt. Pearl NAPS air quality monitoring station is located on Old Placentia Road near Admiralty House and monitors the levels of SO<sub>2</sub>, NO<sub>x</sub> / NO<sub>2</sub>, CO, O<sub>3</sub>, PM<sub>2.5</sub> and PM<sub>10</sub> on a continuous basis. Air quality monitoring for PM<sub>10</sub> was introduced to the station in September 2020 when the Met One BAM measuring PM<sub>2.5</sub> was replaced with a Teledyne API T640 capable of measuring both PM<sub>10</sub> and PM<sub>2.5</sub>. Due to Environment Canada no longer supporting CO monitoring at the Mt. Pearl NAPS station, this monitor was permanently decommissioned on October 01, 2024.

For SO<sub>2</sub>, NO<sub>x</sub> / NO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub> and CO, the air quality standards were not exceeded on any occasion in 2024. For O<sub>3</sub>, the 8-hour air quality standard was exceeded on four occasions in 2024, specifically two times in March, once in April and once in July.

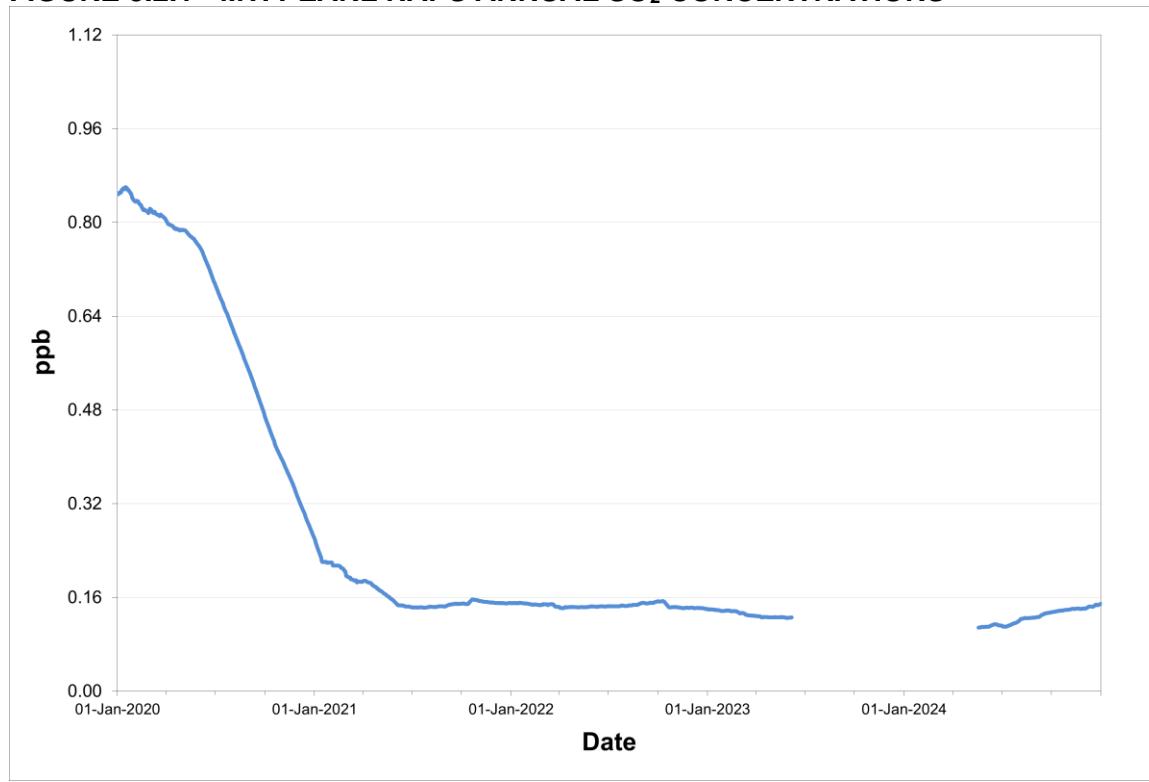
Tables 3.2.1 through 3.2.5 present the summary information on the level of air contaminants measured at the Mt. Pearl NAPS station, while Figures 3.2.1 through 3.2.5 provide a graphical representation of the annual trend of each pollutant. Table 3.2.6 provides a summary of the AQHI while Figure 3.2.6 provides a graphical representation of the percentage of time the AQHI values were below a given level in 2024.

**TABLE 3.2.1 - MT. PEARL NAPS SO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid	% Valid	Average	Maximum			Regulatory Exceedances		
		Hours	Hours		1-Hour	3-Hour	24-Hour	1-Hour (>344)	3-Hour (>229)	24-Hour (>115)
2023	January	741	99.6%	0.1	1.5	0.8	0.2	0	0	0
	February	672	100.0%	0.1	1.1	0.4	0.2	0	0	0
	March	744	100.0%	0.1	1.1	0.5	0.2	0	0	0
	April	716	99.4%	0.1	2.7	1.1	0.2	0	0	0
	May	105	14.1%	0.1	1.0	0.4	0.2	0	0	0
	June	180	25.0%	0.1	0.7	0.7	0.4	0	0	0
	July	737	99.1%	0.1	2.7	2.0	0.5	0	0	0
	August	743	99.9%	0.1	0.4	0.2	0.1	0	0	0
	September	718	99.7%	0.1	0.6	0.3	0.2	0	0	0
	October	742	99.7%	0.1	0.4	0.4	0.2	0	0	0
	November	712	98.9%	0.1	1.1	0.5	0.3	0	0	0
	December	741	99.6%	0.1	0.8	0.4	0.2	0	0	0
Annual		7551	86.2%	0.1	2.7	2.0	0.5	0	0	0
2024	January	738	99.2%	0.1	0.9	0.4	0.2	0	0	0
	February	694	99.7%	0.2	0.7	0.5	0.4	0	0	0
	March	743	99.9%	0.1	1.3	0.7	0.3	0	0	0
	April	713	99.0%	0.1	1.4	1.1	0.4	0	0	0
	May	742	99.7%	0.1	0.7	0.4	0.3	0	0	0
	June	719	99.9%	0.1	0.9	0.5	0.4	0	0	0
	July	737	99.1%	0.2	0.8	0.5	0.4	0	0	0
	August	743	99.9%	0.2	0.7	0.5	0.4	0	0	0
	September	720	100.0%	0.2	0.7	0.5	0.3	0	0	0
	October	738	99.2%	0.1	0.7	0.5	0.2	0	0	0
	November	717	99.6%	0.2	0.5	0.4	0.3	0	0	0
	December	739	99.3%	0.2	0.9	0.7	0.5	0	0	0
Annual		8743	99.5%	0.1	1.4	1.1	0.5	0	0	0

Observations in ppb

**FIGURE 3.2.1 - MT. PEARL NAPS ANNUAL SO<sub>2</sub> CONCENTRATIONS**



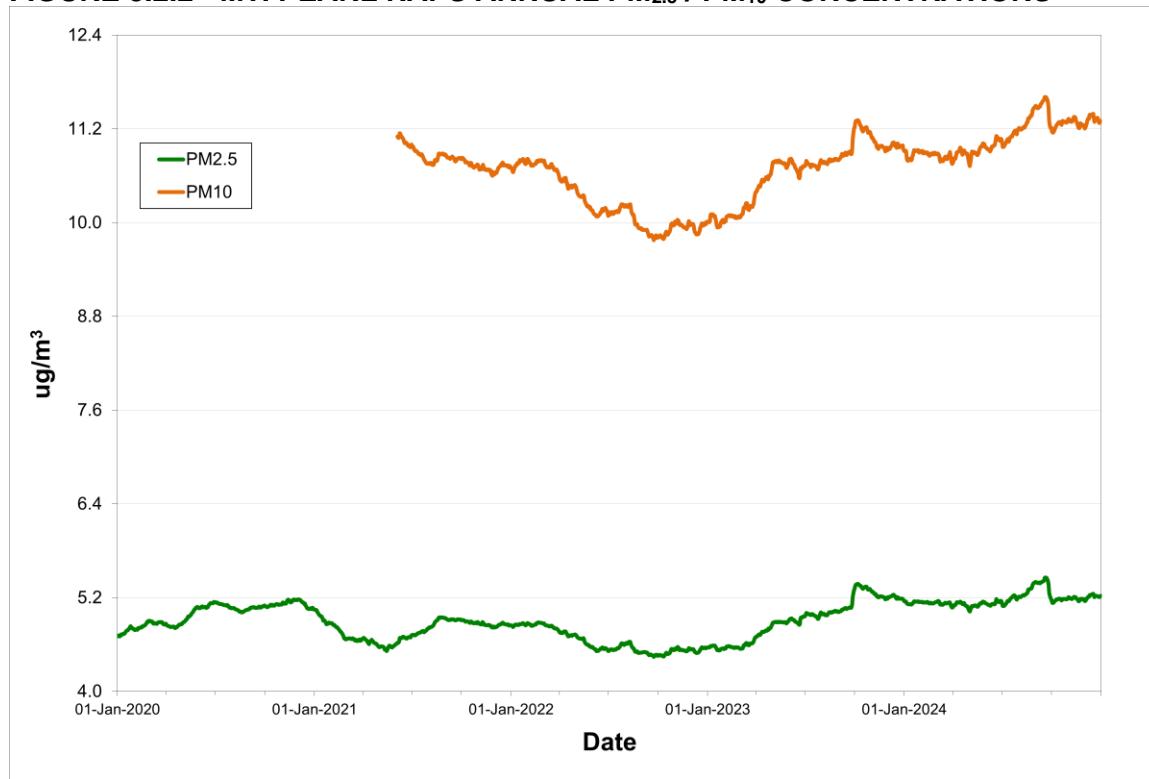
Rolling annual average of hourly concentrations

**TABLE 3.2.2 - MT. PEARL NAPS PM<sub>2.5</sub> / PM<sub>10</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Days	% Valid Days	Average		24-Hour Maximum		Regulatory Exceedances	
		PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub> (>25)	PM <sub>10</sub> (>50)
2023	January	743	99.9%	4.9	11.2	9.1	36.7	0	0
	February	672	100.0%	4.8	11.2	9.9	21.7	0	0
	March	744	100.0%	6.4	14.7	14.1	31.9	0	0
	April	719	99.9%	6.3	13.3	13.0	24.9	0	0
	May	743	99.9%	4.5	9.8	11.0	24.8	0	0
	June	713	99.0%	4.7	8.6	23.0	36.2	0	0
	July	742	99.7%	5.6	10.6	14.5	23.3	0	0
	August	744	100.0%	4.5	8.9	9.7	16.9	0	0
	September	720	100.0%	7.3	13.5	40.2	67.0	39	28
	October	744	100.0%	4.7	9.5	15.5	26.0	0	0
	November	719	99.9%	3.7	8.7	7.6	16.3	0	0
	December	744	100.0%	4.7	11.1	13.6	31.7	0	0
Annual		8747	99.9%	5.2	10.9	40.2	67.0	39	28
2024	January	743	99.9%	4.6	11.1	9.1	23.4	0	0
	February	696	100.0%	4.7	10.6	7.6	19.3	0	0
	March	744	100.0%	5.6	13.4	9.8	26.7	0	0
	April	717	99.6%	6.0	13.7	16.4	37.6	0	0
	May	743	99.9%	5.5	11.9	14.5	34.0	0	0
	June	720	100.0%	4.9	9.6	21.6	33.3	0	0
	July	740	99.5%	6.1	12.1	19.2	31.1	0	0
	August	743	99.9%	6.8	12.4	18.1	26.2	0	0
	September	720	100.0%	4.8	10.5	15.3	23.5	0	0
	October	739	99.3%	4.5	10.3	10.6	23.6	0	0
	November	720	100.0%	3.7	8.0	11.0	25.6	0	0
	December	744	100.0%	5.1	11.7	13.7	28.8	0	0
Annual		8769	99.8%	5.2	11.3	21.6	37.6	0	0

Observations in  $\mu\text{g}/\text{m}^3$

**FIGURE 3.2.2 - MT. PEARL NAPS ANNUAL PM<sub>2.5</sub> / PM<sub>10</sub> CONCENTRATIONS**



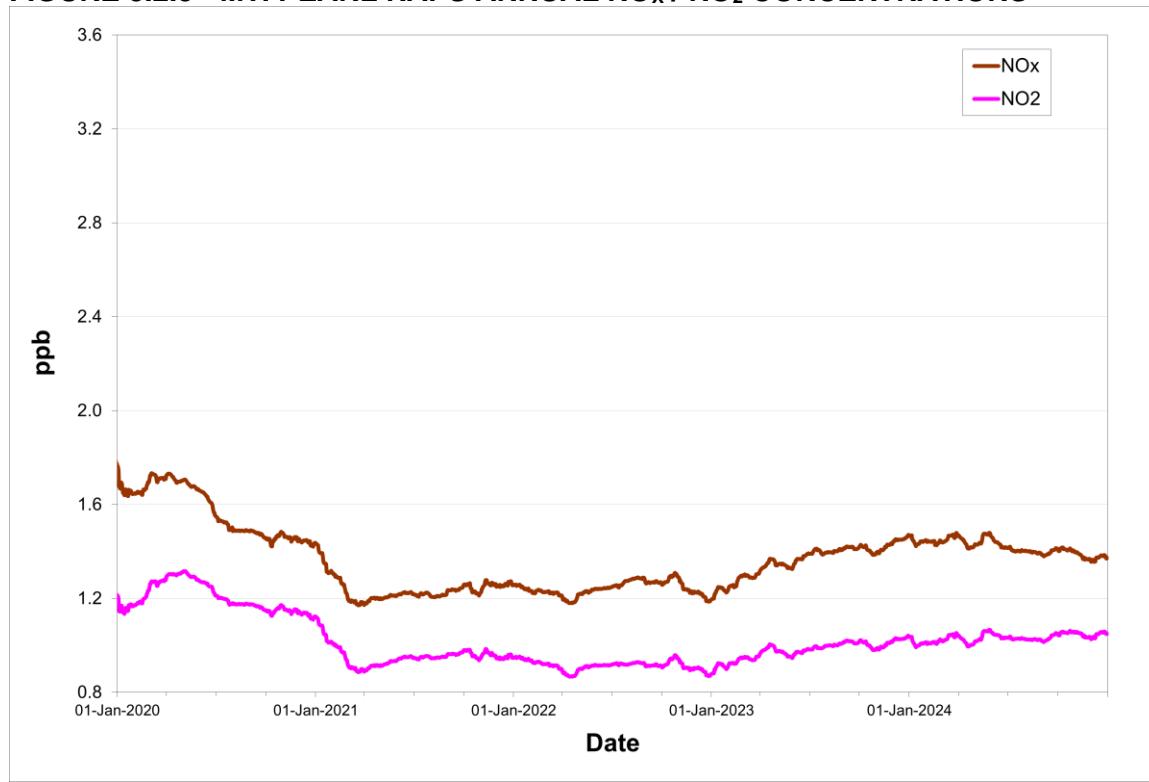
Rolling annual average of daily concentrations

**TABLE 3.2.3 - MT. PEARL NAPS NO<sub>x</sub> / NO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average		Maximums				Exceedances	
				NO <sub>x</sub>	NO <sub>2</sub>	1-Hour NO <sub>x</sub>	1-Hour NO <sub>2</sub>	24-Hour NO <sub>x</sub>	24-Hour NO <sub>2</sub>	1-Hour (>213)	24-Hour (>106)
2023	January	742	99.7%	1.7	1.4	16.3	15.9	7.2	6.5	0	0
	February	672	100.0%	2.1	1.4	135.6	40.2	7.7	3.4	0	0
	March	744	100.0%	1.4	1.0	18.3	17.5	3.7	3.0	0	0
	April	716	99.4%	1.7	1.2	31.9	19.0	4.6	3.5	0	0
	May	741	99.6%	1.2	0.8	22.9	20.9	4.5	3.5	0	0
	June	717	99.6%	1.7	1.1	12.1	11.0	4.3	3.4	0	0
	July	740	99.5%	1.2	0.8	14.5	10.5	3.1	2.3	0	0
	August	743	99.9%	1.1	0.7	15.9	7.1	3.0	2.2	0	0
	September	718	99.7%	1.1	0.7	15.1	6.7	2.8	2.4	0	0
	October	742	99.7%	1.3	0.9	21.2	12.5	4.4	3.2	0	0
	November	714	99.2%	1.7	1.3	14.7	13.0	3.8	3.4	0	0
	December	741	99.6%	1.6	1.2	13.3	10.7	3.6	3.1	0	0
Annual		8730	99.7%	1.5	1.0	135.6	40.2	7.7	6.5	0	0
2024	January	739	99.3%	1.5	1.2	14.0	13.8	3.4	2.7	0	0
	February	694	99.7%	1.9	1.4	23.8	12.2	4.2	3.2	0	0
	March	742	99.7%	1.7	1.3	31.2	22.6	5.5	4.4	0	0
	April	707	98.2%	1.2	0.9	13.0	9.1	3.1	2.7	0	0
	May	742	99.7%	1.7	1.3	27.6	22.5	7.6	6.3	0	0
	June	719	99.9%	1.0	0.7	12.8	11.4	3.2	2.6	0	0
	July	738	99.2%	1.0	0.7	16.5	8.4	2.7	2.2	0	0
	August	742	99.7%	0.9	0.7	12.8	4.1	2.1	1.6	0	0
	September	720	100.0%	1.3	1.0	18.6	14.7	3.3	2.8	0	0
	October	739	99.3%	1.2	1.0	23.3	19.1	5.0	4.3	0	0
	November	717	99.6%	1.3	1.0	15.6	13.0	3.2	2.6	0	0
	December	738	99.2%	1.6	1.3	19.6	17.7	5.9	5.4	0	0
Annual		8737	99.5%	1.4	1.0	31.2	22.6	7.6	6.3	0	0

Observations in ppb

**FIGURE 3.2.3 - MT. PEARL NAPS ANNUAL NO<sub>x</sub> / NO<sub>2</sub> CONCENTRATIONS**



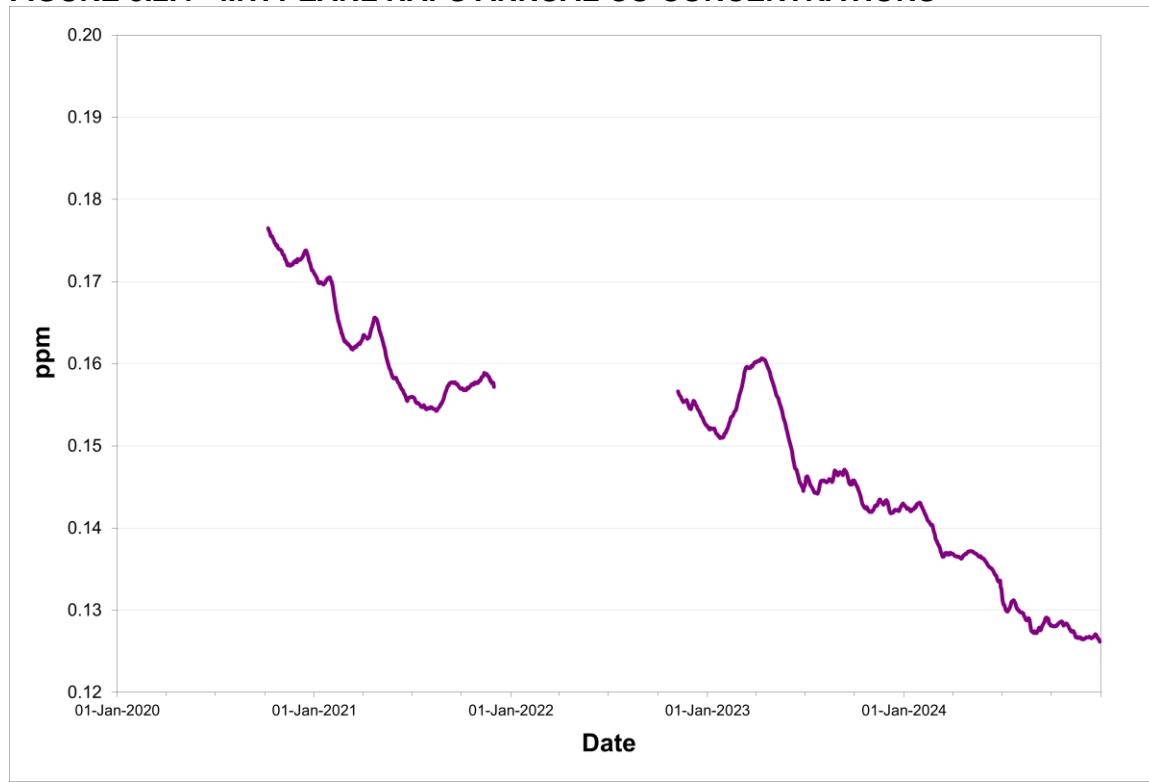
Rolling annual average of hourly concentrations

**TABLE 3.2.4 - MT. PEARL NAPS CO SUMMARY 2023 & 2024**

Year	Month	# Valid	% Valid	Average	Maximum		Regulatory Exceedances	
		Hours	Hours		1-Hour	8-Hour	1-Hour (>30.582)	8-Hour (>13.107)
2023	January	742	99.7%	0.1	0.5	0.3	0	0
	February	672	100.0%	0.2	0.9	0.3	0	0
	March	742	99.7%	0.2	0.5	0.4	0	0
	April	713	99.0%	0.1	0.3	0.2	0	0
	May	688	92.5%	0.1	0.3	0.2	0	0
	June	716	99.4%	0.1	1.0	0.8	0	0
	July	735	98.8%	0.2	0.9	0.7	0	0
	August	741	99.6%	0.1	0.3	0.3	0	0
	September	717	99.6%	0.1	0.4	0.3	0	0
	October	742	99.7%	0.1	0.3	0.2	0	0
	November	706	98.1%	0.1	0.6	0.2	0	0
	December	739	99.3%	0.1	1.2	0.4	0	0
Annual		8653	98.8%	0.1	1.2	0.8	0	0
2024	January	737	99.1%	0.1	0.4	0.2	0	0
	February	694	99.7%	0.1	0.3	0.2	0	0
	March	741	99.6%	0.1	0.4	0.3	0	0
	April	706	98.1%	0.1	0.2	0.2	0	0
	May	741	99.6%	0.1	0.2	0.1	0	0
	June	719	99.9%	0.1	0.2	0.2	0	0
	July	737	99.1%	0.1	0.3	0.2	0	0
	August	742	99.7%	0.1	0.3	0.2	0	0
	September	720	100.0%	0.2	0.2	0.2	0	0
	October	10	1.3%	0.1	0.1	0.1	0	0
	November	0	0.0%	#DIV/0!	0.0	0.0	0	0
	December	0	0.0%	#DIV/0!	0.0	0.0	0	0
Annual		6547	74.5%	#DIV/0!	0.4	0.3	0	0

Observations in ppm

**FIGURE 3.2.4 - MT. PEARL NAPS ANNUAL CO CONCENTRATIONS**



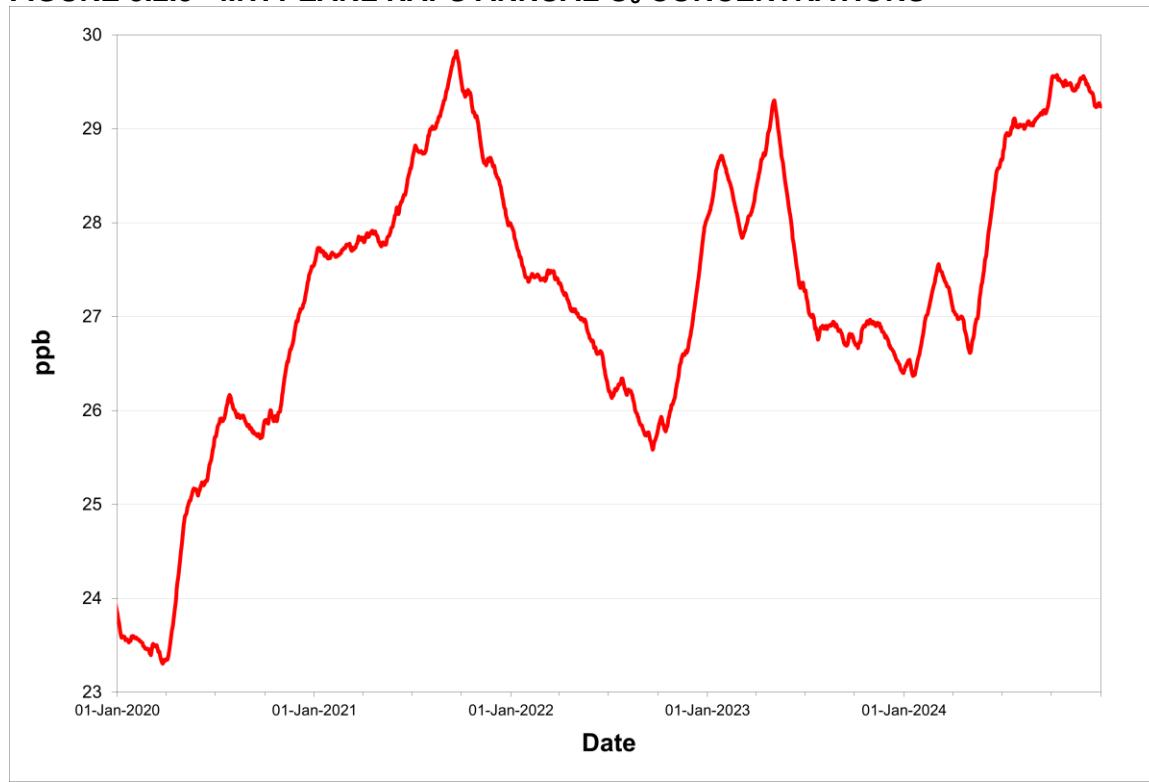
Rolling annual average of hourly concentrations

**TABLE 3.2.5 - MT. PEARL NAPS O<sub>3</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid	% Valid	Average	Maximum		Regulatory Exceedances	
		Hours	Hours		1-Hour	8-Hour	1-Hour (>82)	8-Hour (>44)
2023	January	464	62.4%	34.4	63.3	43.2	0	0
	February	0	0.0%					
	March	609	81.9%	42.4	49.3	48.4	0	26
	April	716	99.4%	41.5	52.3	51.6	0	21
	May	741	99.6%	19.1	44.6	43.7	0	0
	June	717	99.6%	13.8	33.8	31.4	0	0
	July	739	99.3%	18.5	43.0	37.7	0	0
	August	742	99.7%	21.4	40.8	35.4	0	0
	September	718	99.7%	20.7	35.5	33.7	0	0
	October	742	99.7%	25.1	48.7	44.7	0	1
	November	714	99.2%	27.9	40.4	39.0	0	0
	December	740	99.5%	31.5	40.6	39.7	0	0
Annual		7642	87.2%	26.4	63.3	51.6	0	48
2024	January	739	99.3%	34.2	41.4	40.3	0	0
	February	694	99.7%	36.3	43.8	41.6	0	0
	March	741	99.6%	36.3	45.4	44.5	0	2
	April	713	99.0%	36.2	46.5	44.1	0	1
	May	742	99.7%	29.5	45.9	41.8	0	0
	June	719	99.9%	26.8	44.2	40.4	0	0
	July	738	99.2%	22.4	51.1	47.2	0	1
	August	743	99.9%	22.3	36.1	33.4	0	0
	September	720	100.0%	25.4	40.3	38.0	0	0
	October	739	99.3%	25.2	37.0	35.7	0	0
	November	715	99.3%	29.0	39.6	38.9	0	0
	December	738	99.2%	28.0	42.9	38.8	0	0
Annual		8741	99.5%	29.3	51.1	47.2	0	4

Observations in ppb

**FIGURE 3.2.5 - MT. PEARL NAPS ANNUAL O<sub>3</sub> CONCENTRATIONS**

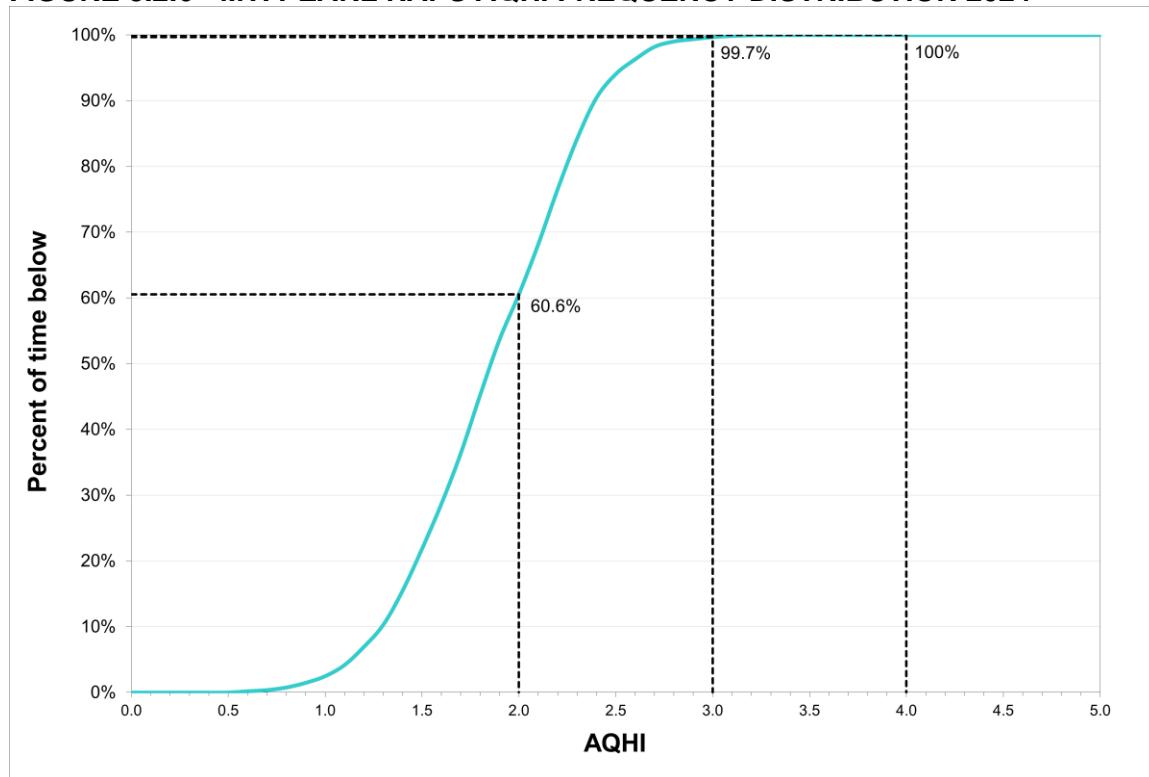


Rolling annual average of hourly concentrations

**TABLE 3.2.6 - MT. PEARL NAPS AQHI SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average	Maximum
2023	January	466	62.6%	2.1	3.0
	February	0	0.0%		
	March	609	81.9%	2.6	3.3
	April	717	99.6%	2.6	3.5
	May	744	100.0%	1.3	3.0
	June	713	99.0%	1.0	2.6
	July	742	99.7%	1.3	2.9
	August	744	100.0%	1.4	2.3
	September	720	100.0%	1.5	3.8
	October	744	100.0%	1.6	2.7
	November	717	99.6%	1.7	2.5
	December	742	99.7%	2.0	2.8
Annual		7658	87.4%	1.7	3.8
2024	January	741	99.6%	2.1	3.1
	February	696	100.0%	2.2	2.8
	March	744	100.0%	2.3	3.0
	April	709	98.5%	2.2	3.1
	May	744	100.0%	1.9	3.2
	June	720	100.0%	1.7	3.0
	July	739	99.3%	1.5	2.9
	August	744	100.0%	1.5	2.8
	September	720	100.0%	1.6	2.6
	October	737	99.1%	1.6	2.3
	November	720	100.0%	1.8	2.7
	December	744	100.0%	1.8	3.5
Annual		8758	99.7%	1.9	3.5

**FIGURE 3.2.6 - MT. PEARL NAPS AQHI FREQUENCY DISTRIBUTION 2024**



e.g. 99.7% of the time the AQHI recorded was below 3.0

### 3.3 Grand Falls-Windsor

The Grand Falls-Windsor NAPS air quality monitoring station is located on Scott Avenue and monitors the levels of NO<sub>x</sub> / NO<sub>2</sub>, CO, O<sub>3</sub>, PM<sub>2.5</sub> and PM<sub>10</sub> on a continuous basis. The air quality monitoring station used to measure SO<sub>2</sub> as well, however monitoring of this pollutant was phased out within the NAPS network on November 01, 2022. The PM<sub>2.5</sub> Met One BAM was replaced in September 2020 with a Teledyne API T640 capable of measuring both PM<sub>10</sub> and PM<sub>2.5</sub>.

For NO<sub>x</sub> / NO<sub>2</sub>, PM<sub>2.5</sub> and CO, the air quality standards were not exceeded on any occasion in 2024. For O<sub>3</sub>, the 8-hour air quality standard was exceeded on forty-six occasions in 2024, specifically, one time in January, eighteen times in February, twenty-three times in March, two times in April and two times in June. The 24-hour PM<sub>10</sub> air quality standard as measured hourly was exceeded four hundred and twenty-three times in 2024, with forty-nine of those exceedances occurring in May, one hundred and twenty-five in June and two hundred and forty-nine in July.

The PM<sub>10</sub> exceedances in May, June and July stem from the long-range transport of particulate from wildfires in Labrador City and on the Burgeo Highway, from other Provinces such as the one in Jasper, Alberta and from volcanic activity in Iceland.

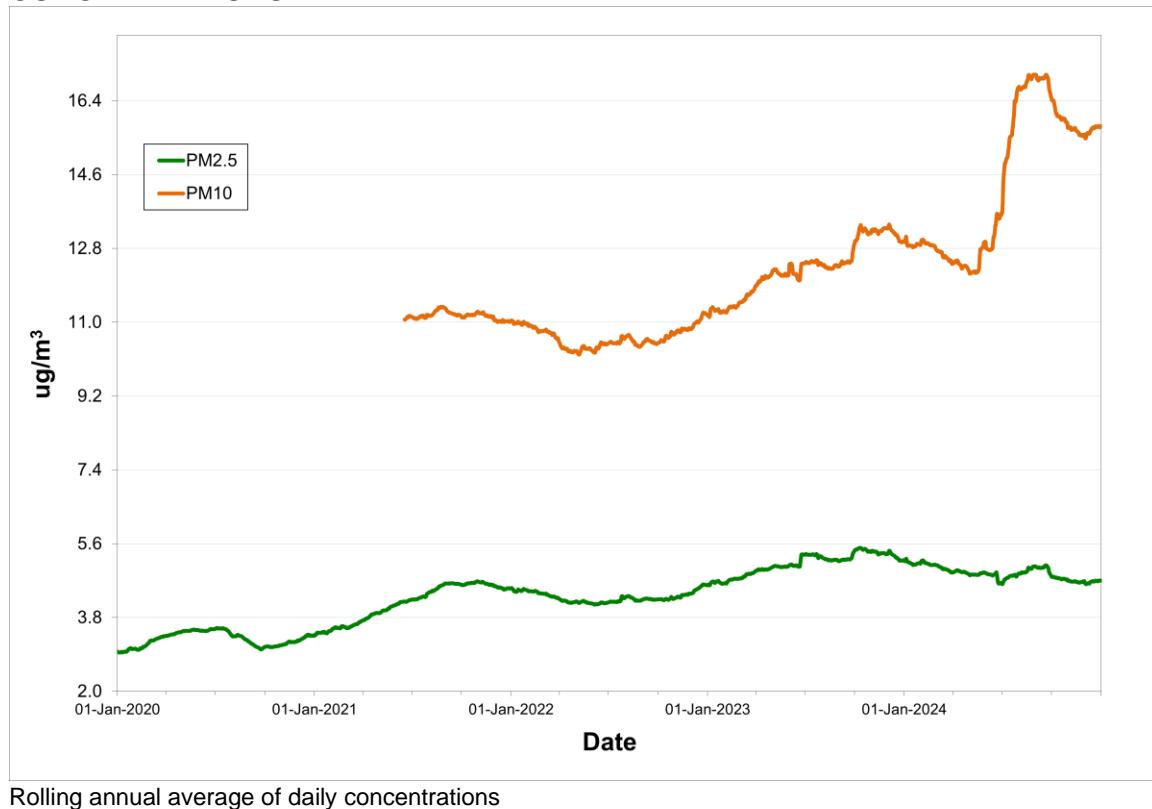
Tables 3.3.1 through 3.3.4 present the summary information on the level of air contaminants measured at the Grand Falls-Windsor NAPS station, while Figures 3.3.1 through 3.3.4 provides a graphical representation of the annual trend of each pollutant. Table 3.3.5 provides a summary of the AQHI while Figure 3.3.5 provides a graphical representation of the percentage of time the AQHI values were below a given level in 2024.

**TABLE 3.3.1 - GRAND FALLS-WINDSOR NAPS PM<sub>2.5</sub> / PM<sub>10</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Days	% Valid Days	Average		24-Hour Maximum		Regulatory Exceedances	
		PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub> (>25)	PM <sub>10</sub> (>50)
2023	January	742	99.7%	5.6	12.2	25.0	67.8	0	21
	February	671	99.9%	5.5	11.7	18.4	29.2	0	0
	March	743	99.9%	6.3	15.0	13.4	33.3	0	0
	April	719	99.9%	5.1	13.6	9.4	27.0	0	0
	May	742	99.7%	3.9	10.4	8.7	24.1	0	0
	June	717	99.6%	7.6	17.4	45.4	82.1	69	82
	July	744	100.0%	5.2	12.8	13.8	22.8	0	0
	August	744	100.0%	3.8	10.5	6.8	19.9	0	0
	September	719	99.9%	6.2	16.0	37.5	70.2	25	23
	October	743	99.9%	4.5	15.9	11.9	42.1	0	0
	November	720	100.0%	4.3	11.2	12.5	41.5	0	0
	December	743	99.9%	4.4	9.4	20.3	29.9	0	0
Annual		8747	99.9%	5.2	13.0	45.4	82.1	94	126
2024	January	556	74.7%	4.4	10.1	19.8	35.0	0	0
	February	559	80.3%	5.0	9.8	21.0	37.6	0	0
	March	737	99.1%	4.2	10.9	10.4	31.3	0	0
	April	530	73.6%	4.7	11.6	11.1	26.7	0	0
	May	577	77.6%	4.2	21.4	12.8	117.8	0	49
	June	683	94.9%	4.6	24.9	14.4	83.5	0	125
	July	695	93.4%	8.0	47.8	20.0	172.0	0	249
	August	716	96.2%	5.8	13.6	22.1	35.1	0	0
	September	711	98.8%	3.8	10.1	10.0	25.0	0	0
	October	719	96.6%	3.3	8.5	7.3	20.3	0	0
	November	655	91.0%	3.8	7.6	7.5	17.1	0	0
	December	598	80.4%	4.5	10.2	12.8	31.5	0	0
Annual		7736	88.1%	4.7	15.7	22.1	172.0	0	423

Observations in  $\mu\text{g}/\text{m}^3$

**FIGURE 3.3.1 - GRAND FALLS-WINDSOR NAPS ANNUAL PM<sub>2.5</sub> / PM<sub>10</sub> CONCENTRATIONS**



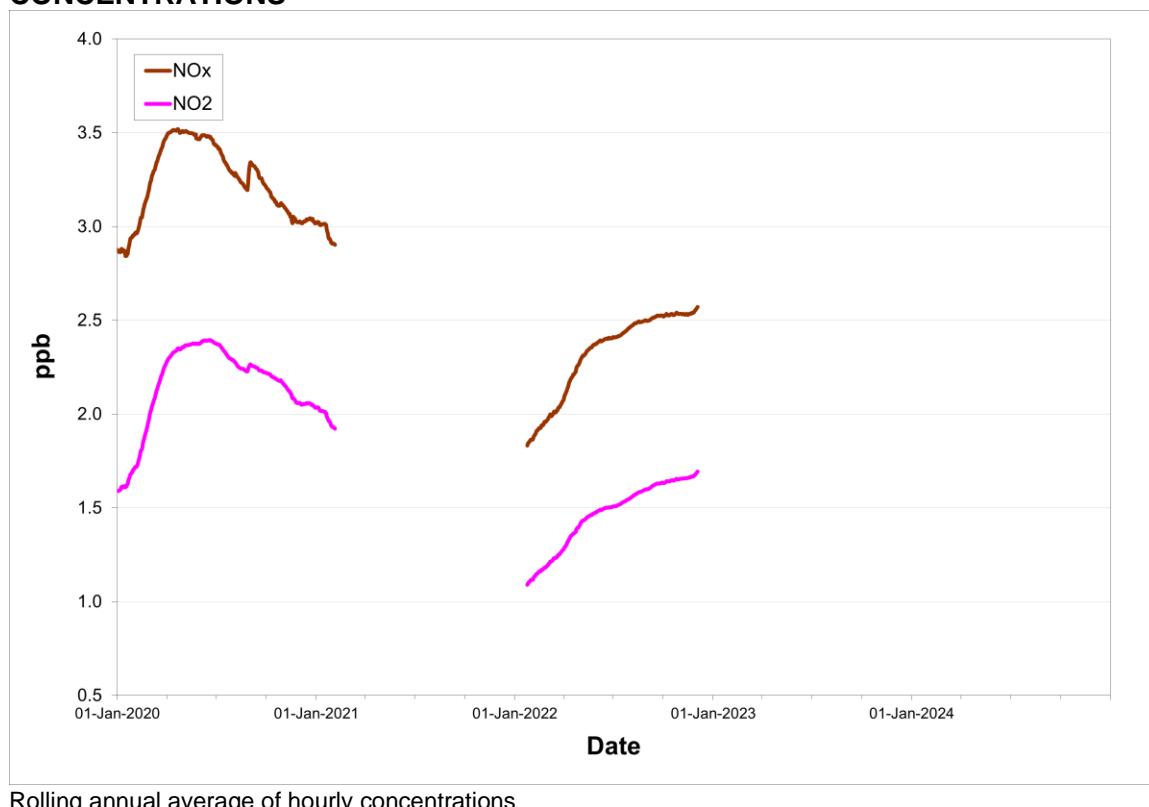
Rolling annual average of daily concentrations

**TABLE 3.3.2 - GRAND FALLS-WINDSOR NAPS NO<sub>x</sub> / NO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average		Maximums				Exceedances	
				NO <sub>x</sub>	NO <sub>2</sub>	1-Hour NO <sub>x</sub>	1-Hour NO <sub>2</sub>	24-Hour NO <sub>x</sub>	24-Hour NO <sub>2</sub>	1-Hour (>213)	24-Hour (>106)
2023	January	742	99.7%	3.2	2.5	67.2	13.9	5.7	4.3	0	0
	February	669	99.6%	4.3	3.1	61.8	23.2	7.2	5.0	0	0
	March	744	100.0%	2.6	2.2	22.4	11.3	4.5	3.6	0	0
	April	719	99.9%	2.5	2.2	10.2	5.4	3.1	2.7	0	0
	May	744	100.0%	2.6	2.2	10.1	5.9	3.4	3.0	0	0
	June	717	99.6%	2.2	1.6	22.3	8.4	4.1	3.5	0	0
	July	743	99.9%	1.1	0.6	29.8	7.8	2.1	1.2	0	0
	August	738	99.2%	2.1	0.9	14.2	5.0	3.7	1.6	0	0
	September	410	56.9%	2.3	1.4	24.0	6.6	4.5	2.2	0	0
	October	325	43.7%	3.6	1.9	45.1	14.5	9.3	3.1	0	0
	November	0	0.0%								
	December	0	0.0%								
Annual		6551	74.8%			67.2	23.2	9.3	5.0	0	0
2024	January	0	0.0%			0.0	0.0	0.0	0.0	0	0
	February	56	8.0%	0.9	0.6	2.4	1.9	0.9	0.6	0	0
	March	731	98.3%	1.8	1.0	9.9	6.0	5.8	2.0	0	0
	April	691	96.0%	1.6	1.0	5.7	4.5	3.3	2.3	0	0
	May	623	83.7%	2.0	1.0	24.8	10.4	6.5	2.5	0	0
	June	696	96.7%	2.5	1.1	81.8	21.3	14.4	4.5	0	0
	July	729	98.0%	3.0	1.6	69.8	20.3	10.1	3.2	0	0
	August	711	95.6%	1.6	1.0	18.5	5.9	4.7	1.8	0	0
	September	705	97.9%	1.9	1.4	23.4	22.9	2.7	2.0	0	0
	October	719	96.6%	1.9	1.2	12.9	9.2	2.8	1.8	0	0
	November	659	91.5%	2.1	1.5	16.8	11.8	3.8	2.8	0	0
	December	598	80.4%	2.4	1.7	11.9	9.1	5.7	4.4	0	0
Annual		6918	78.8%	2.1	1.2	81.8	22.9	14.4	4.5	0	0

Observations in ppb

**FIGURE 3.3.2 - GRAND FALLS-WINDSOR NAPS ANNUAL NO<sub>x</sub> / NO<sub>2</sub> CONCENTRATIONS**



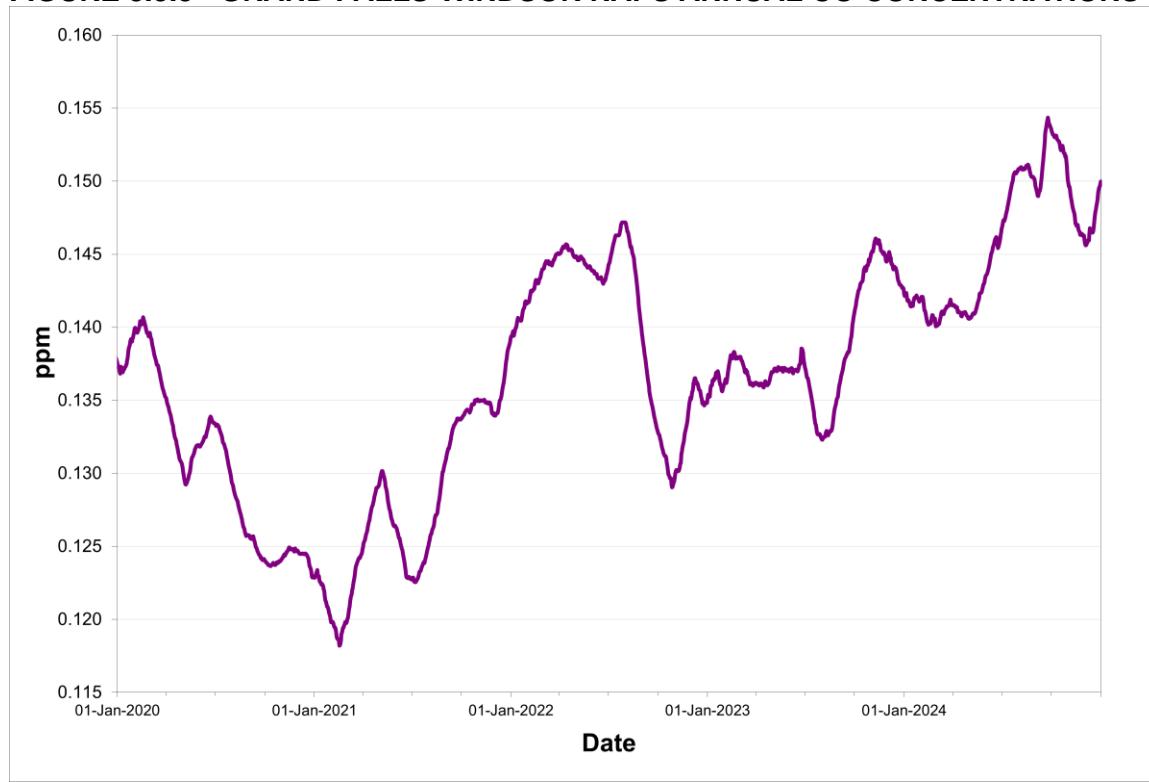
Rolling annual average of hourly concentrations

**TABLE 3.3.3 - GRAND FALLS-WINDSOR NAPS CO SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average	Maximum		Regulatory Exceedances	
					1-Hour	8-Hour	1-Hour (>30.582)	8-Hour (>13.107)
2023	January	741	99.6%	0.2	0.6	0.5	0	0
	February	668	99.4%	0.2	0.6	0.4	0	0
	March	742	99.7%	0.2	0.5	0.3	0	0
	April	717	99.6%	0.1	0.3	0.2	0	0
	May	742	99.7%	0.1	0.2	0.2	0	0
	June	715	99.3%	0.1	0.7	0.4	0	0
	July	743	99.9%	0.1	0.2	0.2	0	0
	August	741	99.6%	0.1	0.2	0.2	0	0
	September	490	68.1%	0.1	0.4	0.3	0	0
	October	742	99.7%	0.1	0.4	0.3	0	0
	November	718	99.7%	0.2	0.6	0.4	0	0
	December	743	99.9%	0.2	0.7	0.4	0	0
Annual		8502	97.1%	0.1	0.7	0.5	0	0
2024	January	555	74.6%	0.2	0.5	0.4	0	0
	February	695	99.9%	0.2	0.5	0.3	0	0
	March	735	98.8%	0.2	0.5	0.3	0	0
	April	695	96.5%	0.1	0.3	0.2	0	0
	May	644	86.6%	0.1	0.2	0.2	0	0
	June	712	98.9%	0.1	0.2	0.2	0	0
	July	728	97.8%	0.1	0.4	0.2	0	0
	August	708	95.2%	0.1	0.2	0.2	0	0
	September	703	97.6%	0.2	0.3	0.3	0	0
	October	742	99.7%	0.1	0.3	0.2	0	0
	November	655	91.0%	0.1	0.6	0.3	0	0
	December	607	81.6%	0.2	0.6	0.4	0	0
Annual		8179	93.1%	0.1	0.6	0.4	0	0

Observations in ppm

**FIGURE 3.3.3 - GRAND FALLS-WINDSOR NAPS ANNUAL CO CONCENTRATIONS**

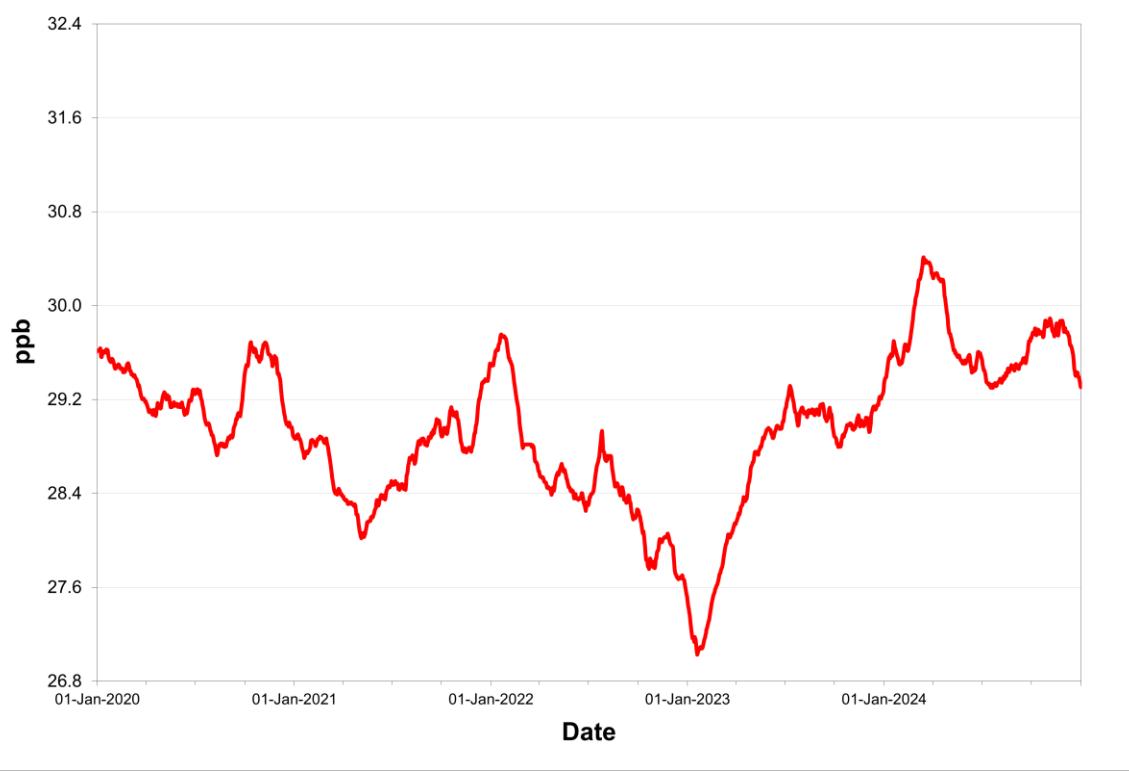


**TABLE 3.3.4 - GRAND FALLS-WINDSOR NAPS O<sub>3</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid	% Valid	Average	Maximum		Regulatory Exceedances	
		Hours	Hours		1-Hour	8-Hour	1-Hour (>82)	8-Hour (>44)
2023	January	647	87.0%	32.9	42.8	40.9	0	0
	February	670	99.7%	33.5	41.3	40.9	0	0
	March	741	99.6%	35.9	41.8	41.4	0	0
	April	716	99.4%	40.3	52.0	51.2	0	22
	May	744	100.0%	34.7	51.8	46.9	0	9
	June	362	50.3%	22.7	40.2	37.3	0	0
	July	493	66.3%	22.4	53.7	38.0	0	0
	August	742	99.7%	20.3	52.3	35.7	0	0
	September	717	99.6%	19.9	40.4	35.7	0	0
	October	741	99.6%	21.8	45.3	37.8	0	0
	November	718	99.7%	28.4	46.2	41.9	0	0
	December	743	99.9%	33.7	43.3	42.3	0	0
Annual		8034	91.7%	29.3	53.7	51.2	0	31
2024	January	553	74.3%	36.9	45.2	44.4	0	1
	February	642	92.2%	40.8	50.7	49.2	0	18
	March	736	98.9%	37.8	49.3	48.2	0	23
	April	698	96.9%	35.7	47.1	44.3	0	2
	May	642	86.3%	31.3	48.9	41.7	0	0
	June	714	99.2%	26.7	52.9	47.6	0	2
	July	730	98.1%	22.1	46.8	35.0	0	0
	August	713	95.8%	21.2	40.4	34.6	0	0
	September	707	98.2%	22.7	38.7	36.6	0	0
	October	744	100.0%	23.4	40.8	39.6	0	0
	November	659	91.5%	27.8	42.6	41.0	0	0
	December	608	81.7%	28.5	41.6	39.9	0	0
Annual		8146	92.7%	29.3	52.9	49.2	0	46

Observations in ppb

**FIGURE 3.3.4 - GRAND FALLS-WINDSOR NAPS ANNUAL O<sub>3</sub> CONCENTRATIONS**

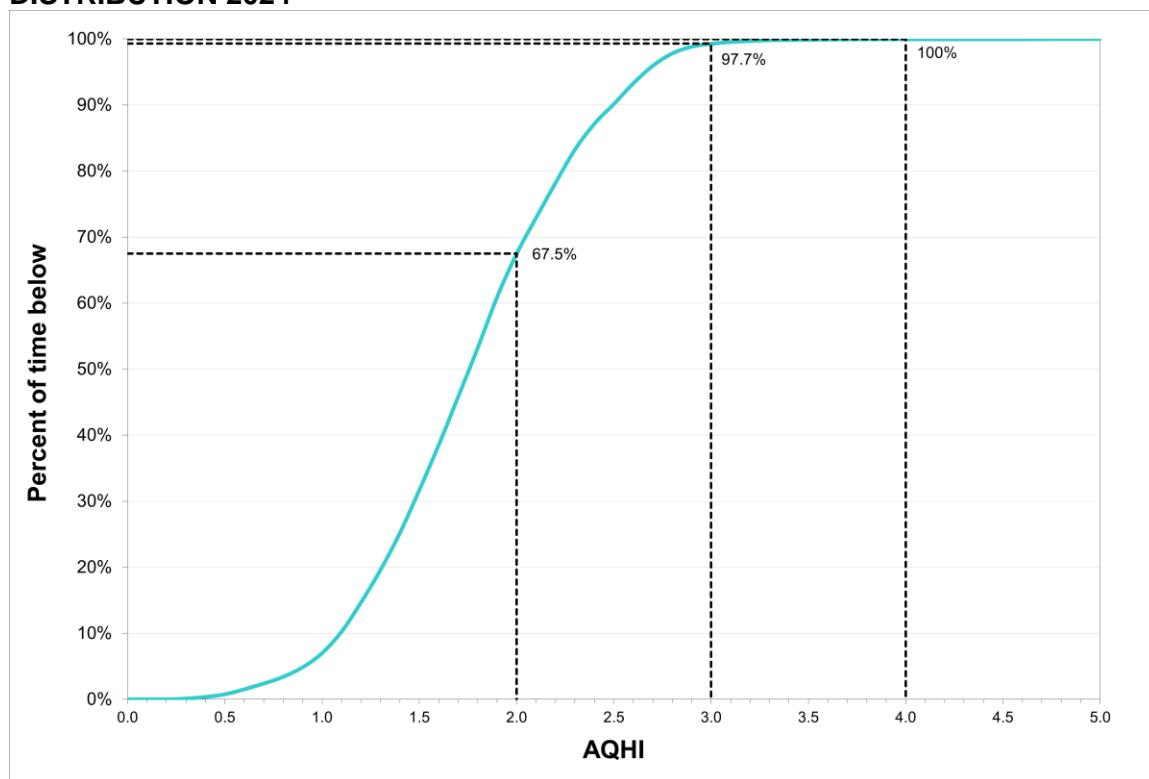


Rolling annual average of hourly concentrations

**TABLE 3.3.5 - GRAND FALLS-WINDSOR NAPS AQHI SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average	Maximum 3-Hour
2023	January	647	87.0%	2.1	3.7
	February	668	99.4%	2.3	3.9
	March	742	99.7%	2.3	4.4
	April	716	99.4%	2.5	3.3
	May	744	100.0%	2.2	3.1
	June	361	50.1%	1.9	7.7
	July	492	66.1%	1.5	2.9
	August	739	99.3%	1.3	2.3
	September	407	56.5%	1.5	3.2
	October	324	43.5%	1.4	2.3
	November				
	December				
Annual		5840	66.7%	2.0	7.7
2024	January	0	0.0%		0.0
	February	55	7.9%	2.6	2.9
	March	731	98.3%	2.3	3.2
	April	523	72.6%	2.2	3.1
	May	572	76.9%	1.9	3.2
	June	684	95.0%	1.7	3.8
	July	695	93.4%	1.7	4.7
	August	707	95.0%	1.5	3.7
	September	705	97.9%	1.5	2.5
	October	719	96.6%	1.5	2.5
	November	656	91.1%	1.8	2.8
	December	599	80.5%	1.8	3.0
Annual		6646	75.7%	1.8	4.7

**FIGURE 3.3.5 - GRAND FALLS-WINDSOR NAPS AQHI FREQUENCY DISTRIBUTION 2024**



e.g. 97.7% of the time the AQHI recorded was below 3.0

### 3.4 Corner Brook

The Corner Brook NAPS air quality monitoring station is located on MacPherson Avenue near Confederation Drive and monitors the levels of  $\text{SO}_2$ ,  $\text{NO}_x / \text{NO}_2$ , CO,  $\text{O}_3$ ,  $\text{PM}_{2.5}$  and  $\text{PM}_{10}$  on a continuous basis. The  $\text{PM}_{2.5}$  Met One BAM was replaced in September 2020 with a Teledyne API T640 capable of measuring both  $\text{PM}_{10}$  and  $\text{PM}_{2.5}$ . For  $\text{SO}_2$ ,  $\text{NO}_x / \text{NO}_2$ , CO,  $\text{PM}_{2.5}$  and  $\text{PM}_{10}$ , the air quality standards were not exceeded on any occasion in 2024. The 8-hour  $\text{O}_3$  air quality standard was exceeded on one occasion in 2024, specifically once in March.

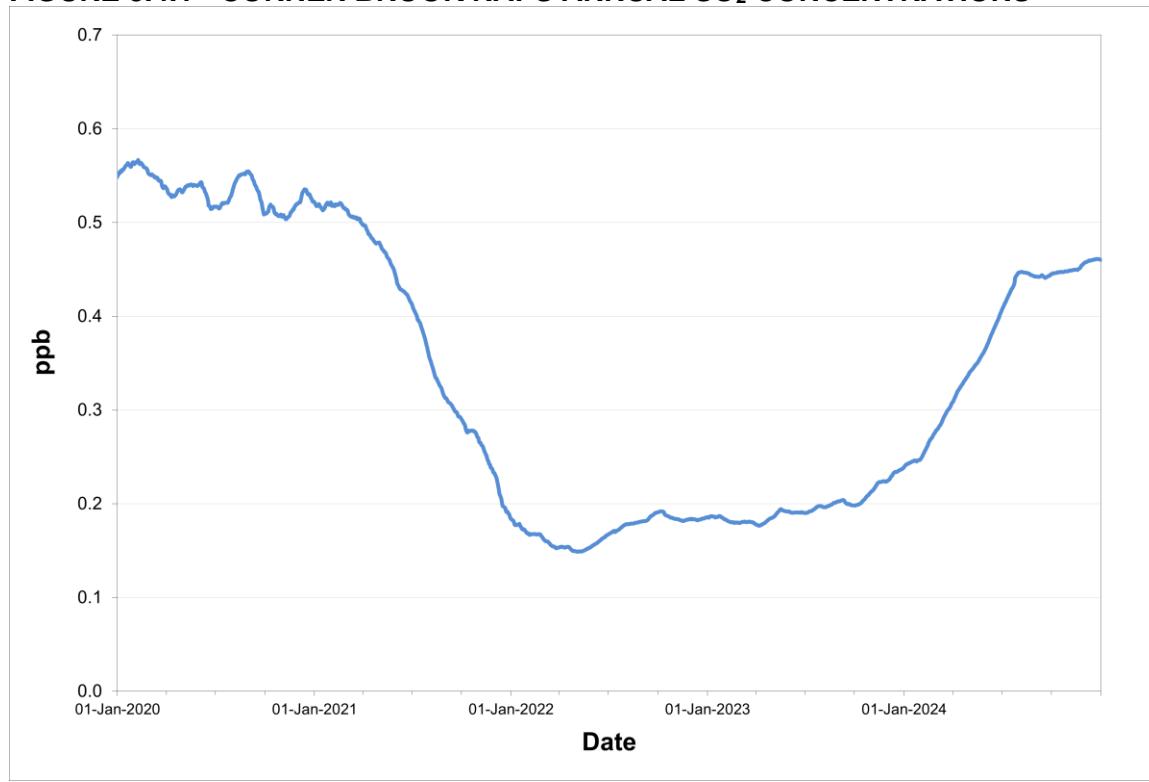
Tables 3.4.1 through 3.4.5 present the summary information on the level of air contaminants measured at the Corner Brook NAPS station, while Figures 3.4.1 through 3.4.5 provide a graphical representation of the annual trend of each pollutant. Table 3.4.6 provides a summary of the AQHI while Figure 3.4.6 provides a graphical representation of the percentage of time the AQHI values were below a given level in 2024.

**TABLE 3.4.1 - CORNER BROOK NAPS SO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid	% Valid	Average	Maximum			Regulatory Exceedances		
		Hours	Hours		1-Hour	3-Hour	24-Hour	1-Hour (>344)	3-Hour (>229)	24-Hour (>115)
2023	January	677	91.0%	0.3	0.6	0.5	0.4	0	0	0
	February	652	97.0%	0.1	0.4	0.3	0.2	0	0	0
	March	526	70.7%	0.2	0.7	0.5	0.3	0	0	0
	April	719	99.9%	0.2	0.7	0.4	0.3	0	0	0
	May	736	98.9%	0.3	0.5	0.5	0.4	0	0	0
	June	700	97.2%	0.2	0.5	0.4	0.3	0	0	0
	July	618	83.1%	0.3	1.5	1.0	0.5	0	0	0
	August	740	99.5%	0.2	0.7	0.6	0.3	0	0	0
	September	593	82.4%	0.2	0.3	0.3	0.2	0	0	0
	October	744	100.0%	0.3	0.6	0.5	0.4	0	0	0
	November	571	79.3%	0.3	1.7	1.3	0.5	0	0	0
	December	744	100.0%	0.3	1.3	0.7	0.5	0	0	0
Annual		8020	91.6%	0.2	1.7	1.3	0.5	0	0	0
2024	January	483	64.9%	0.4	0.8	0.7	0.5	0	0	0
	February	671	96.4%	0.5	1.0	0.9	0.6	0	0	0
	March	691	92.9%	0.5	1.3	1.1	0.7	0	0	0
	April	686	95.3%	0.6	0.8	0.7	0.6	0	0	0
	May	738	99.2%	0.6	1.5	1.0	0.7	0	0	0
	June	720	100.0%	0.7	0.9	0.8	0.7	0	0	0
	July	740	99.5%	0.8	10.2	8.6	2.2	0	0	0
	August	744	100.0%	0.2	1.4	0.8	0.3	0	0	0
	September	710	98.6%	0.2	0.7	0.4	0.3	0	0	0
	October	738	99.2%	0.3	2.5	1.2	0.4	0	0	0
	November	718	99.7%	0.4	0.7	0.6	0.5	0	0	0
	December	704	94.6%	0.4	0.6	0.6	0.5	0	0	0
Annual		8343	95.0%	0.5	10.2	8.6	2.2	0	0	0

Observations in ppb

**FIGURE 3.4.1 - CORNER BROOK NAPS ANNUAL SO<sub>2</sub> CONCENTRATIONS**

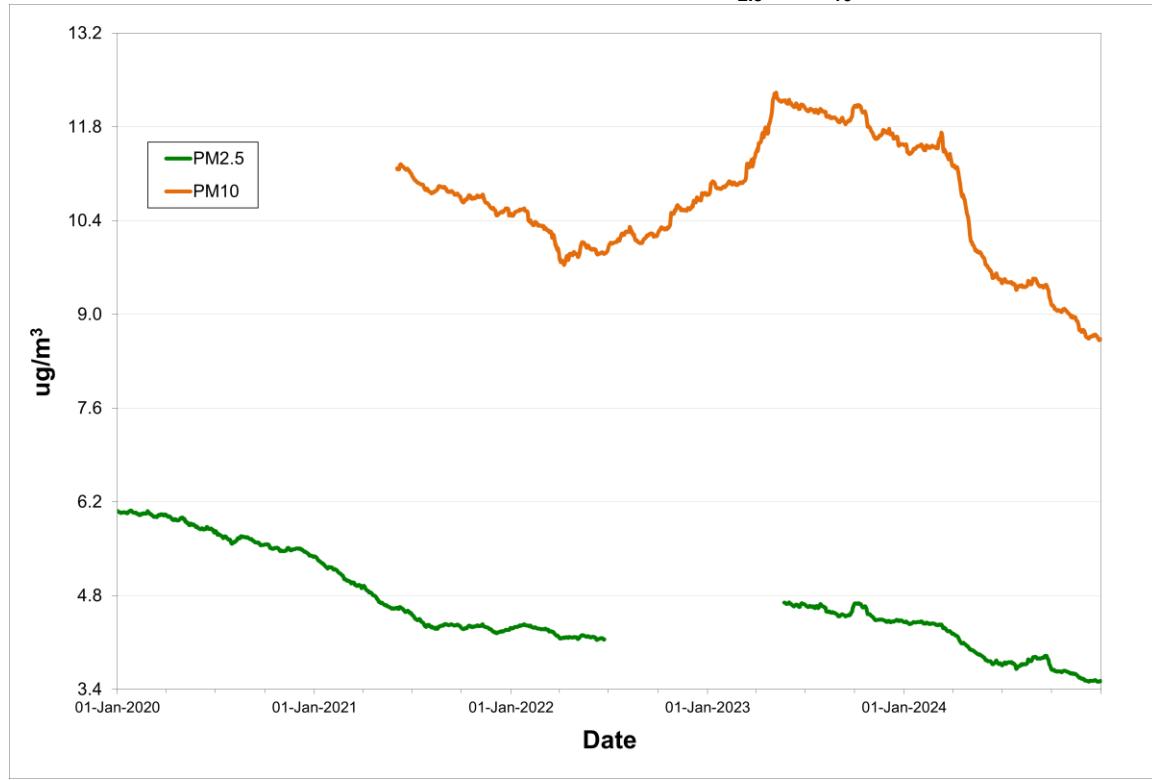


**TABLE 3.4.2 - CORNER BROOK NAPS PM<sub>2.5</sub> / PM<sub>10</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Days	% Valid Days	Average		24-Hour Maximum		Regulatory Exceedances	
		PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub> (>25)	PM <sub>10</sub> (>50)
2023	January	680	91.4%	4.1	9.7	8.4	38.3	0	0
	February	653	97.2%	4.5	9.3	7.4	14.3	0	0
	March	743	99.9%	5.0	15.5	11.3	56.4	0	17
	April	718	99.7%	5.6	20.3	10.4	39.9	0	0
	May	742	99.7%	4.5	14.9	8.3	40.6	0	0
	June	700	97.2%	4.5	11.3	12.0	27.4	0	0
	July	744	100.0%	5.3	10.3	14.7	21.8	0	0
	August	743	99.9%	3.3	8.0	6.5	13.6	0	0
	September	594	82.5%	5.4	11.5	23.3	40.4	0	0
	October	744	100.0%	3.7	8.6	11.4	19.2	0	0
	November	719	99.9%	3.4	9.4	6.3	28.1	0	0
	December	744	100.0%	3.8	9.1	9.2	23.5	0	0
Annual		8524	97.3%	4.4	11.5	23.3	56.4	0	17
2024	January	485	65.2%	3.9	8.6	7.7	14.1	0	0
	February	676	97.1%	4.1	9.2	11.8	35.9	0	0
	March	690	92.7%	3.3	12.6	6.8	42.4	0	0
	April	687	95.4%	3.2	11.1	5.1	21.2	0	0
	May	743	99.9%	2.6	8.0	6.6	17.7	0	0
	June	719	99.9%	3.5	7.8	10.6	18.1	0	0
	July	743	99.9%	5.0	9.7	15.4	23.7	0	0
	August	744	100.0%	4.8	9.1	16.4	23.9	0	0
	September	717	99.6%	3.3	7.3	9.4	14.2	0	0
	October	742	99.7%	2.9	6.9	6.9	13.2	0	0
	November	720	100.0%	2.2	6.3	4.2	16.8	0	0
	December	703	94.5%	3.4	7.3	6.7	16.3	0	0
Annual		8369	95.3%	3.5	8.6	16.4	42.4	0	0

Observations in  $\mu\text{g}/\text{m}^3$

**FIGURE 3.4.2 - CORNER BROOK NAPS ANNUAL PM<sub>2.5</sub> / PM<sub>10</sub> CONCENTRATIONS**



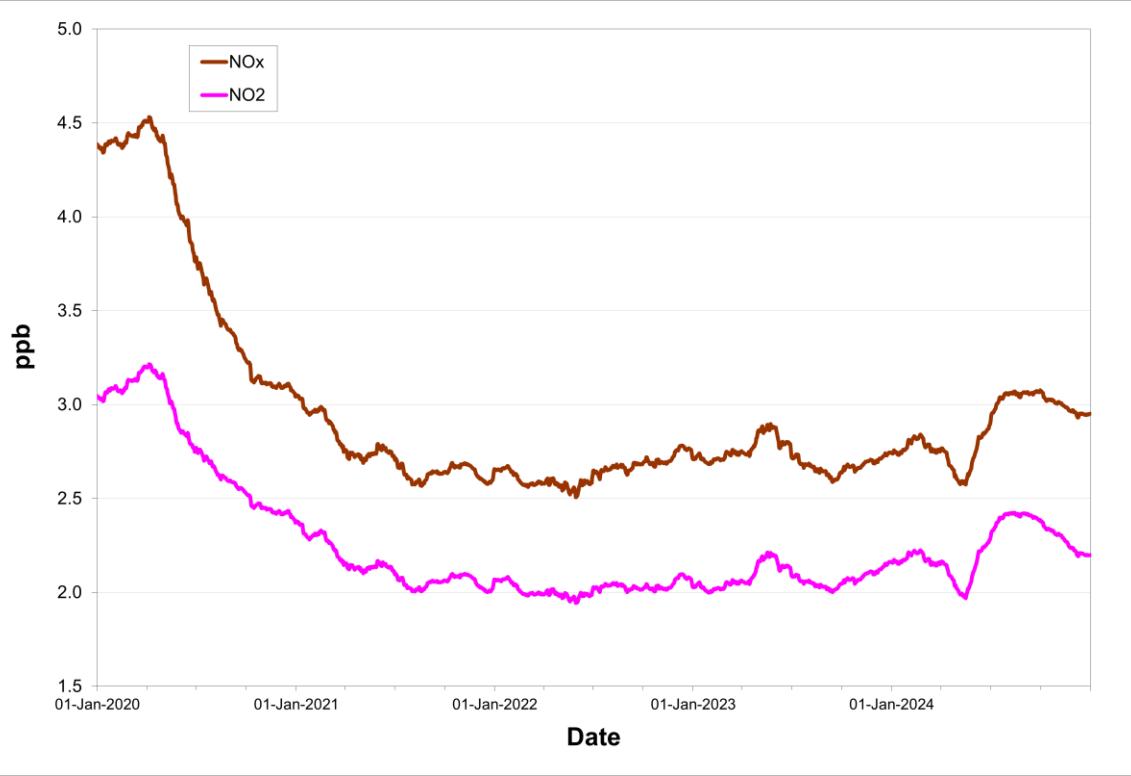
Rolling annual average of daily concentrations

**TABLE 3.4.3 - CORNER BROOK NAPS NO<sub>x</sub> / NO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average		Maximums				Exceedances	
				NO <sub>x</sub>	NO <sub>2</sub>	1-Hour NO <sub>x</sub>	1-Hour NO <sub>2</sub>	24-Hour NO <sub>x</sub>	24-Hour NO <sub>2</sub>	1-Hour (>213)	24-Hour (>106)
2023	January	740	99.5%	2.4	2.0	17.9	14.8	4.9	4.3	0	0
	February	653	97.2%	3.2	2.6	46.8	30.3	7.8	6.2	0	0
	March	743	99.9%	3.4	2.8	34.8	23.3	10.3	8.0	0	0
	April	720	100.0%	3.8	3.2	29.7	24.5	9.8	7.6	0	0
	May	742	99.7%	3.4	2.7	23.6	19.1	9.3	6.2	0	0
	June	706	98.1%	2.2	1.4	19.9	19.2	9.1	6.1	0	0
	July	742	99.7%	1.9	1.2	21.3	16.3	5.3	3.6	0	0
	August	743	99.9%	2.0	1.3	24.8	14.5	7.5	4.6	0	0
	September	593	82.4%	2.4	1.7	15.0	13.1	5.1	3.2	0	0
	October	744	100.0%	3.0	2.4	33.5	24.8	8.7	6.7	0	0
	November	718	99.7%	2.6	2.2	12.6	9.1	4.7	4.2	0	0
	December	744	100.0%	2.7	2.4	29.4	22.5	6.7	5.8	0	0
Annual		8588	98.0%	2.7	2.2	46.8	30.3	10.3	8.0	0	0
2024	January	738	99.2%	3.1	2.5	39.0	26.1	9.4	7.2	0	0
	February	692	99.4%	3.3	2.6	50.3	29.1	11.1	7.8	0	0
	March	687	92.3%	2.6	2.2	26.0	25.2	8.5	7.8	0	0
	April	688	95.6%	2.0	1.6	21.2	16.2	6.8	5.0	0	0
	May	744	100.0%	4.7	3.8	30.9	18.3	10.9	8.5	0	0
	June	720	100.0%	4.2	3.3	27.6	18.2	9.1	7.4	0	0
	July	730	98.1%	3.8	2.8	35.4	24.7	10.8	7.4	0	0
	August	744	100.0%	2.0	1.3	20.2	14.4	6.1	4.0	0	0
	September	710	98.6%	2.6	1.4	28.0	20.2	5.9	4.2	0	0
	October	742	99.7%	2.2	1.5	19.7	14.7	5.4	3.2	0	0
	November	717	99.6%	2.1	1.3	11.7	10.1	4.7	4.0	0	0
	December	700	94.1%	2.4	1.9	16.4	15.6	5.6	4.8	0	0
Annual		8612	98.0%	2.9	2.2	50.3	29.1	11.1	8.5	0	0

Observations in ppb

**FIGURE 3.4.3 - CORNER BROOK NAPS ANNUAL NO<sub>x</sub> / NO<sub>2</sub> CONCENTRATIONS**



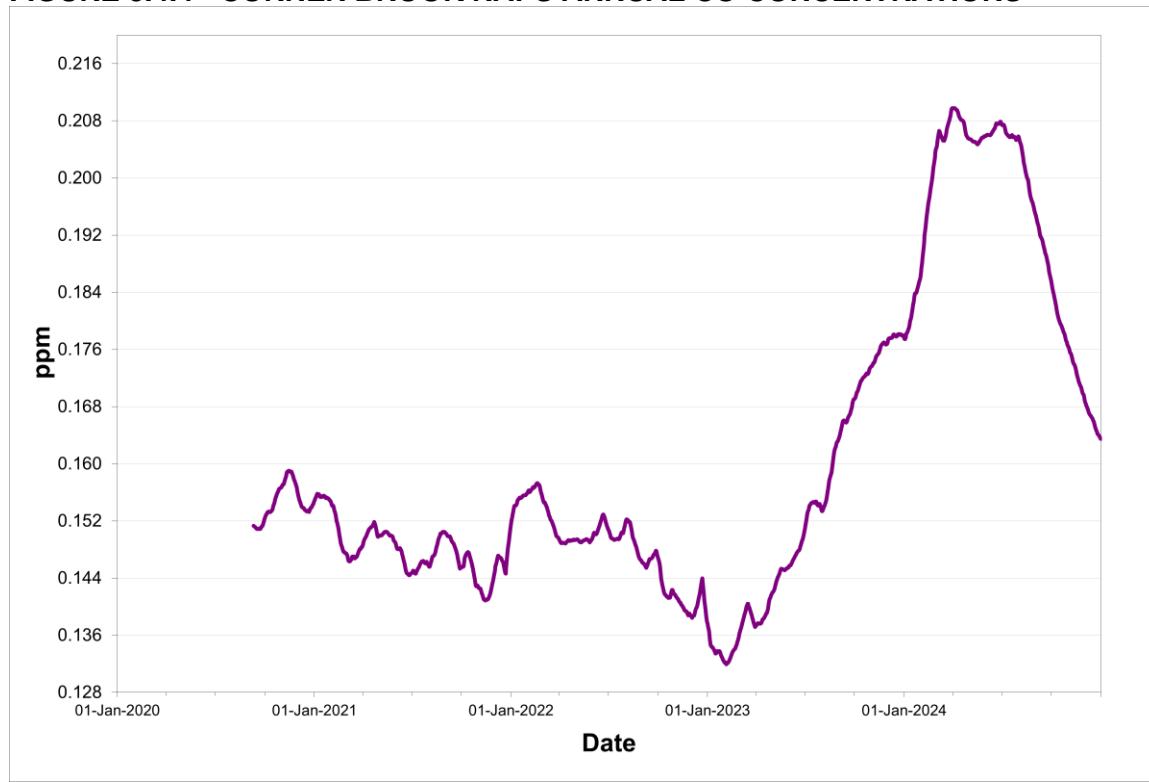
Rolling annual average of hourly concentrations

**TABLE 3.4.4 - CORNER BROOK NAPS CO SUMMARY 2023 & 2024**

Year	Month	# Valid	% Valid	Average	Maximum		Regulatory Exceedances	
		Hours	Hours		1-Hour	8-Hour	1-Hour (>30.582)	8-Hour (>13.107)
2023	January	738	99.2%	0.1	0.4	0.3	0	0
	February	630	93.8%	0.1	0.4	0.2	0	0
	March	741	99.6%	0.1	0.5	0.3	0	0
	April	717	99.6%	0.3	0.5	0.4	0	0
	May	738	99.2%	0.2	0.3	0.3	0	0
	June	697	96.8%	0.2	0.3	0.2	0	0
	July	743	99.9%	0.1	0.4	0.3	0	0
	August	742	99.7%	0.2	0.4	0.3	0	0
	September	593	82.4%	0.2	0.4	0.3	0	0
	October	744	100.0%	0.2	0.4	0.2	0	0
	November	718	99.7%	0.2	0.4	0.2	0	0
	December	744	100.0%	0.2	0.5	0.4	0	0
Annual		8545	97.5%	0.2	0.5	0.4	0	0
2024	January	485	65.2%	0.3	0.7	0.5	0	0
	February	676	97.1%	0.4	0.8	0.6	0	0
	March	688	92.5%	0.2	0.5	0.4	0	0
	April	687	95.4%	0.2	0.4	0.2	0	0
	May	744	100.0%	0.2	0.3	0.3	0	0
	June	720	100.0%	0.2	0.3	0.3	0	0
	July	741	99.6%	0.1	0.3	0.2	0	0
	August	740	99.5%	0.1	0.2	0.2	0	0
	September	711	98.8%	0.1	0.4	0.1	0	0
	October	738	99.2%	0.1	0.4	0.1	0	0
	November	716	99.4%	0.1	0.2	0.2	0	0
	December	703	94.5%	0.1	0.4	0.3	0	0
Annual		8349	95.0%	0.2	0.8	0.6	0	0

Observations in ppm

**FIGURE 3.4.4 - CORNER BROOK NAPS ANNUAL CO CONCENTRATIONS**

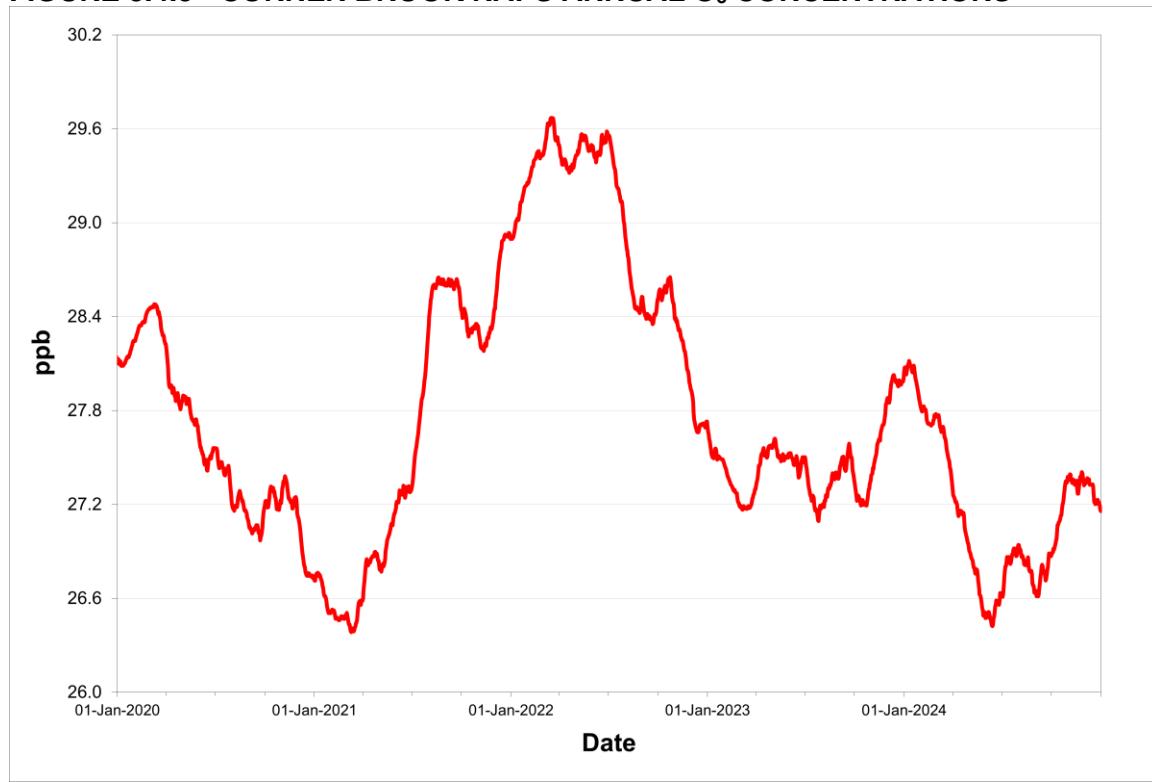


**TABLE 3.4.5 - CORNER BROOK NAPS O<sub>3</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid	% Valid	Average	Maximum		Regulatory Exceedances	
		Hours	Hours		1-Hour	8-Hour	1-Hour (>82)	8-Hour (>44)
2023	January	741	99.6%	32.7	42.2	39.6	0	0
	February	653	97.2%	34.6	42.2	41.2	0	0
	March	744	100.0%	38.3	46.3	45.5	0	4
	April	719	99.9%	38.4	53.6	50.1	0	11
	May	742	99.7%	30.7	44.7	42.7	0	0
	June	720	100.0%	22.9	40.6	35.9	0	0
	July	744	100.0%	18.7	41.1	33.9	0	0
	August	743	99.9%	20.1	37.9	33.3	0	0
	September	593	82.4%	18.1	34.0	29.3	0	0
	October	742	99.7%	20.5	37.2	31.6	0	0
	November	719	99.9%	27.9	45.0	42.4	0	0
	December	744	100.0%	32.0	41.3	40.6	0	0
Annual		8604	98.2%	28.0	53.6	50.1	0	15
2024	January	485	65.2%	32.4	40.9	40.0	0	0
	February	674	96.8%	33.9	45.1	44.0	0	0
	March	691	92.9%	33.6	46.0	44.7	0	1
	April	687	95.4%	34.3	45.4	42.4	0	0
	May	744	100.0%	25.2	41.2	35.1	0	0
	June	714	99.2%	24.7	45.8	43.0	0	0
	July	736	98.9%	21.9	42.3	35.3	0	0
	August	744	100.0%	16.9	39.5	31.4	0	0
	September	710	98.6%	22.1	41.6	38.1	0	0
	October	740	99.5%	26.2	45.0	42.9	0	0
	November	717	99.6%	27.7	40.3	39.2	0	0
	December	702	94.4%	30.5	42.7	37.9	0	0
Annual		8344	95.0%	27.2	46.0	44.7	0	1

Observations in ppb

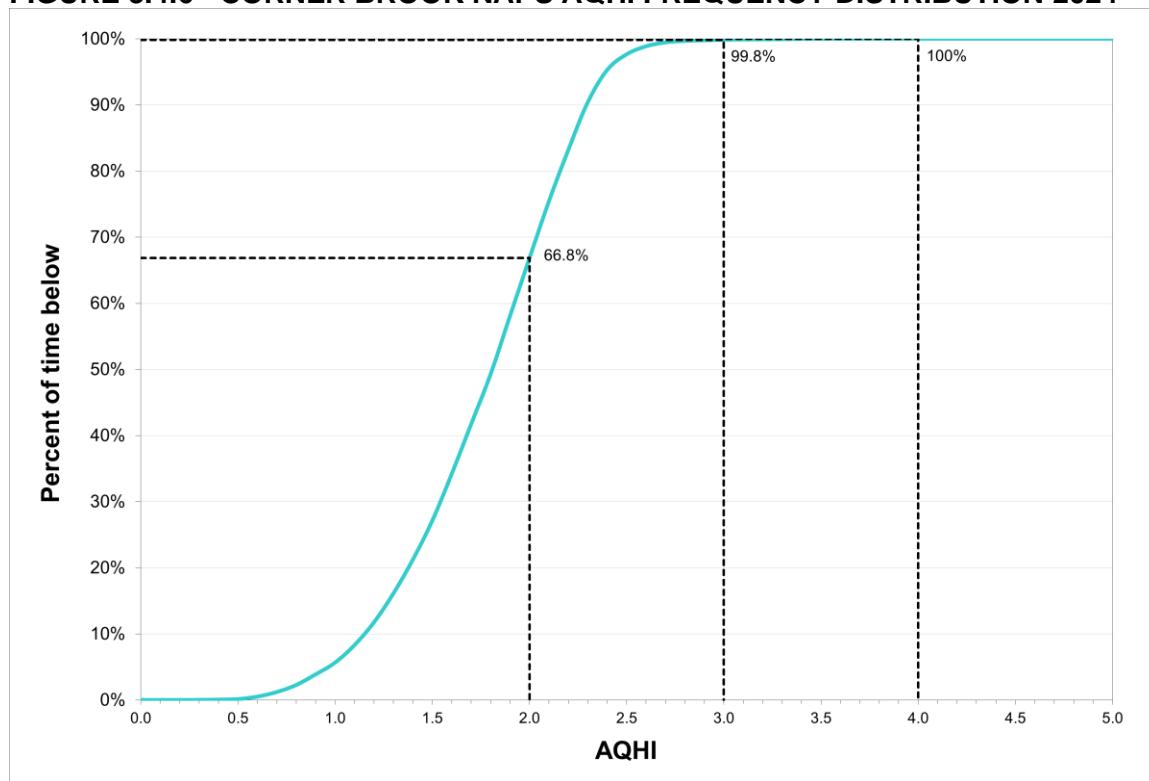
**FIGURE 3.4.5 - CORNER BROOK NAPS ANNUAL O<sub>3</sub> CONCENTRATIONS**



**TABLE 3.4.6 - CORNER BROOK NAPS AQHI SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average	Maximum 3-Hour
2023	January	674	90.6%	2.1	2.8
	February	654	97.3%	2.2	3.4
	March	744	100.0%	2.5	3.5
	April	718	99.7%	2.5	3.6
	May	740	99.5%	2.0	2.8
	June	688	95.6%	1.5	2.9
	July	742	99.7%	1.3	2.7
	August	744	100.0%	1.3	2.3
	September	591	82.1%	1.3	2.4
	October	742	99.7%	1.4	2.2
	November	720	100.0%	1.8	2.4
	December	744	100.0%	2.0	2.5
Annual		8501	97.0%	1.8	3.6
2024	January	486	65.3%	2.1	2.7
	February	676	97.1%	2.2	3.6
	March	688	92.5%	2.1	3.2
	April	687	95.4%	2.1	2.8
	May	744	100.0%	1.8	3.0
	June	714	99.2%	1.7	2.8
	July	725	97.4%	1.6	2.7
	August	744	100.0%	1.2	3.0
	September	708	98.3%	1.4	2.7
	October	740	99.5%	1.6	2.9
	November	718	99.7%	1.7	2.4
	December	699	94.0%	1.9	3.0
Annual		8329	94.8%	1.8	3.6

**FIGURE 3.4.6 - CORNER BROOK NAPS AQHI FREQUENCY DISTRIBUTION 2024**



e.g. 99.8% of the time the AQHI recorded was below 3.0

### 3.5 Burin

The Burin NAPS air quality monitoring station is located near the Highway Depot in Burin and monitors the levels of NO<sub>x</sub> / NO<sub>2</sub>, CO, O<sub>3</sub>, PM<sub>2.5</sub> and PM<sub>10</sub> on a continuous basis. The air quality standards for NO<sub>x</sub> / NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> and CO were not exceeded in 2024. For the 8-hour O<sub>3</sub>, the air quality standard was exceeded twelve times in 2024, specifically three times in February, three times in March, five times in April and once in July.

In July 2018 a new Teledyne API T640 was installed at the site, capable of simultaneously measuring PM<sub>10</sub> and PM<sub>2.5</sub>. For determination of compliance with the Canadian Ambient Air Quality Standards (CAAQS), this monitor replaced the Met One BAMs, however the BAMs remained in place until August 2023, as a co-location comparison study for Environment Canada for different technologies measuring both PM<sub>10</sub> and PM<sub>2.5</sub>. The BAMs were permanently decommissioned after this date. As a result, only the data from the T640 is captured in this annual report

Tables 3.5.1 through 3.5.4 provide summary information on the level of each air contaminant measured at the Burin site while Figures 3.5.1 through 3.5.4 provide a graphical representation of the annual trend for each pollutant.

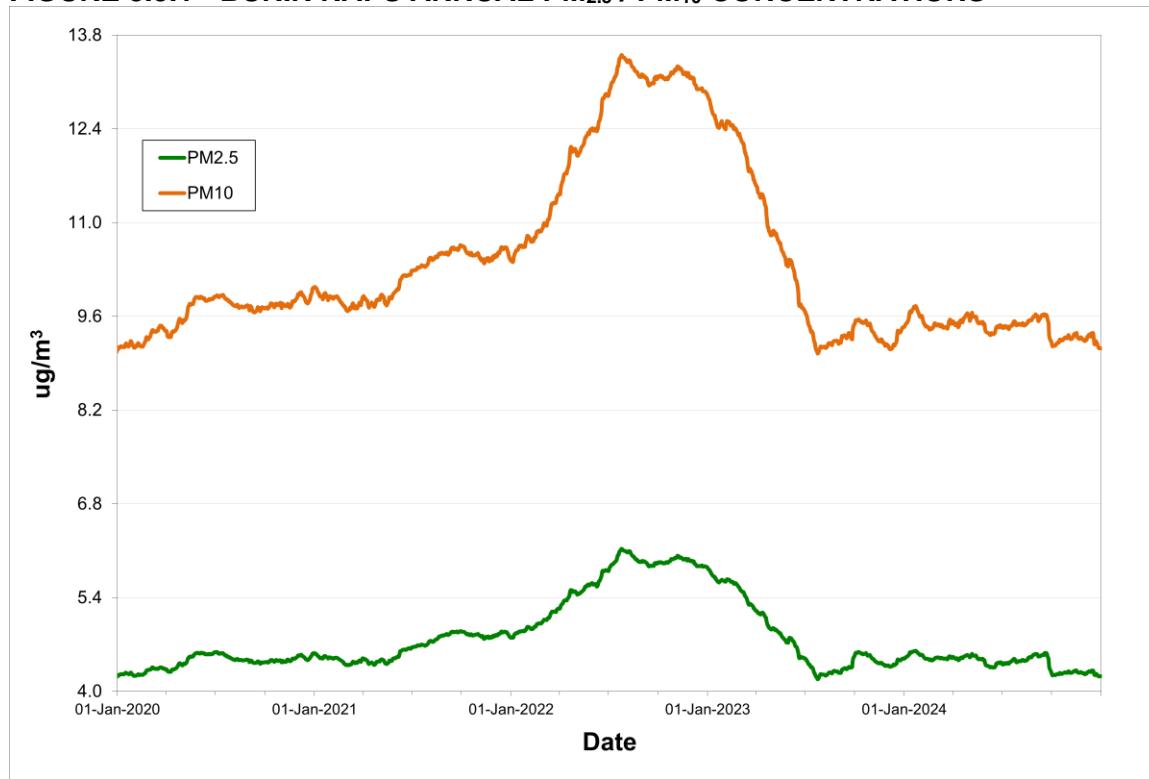
Table 3.5.5 provides a summary of the AQHI, while Figure 3.5.5 provides a graphical representation of the AQHI frequency based on all data collected in Burin in 2024.

**TABLE 3.5.1 - BURIN NAPS PM<sub>2.5</sub> / PM<sub>10</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Days	% Valid Days	Average		24-Hour Maximum		Regulatory Exceedances	
		PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub> (>25)	PM <sub>10</sub> (>50)
2023	January	742	99.7%	3.4	7.5	11.0	23.6	0	0
	February	672	100.0%	4.4	10.7	9.6	23.3	0	0
	March	744	100.0%	4.5	10.9	10.0	30.0	0	0
	April	719	99.9%	4.6	10.0	8.8	20.0	0	0
	May	744	100.0%	5.1	10.7	20.9	33.4	0	0
	June	720	100.0%	4.0	7.2	25.7	38.6	4	0
	July	743	99.9%	4.8	8.6	12.5	19.9	0	0
	August	741	99.6%	4.1	8.2	10.9	18.1	0	0
	September	719	99.9%	6.9	12.8	43.7	69.8	32	22
	October	743	99.9%	4.3	8.9	12.0	20.1	0	0
	November	719	99.9%	3.2	7.3	8.8	20.6	0	0
	December	743	99.9%	4.6	10.6	18.0	42.3	0	0
Annual		8749	99.9%	4.5	9.4	43.7	69.8	36	22
2024	January	742	99.7%	4.0	9.3	11.1	24.6	0	0
	February	696	100.0%	3.9	9.4	8.2	20.7	0	0
	March	743	99.9%	4.6	11.3	11.8	27.2	0	0
	April	718	99.7%	4.8	11.0	12.9	30.2	0	0
	May	744	100.0%	3.8	8.3	9.8	24.6	0	0
	June	720	100.0%	4.1	7.8	18.5	27.2	0	0
	July	741	99.6%	5.0	8.9	15.5	24.3	0	0
	August	744	100.0%	5.3	9.6	16.6	24.0	0	0
	September	720	100.0%	3.9	8.3	13.9	22.0	0	0
	October	742	99.7%	4.0	9.4	9.4	19.8	0	0
	November	720	100.0%	3.2	7.0	7.6	17.3	0	0
	December	744	100.0%	4.0	8.9	10.4	25.1	0	0
Annual		8774	99.9%	4.2	9.1	18.5	30.2	0	0

Observations in  $\mu\text{g}/\text{m}^3$

**FIGURE 3.5.1 - BURIN NAPS ANNUAL PM<sub>2.5</sub> / PM<sub>10</sub> CONCENTRATIONS**

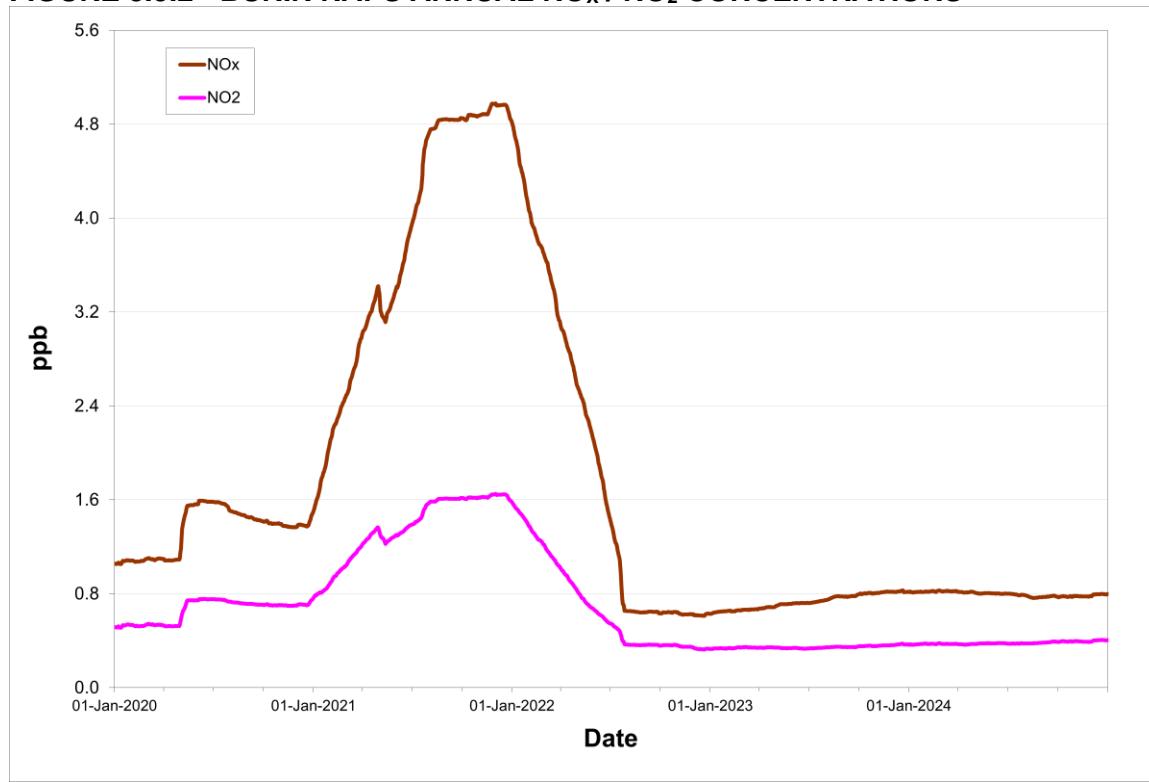


**TABLE 3.5.2 - BURIN NAPS NO<sub>x</sub> / NO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average		Maximums				Exceedances	
				NO <sub>x</sub>	NO <sub>2</sub>	1-Hour NO <sub>x</sub>	1-Hour NO <sub>2</sub>	24-Hour NO <sub>x</sub>	24-Hour NO <sub>2</sub>	1-Hour (>213)	24-Hour (>106)
2023	January	740	99.5%	0.7	0.4	11.3	5.2	1.5	0.9	0	0
	February	671	99.9%	0.8	0.5	20.5	11.7	2.1	1.6	0	0
	March	741	99.6%	0.9	0.5	14.8	8.4	2.0	1.3	0	0
	April	716	99.4%	0.8	0.3	2.7	1.9	1.3	0.7	0	0
	May	741	99.6%	0.9	0.3	8.5	3.4	1.9	0.9	0	0
	June	717	99.6%	0.7	0.3	5.5	2.6	1.3	0.8	0	0
	July	739	99.3%	0.9	0.3	4.9	1.8	1.3	0.5	0	0
	August	679	91.3%	0.9	0.3	13.0	3.2	1.9	0.6	0	0
	September	719	99.9%	0.8	0.3	12.2	4.3	1.9	0.9	0	0
	October	743	99.9%	0.8	0.4	21.8	7.0	2.2	0.9	0	0
	November	235	32.6%	1.0	0.5	13.0	5.6	2.7	1.2	0	0
	December	582	78.2%	0.8	0.4	5.2	2.8	1.5	0.7	0	0
Annual		8023	91.6%	0.8	0.4	21.8	11.7	2.7	1.6	0	0
2024	January	741	99.6%	0.8	0.5	9.0	7.2	1.7	1.2	0	0
	February	691	99.3%	0.9	0.5	9.7	7.7	2.3	1.5	0	0
	March	742	99.7%	0.8	0.4	32.6	12.4	2.5	1.1	0	0
	April	716	99.4%	0.7	0.3	7.1	3.1	1.2	0.8	0	0
	May	741	99.6%	0.8	0.3	5.0	2.4	1.4	0.7	0	0
	June	718	99.7%	0.7	0.3	6.4	3.0	1.0	0.5	0	0
	July	738	99.2%	0.7	0.3	29.6	13.2	2.3	1.0	0	0
	August	742	99.7%	0.7	0.3	8.7	3.7	1.0	0.5	0	0
	September	720	100.0%	0.8	0.4	8.8	4.4	1.3	0.7	0	0
	October	741	99.6%	0.9	0.5	17.4	7.7	2.7	1.3	0	0
	November	718	99.7%	0.8	0.4	5.2	4.0	1.5	1.0	0	0
	December	741	99.6%	1.0	0.6	28.8	14.3	3.6	2.0	0	0
Annual		8749	99.6%	0.8	0.4	32.6	14.3	3.6	2.0	0	0

Observations in ppb

**FIGURE 3.5.2 - BURIN NAPS ANNUAL NO<sub>x</sub> / NO<sub>2</sub> CONCENTRATIONS**



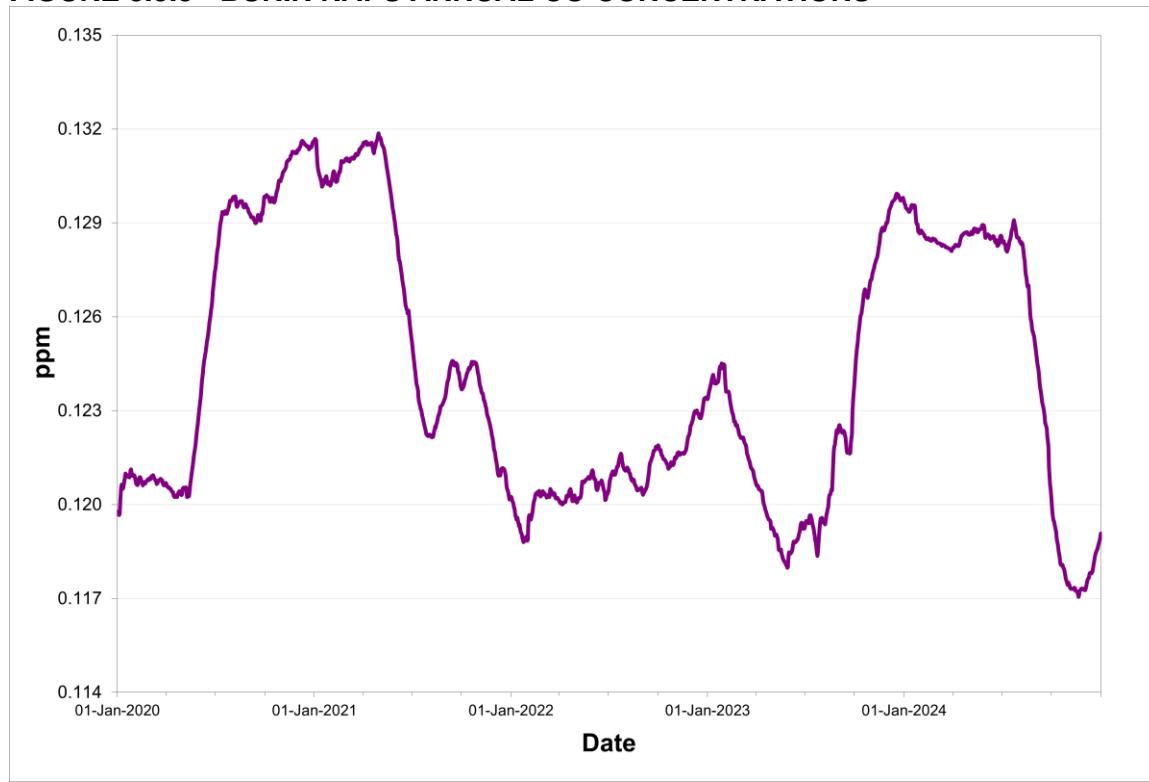
Rolling annual average of hourly concentrations

**TABLE 3.5.3 - BURIN NAPS CO SUMMARY 2023 & 2024**

Year	Month	# Valid	% Valid	Average	Maximum		Regulatory Exceedances	
		Hours	Hours		1-Hour	8-Hour	1-Hour (>30.582)	8-Hour (>13.107)
2023	January	656	88.2%	0.1	0.4	0.3	0	0
	February	0	0.0%					
	March	60	8.1%	0.1	0.2	0.1	0	0
	April	631	87.6%	0.1	0.2	0.1	0	0
	May	742	99.7%	0.1	0.3	0.3	0	0
	June	718	99.7%	0.1	0.2	0.2	0	0
	July	707	95.0%	0.1	0.2	0.2	0	0
	August	679	91.3%	0.2	0.3	0.2	0	0
	September	718	99.7%	0.2	0.4	0.4	0	0
	October	743	99.9%	0.1	0.4	0.2	0	0
	November	717	99.6%	0.1	0.2	0.2	0	0
	December	742	99.7%	0.1	0.3	0.2	0	0
Annual		7113	81.2%	0.1	0.4	0.4	0	0
2024	January	741	99.6%	0.1	0.4	0.2	0	0
	February	694	99.7%	0.1	0.3	0.2	0	0
	March	742	99.7%	0.1	0.2	0.1	0	0
	April	717	99.6%	0.1	0.2	0.1	0	0
	May	743	99.9%	0.1	0.2	0.2	0	0
	June	719	99.9%	0.1	0.2	0.2	0	0
	July	460	61.8%	0.1	0.2	0.2	0	0
	August	731	98.3%	0.1	0.2	0.2	0	0
	September	720	100.0%	0.1	0.2	0.1	0	0
	October	621	83.5%	0.1	0.2	0.2	0	0
	November	718	99.7%	0.1	0.2	0.2	0	0
	December	744	100.0%	0.1	0.2	0.2	0	0
Annual		8350	95.1%	0.1	0.4	0.2	0	0

Observations in ppm

**FIGURE 3.5.3 - BURIN NAPS ANNUAL CO CONCENTRATIONS**

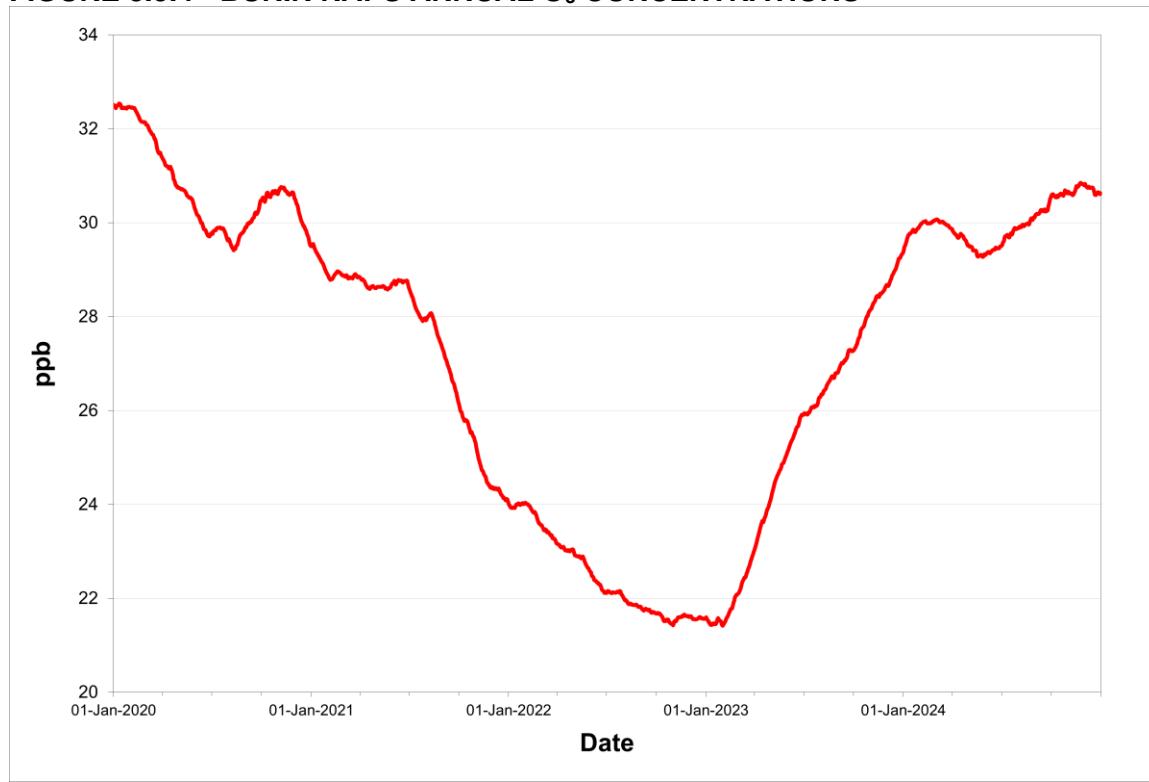


**TABLE 3.5.4 - BURIN NAPS O<sub>3</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid	% Valid	Average	Maximum		Regulatory Exceedances	
		Hours	Hours		1-Hour	8-Hour	1-Hour (>82)	8-Hour (>44)
2023	January	546	73.4%	28.0	41.3	40.4	0	0
	February	660	98.2%	36.0	44.9	43.8	0	0
	March	742	99.7%	39.6	46.8	45.1	0	6
	April	716	99.4%	40.3	52.1	47.6	0	21
	May	742	99.7%	33.6	51.2	46.6	0	3
	June	718	99.7%	25.0	38.5	35.1	0	0
	July	740	99.5%	20.0	54.4	46.0	0	1
	August	739	99.3%	21.4	42.2	39.0	0	0
	September	718	99.7%	20.2	39.0	34.8	0	0
	October	742	99.7%	25.7	49.4	46.4	0	1
	November	717	99.6%	29.6	47.1	42.7	0	0
	December	741	99.6%	33.3	43.9	43.4	0	0
Annual		8521	97.3%	29.4	54.4	47.6	0	32
2024	January	741	99.6%	35.0	42.5	40.8	0	0
	February	690	99.1%	37.7	46.4	44.7	0	3
	March	742	99.7%	37.2	48.6	45.1	0	3
	April	716	99.4%	36.0	48.8	47.6	0	5
	May	741	99.6%	31.0	46.3	42.0	0	0
	June	717	99.6%	27.0	49.7	39.5	0	0
	July	565	75.9%	22.9	59.0	44.3	0	1
	August	742	99.7%	24.1	41.5	39.9	0	0
	September	720	100.0%	25.2	44.5	39.8	0	0
	October	711	95.6%	26.9	43.7	40.2	0	0
	November	718	99.7%	31.7	45.5	41.9	0	0
	December	741	99.6%	31.3	46.6	41.6	0	0
Annual		8544	97.3%	30.6	59.0	47.6	0	12

Observations in ppb

**FIGURE 3.5.4 - BURIN NAPS ANNUAL O<sub>3</sub> CONCENTRATIONS**

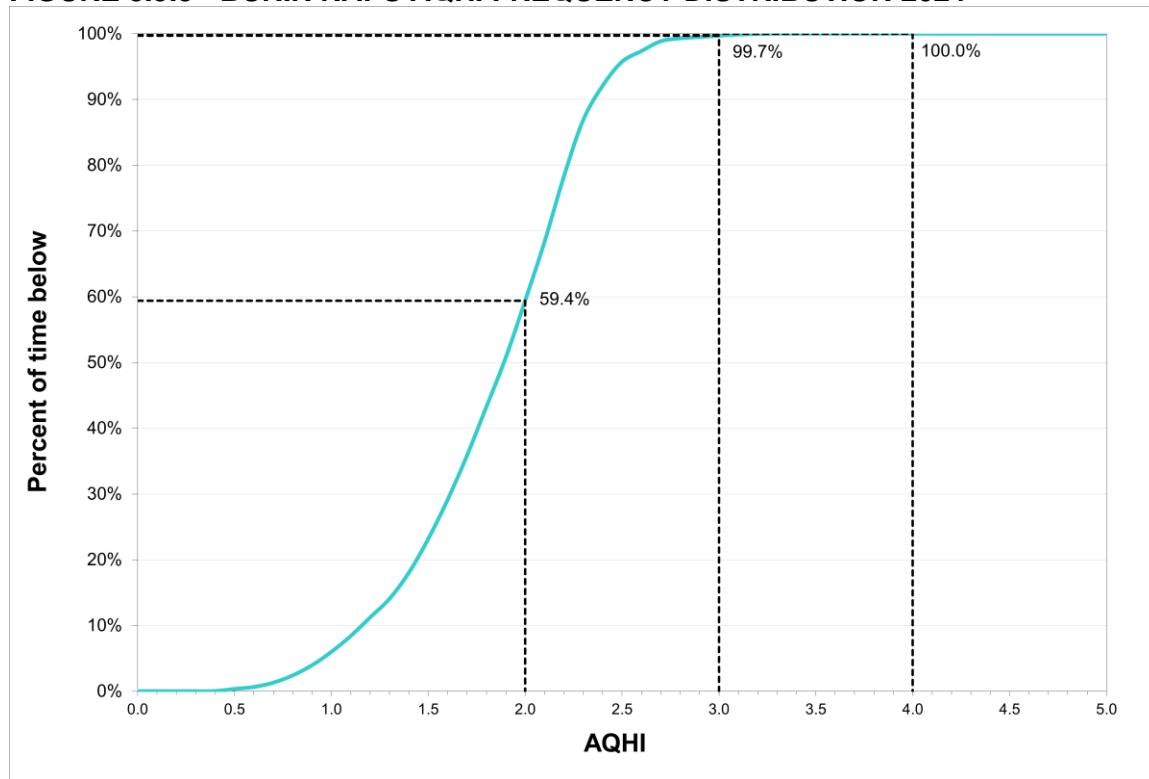


Rolling annual average of hourly concentrations

**TABLE 3.5.5 - BURIN NAPS AQHI SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average	Maximum 3-Hour
2023	January	546	73.4%	1.6	2.6
	February	660	98.2%	2.1	2.9
	March	744	100.0%	2.3	2.9
	April	715	99.3%	2.3	2.9
	May	742	99.7%	2.0	3.5
	June	718	99.7%	1.5	2.7
	July	739	99.3%	1.3	3.2
	August	679	91.3%	1.3	2.7
	September	718	99.7%	1.4	3.4
	October	744	100.0%	1.6	3.0
	November	236	32.8%	1.8	2.5
	December	581	78.1%	2.1	3.2
Annual		7822	89.3%	1.8	3.5
2024	January	741	99.6%	2.1	2.9
	February	691	99.3%	2.2	3.0
	March	744	100.0%	2.2	3.3
	April	715	99.3%	2.1	3.1
	May	742	99.7%	1.8	2.8
	June	718	99.7%	1.6	3.0
	July	563	75.7%	1.4	2.8
	August	744	100.0%	1.5	2.7
	September	720	100.0%	1.5	2.6
	October	711	95.6%	1.6	2.9
	November	720	100.0%	1.8	3.0
	December	742	99.7%	1.9	3.1
Annual		8551	97.3%	1.8	3.3

**FIGURE 3.5.5 - BURIN NAPS AQHI FREQUENCY DISTRIBUTION 2024**



e.g. 99.7% of the time the AQHI recorded was below 3.0

### 3.6 Port aux Choix

The Port aux Choix NAPS air quality monitoring station is located at the Town Depot and monitors the levels of O<sub>3</sub> on a continuous basis. There were nine recorded O<sub>3</sub> exceedances of the 8-hour air quality standard at this station in 2024, with three exceedances occurring in February and six in April.

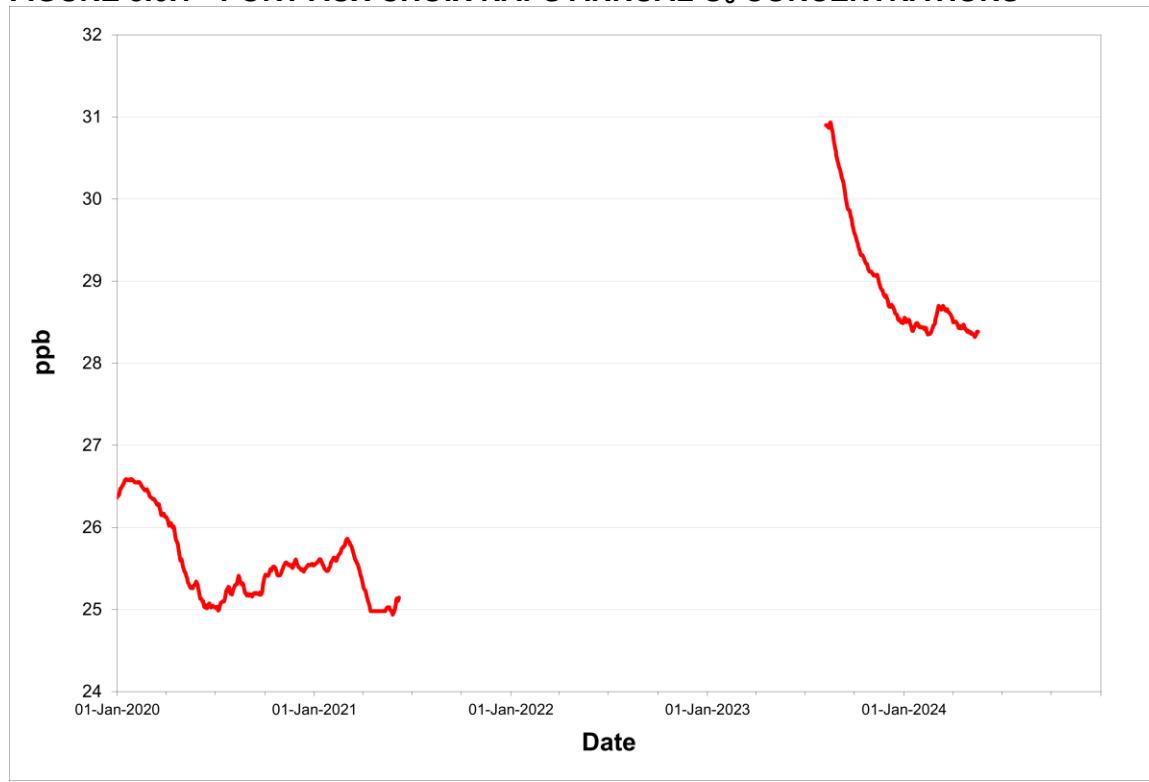
Table 3.6.1 presents the summary information on the level of O<sub>3</sub> measured at the Port aux Choix NAPS station while Figure 3.6.1 presents a graphical representation of the annual trend of O<sub>3</sub>.

**TABLE 3.6.1 - PORT AUX CHOIX NAPS O<sub>3</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average	Maximum		Regulatory Exceedances	
		1-Hour	8-Hour		1-Hour (>82)	8-Hour (>44)		
2023	January	581	78.1%	34.8	41.7	40.7	0	0
	February	634	94.3%	36.4	42.2	41.5	0	0
	March	606	81.5%	40.4	46.7	46.0	0	5
	April	699	97.1%	38.7	49.8	47.8	0	15
	May	744	100.0%	29.4	42.0	39.0	0	0
	June	713	99.0%	22.0	37.4	30.2	0	0
	July	738	99.2%	18.4	39.6	34.3	0	0
	August	744	100.0%	21.1	36.9	33.9	0	0
	September	720	100.0%	21.4	32.4	30.5	0	0
	October	744	100.0%	24.1	34.9	32.9	0	0
	November	560	77.8%	28.7	39.0	38.1	0	0
	December	744	100.0%	31.5	38.5	37.1	0	0
Annual		8227	93.9%	28.5	49.8	47.8	0	20
2024	January	744	100.0%	32.7	39.7	37.8	0	0
	February	693	99.6%	37.0	48.3	46.5	0	3
	March	744	100.0%	38.3	44.8	44.0	0	0
	April	720	100.0%	36.5	49.5	46.3	0	6
	May	744	100.0%	30.3	43.5	40.2	0	0
	June	715	99.3%	24.8	42.7	39.0	0	0
	July	744	100.0%	20.0	32.3	30.0	0	0
	August	742	99.7%	21.6	39.8	31.8	0	0
	September	720	100.0%	23.8	41.2	38.5	0	0
	October	741	99.6%	25.8	44.3	42.6	0	0
	November	720	100.0%	32.0	43.4	42.2	0	0
	December	315	42.3%	33.0	45.5	37.4	0	0
Annual		8342	95.0%	29.5	49.5	46.5	0	9

Observations in ppb

**FIGURE 3.6.1 - PORT AUX CHOIX NAPS ANNUAL O<sub>3</sub> CONCENTRATIONS**



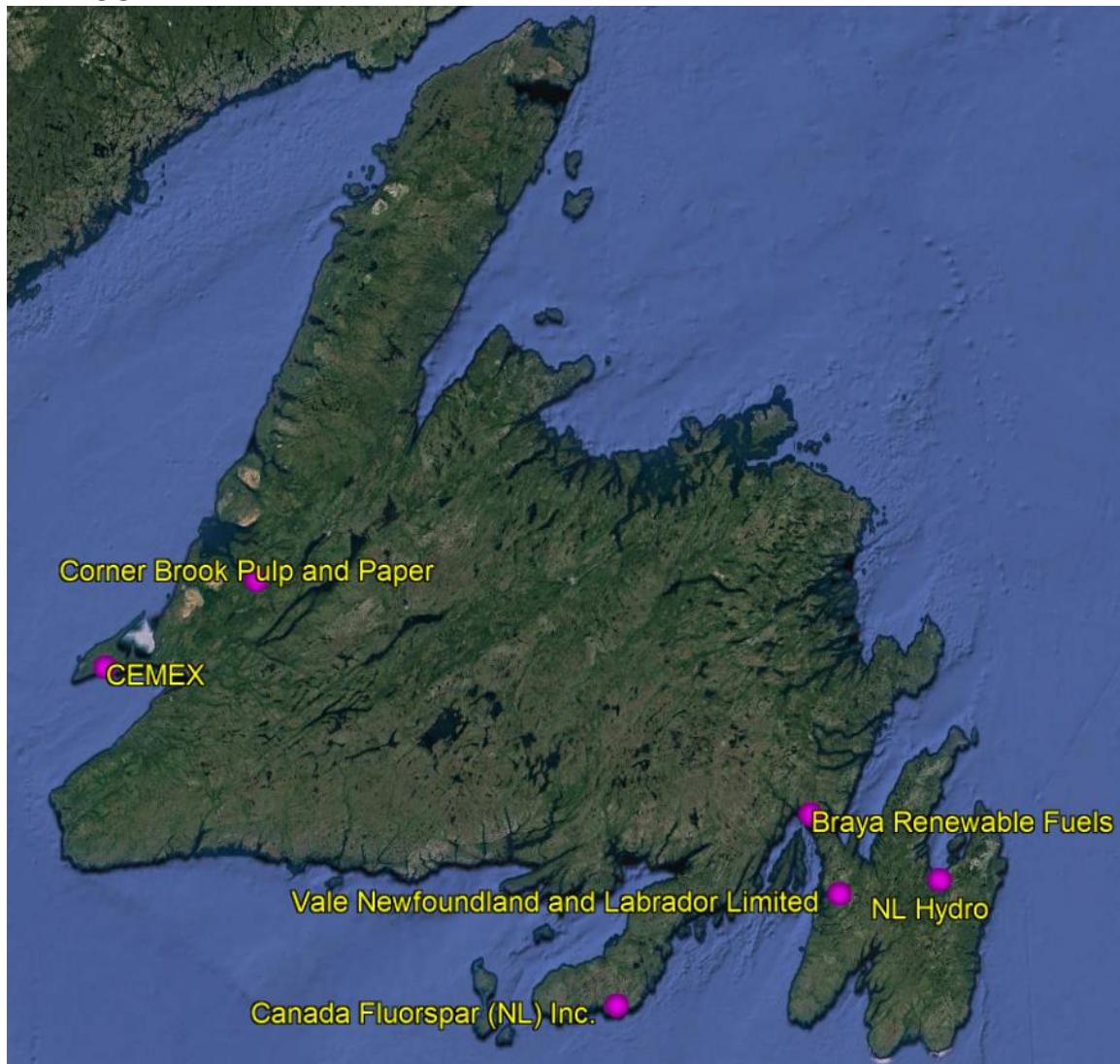
## 4.0 Industrial Air Quality Monitoring Network

Industrial operations in the province are responsible for the monitoring of air quality near their facility. The Department audits the operation of the industrial air quality monitoring stations on a regular basis to ensure that the monitors are functioning according to instrument specifications and to the standard operating procedures. If the audits indicate a monitor is not operating within the specifications, corrective actions are required by the industry and data may be invalidated.

On the island of Newfoundland, there were six air quality monitoring networks operated by industry in 2024 and another four in Labrador. Figures 4.0.1 and 4.0.2 present the locations of these air quality monitoring networks.

The subsequent sections of this report detail the summary statistics and the longer-term trend of pollutants measured at each station within a given network.

**FIGURE 4.0.1 - INDUSTRIAL AIR QUALITY MONITORING NETWORK IN NEWFOUNDLAND**



**FIGURE 4.0.2 - INDUSTRIAL AIR QUALITY MONITORING NETWORK IN LABRADOR**

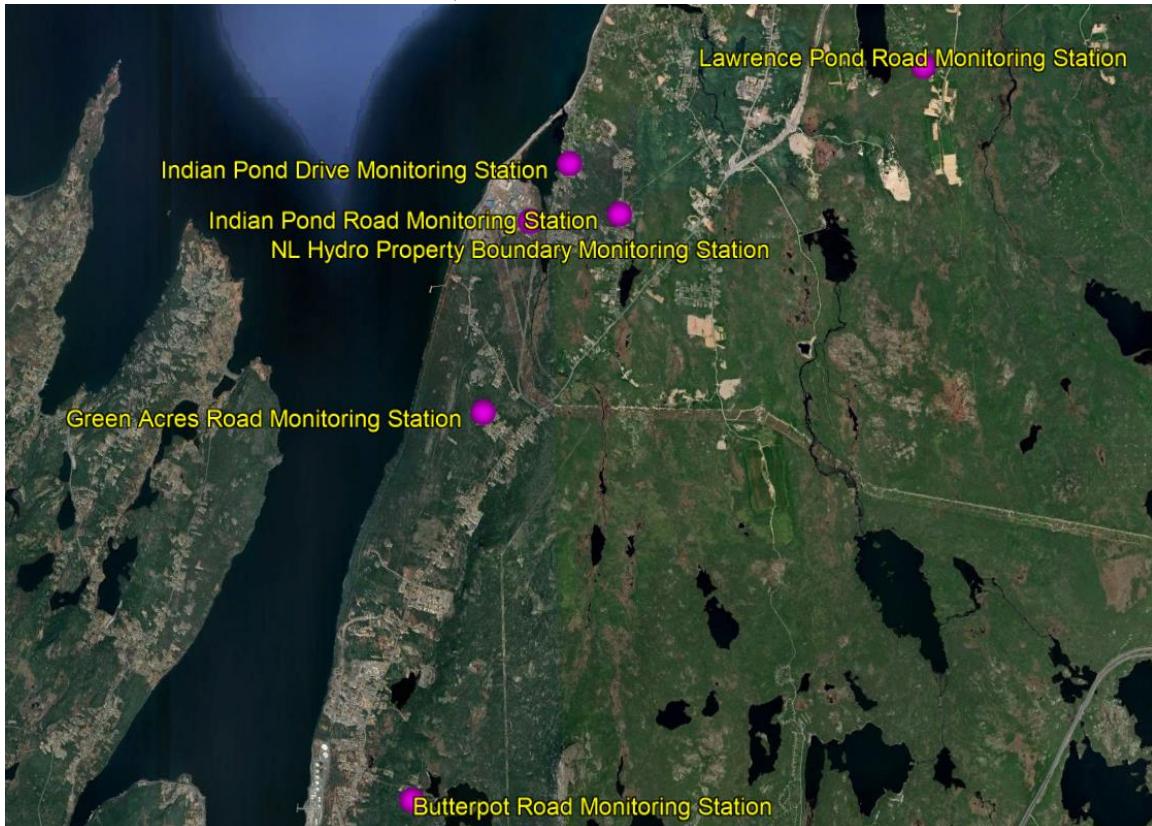


## 4.1 Newfoundland and Labrador Hydro

In 2024, Newfoundland and Labrador Hydro (NL Hydro) operated air quality monitoring stations at six locations in the Holyrood area. These stations are installed to monitor the air quality near the Holyrood Thermal Generating Station (HTGS) and are located at Butterpot Road, Green Acres Road, Indian Pond Drive, Indian Pond Road, Lawrence Pond, and the NL Hydro HTGS property boundary. Figure 4.1.1 indicates the location of the six air quality monitoring stations operated by NL Hydro.

In 2021 it was announced that NALCOR Energy operations will be moving under Newfoundland and Labrador Hydro. Air quality monitoring results in previous annual reports for this facility were presented under NALCOR Energy however going forward they will be presented under Newfoundland and Labrador Hydro.

**FIGURE 4.1.1 - NL HYDRO AIR QUALITY MONITORING STATIONS**



#### 4.1.1 Butterpot Road

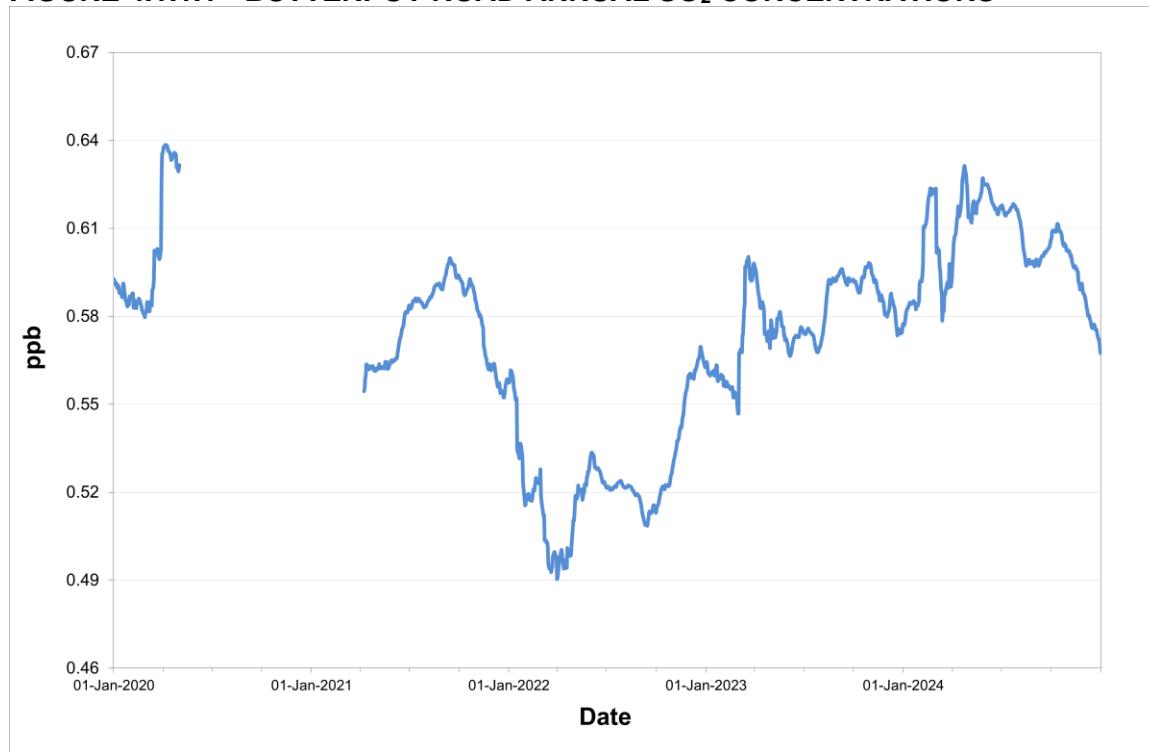
The Butterpot Road station monitors the levels of SO<sub>2</sub>, NO<sub>x</sub> / NO<sub>2</sub> and PM<sub>2.5</sub> on a continuous basis. For SO<sub>2</sub>, NO<sub>x</sub> / NO<sub>2</sub> and PM<sub>2.5</sub>, the air quality standards were not exceeded on any occasion in 2024. Tables 4.1.1.1 through 4.1.1.3 provide summary information on the level of air contaminants measured at Butterpot Road, while Figures 4.1.1.1 through 4.1.1.3 provide a graphical representation of the annual trend of each pollutant.

**TABLE 4.1.1.1 - BUTTERPOT ROAD SO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average	Maximum			Regulatory Exceedances		
					1-Hour	3-Hour	24-Hour	1-Hour (>344)	3-Hour (>229)	24-Hour (>115)
2023	January	711	95.6%	0.5	5.4	1.9	0.9	0	0	0
	February	644	95.8%	0.5	4.0	2.0	1.0	0	0	0
	March	710	95.4%	1.2	39.2	28.8	8.1	0	0	0
	April	685	95.1%	0.5	15.2	9.0	3.1	0	0	0
	May	713	95.8%	0.7	13.8	7.3	2.6	0	0	0
	June	683	94.9%	0.5	1.0	1.0	0.9	0	0	0
	July	707	95.0%	0.3	0.8	0.7	0.6	0	0	0
	August	705	94.8%	0.6	1.3	1.3	1.1	0	0	0
	September	689	95.7%	0.4	1.3	0.8	0.6	0	0	0
	October	684	91.9%	0.5	7.7	3.1	1.1	0	0	0
	November	685	95.1%	0.5	12.7	7.6	1.7	0	0	0
	December	711	95.6%	0.6	1.4	1.2	1.1	0	0	0
Annual		8327	95.1%	0.6	39.2	28.8	8.1	0	0	0
2024	January	713	95.8%	0.7	13.0	7.8	2.6	0	0	0
	February	664	95.4%	0.9	11.0	8.7	4.8	0	0	0
	March	711	95.6%	0.9	21.2	12.9	2.7	0	0	0
	April	689	95.7%	0.9	15.8	10.6	2.4	0	0	0
	May	710	95.4%	0.8	11.3	7.2	2.1	0	0	0
	June	688	95.6%	0.4	0.8	0.7	0.6	0	0	0
	July	711	95.6%	0.3	0.7	0.6	0.5	0	0	0
	August	685	92.1%	0.4	1.2	0.9	0.6	0	0	0
	September	687	95.4%	0.5	1.5	1.1	0.7	0	0	0
	October	713	95.8%	0.5	3.7	2.9	1.4	0	0	0
	November	683	94.9%	0.3	1.2	0.7	0.6	0	0	0
	December	713	95.8%	0.3	2.7	1.5	0.7	0	0	0
Annual		8367	95.3%	0.6	21.2	12.9	4.8	0	0	0

Observations in ppb

**FIGURE 4.1.1.1 - BUTTERPOT ROAD ANNUAL SO<sub>2</sub> CONCENTRATIONS**

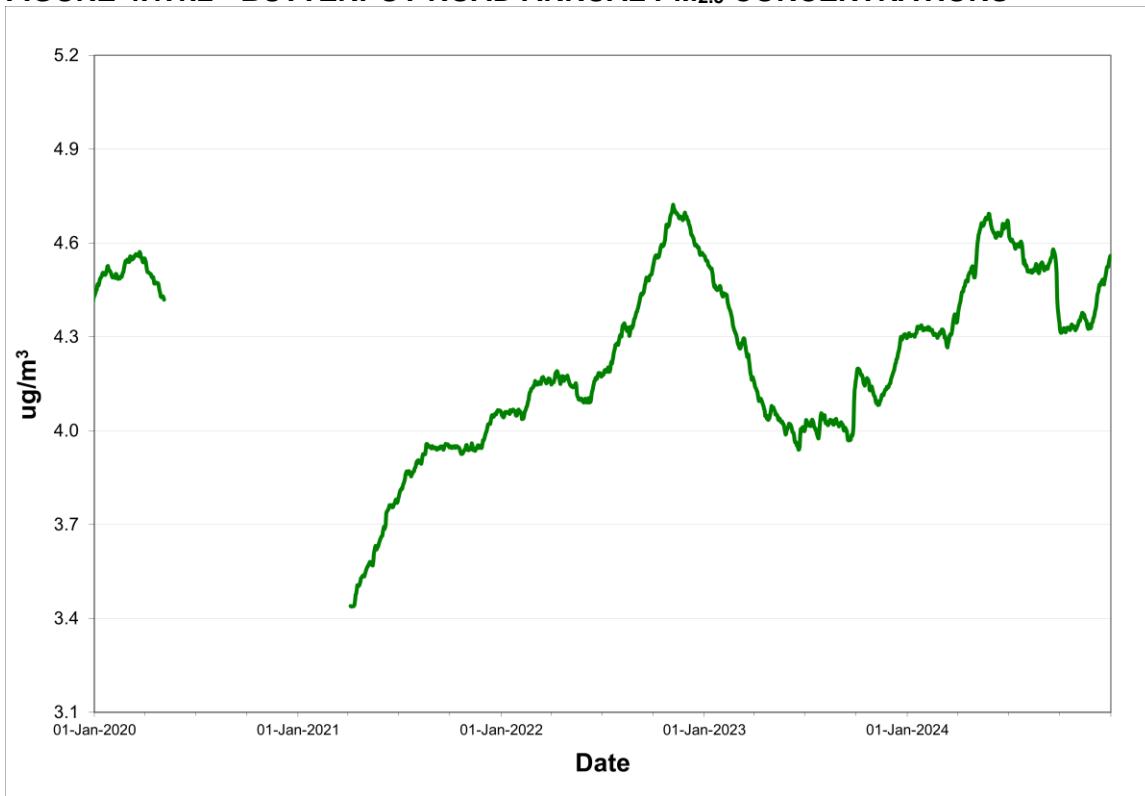


**TABLE 4.1.1.2 - BUTTERPOT ROAD PM<sub>2.5</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid 24-Hour	% Valid 24-Hour	Average	Maximum 24-Hour	Regulatory Exceedances (>25 µg/m <sup>3</sup> )
2023	January	671	90.2%	3.5	7.3	0
	February	552	82.1%	4.3	6.3	0
	March	744	100.0%	4.5	11.1	0
	April	720	100.0%	4.1	8.5	0
	May	726	97.6%	3.5	10.8	0
	June	720	100.0%	4.2	17.6	0
	July	744	100.0%	5.1	11.3	0
	August	709	95.3%	3.6	8.0	0
	September	720	100.0%	5.8	31.3	24
	October	615	82.7%	4.3	11.4	0
	November	720	100.0%	4.1	6.5	0
	December	744	100.0%	4.6	9.2	0
Annual		8385	95.7%	4.3	31.3	24
2024	January	709	95.3%	3.8	6.6	0
	February	696	100.0%	4.1	7.7	0
	March	721	96.9%	5.1	8.1	0
	April	720	100.0%	5.8	12.7	0
	May	744	100.0%	5.3	15.1	0
	June	576	80.0%	4.4	15.9	0
	July	648	87.1%	3.3	10.2	0
	August	616	82.8%	3.6	9.2	0
	September	720	100.0%	3.7	10.1	0
	October	713	95.8%	3.9	7.9	0
	November	720	100.0%	4.5	8.1	0
	December	744	100.0%	6.8	11.5	0
Annual		8327	94.8%	4.6	15.9	0

Observations in µg/m<sup>3</sup>

**FIGURE 4.1.1.2 - BUTTERPOT ROAD ANNUAL PM<sub>2.5</sub> CONCENTRATIONS**



**TABLE 4.1.1.3 - BUTTERPOT ROAD NO<sub>x</sub> / NO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average NO <sub>x</sub> NO <sub>2</sub>		Maximums				Exceedances	
						1-Hour NO <sub>x</sub>	1-Hour NO <sub>2</sub>	24-Hour NO <sub>x</sub>	24-Hour NO <sub>2</sub>	1-Hour (>213)	24-Hour (>103)
2023	January	711	95.6%	0.3	0.2	3.4	3.2	0.8	0.6	0	0
	February	644	95.8%	0.4	0.3	6.1	5.1	1.1	0.9	0	0
	March	711	95.6%	1.0	0.8	26.0	17.3	5.6	3.8	0	0
	April	684	95.0%	0.5	0.4	11.4	11.0	1.9	1.5	0	0
	May	713	95.8%	0.5	0.3	7.5	5.8	1.7	1.5	0	0
	June	685	95.1%	0.5	0.3	3.4	2.5	0.9	0.7	0	0
	July	708	95.2%	0.3	0.2	2.3	2.2	0.6	0.5	0	0
	August	672	90.3%	0.2	0.2	1.1	1.0	0.4	0.3	0	0
	September	690	95.8%	0.3	0.2	5.8	4.7	0.7	0.6	0	0
	October	665	89.4%	0.4	0.3	5.6	3.2	1.1	0.7	0	0
	November	528	73.3%	0.4	0.3	10.1	7.1	1.6	1.2	0	0
	December	710	95.4%	0.4	0.3	4.5	3.2	0.8	0.7	0	0
Annual		8121	92.7%	0.5	0.3	26.0	17.3	5.6	3.8	0	0
2024	January	712	95.7%	0.5	0.4	8.7	6.4	1.8	1.5	0	0
	February	662	95.1%	0.6	0.4	11.4	10.9	3.0	2.7	0	0
	March	711	95.6%	0.6	0.4	10.7	7.5	1.8	1.3	0	0
	April	690	95.8%	0.8	0.7	15.3	11.9	4.0	3.4	0	0
	May	710	95.4%	0.8	0.5	22.2	14.5	2.8	1.6	0	0
	June	688	95.6%	0.6	0.4	18.8	10.8	3.2	1.9	0	0
	July	711	95.6%	1.3	0.6	19.9	9.6	4.7	1.9	0	0
	August	604	81.2%	0.6	0.3	27.0	9.8	2.7	1.2	0	0
	September	689	95.7%	0.4	0.2	3.4	2.7	0.7	0.5	0	0
	October	713	95.8%	0.4	0.3	10.0	4.5	2.4	2.0	0	0
	November	652	90.6%	0.6	0.4	7.8	6.5	3.0	2.2	0	0
	December	713	95.8%	0.5	0.4	9.1	8.5	2.0	1.7	0	0
Annual		8255	94.0%	0.6	0.4	27.0	14.5	4.7	3.4	0	0

Observations in ppb

**FIGURE 4.1.1.3 - BUTTERPOT ROAD ANNUAL NO<sub>x</sub> / NO<sub>2</sub> CONCENTRATIONS**



Rolling annual average of hourly concentrations

#### 4.1.2 Green Acres Road

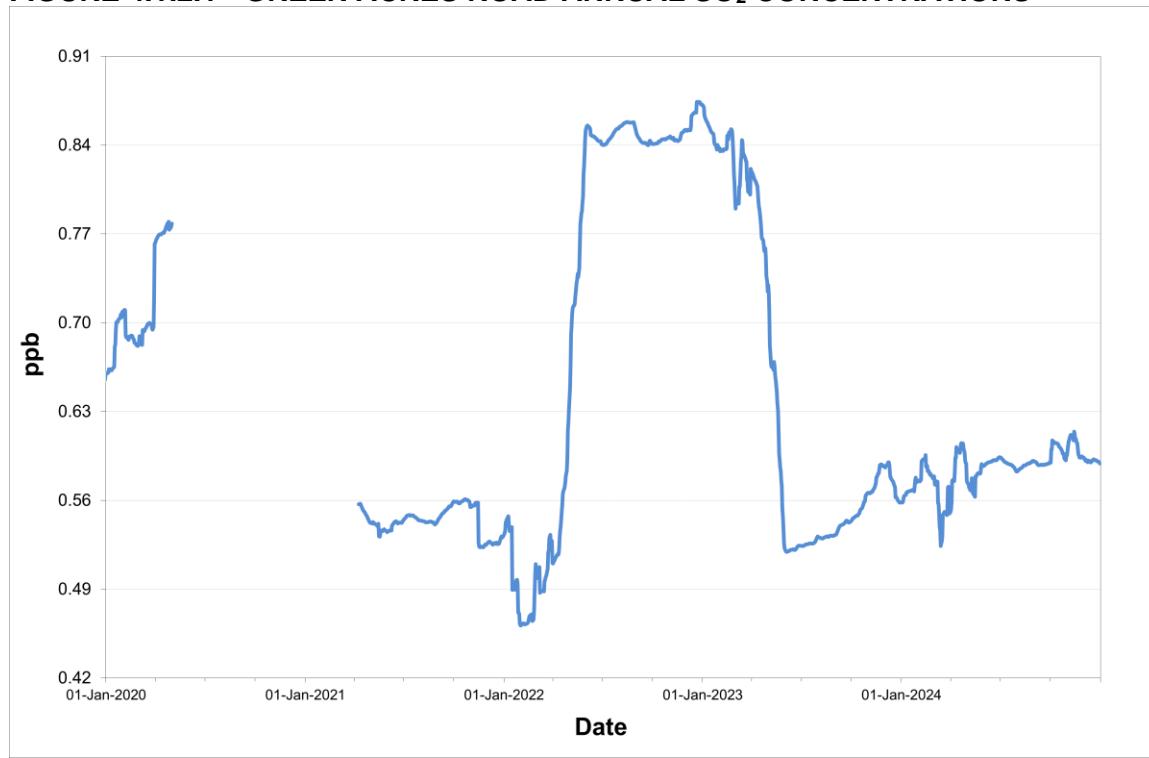
The Green Acres Road station monitors the levels of SO<sub>2</sub>, NO<sub>x</sub> / NO<sub>2</sub>, PM<sub>2.5</sub> on a continuous basis and TPM on a one-day-in-six-day cycle consistent with the NAPS defined schedule. For SO<sub>2</sub>, NO<sub>x</sub> / NO<sub>2</sub>, PM<sub>2.5</sub> and TPM the air quality standards were not exceeded on any occasion in 2024. Tables 4.1.2.1 through 4.1.2.4 provide summary information on the level of air contaminants measured at Green Acres Road, while Figures 4.1.2.1 through 4.1.2.4 provide a graphical representation of the annual trend of each pollutant.

**TABLE 4.1.2.1 - GREEN ACRES ROAD SO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average	Maximum			Regulatory Exceedances		
					1-Hour	3-Hour	24-Hour	1-Hour (>344)	3-Hour (>229)	24-Hour (>115)
2023	January	708	95.2%	0.4	21.0	8.0	1.7	0	0	0
	February	642	95.5%	0.7	13.6	11.5	4.2	0	0	0
	March	711	95.6%	1.3	71.7	42.6	7.9	0	0	0
	April	620	86.1%	0.6	20.2	10.1	2.7	0	0	0
	May	662	89.0%	0.8	50.9	20.4	4.4	0	0	0
	June	682	94.7%	0.3	1.5	0.5	0.4	0	0	0
	July	710	95.4%	0.4	1.0	0.7	0.6	0	0	0
	August	712	95.7%	0.3	0.8	0.5	0.5	0	0	0
	September	659	91.5%	0.4	1.1	0.7	0.6	0	0	0
	October	709	95.3%	0.5	14.8	9.5	1.8	0	0	0
	November	580	80.6%	0.6	11.0	5.7	1.8	0	0	0
	December	709	95.3%	0.4	2.7	2.3	0.7	0	0	0
Annual		8104	92.5%	0.6	71.7	42.6	7.9	0	0	0
2024	January	713	95.8%	0.5	16.0	11.1	1.9	0	0	0
	February	641	92.1%	0.8	18.1	10.6	1.6	0	0	0
	March	711	95.6%	1.0	83.8	40.7	6.9	0	0	0
	April	690	95.8%	1.1	56.1	23.5	6.4	0	0	0
	May	627	84.3%	0.7	61.8	24.5	6.2	0	0	0
	June	687	95.4%	0.3	0.6	0.5	0.5	0	0	0
	July	713	95.8%	0.3	0.6	0.4	0.4	0	0	0
	August	647	87.0%	0.4	1.0	0.7	0.5	0	0	0
	September	661	91.8%	0.4	0.8	0.5	0.5	0	0	0
	October	710	95.4%	0.6	38.2	19.5	4.2	0	0	0
	November	679	94.3%	0.6	17.6	15.1	3.5	0	0	0
	December	713	95.8%	0.3	0.9	0.8	0.7	0	0	0
Annual		8192	93.3%	0.6	83.8	40.7	6.9	0	0	0

Observations in ppb

**FIGURE 4.1.2.1 - GREEN ACRES ROAD ANNUAL SO<sub>2</sub> CONCENTRATIONS**

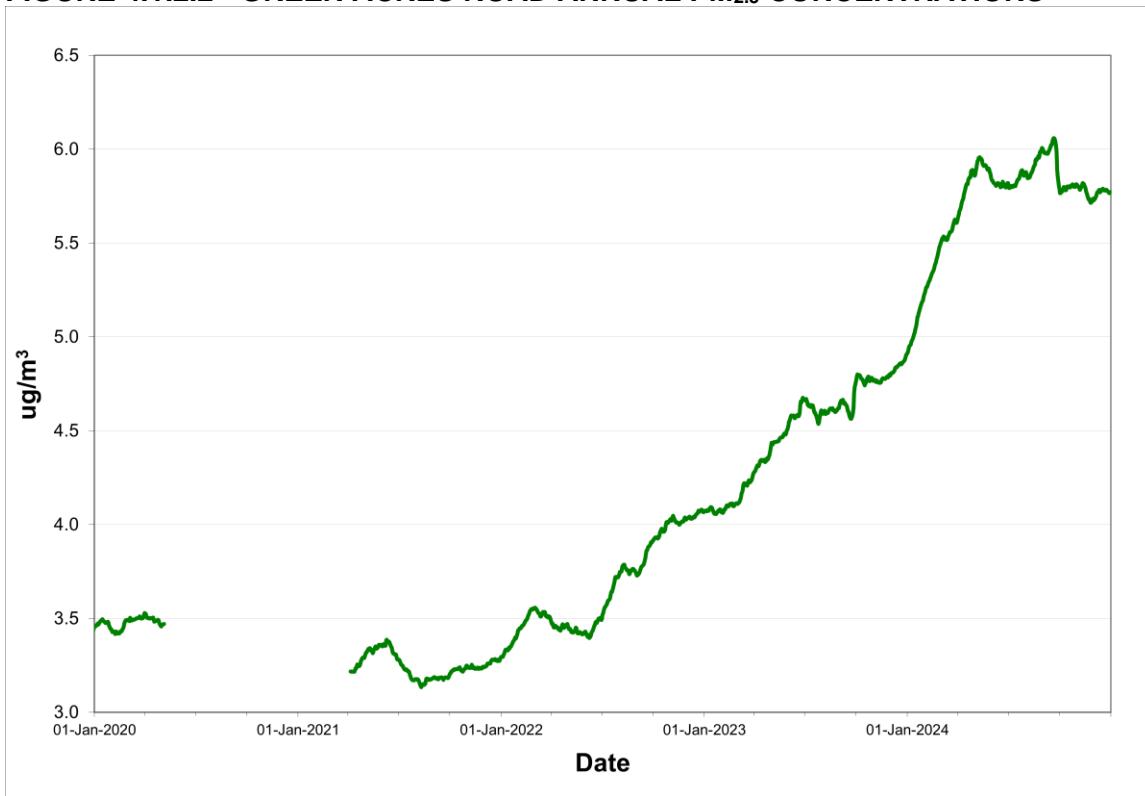


**TABLE 4.1.2.2 - GREEN ACRES ROAD PM<sub>2.5</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid 24-Hour	% Valid 24-Hour	Average	Maximum 24-Hour	Regulatory Exceedances (>25 µg/m <sup>3</sup> )
2023	January	681	91.5%	4.0	7.1	0
	February	672	100.0%	4.3	6.1	0
	March	744	100.0%	5.7	12.1	0
	April	720	100.0%	5.6	10.9	0
	May	744	100.0%	5.3	11.2	0
	June	720	100.0%	5.5	18.6	0
	July	744	100.0%	4.5	11.2	0
	August	712	95.7%	3.7	7.7	0
	September	694	96.4%	6.2	33.5	29
	October	654	87.9%	4.4	11.8	0
	November	720	100.0%	4.1	7.1	0
	December	476	64.0%	5.4	8.0	0
Annual		8281	94.5%	4.9	33.5	29
2024	January	744	100.0%	7.7	10.9	0
	February	668	96.0%	7.5	10.5	0
	March	722	97.0%	7.3	10.5	0
	April	720	100.0%	8.6	16.5	0
	May	646	86.8%	4.9	13.1	0
	June	720	100.0%	5.2	15.8	0
	July	744	100.0%	5.1	12.3	0
	August	592	79.6%	5.2	12.3	0
	September	720	100.0%	3.9	9.0	0
	October	744	100.0%	4.7	8.6	0
	November	610	84.7%	2.9	7.9	0
	December	744	100.0%	6.0	9.3	0
Annual		8374	95.3%	5.8	16.5	0

Observations in µg/m<sup>3</sup>

**FIGURE 4.1.2.2 - GREEN ACRES ROAD ANNUAL PM<sub>2.5</sub> CONCENTRATIONS**

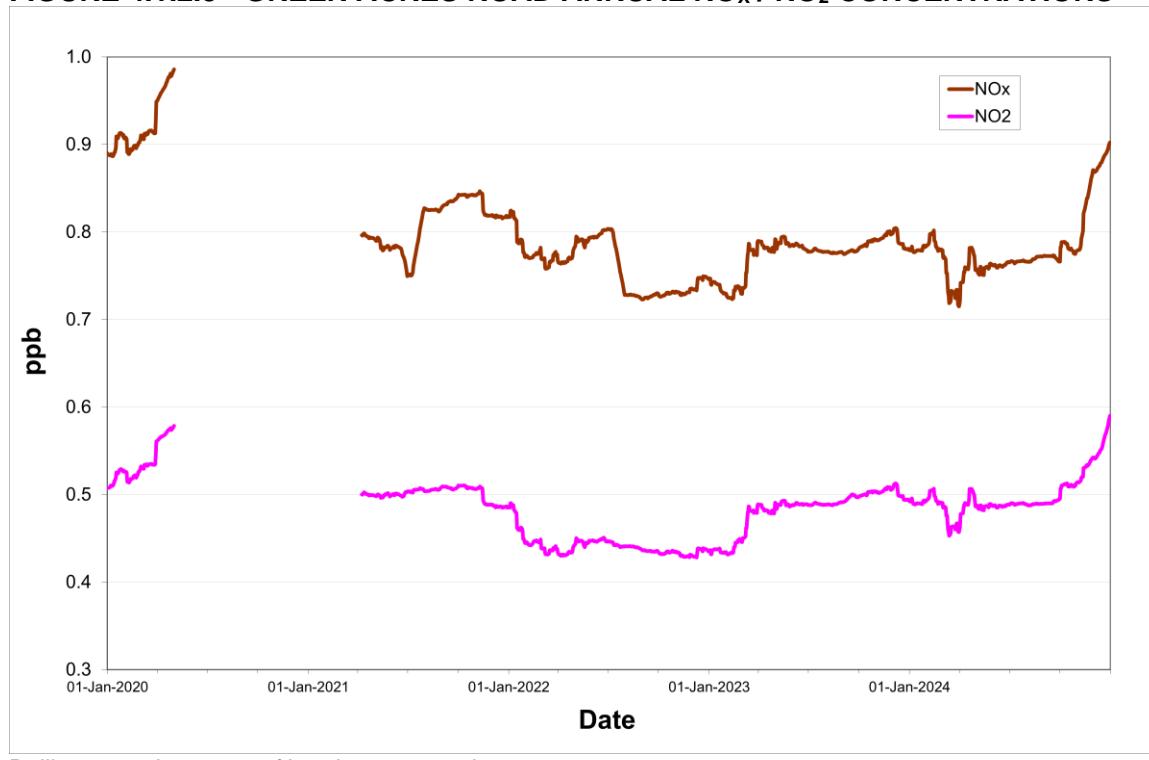


**TABLE 4.1.2.3 - GREEN ACRES ROAD NO<sub>x</sub> / NO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average NO <sub>x</sub> NO <sub>2</sub>		Maximums				Exceedances	
						1-Hour		24-Hour		1-Hour	24-Hour
				NO <sub>x</sub>	NO <sub>2</sub>	NO <sub>x</sub>	NO <sub>2</sub>	NO <sub>x</sub>	NO <sub>2</sub>	(>213)	(>106)
2023	January	711	95.6%	0.6	0.5	11.8	9.3	1.5	1.3	0	0
	February	644	95.8%	0.9	0.6	22.3	15.7	4.4	3.0	0	0
	March	712	95.7%	1.6	1.0	45.7	23.9	5.9	3.8	0	0
	April	652	90.6%	0.9	0.6	23.6	19.2	3.3	2.5	0	0
	May	713	95.8%	0.9	0.6	24.8	13.7	4.1	3.2	0	0
	June	686	95.3%	0.6	0.4	5.1	4.4	1.1	0.8	0	0
	July	712	95.7%	0.6	0.3	2.3	1.5	0.9	0.6	0	0
	August	713	95.8%	0.5	0.4	4.4	2.3	0.7	0.6	0	0
	September	360	50.0%	0.7	0.3	4.2	2.7	1.0	0.5	0	0
	October	711	95.6%	0.7	0.4	15.9	10.8	1.6	1.0	0	0
	November	503	69.9%	0.7	0.4	10.4	5.4	1.8	1.2	0	0
	December	712	95.7%	0.6	0.4	5.1	3.6	1.4	1.1	0	0
Annual		7829	89.4%	0.8	0.5	45.7	23.9	5.9	3.8	0	0
2024	January	713	95.8%	0.7	0.5	12.3	8.0	1.6	1.1	0	0
	February	643	92.4%	0.8	0.6	25.0	14.8	1.8	1.2	0	0
	March	710	95.4%	0.9	0.6	35.6	17.8	4.3	2.6	0	0
	April	690	95.8%	1.4	1.0	34.4	21.1	7.1	5.1	0	0
	May	626	84.1%	0.9	0.6	30.5	14.7	3.5	2.0	0	0
	June	688	95.6%	0.6	0.4	1.9	1.5	0.9	0.7	0	0
	July	713	95.8%	0.6	0.3	2.8	1.8	1.1	0.7	0	0
	August	649	87.2%	0.6	0.4	5.7	3.0	1.0	0.7	0	0
	September	376	52.2%	0.6	0.4	2.1	2.0	0.8	0.7	0	0
	October	713	95.8%	0.9	0.6	30.9	15.0	6.2	4.2	0	0
	November	685	95.1%	1.8	0.7	25.5	14.2	7.5	4.1	0	0
	December	710	95.4%	1.0	0.9	5.3	4.6	1.6	1.6	0	0
Annual		7916	90.1%	0.9	0.6	35.6	21.1	7.5	5.1	0	0

Observations in ppb

**FIGURE 4.1.2.3 - GREEN ACRES ROAD ANNUAL NO<sub>x</sub> / NO<sub>2</sub> CONCENTRATIONS**



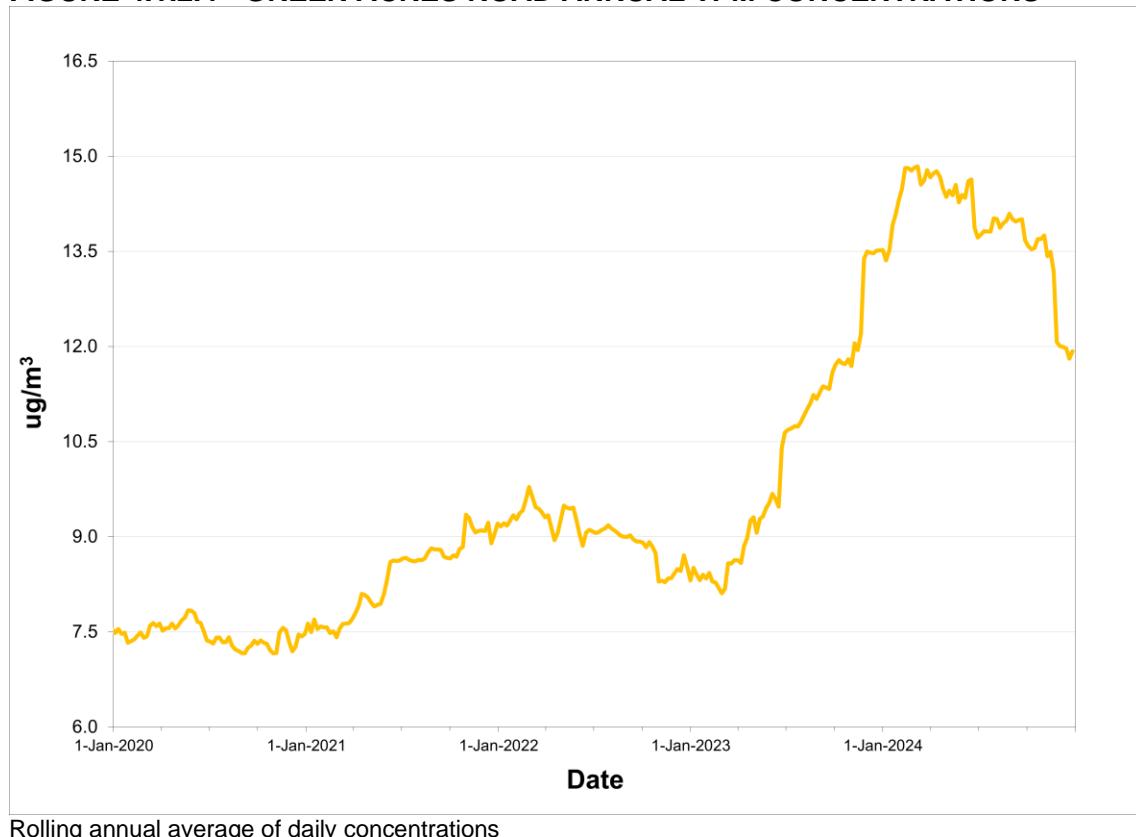
Rolling annual average of hourly concentrations

**TABLE 4.1.2.4 - GREEN ACRES ROAD TPM SUMMARY 2023 & 2024**

Year	Month	# Valid Days	% Valid Days	Maximum 24-Hour	Regulatory Exceedances (>120 µg/m <sup>3</sup> )
		Days	Average		
2023	January	5	100.0%	9.7	21.9
	February	2	50.0%	10.9	14.8
	March	3	50.0%	17.4	31.0
	April	5	100.0%	18.7	29.0
	May	5	100.0%	10.8	20.3
	June	5	100.0%	22.7	63.3
	July	5	100.0%	8.6	10.8
	August	5	100.0%	9.6	13.8
	September	5	100.0%	10.7	26.2
	October	5	100.0%	7.3	10.4
	November	5	100.0%	25.1	74.3
	December	5	100.0%	12.2	19.7
Annual		55	91.7%	13.7	74.3
2024	January	6	100.0%	16.5	27.5
	February	3	75.0%	20.8	25.4
	March	6	100.0%	15.0	24.4
	April	5	100.0%	15.0	19.1
	May	5	100.0%	11.1	17.6
	June	5	100.0%	14.7	21.0
	July	5	100.0%	12.2	23.0
	August	5	100.0%	10.5	15.9
	September	5	100.0%	5.6	10.7
	October	5	100.0%	7.6	13.8
	November	5	100.0%	5.6	7.7
	December	5	100.0%	10.4	13.6
Annual		60	98.4%	11.9	27.5

Observations in µg/m<sup>3</sup>

**FIGURE 4.1.2.4 - GREEN ACRES ROAD ANNUAL TPM CONCENTRATIONS**



### 4.1.3 Indian Pond Drive

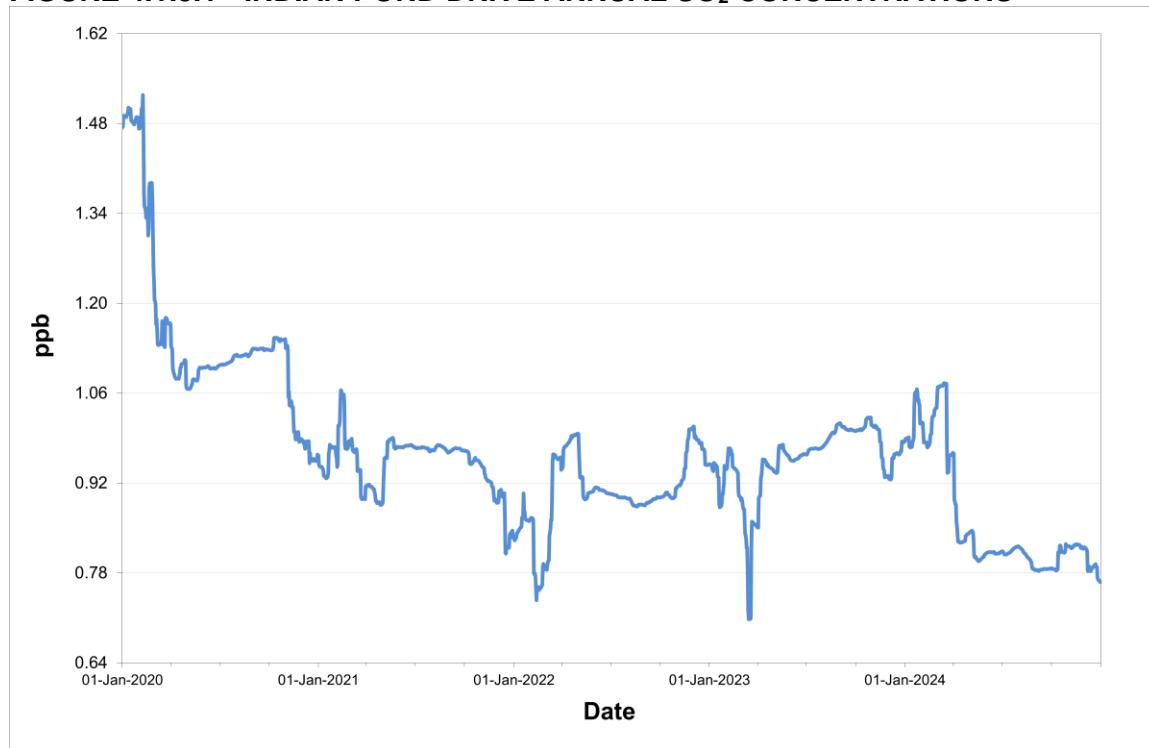
The Indian Pond Drive MAAMS (Mobile Ambient Air Monitoring) station monitors the levels of SO<sub>2</sub>, NO<sub>x</sub> / NO<sub>2</sub>, and PM<sub>2.5</sub> on a continuous basis and TPM on a one-day-in-six-day cycle consistent with the NAPS defined schedule. For SO<sub>2</sub>, NO<sub>x</sub> / NO<sub>2</sub>, PM<sub>2.5</sub> and TPM, the air quality standards were not exceeded on any occasion in 2024. Tables 4.1.3.1 through 4.1.3.4 provide summary information on the level of air contaminants measured at Indian Pond Drive, while Figures 4.1.3.1 through 4.1.3.4 provide a graphical representation of the annual trend of each pollutant.

**TABLE 4.1.3.1 - INDIAN POND DRIVE SO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average	Maximum			Regulatory Exceedances		
					1-Hour	3-Hour	24-Hour	1-Hour (>344)	3-Hour (>229)	24-Hour (>115)
2023	January	659	88.6%	1.4	39.2	35.3	10.2	0	0	0
	February	635	94.5%	1.0	30.2	23.9	7.1	0	0	0
	March	554	74.5%	2.5	77.5	65.9	35.6	0	0	0
	April	682	94.7%	2.1	63.8	58.2	25.1	0	0	0
	May	710	95.4%	1.0	30.1	21.6	8.6	0	0	0
	June	634	88.1%	0.3	0.7	0.6	0.5	0	0	0
	July	631	84.8%	0.4	1.1	0.6	0.6	0	0	0
	August	699	94.0%	0.8	2.8	2.5	2.3	0	0	0
	September	682	94.7%	0.4	1.1	0.6	0.6	0	0	0
	October	671	90.2%	0.6	19.0	14.6	3.4	0	0	0
	November	683	94.9%	0.5	10.5	5.7	1.3	0	0	0
	December	706	94.9%	1.1	31.8	19.8	10.4	0	0	0
Annual		7946	90.7%	1.0	77.5	65.9	35.6	0	0	0
2024	January	639	85.9%	1.7	38.5	31.5	17.2	0	0	0
	February	616	88.5%	1.3	26.0	14.8	7.4	0	0	0
	March	517	69.5%	1.6	38.5	27.3	7.9	0	0	0
	April	680	94.4%	0.6	15.3	11.6	3.0	0	0	0
	May	675	90.7%	0.6	13.9	5.0	1.4	0	0	0
	June	680	94.4%	0.4	0.7	0.6	0.5	0	0	0
	July	675	90.7%	0.5	0.8	0.8	0.7	0	0	0
	August	684	91.9%	0.3	0.8	0.6	0.4	0	0	0
	September	619	86.0%	0.4	0.9	0.7	0.5	0	0	0
	October	674	90.6%	1.0	37.4	35.3	9.7	0	0	0
	November	614	85.3%	0.4	3.0	1.2	1.1	0	0	0
	December	702	94.4%	0.6	15.2	8.5	2.3	0	0	0
Annual		7775	88.5%	0.8	38.5	35.3	17.2	0	0	0

Observations in ppb

**FIGURE 4.1.3.1 - INDIAN POND DRIVE ANNUAL SO<sub>2</sub> CONCENTRATIONS**

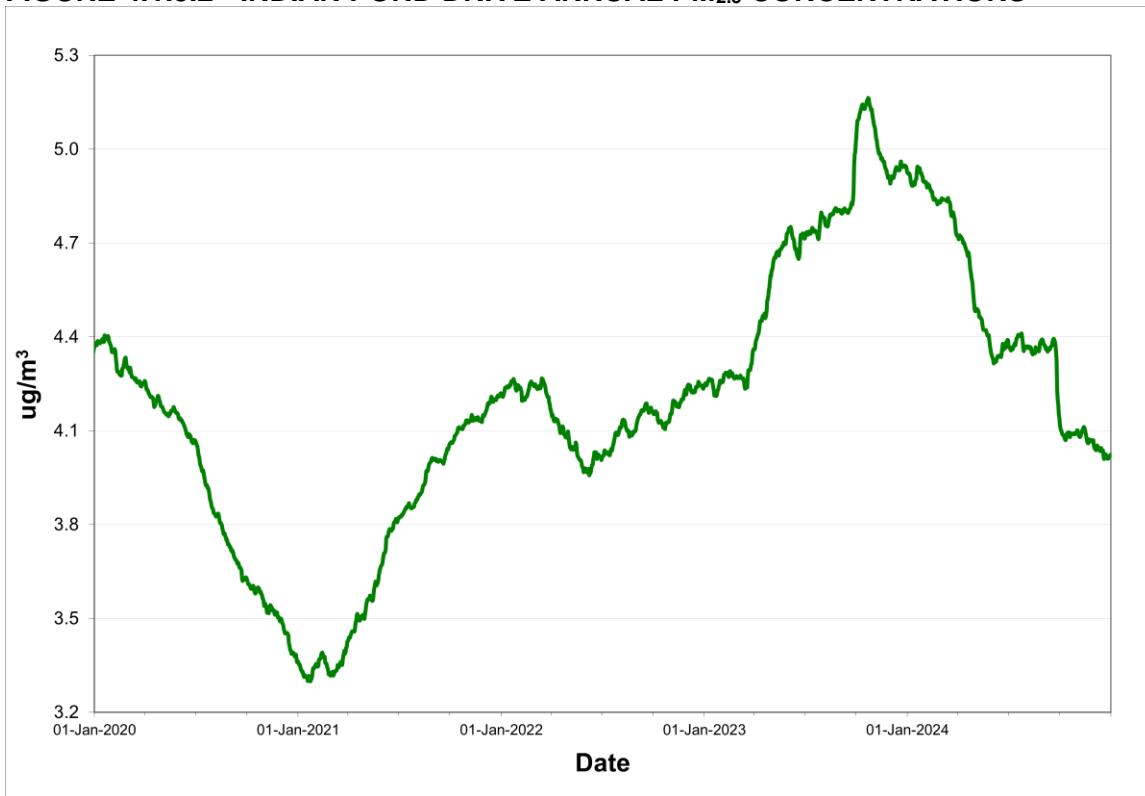


**TABLE 4.1.3.2 - INDIAN POND DRIVE PM<sub>2.5</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid 24-Hour	% Valid 24-Hour	Average	Maximum 24-Hour	Regulatory Exceedances (>25 µg/m <sup>3</sup> )
2023	January	676	90.9%	4.7	9.3	0
	February	650	96.7%	4.4	8.2	0
	March	540	72.6%	5.8	16.7	0
	April	702	97.5%	6.7	13.5	0
	May	744	100.0%	5.7	12.5	0
	June	652	90.6%	4.3	17.3	0
	July	646	86.8%	4.5	10.1	0
	August	654	87.9%	4.2	9.2	0
	September	702	97.5%	6.4	33.1	26
	October	617	82.9%	4.6	12.7	0
	November	720	100.0%	2.9	6.5	0
	December	744	100.0%	4.9	11.0	0
Annual		8047	91.9%	4.9	33.1	26
2024	January	646	86.8%	4.3	11.0	0
	February	622	89.4%	3.5	7.8	0
	March	498	66.9%	4.3	7.5	0
	April	720	100.0%	4.4	12.4	0
	May	677	91.0%	3.8	8.8	0
	June	588	81.7%	4.8	15.9	0
	July	696	93.5%	4.2	11.2	0
	August	527	70.8%	4.5	11.1	0
	September	612	85.0%	3.8	8.0	0
	October	702	94.4%	3.9	8.3	0
	November	629	87.4%	2.5	6.0	0
	December	694	93.3%	4.4	7.5	0
Annual		7611	86.6%	4.0	15.9	0

Observations in µg/m<sup>3</sup>

**FIGURE 4.1.3.2 - INDIAN POND DRIVE ANNUAL PM<sub>2.5</sub> CONCENTRATIONS**

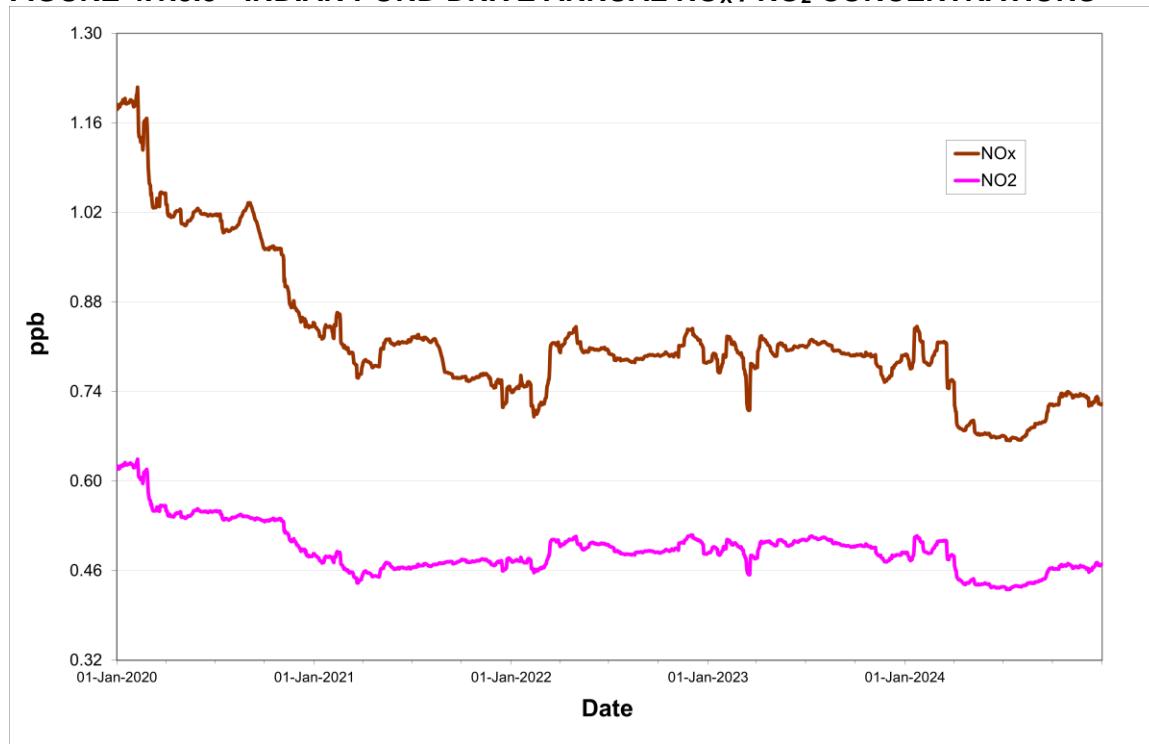


**TABLE 4.1.3.3 - INDIAN POND DRIVE NO<sub>x</sub> / NO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average		Maximums				Exceedances	
				NO <sub>x</sub>	NO <sub>2</sub>	1-Hour NO <sub>x</sub>	1-Hour NO <sub>2</sub>	24-Hour NO <sub>x</sub>	24-Hour NO <sub>2</sub>	1-Hour (>213)	24-Hour (>106)
2023	January	659	88.6%	1.1	0.6	26.6	8.1	4.7	2.2	0	0
	February	635	94.5%	1.0	0.6	22.0	9.6	7.6	3.8	0	0
	March	556	74.7%	1.6	0.8	37.2	15.5	17.7	7.4	0	0
	April	548	76.1%	1.4	0.9	32.4	13.1	12.8	5.5	0	0
	May	709	95.3%	0.7	0.4	14.6	6.4	4.1	2.0	0	0
	June	634	88.1%	0.6	0.4	5.8	4.3	1.4	1.0	0	0
	July	630	84.7%	0.6	0.3	12.7	7.3	1.8	1.2	0	0
	August	702	94.4%	0.4	0.3	6.3	3.4	0.9	0.7	0	0
	September	684	95.0%	0.5	0.3	4.3	2.3	0.8	0.6	0	0
	October	672	90.3%	0.6	0.4	11.6	5.5	2.3	1.3	0	0
	November	686	95.3%	0.6	0.4	13.7	9.6	2.2	1.5	0	0
	December	711	95.6%	0.9	0.5	17.2	7.0	4.9	2.3	0	0
Annual		7826	89.3%	0.8	0.5	37.2	15.5	17.7	7.4	0	0
2024	January	637	85.6%	1.3	0.8	30.4	22.6	10.0	6.5	0	0
	February	619	88.9%	0.8	0.5	12.7	6.4	3.2	1.8	0	0
	March	517	69.5%	0.9	0.6	15.6	6.8	4.5	2.2	0	0
	April	678	94.2%	0.5	0.4	7.2	3.7	1.9	1.2	0	0
	May	674	90.6%	0.5	0.4	6.3	3.6	1.0	0.8	0	0
	June	685	95.1%	0.5	0.4	2.3	1.9	0.7	0.6	0	0
	July	662	89.0%	0.5	0.3	17.9	13.9	1.4	1.0	0	0
	August	689	92.6%	0.7	0.4	12.7	6.2	2.2	1.0	0	0
	September	622	86.4%	0.8	0.6	40.1	12.9	3.4	1.4	0	0
	October	633	85.1%	0.8	0.5	14.1	6.0	4.1	1.7	0	0
	November	624	86.7%	0.6	0.3	4.3	3.7	1.0	0.8	0	0
	December	702	94.4%	0.8	0.6	10.6	8.9	1.8	1.6	0	0
Annual		7742	88.1%	0.7	0.5	40.1	22.6	10.0	6.5	0	0

Observations in ppb

**FIGURE 4.1.3.3 - INDIAN POND DRIVE ANNUAL NO<sub>x</sub> / NO<sub>2</sub> CONCENTRATIONS**



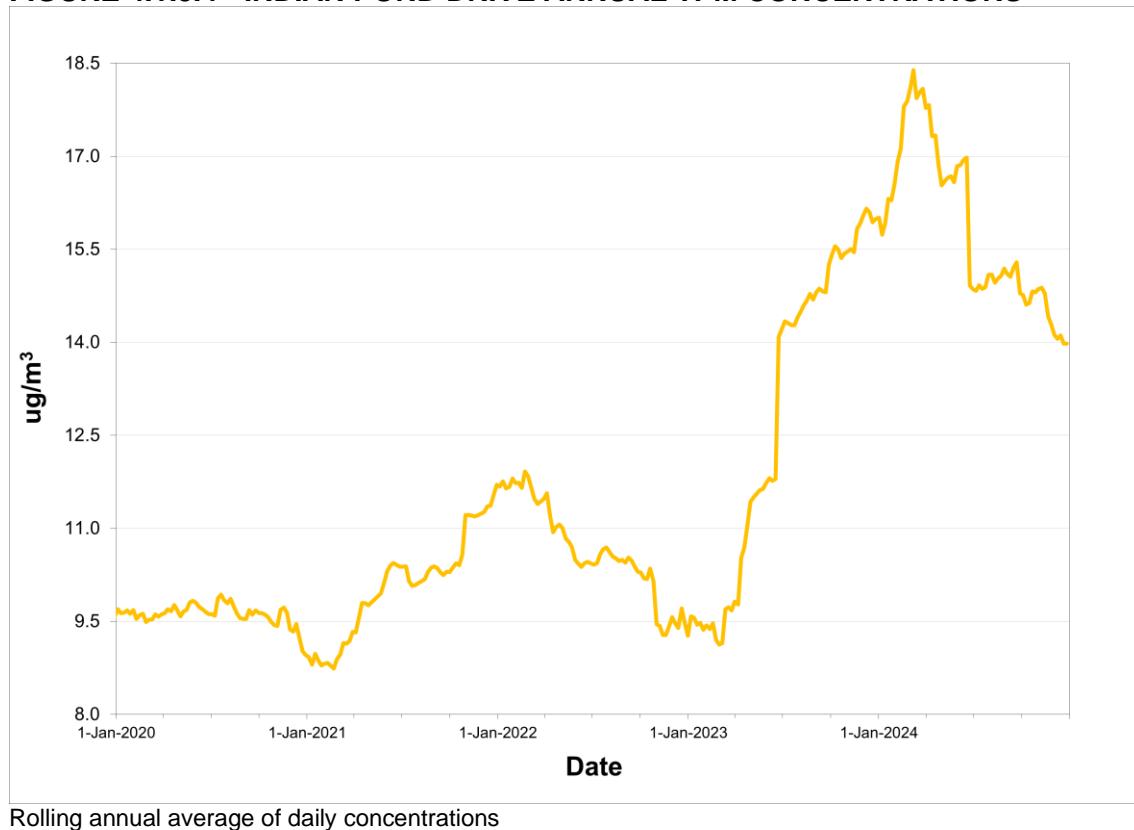
Rolling annual average of hourly concentrations

**TABLE 4.1.3.4 - INDIAN POND DRIVE TPM SUMMARY 2023 & 2024**

Year	Month	# Valid Days	% Valid Days	Maximum 24-Hour	Regulatory Exceedances (>120 µg/m <sup>3</sup> )	
		Days	Average			
2023	January	5	100.0%	11.7	31.8	0
	February	3	75.0%	9.3	10.5	0
	March	5	83.3%	18.3	38.2	0
	April	5	100.0%	28.0	45.2	0
	May	5	100.0%	9.7	11.8	0
	June	5	100.0%	40.9	147.0	1
	July	5	100.0%	12.2	14.6	0
	August	5	100.0%	10.6	15.2	0
	September	5	100.0%	13.7	37.4	0
	October	5	100.0%	8.4	13.3	0
	November	5	100.0%	14.6	30.3	0
	December	5	100.0%	13.7	22.1	0
Annual		58	96.7%	16.2	147.0	1
2024	January	6	100.0%	16.4	28.3	0
	February	4	100.0%	31.2	57.9	0
	March	6	100.0%	17.1	22.9	0
	April	5	100.0%	12.8	18.4	0
	May	5	100.0%	13.4	27.4	0
	June	5	100.0%	16.7	21.3	0
	July	5	100.0%	15.0	26.4	0
	August	5	100.0%	11.8	17.5	0
	September	5	100.0%	8.8	12.5	0
	October	5	100.0%	8.6	13.9	0
	November	5	100.0%	8.3	12.5	0
	December	5	100.0%	9.9	11.9	0
Annual		61	100.0%	14.0	57.9	0

Observations in µg/m<sup>3</sup>

**FIGURE 4.1.3.4 - INDIAN POND DRIVE ANNUAL TPM CONCENTRATIONS**



#### 4.1.4 Indian Pond Road

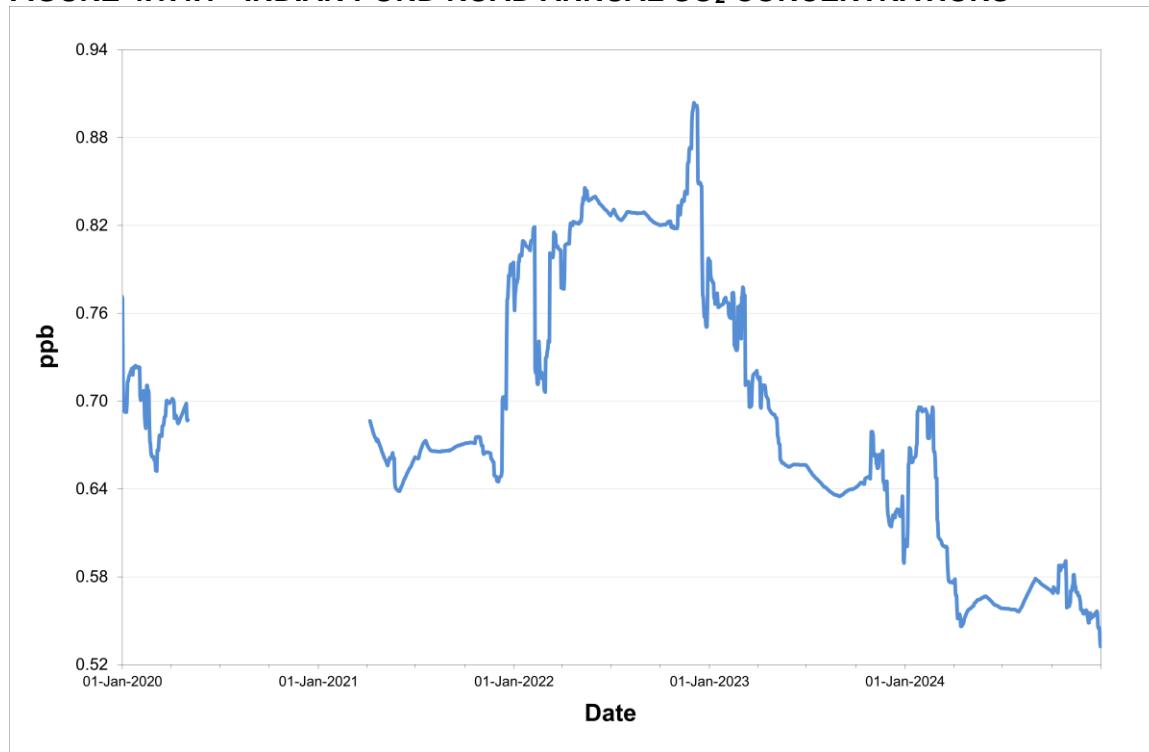
The Indian Pond Road station monitors the levels of SO<sub>2</sub>, NO<sub>x</sub> / NO<sub>2</sub>, PM<sub>2.5</sub> on a continuous basis and TPM on a one-day-in-six-day cycle consistent with the NAPS defined schedule. For SO<sub>2</sub>, NO<sub>x</sub> / NO<sub>2</sub>, PM<sub>2.5</sub> and TPM the air quality standards were not exceeded on any occasion in 2024. Tables 4.1.4.1 through 4.1.4.4 provide summary information on the level of air contaminants measured at Indian Pond Road, while Figures 4.1.4.1 through 4.1.4.4 provide a graphical representation of the annual trend of each pollutant.

**TABLE 4.1.4.1 - INDIAN POND ROAD SO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average	Maximum			Regulatory Exceedances		
					1-Hour	3-Hour	24-Hour	1-Hour (>344)	3-Hour (>229)	24-Hour (>115)
2023	January	712	95.7%	0.5	16.0	8.6	3.3	0	0	0
	February	643	95.7%	1.3	24.2	20.1	10.5	0	0	0
	March	706	94.9%	1.1	36.7	18.7	11.6	0	0	0
	April	690	95.8%	0.6	34.6	23.5	3.8	0	0	0
	May	710	95.4%	0.3	1.2	0.6	0.4	0	0	0
	June	681	94.6%	0.4	0.6	0.5	0.4	0	0	0
	July	711	95.6%	0.3	0.4	0.4	0.3	0	0	0
	August	701	94.2%	0.2	0.5	0.3	0.3	0	0	0
	September	690	95.8%	0.4	0.6	0.4	0.4	0	0	0
	October	709	95.3%	0.8	30.2	19.1	7.1	0	0	0
	November	682	94.7%	0.7	23.8	9.9	2.1	0	0	0
	December	705	94.8%	0.7	19.9	14.4	3.9	0	0	0
Annual		8340	95.2%	0.6	36.7	23.5	11.6	0	0	0
2024	January	710	95.4%	1.7	56.3	34.4	17.0	0	0	0
	February	666	95.7%	0.6	20.8	16.0	4.3	0	0	0
	March	709	95.3%	0.2	3.3	1.3	0.5	0	0	0
	April	685	95.1%	0.3	7.8	2.9	0.8	0	0	0
	May	712	95.7%	0.4	6.3	2.8	0.7	0	0	0
	June	686	95.3%	0.3	0.5	0.4	0.3	0	0	0
	July	707	95.0%	0.2	0.4	0.3	0.3	0	0	0
	August	711	95.6%	0.5	0.9	0.7	0.6	0	0	0
	September	688	95.6%	0.3	0.4	0.4	0.3	0	0	0
	October	708	95.2%	0.7	27.1	21.5	5.6	0	0	0
	November	688	95.6%	0.6	19.3	13.8	3.8	0	0	0
	December	713	95.8%	0.5	8.7	6.3	2.3	0	0	0
Annual		8383	95.4%	0.5	56.3	34.4	17.0	0	0	0

Observations in ppb

**FIGURE 4.1.4.1 - INDIAN POND ROAD ANNUAL SO<sub>2</sub> CONCENTRATIONS**

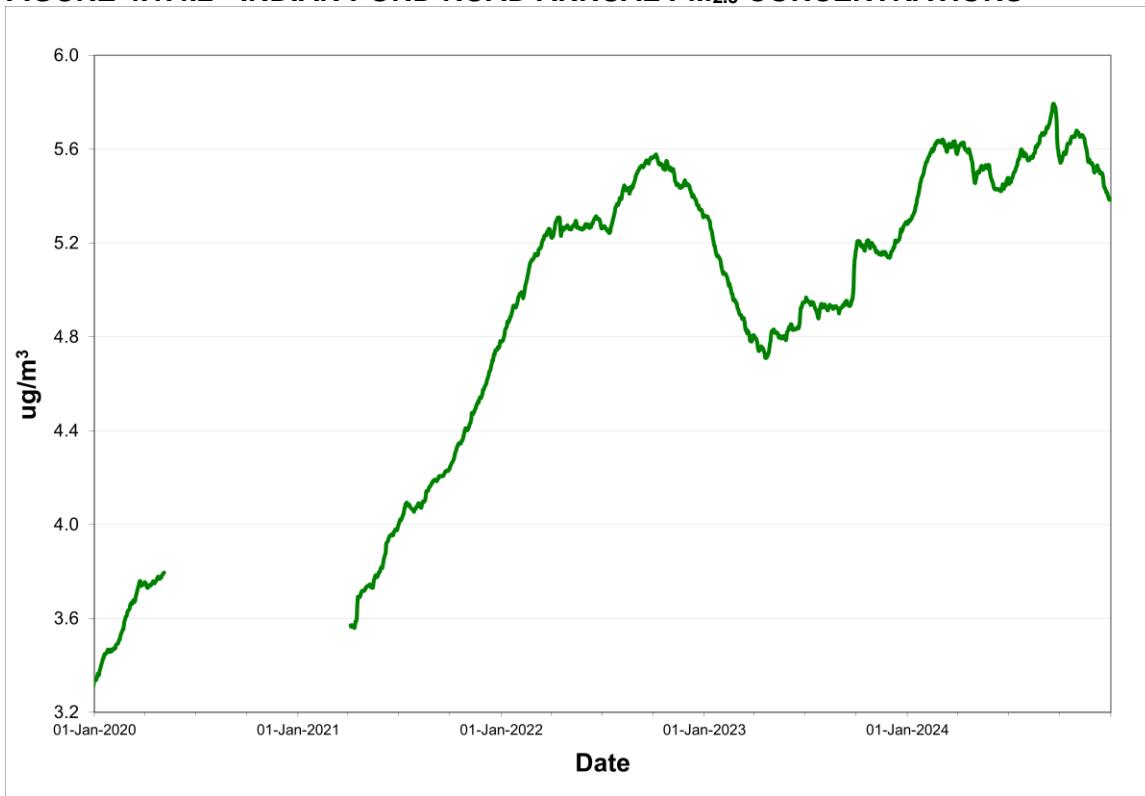


**TABLE 4.1.4.2 - INDIAN POND ROAD PM<sub>2.5</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid 24-Hour	% Valid 24-Hour	Average	Maximum 24-Hour	Regulatory Exceedances (>25 µg/m <sup>3</sup> )
2023	January	744	100.0%	4.2	9.0	0
	February	636	94.6%	5.0	10.0	0
	March	697	93.7%	5.4	11.5	0
	April	720	100.0%	5.8	13.8	0
	May	744	100.0%	5.2	14.7	0
	June	720	100.0%	5.7	18.7	0
	July	614	82.5%	4.4	10.5	0
	August	688	92.5%	4.5	10.6	0
	September	720	100.0%	7.1	33.9	30
	October	655	88.0%	4.7	12.7	0
	November	720	100.0%	4.8	9.6	0
	December	710	95.4%	6.5	11.3	0
Annual		8368	95.5%	5.3	33.9	30
2024	January	686	92.2%	6.9	9.7	0
	February	631	90.7%	6.4	9.8	0
	March	744	100.0%	4.9	8.2	0
	April	686	95.3%	4.8	13.3	0
	May	721	96.9%	5.0	12.8	0
	June	720	100.0%	5.7	17.4	0
	July	681	91.5%	5.7	11.1	0
	August	654	87.9%	5.6	12.4	0
	September	618	85.8%	6.0	11.9	0
	October	744	100.0%	6.0	9.7	0
	November	585	81.3%	2.8	6.3	0
	December	744	100.0%	4.8	9.0	0
Annual		8214	93.5%	5.4	17.4	0

Observations in µg/m<sup>3</sup>

**FIGURE 4.1.4.2 - INDIAN POND ROAD ANNUAL PM<sub>2.5</sub> CONCENTRATIONS**



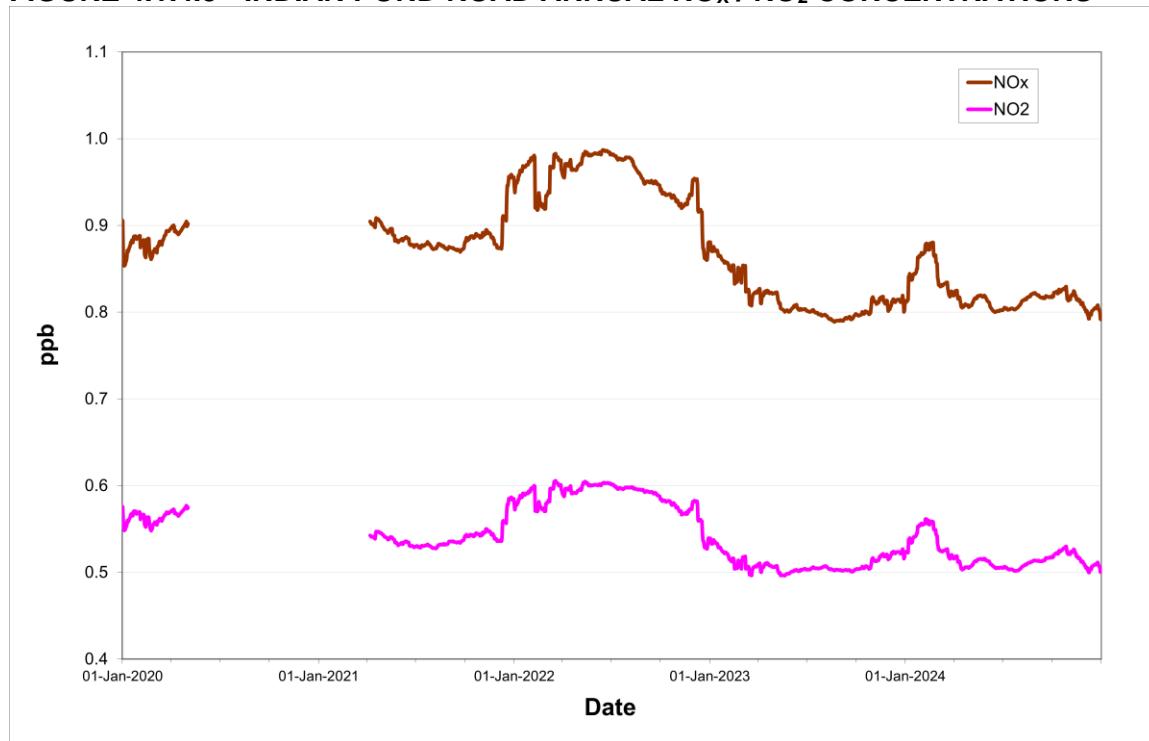
Rolling annual average of daily concentrations

**TABLE 4.1.4.3 - INDIAN POND ROAD NO<sub>x</sub> / NO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average		Maximums				Exceedances	
				NO <sub>x</sub>	NO <sub>2</sub>	1-Hour NO <sub>x</sub>	1-Hour NO <sub>2</sub>	24-Hour NO <sub>x</sub>	24-Hour NO <sub>2</sub>	1-Hour (>213)	24-Hour (>106)
2023	January	713	95.8%	0.8	0.5	12.1	7.2	2.5	1.6	0	0
	February	644	95.8%	1.1	0.8	14.8	8.4	5.9	3.5	0	0
	March	707	95.0%	1.1	0.8	19.3	11.5	6.6	4.2	0	0
	April	621	86.3%	0.9	0.6	15.0	10.3	2.8	1.7	0	0
	May	713	95.8%	0.7	0.4	5.2	3.4	1.2	0.9	0	0
	June	637	88.5%	0.7	0.4	5.2	2.4	1.4	0.8	0	0
	July	713	95.8%	0.6	0.4	2.4	2.0	0.8	0.6	0	0
	August	699	94.0%	0.5	0.2	2.7	1.8	0.7	0.4	0	0
	September	690	95.8%	0.7	0.3	6.0	2.1	1.0	0.6	0	0
	October	709	95.3%	0.8	0.5	13.9	8.7	3.3	2.1	0	0
	November	682	94.7%	0.9	0.6	25.6	11.9	2.6	1.5	0	0
	December	711	95.6%	1.0	0.7	18.9	10.7	3.9	2.5	0	0
Annual		8239	94.1%	0.8	0.5	25.6	11.9	6.6	4.2	0	0
2024	January	642	86.3%	1.5	0.9	31.9	15.8	10.7	6.4	0	0
	February	667	95.8%	0.9	0.6	13.5	8.4	3.6	2.3	0	0
	March	711	95.6%	0.7	0.5	10.7	7.1	1.7	1.2	0	0
	April	686	95.3%	0.8	0.5	15.5	7.7	1.6	0.9	0	0
	May	712	95.7%	0.8	0.5	21.3	8.2	1.7	1.0	0	0
	June	688	95.6%	0.5	0.3	7.7	2.2	1.0	0.6	0	0
	July	531	71.4%	0.5	0.3	6.7	2.0	0.8	0.5	0	0
	August	569	76.5%	0.6	0.3	10.6	6.1	1.4	0.7	0	0
	September	690	95.8%	0.6	0.4	3.4	2.7	1.1	0.8	0	0
	October	665	89.4%	0.8	0.6	19.0	10.2	2.2	1.4	0	0
	November	688	95.6%	0.8	0.5	14.0	8.1	2.6	1.5	0	0
	December	713	95.8%	0.9	0.6	6.9	4.6	2.4	1.7	0	0
Annual		7962	90.6%	0.8	0.5	31.9	15.8	10.7	6.4	0	0

Observations in ppb

**FIGURE 4.1.4.3 - INDIAN POND ROAD ANNUAL NO<sub>x</sub> / NO<sub>2</sub> CONCENTRATIONS**



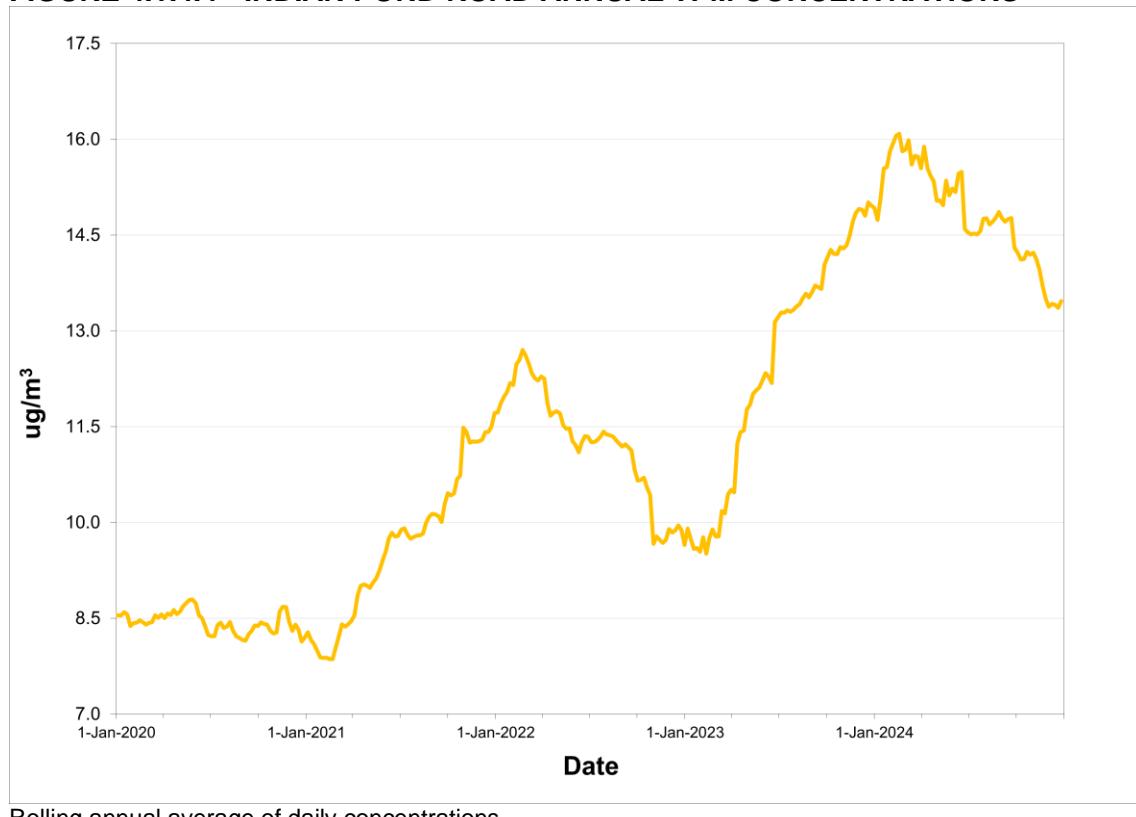
Rolling annual average of hourly concentrations

**TABLE 4.1.4.4 - INDIAN POND ROAD TPM SUMMARY 2023 & 2024**

Year	Month	# Valid Days	% Valid Days	Maximum 24-Hour	Regulatory Exceedances (>120 µg/m <sup>3</sup> )
		Days	Average		
2023	January	5	100.0%	10.6	28.3
	February	4	100.0%	21.9	27.0
	March	6	100.0%	17.0	30.4
	April	5	100.0%	23.7	48.8
	May	5	100.0%	12.9	20.5
	June	5	100.0%	24.8	72.8
	July	5	100.0%	10.3	11.9
	August	5	100.0%	10.1	14.6
	September	5	100.0%	13.0	35.1
	October	5	100.0%	9.2	12.8
	November	5	100.0%	14.8	19.8
	December	5	100.0%	13.4	25.5
Annual		60	100.0%	15.1	72.8
2024	January	6	100.0%	19.0	33.2
	February	4	100.0%	21.9	28.8
	March	6	100.0%	14.3	24.8
	April	5	100.0%	17.4	29.4
	May	5	100.0%	15.2	33.5
	June	5	100.0%	16.4	25.4
	July	5	100.0%	12.9	23.8
	August	5	100.0%	11.4	18.2
	September	5	100.0%	6.2	11.6
	October	5	100.0%	7.8	13.8
	November	5	100.0%	6.5	8.5
	December	5	100.0%	13.0	22.6
Annual		61	100.0%	13.5	33.5

Observations in µg/m<sup>3</sup>

**FIGURE 4.1.4.4 - INDIAN POND ROAD ANNUAL TPM CONCENTRATIONS**



#### 4.1.5 Lawrence Pond Road

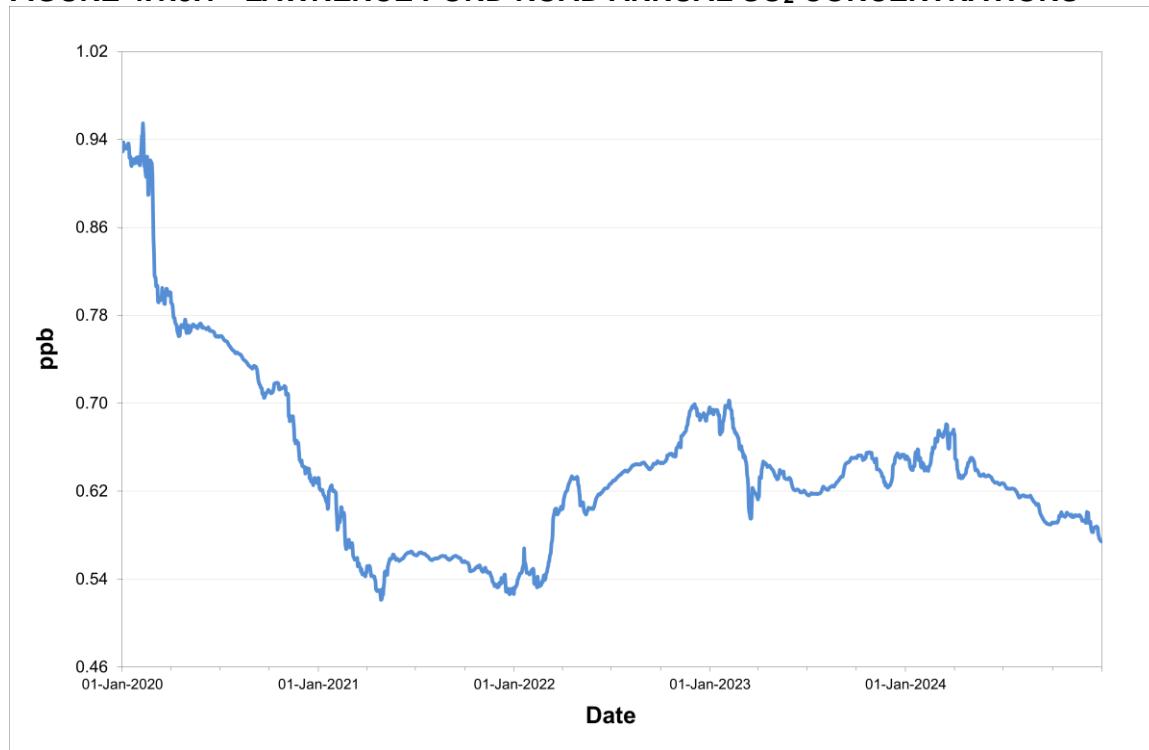
The Lawrence Pond Road station monitors the levels of SO<sub>2</sub>, NO<sub>x</sub> / NO<sub>2</sub>, PM<sub>2.5</sub> on a continuous basis and TPM on a one-day-in-six-day cycle consistent with the NAPS defined schedule. For SO<sub>2</sub>, NO<sub>x</sub> / NO<sub>2</sub>, PM<sub>2.5</sub> and TPM the air quality standards were not exceeded on any occasion in 2024. Tables 4.1.5.1 through 4.1.5.4 provide summary information on the level of air contaminants measured at Lawrence Pond Road, while Figures 4.1.5.1 through 4.1.5.4 provide a graphical representation of the annual trend of each pollutant.

**TABLE 4.1.5.1 - LAWRENCE POND ROAD SO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average	Maximum			Regulatory Exceedances		
					1-Hour	3-Hour	24-Hour	1-Hour (>344)	3-Hour (>229)	24-Hour (>115)
2023	January	713	95.8%	0.8	16.4	13.0	3.8	0	0	0
	February	624	92.9%	0.7	10.7	7.4	2.2	0	0	0
	March	710	95.4%	0.8	23.7	17.3	5.6	0	0	0
	April	686	95.3%	1.0	25.5	11.9	8.5	0	0	0
	May	710	95.4%	0.5	5.3	3.3	2.0	0	0	0
	June	687	95.4%	0.4	1.6	0.8	0.8	0	0	0
	July	707	95.0%	0.5	1.2	0.7	0.7	0	0	0
	August	486	65.3%	0.4	1.1	0.7	0.6	0	0	0
	September	687	95.4%	0.6	1.5	1.4	1.3	0	0	0
	October	678	91.1%	0.5	6.7	5.8	1.6	0	0	0
	November	689	95.7%	0.5	7.9	3.9	1.2	0	0	0
	December	697	93.7%	0.9	12.4	9.8	3.8	0	0	0
Annual		8074	92.2%	0.6	25.5	17.3	8.5	0	0	0
2024	January	713	95.8%	0.8	13.8	7.7	3.4	0	0	0
	February	665	95.5%	1.0	14.1	8.5	2.9	0	0	0
	March	666	89.5%	1.0	30.4	16.9	4.9	0	0	0
	April	690	95.8%	0.7	18.4	8.5	1.7	0	0	0
	May	712	95.7%	0.4	5.0	3.0	0.6	0	0	0
	June	662	91.9%	0.3	0.6	0.5	0.5	0	0	0
	July	713	95.8%	0.3	0.5	0.5	0.4	0	0	0
	August	710	95.4%	0.4	0.7	0.7	0.5	0	0	0
	September	686	95.3%	0.4	0.6	0.6	0.5	0	0	0
	October	712	95.7%	0.6	11.3	6.1	1.8	0	0	0
	November	622	86.4%	0.5	6.5	2.7	1.2	0	0	0
	December	682	91.7%	0.7	15.4	6.8	3.3	0	0	0
Annual		8233	93.7%	0.6	30.4	16.9	4.9	0	0	0

Observations in ppb

**FIGURE 4.1.5.1 - LAWRENCE POND ROAD ANNUAL SO<sub>2</sub> CONCENTRATIONS**

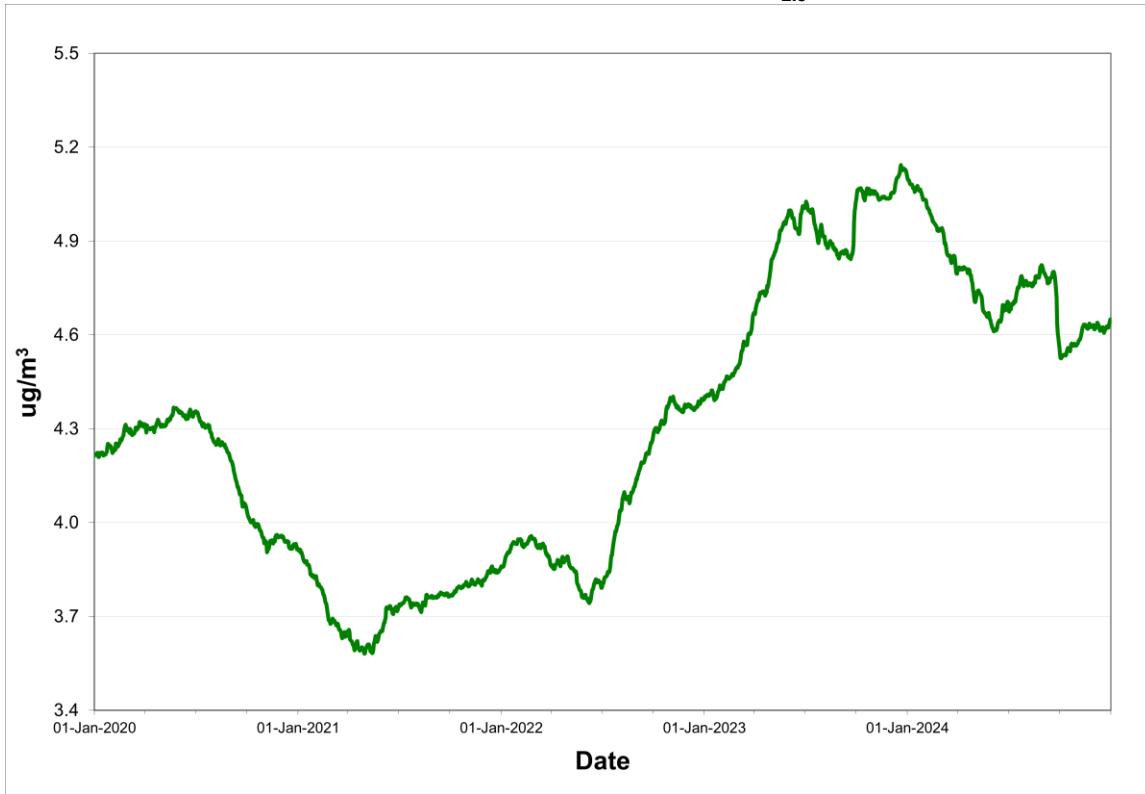


**TABLE 4.1.5.2 - LAWRENCE POND ROAD PM<sub>2.5</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid 24-Hour	% Valid 24-Hour	Average	Maximum 24-Hour	Regulatory Exceedances (>25 µg/m <sup>3</sup> )
2023	January	744	100.0%	5.2	8.9	0
	February	639	95.1%	5.3	7.0	0
	March	744	100.0%	6.3	11.6	0
	April	690	95.8%	6.0	11.4	0
	May	744	100.0%	5.4	10.8	0
	June	720	100.0%	4.4	17.5	0
	July	744	100.0%	4.7	10.3	0
	August	733	98.5%	3.4	7.9	0
	September	714	99.2%	6.4	32.0	25
	October	655	88.0%	5.4	12.4	0
	November	720	100.0%	3.7	6.2	0
	December	724	97.3%	5.1	10.1	0
Annual		8571	97.8%	5.1	32.0	25
2024	January	711	95.6%	4.3	7.0	0
	February	696	100.0%	4.1	7.7	0
	March	744	100.0%	4.8	9.0	0
	April	590	81.9%	5.2	13.1	0
	May	648	87.1%	4.2	10.9	0
	June	720	100.0%	5.2	16.6	0
	July	744	100.0%	5.4	12.5	0
	August	655	88.0%	4.0	10.4	0
	September	720	100.0%	3.6	9.2	0
	October	744	100.0%	5.2	9.3	0
	November	720	100.0%	4.5	7.3	0
	December	744	100.0%	5.2	8.2	0
Annual		8436	96.0%	4.6	16.6	0

Observations in µg/m<sup>3</sup>

**FIGURE 4.1.5.2 - LAWRENCE POND ROAD ANNUAL PM<sub>2.5</sub> CONCENTRATIONS**

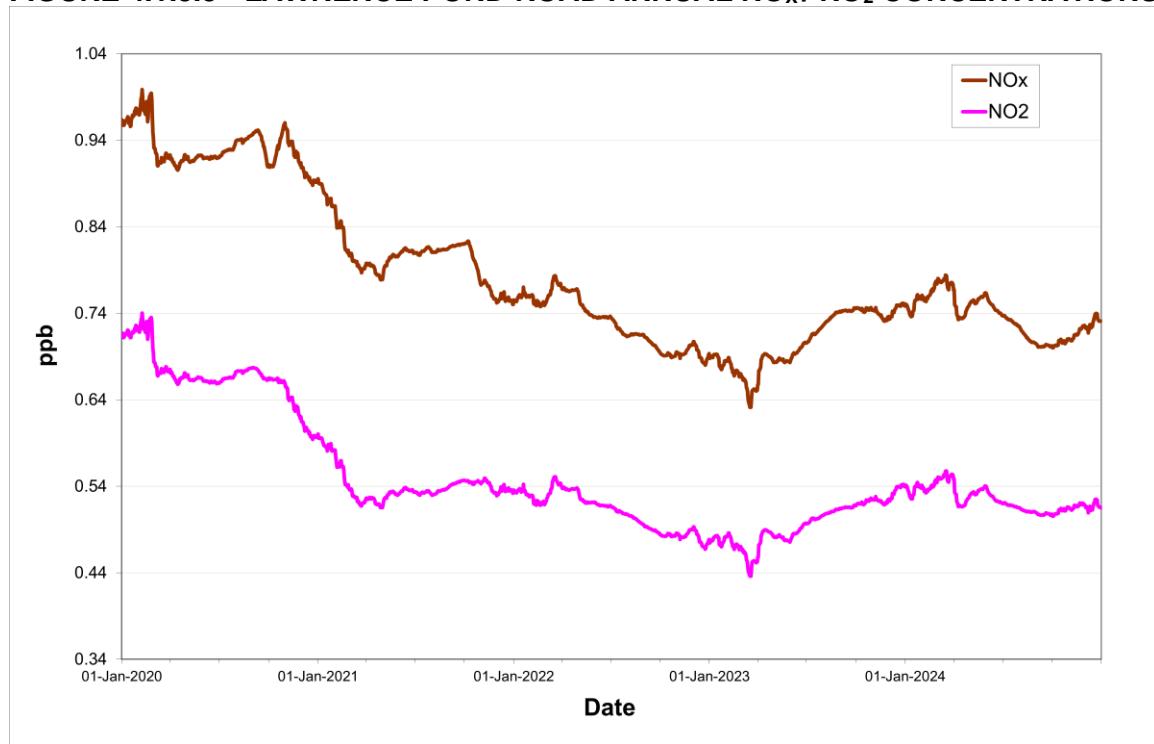


**TABLE 4.1.5.3 - LAWRENCE POND ROAD NO<sub>x</sub> / NO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average NO <sub>x</sub> NO <sub>2</sub>		Maximums				Exceedances	
						1-Hour NO <sub>x</sub>	1-Hour NO <sub>2</sub>	24-Hour NO <sub>x</sub>	24-Hour NO <sub>2</sub>	1-Hour (>213)	24-Hour (>106)
2023	January	713	95.8%	0.8	0.7	9.0	8.0	2.4	2.0	0	0
	February	624	92.9%	0.8	0.6	12.3	10.4	2.0	1.7	0	0
	March	711	95.6%	0.8	0.6	16.2	14.1	3.9	3.2	0	0
	April	686	95.3%	1.0	0.8	15.8	11.8	6.7	5.8	0	0
	May	665	89.4%	0.6	0.3	6.5	5.7	1.4	1.0	0	0
	June	619	86.0%	0.9	0.6	2.7	2.0	1.4	1.1	0	0
	July	706	94.9%	0.7	0.4	2.7	1.8	0.9	0.6	0	0
	August	698	93.8%	0.7	0.4	3.3	2.5	1.0	0.6	0	0
	September	687	95.4%	0.5	0.4	2.5	2.1	1.0	0.7	0	0
	October	687	92.3%	0.7	0.5	13.2	6.4	1.6	1.2	0	0
	November	690	95.8%	0.6	0.5	10.6	9.7	1.7	1.5	0	0
	December	703	94.5%	0.9	0.7	12.6	11.5	3.0	2.7	0	0
Annual		8189	93.5%	0.7	0.5	16.2	14.1	6.7	5.8	0	0
2024	January	687	92.3%	0.9	0.7	12.7	11.2	3.3	2.8	0	0
	February	667	95.8%	1.0	0.7	19.6	13.7	2.2	1.8	0	0
	March	709	95.3%	0.8	0.7	21.0	15.4	3.2	2.7	0	0
	April	690	95.8%	0.7	0.5	14.3	11.2	1.8	1.4	0	0
	May	713	95.8%	0.7	0.5	7.8	5.9	1.3	0.9	0	0
	June	652	90.6%	0.5	0.4	2.5	2.3	0.8	0.7	0	0
	July	713	95.8%	0.6	0.4	2.2	1.9	0.9	0.6	0	0
	August	712	95.7%	0.5	0.3	1.9	1.6	0.7	0.5	0	0
	September	687	95.4%	0.5	0.3	2.6	2.6	0.9	0.8	0	0
	October	713	95.8%	0.8	0.6	9.2	7.6	2.2	1.7	0	0
	November	686	95.3%	0.8	0.5	7.1	6.8	1.6	1.3	0	0
	December	713	95.8%	0.9	0.6	9.4	7.9	2.5	2.1	0	0
Annual		8342	95.0%	0.7	0.5	21.0	15.4	3.3	2.8	0	0

Observations in ppb

**FIGURE 4.1.5.3 - LAWRENCE POND ROAD ANNUAL NO<sub>x</sub> / NO<sub>2</sub> CONCENTRATIONS**



Rolling annual average of hourly concentrations

**TABLE 4.1.5.4 - LAWRENCE POND ROAD TPM SUMMARY 2023 & 2024**

Year	Month	# Valid Days	% Valid Days	Average	Maximum 24-Hour	Regulatory Exceedances (>120 µg/m <sup>3</sup> )
		Days	Average	24-Hour		
2023	January	5	100.0%	9.6	15.1	0
	February	4	100.0%	15.9	22.2	0
	March	5	83.3%	13.1	23.7	0
	April	5	100.0%	24.0	35.0	0
	May	5	100.0%	10.8	14.0	0
	June	4	80.0%	36.2	106.6	0
	July	4	80.0%	12.0	15.0	0
	August	4	80.0%	10.1	14.4	0
	September	5	100.0%	13.0	33.3	0
	October	5	100.0%	8.3	14.1	0
	November	5	100.0%	12.8	19.0	0
	December	5	100.0%	14.5	27.4	0
Annual		56	93.3%	14.8	106.6	0
2024	January	6	100.0%	17.1	30.0	0
	February	4	100.0%	21.8	30.8	0
	March	6	100.0%	13.9	28.2	0
	April	5	100.0%	12.9	20.0	0
	May	5	100.0%	12.9	20.2	0
	June	5	100.0%	20.6	48.4	0
	July	5	100.0%	13.6	25.8	0
	August	5	100.0%	12.5	18.9	0
	September	5	100.0%	6.1	11.5	0
	October	5	100.0%	6.8	12.8	0
	November	5	100.0%	5.2	8.1	0
	December	5	100.0%	8.4	11.6	0
Annual		61	100.0%	12.6	48.4	0

Observations in µg/m<sup>3</sup>

**FIGURE 4.1.5.4 - LAWRENCE POND ROAD ANNUAL TPM CONCENTRATIONS**



#### **4.1.6 NL Hydro Property Boundary**

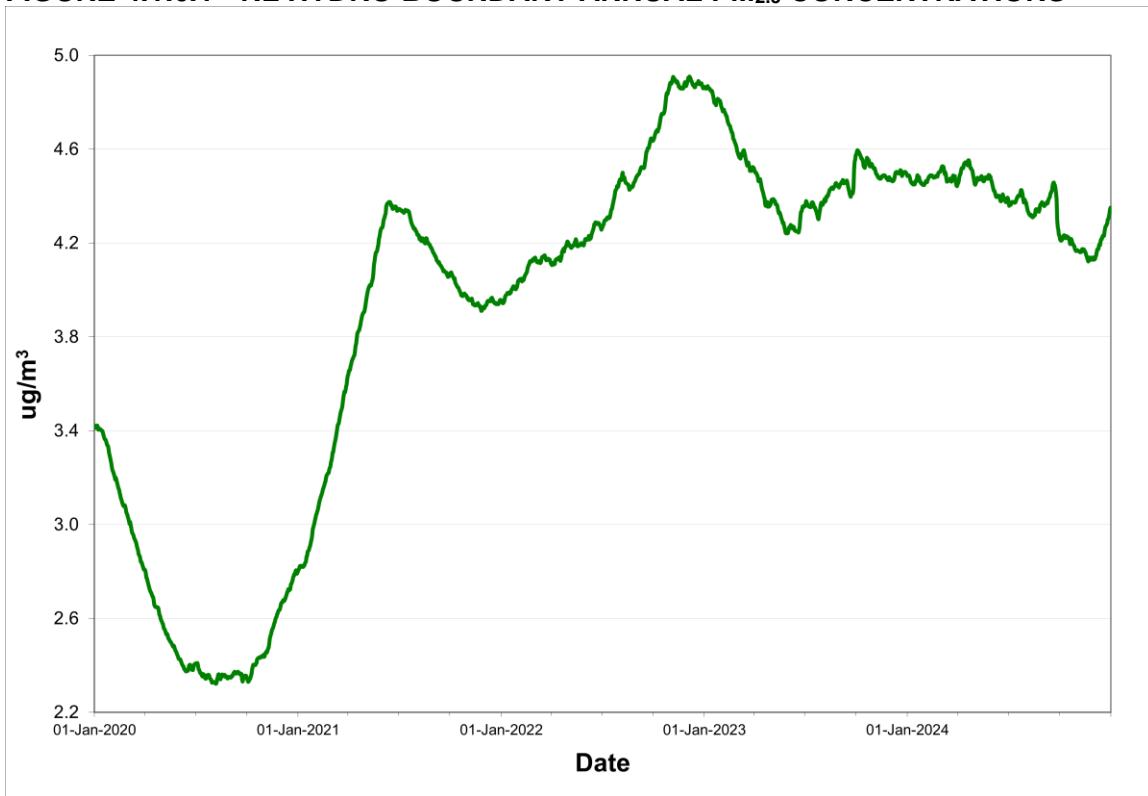
The NL Hydro Property Boundary station monitors the levels of PM<sub>2.5</sub> on a continuous basis and TPM on a one-day-in-six-day cycle consistent with the NAPS defined schedule. For PM<sub>2.5</sub> and TPM, the air quality standards were not exceeded on any occasion in 2024. Tables 4.1.6.1 through 4.1.6.2 provide summary information on the level of air contaminants measured at NL Hydro Property Boundary, while Figures 4.1.6.1 through 4.1.6.2 provide a graphical representation of the annual trend of each pollutant.

**TABLE 4.1.6.1 - NL HYDRO BOUNDARY PM<sub>2.5</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid 24-Hour	% Valid 24-Hour	Average	Maximum 24-Hour	Regulatory Exceedances (>25 µg/m <sup>3</sup> )
2023	January	701	94.2%	4.4	12.1	0
	February	620	92.3%	3.4	5.2	0
	March	724	97.3%	4.7	12.9	0
	April	720	100.0%	4.4	9.8	0
	May	744	100.0%	4.2	9.2	0
	June	720	100.0%	5.6	18.6	0
	July	744	100.0%	4.4	10.8	0
	August	744	100.0%	4.1	8.7	0
	September	720	100.0%	5.8	32.8	25
	October	654	87.9%	4.7	11.4	0
	November	698	96.9%	3.4	5.9	0
	December	744	100.0%	4.7	10.1	0
Annual		8533	97.4%	4.5	32.8	25
2024	January	636	85.5%	3.9	6.9	0
	February	662	95.1%	4.1	8.0	0
	March	719	96.6%	4.1	7.4	0
	April	720	100.0%	4.8	12.1	0
	May	744	100.0%	4.2	10.7	0
	June	720	100.0%	4.6	15.5	0
	July	670	90.1%	4.2	10.0	0
	August	655	88.0%	4.0	11.0	0
	September	720	100.0%	4.3	10.5	0
	October	744	100.0%	3.8	8.8	0
	November	720	100.0%	3.2	7.3	0
	December	744	100.0%	7.0	11.3	0
Annual		8454	96.2%	4.3	15.5	0

Observations in µg/m<sup>3</sup>

**FIGURE 4.1.6.1 - NL HYDRO BOUNDARY ANNUAL PM<sub>2.5</sub> CONCENTRATIONS**

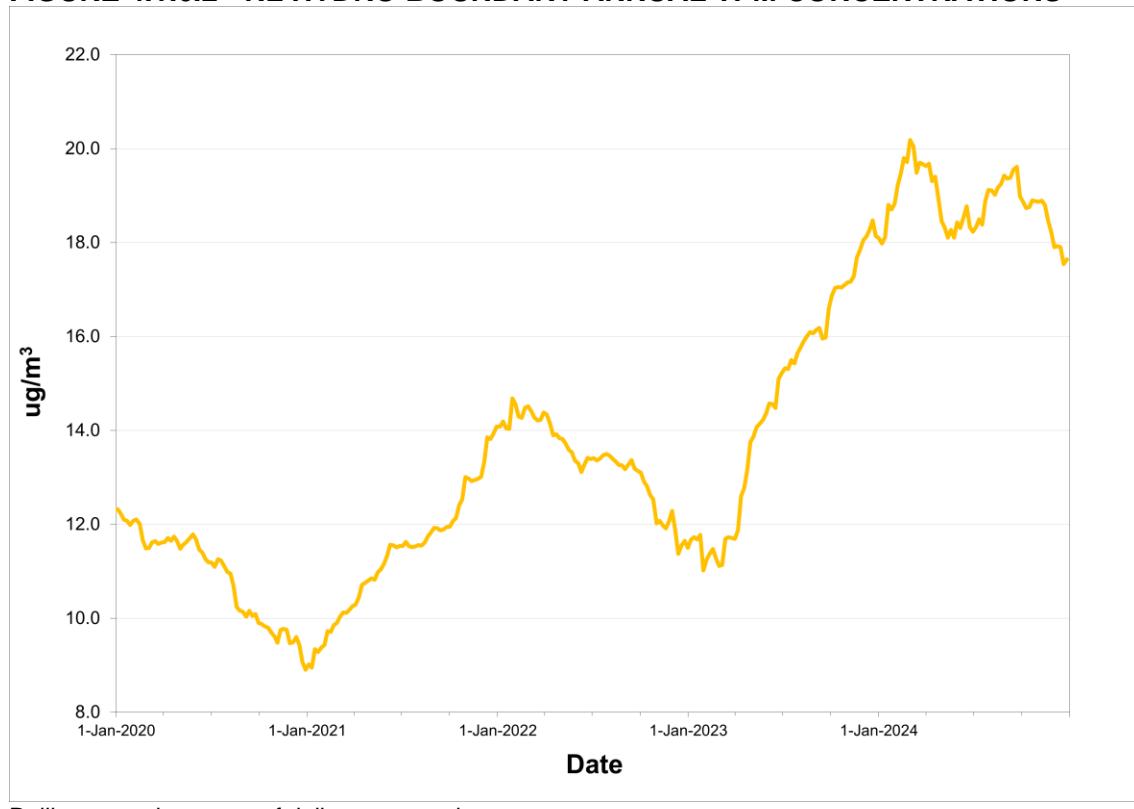


**TABLE 4.1.6.2 - NL HYDRO BOUNDARY TPM SUMMARY 2023 & 2024**

Year	Month	# Valid Days	% Valid Days	Maximum 24-Hour	Regulatory Exceedances (>120 µg/m <sup>3</sup> )
		Days	Average		
2023	January	4	80.0%	16.0	27.7
	February	3	75.0%	18.9	21.8
	March	4	66.7%	19.6	40.6
	April	5	100.0%	32.6	50.0
	May	4	80.0%	15.3	17.8
	June	5	100.0%	22.1	52.5
	July	5	100.0%	14.2	21.1
	August	5	100.0%	12.2	14.4
	September	5	100.0%	17.0	48.1
	October	5	100.0%	12.0	19.7
	November	4	80.0%	20.1	29.4
	December	5	100.0%	19.5	32.0
Annual		54	90.0%	18.3	52.5
2024	January	6	100.0%	21.6	52.0
	February	4	100.0%	31.6	44.1
	March	6	100.0%	18.8	31.7
	April	5	100.0%	18.7	28.1
	May	5	100.0%	15.6	34.7
	June	5	100.0%	19.7	25.7
	July	5	100.0%	24.9	38.4
	August	5	100.0%	15.9	20.1
	September	5	100.0%	11.7	17.8
	October	5	100.0%	10.8	17.3
	November	5	100.0%	11.9	14.4
	December	5	100.0%	12.4	18.1
Annual		61	100.0%	17.6	52.0

Observations in µg/m<sup>3</sup>

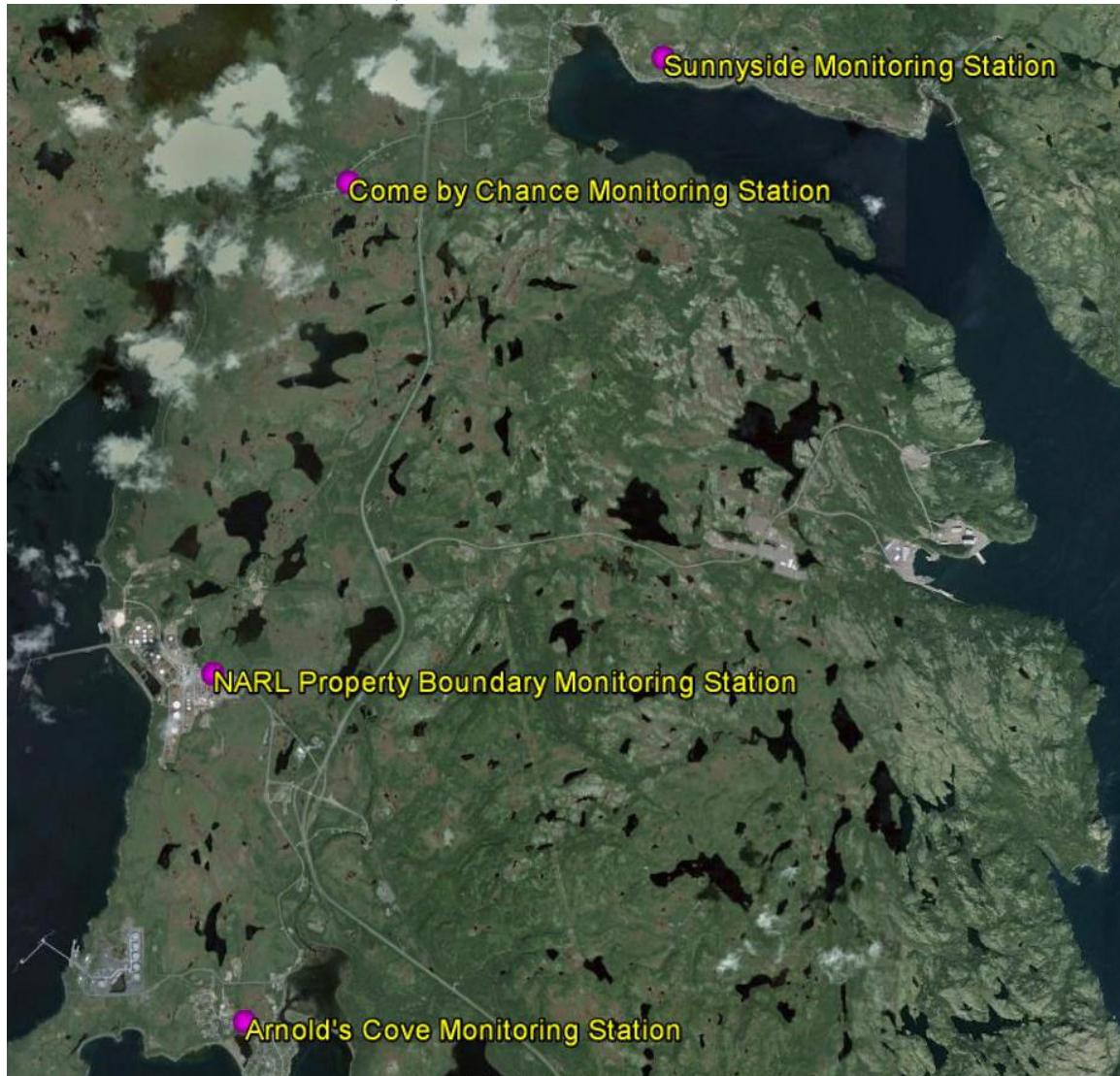
**FIGURE 4.1.6.2 - NL HYDRO BOUNDARY ANNUAL TPM CONCENTRATIONS**



## 4.2 Braya Renewable Fuels

Braya Renewable Fuels (Braya) operated air quality monitoring stations at four locations in 2024. These stations are installed to monitor the air quality near Braya's refinery in Come-by-Chance and are located at Arnold's Cove, Come-by-Chance, Sunnyside and the Braya property boundary (Fenceline). The locations of these air quality monitoring stations are identified in Figure 4.2.1. In April 2020, the refinery, when under ownership of North Atlantic Refining Limited (NARL), went into warm idle owing to a drop in product demand caused by the Covid-19 pandemic. The refinery was subsequently sold to Braya who have converted the facility from a crude oil refinery to a renewable fuels refinery.

**FIGURE 4.2.1 - BRAYA AIR QUALITY MONITORING STATIONS**



#### 4.2.1 Arnold's Cove

The Arnold's Cove station monitors the levels of SO<sub>2</sub> and PM<sub>2.5</sub> on a continuous basis and is located near Tricentia Academy School. For SO<sub>2</sub> and PM<sub>2.5</sub>, the air quality standards were not exceeded on any occasion in 2024.

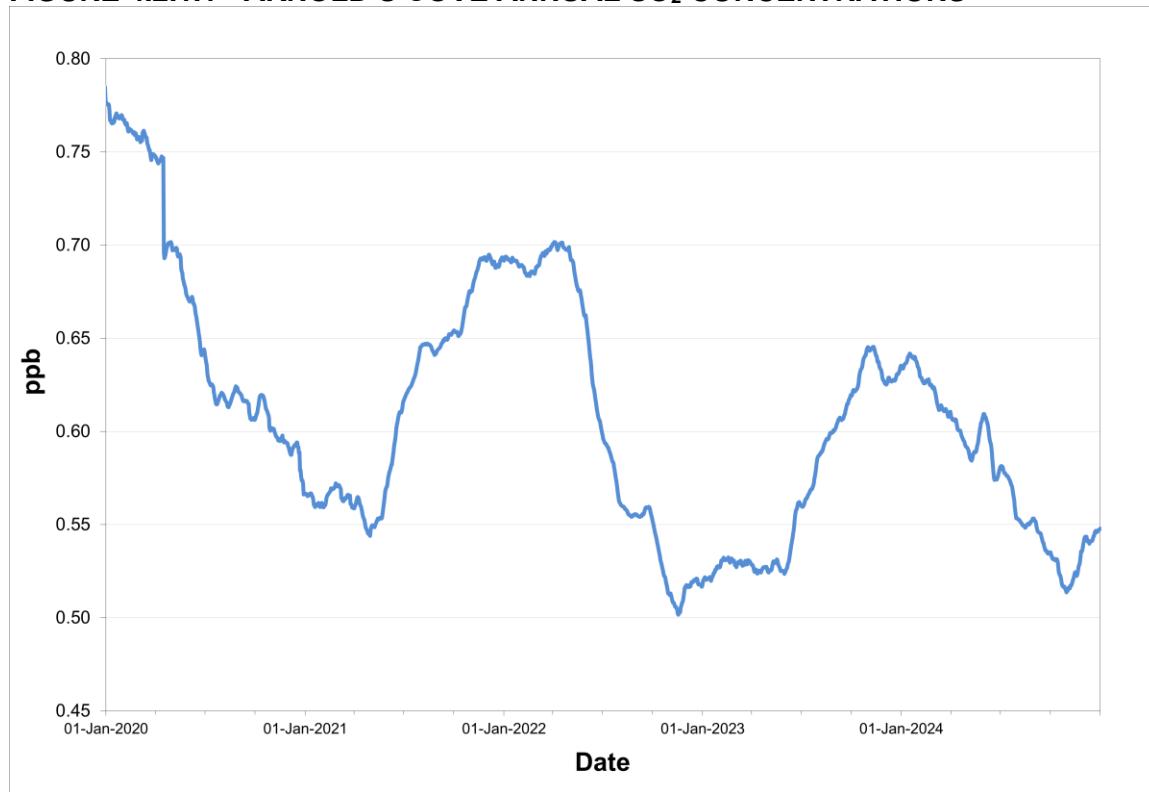
Tables 4.2.1.1 through 4.2.1.2 provide summary information on the level of air contaminants measured at Arnold's Cove, while Figures 4.2.1.1 through 4.2.1.2 provide a graphical representation of the annual trend of each pollutant.

**TABLE 4.2.1.1 - ARNOLD'S COVE SO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average	Maximum			Regulatory Exceedances		
					1-Hour	3-Hour	24-Hour	1-Hour (>344)	3-Hour (>229)	24-Hour (>115)
2023	January	741	99.6%	0.6	1.2	1.2	1.0	0	0	0
	February	658	97.9%	0.6	2.4	1.9	1.3	0	0	0
	March	736	98.9%	0.6	1.1	1.0	0.9	0	0	0
	April	714	99.2%	0.5	1.2	1.0	0.9	0	0	0
	May	737	99.1%	0.6	2.7	1.5	1.2	0	0	0
	June	706	98.1%	0.8	2.0	1.8	1.5	0	0	0
	July	741	99.6%	0.7	1.6	1.4	1.3	0	0	0
	August	738	99.2%	0.6	1.6	1.1	0.8	0	0	0
	September	714	99.2%	0.7	1.4	1.2	1.1	0	0	0
	October	736	98.9%	0.8	1.7	1.7	1.5	0	0	0
	November	712	98.9%	0.5	1.2	1.1	0.9	0	0	0
	December	292	39.2%	0.6	1.2	1.1	1.0	0	0	0
Annual		8225	93.9%	0.6	2.7	1.9	1.5	0	0	0
2024	January	130	17.5%	0.2	0.6	0.6	0.2	0	0	0
	February	690	99.1%	0.4	1.0	0.9	0.9	0	0	0
	March	739	99.3%	0.5	0.9	0.9	0.8	0	0	0
	April	715	99.3%	0.3	0.9	0.7	0.6	0	0	0
	May	734	98.7%	0.8	1.5	1.3	1.1	0	0	0
	June	712	98.9%	0.5	2.0	1.1	0.8	0	0	0
	July	737	99.1%	0.4	0.9	0.7	0.5	0	0	0
	August	738	99.2%	0.6	1.2	1.0	0.9	0	0	0
	September	712	98.9%	0.5	1.0	0.8	0.7	0	0	0
	October	736	98.9%	0.6	1.1	1.1	0.9	0	0	0
	November	714	99.2%	0.7	7.9	1.3	1.1	0	0	0
	December	736	98.9%	0.7	1.7	1.3	1.0	0	0	0
Annual		8093	92.1%	0.5	7.9	1.3	1.1	0	0	0

Observations in ppb

**FIGURE 4.2.1.1 - ARNOLD'S COVE ANNUAL SO<sub>2</sub> CONCENTRATIONS**

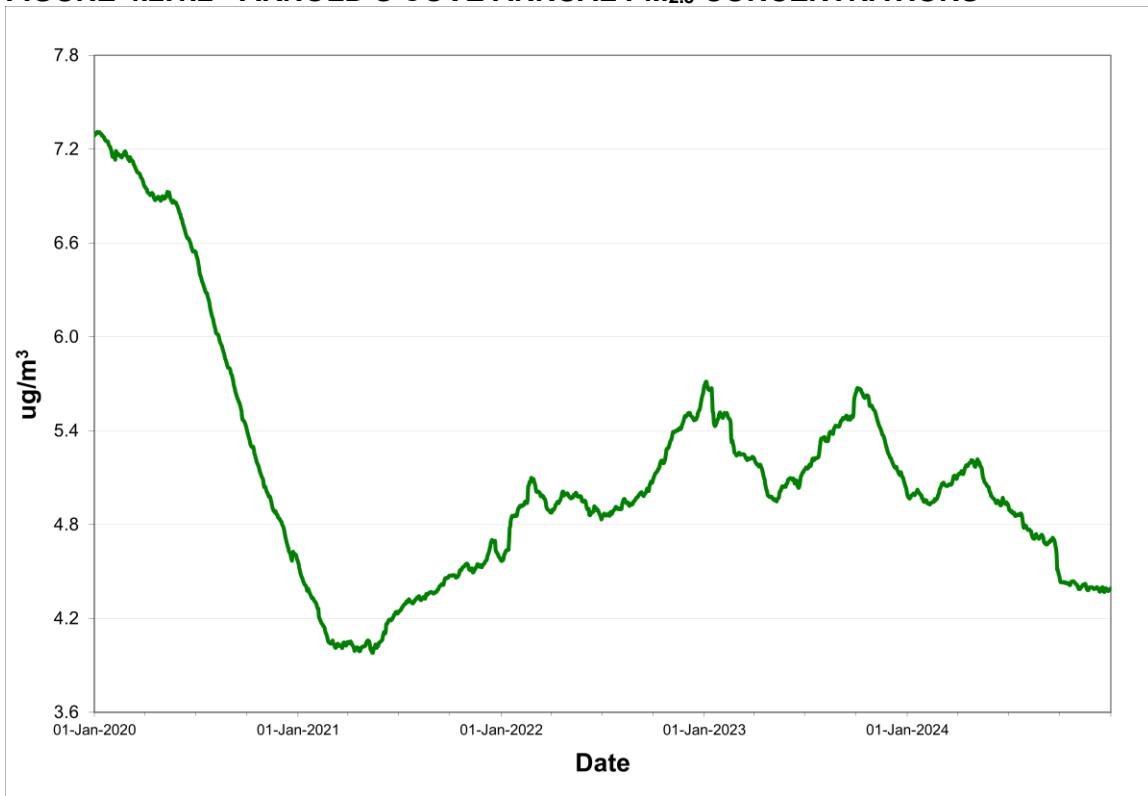


**TABLE 4.2.1.2 - ARNOLD'S COVE PM<sub>2.5</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid 24-Hour	% Valid 24-Hour	Average	Maximum 24-Hour	Regulatory Exceedances (>25 µg/m <sup>3</sup> )
2023	January	682	91.7%	4.7	12.6	0
	February	672	100.0%	3.3	9.0	0
	March	620	83.3%	3.8	9.4	0
	April	720	100.0%	4.1	8.5	0
	May	688	92.5%	6.3	14.5	0
	June	720	100.0%	5.0	15.8	0
	July	744	100.0%	6.6	13.6	0
	August	744	100.0%	5.5	13.8	0
	September	720	100.0%	7.5	37.0	28
	October	544	73.1%	4.9	12.2	0
	November	643	89.3%	3.2	7.8	0
	December	744	100.0%	4.7	13.8	0
Annual		8241	94.1%	5.0	37.0	28
2024	January	744	100.0%	4.0	8.5	0
	February	696	100.0%	4.3	10.0	0
	March	744	100.0%	4.9	9.8	0
	April	720	100.0%	5.1	9.9	0
	May	744	100.0%	3.9	9.9	0
	June	720	100.0%	4.4	18.2	0
	July	744	100.0%	5.0	15.5	0
	August	728	97.8%	4.9	11.1	0
	September	720	100.0%	4.5	11.6	0
	October	744	100.0%	4.0	9.2	0
	November	720	100.0%	3.1	6.9	0
	December	744	100.0%	4.6	10.9	0
Annual		8768	99.8%	4.4	18.2	0

Observations in µg/m<sup>3</sup>

**FIGURE 4.2.1.2 - ARNOLD'S COVE ANNUAL PM<sub>2.5</sub> CONCENTRATIONS**



#### 4.2.2 Come by Chance

The Come by Chance station, located near the town office, monitors the levels of SO<sub>2</sub> and PM<sub>2.5</sub> on a continuous basis. For SO<sub>2</sub> and PM<sub>2.5</sub>, the air quality standards were not exceeded on any occasion in 2024.

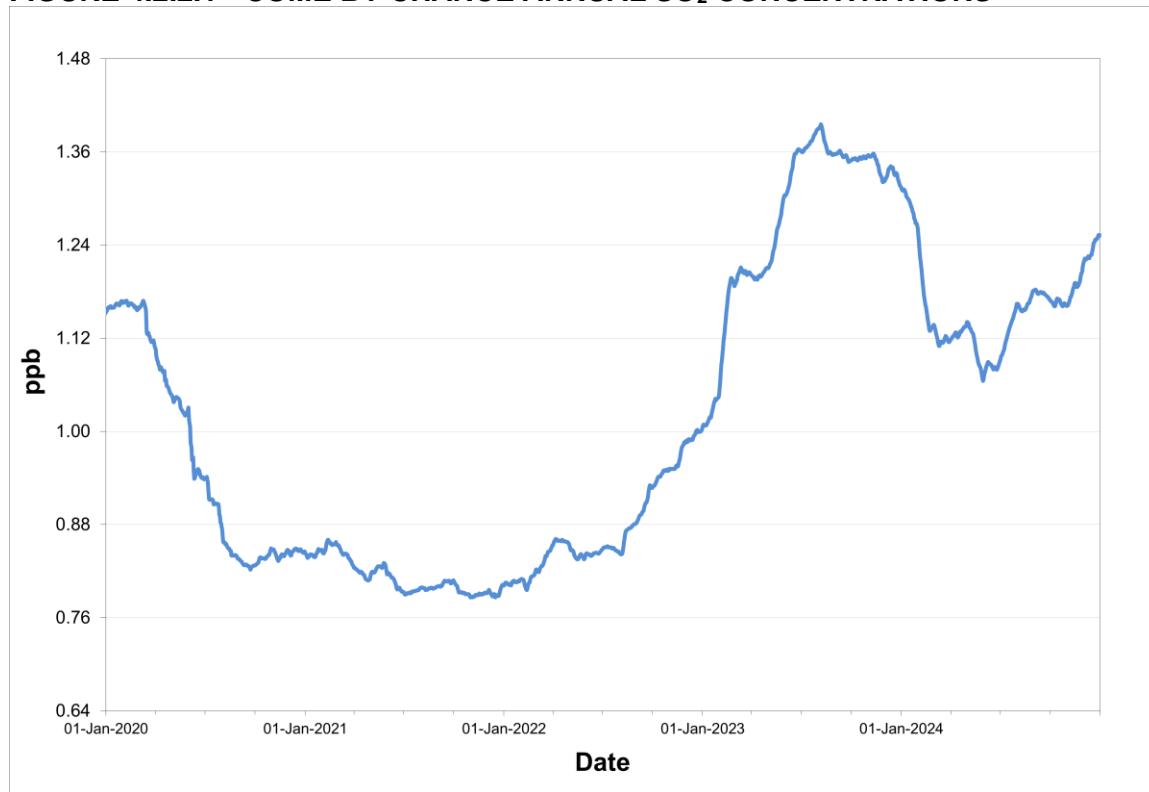
Tables 4.2.2.1 through 4.2.2.2 provide summary information on the level of air contaminants measured at Come by Chance, while Figures 4.2.2.1 through 4.2.2.2 provide a graphical representation of the annual trend of each pollutant.

**TABLE 4.2.2.1 - COME BY CHANCE SO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average	Maximum			Regulatory Exceedances		
					1-Hour	3-Hour	24-Hour	1-Hour (>344)	3-Hour (>229)	24-Hour (>115)
2023	January	741	99.6%	1.5	7.2	2.9	2.6	0	0	0
	February	664	98.8%	3.0	5.9	5.5	4.8	0	0	0
	March	736	98.9%	1.3	2.7	2.2	1.8	0	0	0
	April	712	98.9%	0.8	2.1	1.8	1.4	0	0	0
	May	740	99.5%	1.9	3.4	3.1	2.7	0	0	0
	June	711	98.8%	1.3	3.1	3.0	2.7	0	0	0
	July	740	99.5%	1.0	1.8	1.6	1.3	0	0	0
	August	618	83.1%	0.6	1.9	1.1	1.0	0	0	0
	September	715	99.3%	1.1	2.0	1.7	1.5	0	0	0
	October	735	98.8%	1.0	2.7	2.1	1.6	0	0	0
	November	704	97.8%	0.9	3.7	2.2	1.7	0	0	0
	December	737	99.1%	1.3	2.6	2.2	2.1	0	0	0
Annual		8553	97.6%	1.3	7.2	5.5	4.8	0	0	0
2024	January	735	98.8%	0.9	2.3	2.1	1.7	0	0	0
	February	692	99.4%	1.3	3.4	2.9	2.7	0	0	0
	March	735	98.8%	1.0	3.4	2.6	2.2	0	0	0
	April	715	99.3%	1.1	2.1	2.0	1.8	0	0	0
	May	736	98.9%	1.1	2.4	2.1	2.0	0	0	0
	June	714	99.2%	1.6	4.0	2.8	2.3	0	0	0
	July	739	99.3%	1.8	3.8	3.5	2.1	0	0	0
	August	739	99.3%	0.9	2.1	2.0	1.7	0	0	0
	September	710	98.6%	0.9	1.8	1.7	1.4	0	0	0
	October	735	98.8%	0.9	2.6	2.4	2.0	0	0	0
	November	713	99.0%	1.6	3.2	3.1	2.7	0	0	0
	December	739	99.3%	1.7	3.3	3.1	2.6	0	0	0
Annual		8702	99.1%	1.3	4.0	3.5	2.7	0	0	0

Observations in ppb

**FIGURE 4.2.2.1 - COME BY CHANCE ANNUAL SO<sub>2</sub> CONCENTRATIONS**



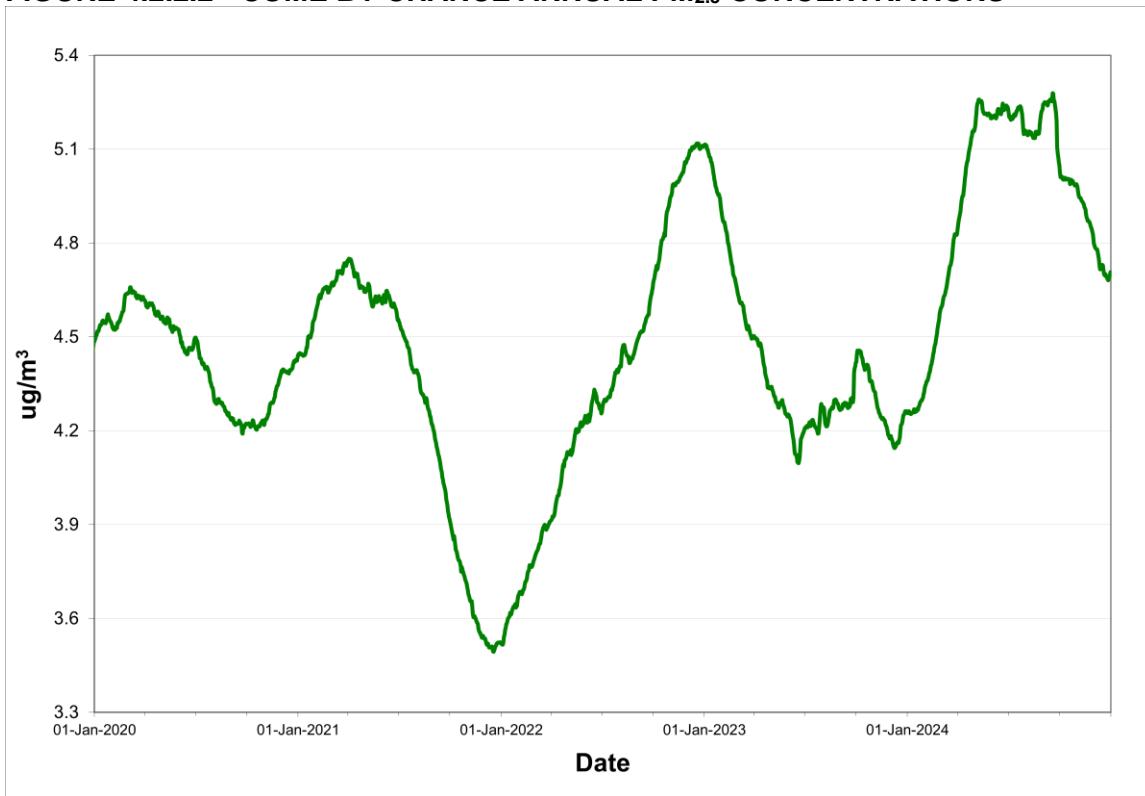
Rolling annual average of hourly concentrations

**TABLE 4.2.2.2 - COME BY CHANCE PM<sub>2.5</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid 24-Hour	% Valid 24-Hour	Average	Maximum 24-Hour	Regulatory Exceedances (>25 µg/m <sup>3</sup> )
2023	January	580	78.0%	4.1	7.5	0
	February	672	100.0%	3.5	6.3	0
	March	641	86.2%	3.9	7.8	0
	April	720	100.0%	3.7	6.8	0
	May	676	90.9%	4.0	9.6	0
	June	566	78.6%	3.7	14.3	0
	July	744	100.0%	5.3	12.8	0
	August	744	100.0%	4.1	9.9	0
	September	720	100.0%	5.3	32.6	22
	October	744	100.0%	4.3	11.5	0
	November	720	100.0%	2.8	6.8	0
	December	744	100.0%	6.0	13.3	0
Annual		8271	94.4%	4.3	32.6	22
2024	January	744	100.0%	4.8	7.2	0
	February	618	88.8%	6.7	12.7	0
	March	642	86.3%	7.3	11.4	0
	April	720	100.0%	7.5	10.6	0
	May	654	87.9%	4.4	10.9	0
	June	720	100.0%	4.3	14.9	0
	July	744	100.0%	4.3	12.6	0
	August	744	100.0%	5.0	10.6	0
	September	720	100.0%	3.4	9.7	0
	October	744	100.0%	3.4	7.8	0
	November	632	87.8%	0.4	2.4	0
	December	702	94.4%	4.7	9.8	0
Annual		8384	95.4%	4.7	14.9	0

Observations in µg/m<sup>3</sup>

**FIGURE 4.2.2.2 - COME BY CHANCE ANNUAL PM<sub>2.5</sub> CONCENTRATIONS**



Rolling annual average of daily concentrations

### 4.2.3 Sunnyside

The Sunnyside station monitors are located near the town office and measure the levels of SO<sub>2</sub> and PM<sub>2.5</sub> on a continuous basis. For SO<sub>2</sub> and PM<sub>2.5</sub>, the air quality standards were not exceeded on any occasion in 2024.

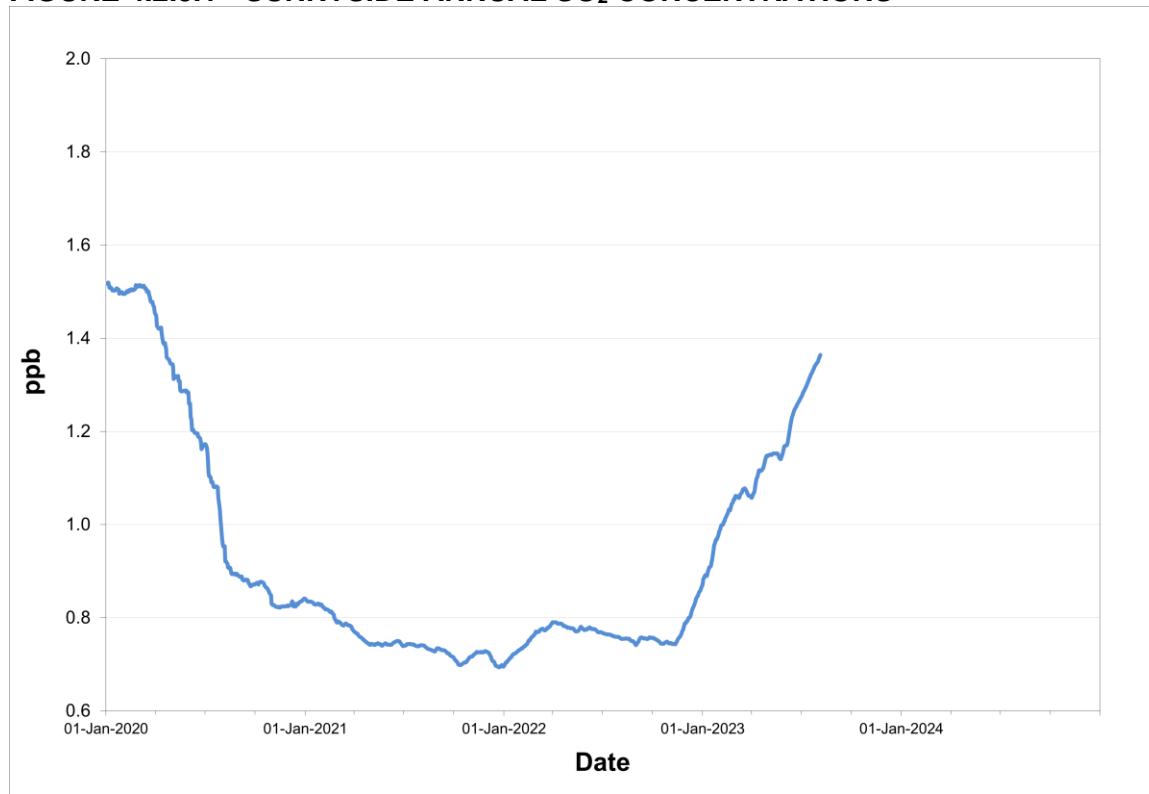
Tables 4.2.3.1 through 4.2.3.3 provide summary information on the level of air contaminants measured at Sunnyside, while Figures 4.2.3.1 through 4.2.3.3 provide a graphical representation of the annual trend of each pollutant.

**TABLE 4.2.3.1 - SUNNYSIDE SO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average	Maximum			Regulatory Exceedances		
					1-Hour	3-Hour	24-Hour	1-Hour (>344)	3-Hour (>229)	24-Hour (>115)
2023	January	650	87.4%	2.5	7.2	6.0	4.3	0	0	0
	February	637	94.8%	1.9	6.9	5.0	2.8	0	0	0
	March	612	82.3%	1.1	3.8	3.7	3.1	0	0	0
	April	716	99.4%	1.6	5.4	4.2	3.3	0	0	0
	May	743	99.9%	1.2	4.1	3.1	2.8	0	0	0
	June	466	64.7%	2.4	6.7	5.7	3.7	0	0	0
	July	0	0.0%					0	0	0
	August	557	74.9%	2.1	6.3	5.4	4.3	0	0	0
	September	682	94.7%	1.3	5.7	5.2	4.6	0	0	0
	October	360	48.4%	1.0	2.9	2.8	2.4	0	0	0
	November	0	0.0%							
	December	0	0.0%							
Annual		5423	61.9%	1.7	7.2	6.0	4.6	0	0	0
2024	January	0	0.0%							
	February	0	0.0%							
	March	0	0.0%							
	April	0	0.0%							
	May	0	0.0%							
	June	200	27.8%	0.6	3.8	2.6	0.9	0	0	0
	July	629	84.5%	0.4	3.3	1.7	0.7	0	0	0
	August	674	90.6%	0.4	4.1	2.8	0.6	0	0	0
	September	704	97.8%	0.4	6.5	4.3	0.8	0	0	0
	October	665	89.4%	0.4	7.2	4.0	0.9	0	0	0
	November	697	96.8%	0.7	8.2	5.3	1.3	0	0	0
	December	729	98.0%	0.4	4.3	2.8	0.7	0	0	0
Annual		4298	48.9%	0.5	8.2	5.3	1.3	0	0	0

Observations in ppb

**FIGURE 4.2.3.1 - SUNNYSIDE ANNUAL SO<sub>2</sub> CONCENTRATIONS**

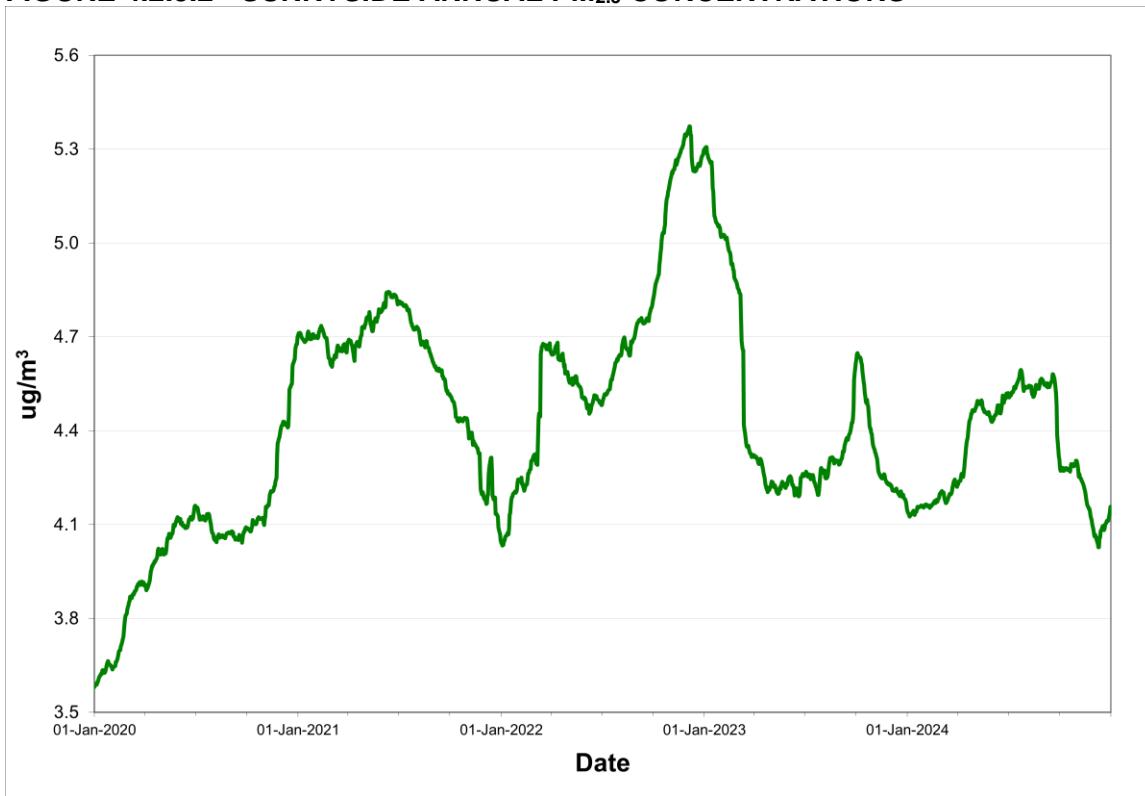


**TABLE 4.2.3.2 - SUNNYSIDE PM<sub>2.5</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid 24-Hour	% Valid 24-Hour	Average	Maximum 24-Hour	Regulatory Exceedances (>25 µg/m <sup>3</sup> )
2023	January	678	91.1%	3.5	8.8	0
	February	672	100.0%	3.4	5.6	0
	March	642	86.3%	3.5	7.3	0
	April	720	100.0%	3.7	7.4	0
	May	744	100.0%	3.9	9.8	0
	June	720	100.0%	4.0	14.0	0
	July	744	100.0%	4.6	12.2	0
	August	744	100.0%	4.4	10.4	0
	September	674	93.6%	7.1	36.1	27
	October	744	100.0%	3.9	11.0	0
	November	720	100.0%	3.9	8.1	0
	December	715	96.1%	3.9	10.0	0
Annual		8517	97.2%	4.1	36.1	27
2024	January	744	100.0%	3.6	6.8	0
	February	567	81.5%	3.7	7.3	0
	March	744	100.0%	3.9	8.1	0
	April	720	100.0%	6.6	11.7	0
	May	642	86.3%	3.3	7.1	0
	June	693	96.3%	5.1	17.2	0
	July	744	100.0%	4.8	10.8	0
	August	590	79.3%	4.7	11.3	0
	September	720	100.0%	4.1	10.4	0
	October	744	100.0%	3.7	8.8	0
	November	562	78.1%	0.7	8.5	0
	December	744	100.0%	4.7	15.0	0
Annual		8214	93.5%	4.2	17.2	0

Observations in µg/m<sup>3</sup>

**FIGURE 4.2.3.2 - SUNNYSIDE ANNUAL PM<sub>2.5</sub> CONCENTRATIONS**



#### 4.2.4 Braya Property Boundary

The Braya Property Boundary station monitors the levels of SO<sub>2</sub> and PM<sub>2.5</sub>. Given its proximity to the process area of Braya, this station historically recorded levels of SO<sub>2</sub> and PM<sub>2.5</sub> in excess of the air quality standards. For SO<sub>2</sub> and PM<sub>2.5</sub>, the air quality standards were not exceeded on any occasion in 2024.

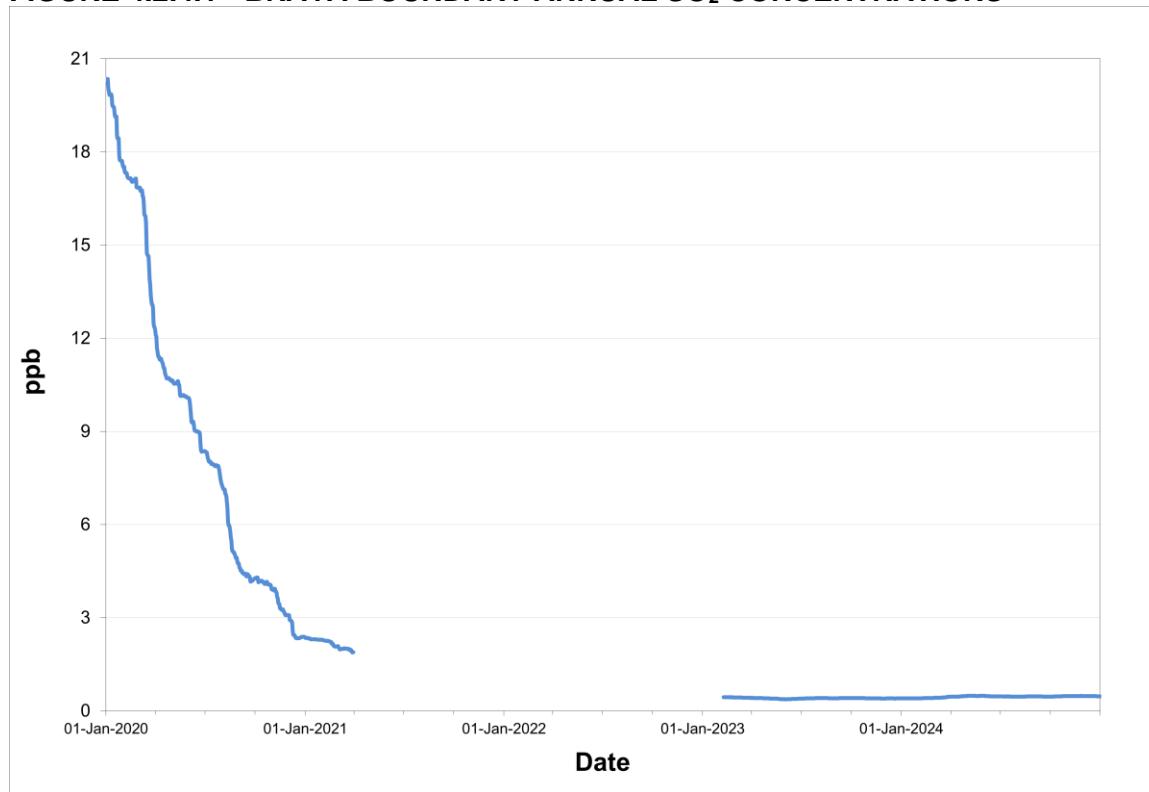
Tables 4.2.4.1 through 4.2.4.2 provide summary information on the level of air contaminants measured at Braya Property Boundary, while Figures 4.2.4.1 and 4.2.4.2 provide a graphical representation of the annual trend of each pollutant.

**TABLE 4.2.4.1 - BRAYA BOUNDARY SO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average	Maximum			Regulatory Exceedances		
					1-Hour	3-Hour	24-Hour	1-Hour (>344)	3-Hour (>229)	24-Hour (>115)
2023	January	741	99.6%	0.5	1.0	0.9	0.8	0	0	0
	February	654	97.3%	0.4	1.3	1.0	0.7	0	0	0
	March	730	98.1%	0.3	0.8	0.6	0.4	0	0	0
	April	712	98.9%	0.3	0.7	0.6	0.5	0	0	0
	May	734	98.7%	0.4	1.1	0.7	0.6	0	0	0
	June	712	98.9%	0.6	1.2	1.0	1.0	0	0	0
	July	732	98.4%	0.5	1.2	0.9	0.6	0	0	0
	August	727	97.7%	0.3	2.1	1.1	0.6	0	0	0
	September	712	98.9%	0.4	1.3	0.7	0.6	0	0	0
	October	731	98.3%	0.4	3.7	0.8	0.7	0	0	0
	November	713	99.0%	0.3	9.2	3.4	0.8	0	0	0
	December	740	99.5%	0.5	1.3	0.9	0.8	0	0	0
Annual		8638	98.6%	0.4	9.2	3.4	1.0	0	0	0
2024	January	710	95.4%	0.5	1.0	0.9	0.7	0	0	0
	February	694	99.7%	0.5	1.2	1.1	1.0	0	0	0
	March	694	93.3%	0.8	30.6	13.1	2.9	0	0	0
	April	598	83.1%	0.6	9.8	7.0	1.9	0	0	0
	May	735	98.8%	0.5	3.7	2.5	0.8	0	0	0
	June	709	98.5%	0.4	1.5	1.2	0.7	0	0	0
	July	634	85.2%	0.4	3.2	1.6	0.6	0	0	0
	August	735	98.8%	0.4	1.5	1.1	0.6	0	0	0
	September	710	98.6%	0.3	0.8	0.7	0.6	0	0	0
	October	737	99.1%	0.6	1.1	1.0	0.9	0	0	0
	November	641	89.0%	0.3	0.8	0.7	0.7	0	0	0
	December	654	87.9%	0.3	1.2	1.1	0.6	0	0	0
Annual		8251	93.9%	0.5	30.6	13.1	2.9	0	0	0

Observations in ppb

**FIGURE 4.2.4.1 - BRAYA BOUNDARY ANNUAL SO<sub>2</sub> CONCENTRATIONS**

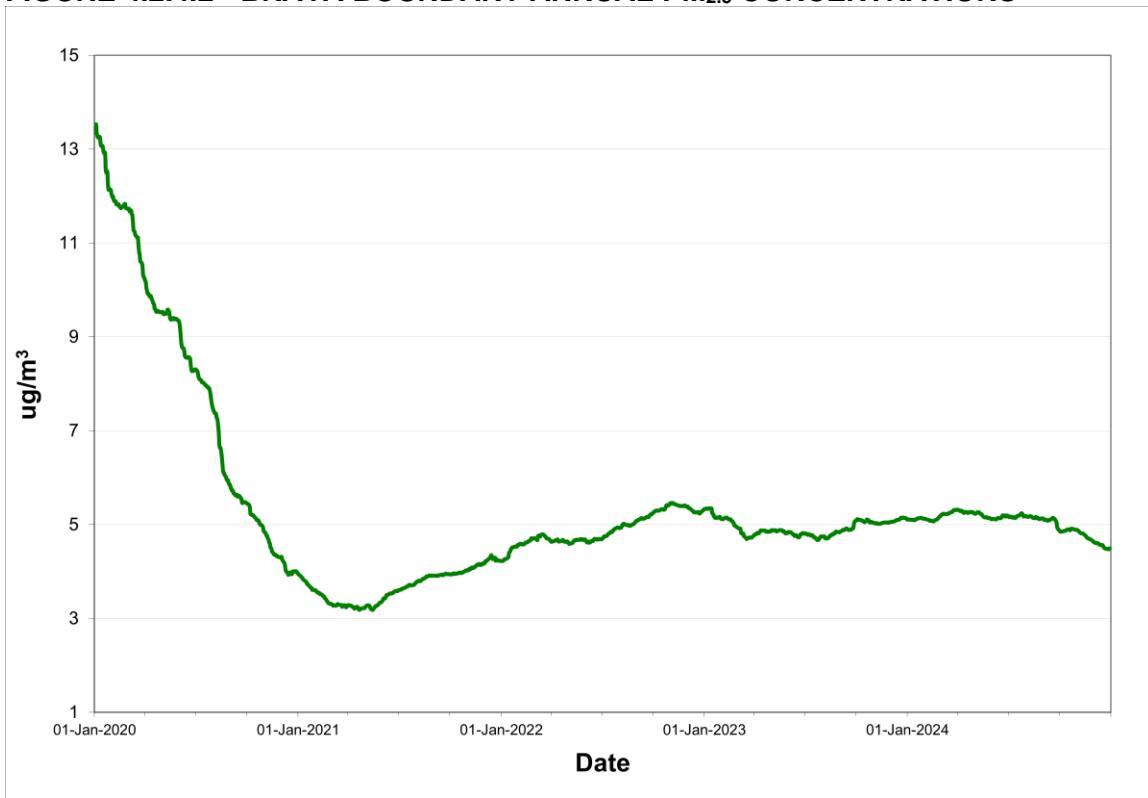


**TABLE 4.2.4.2 - BRAYA BOUNDARY PM<sub>2.5</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid 24-Hour	% Valid 24-Hour	Average	Maximum 24-Hour	Regulatory Exceedances (>25 µg/m <sup>3</sup> )
2023	January	654	87.9%	4.2	9.0	0
	February	523	77.8%	3.4	8.2	0
	March	655	88.0%	3.9	7.8	0
	April	692	96.1%	5.9	12.1	0
	May	744	100.0%	5.7	11.6	0
	June	720	100.0%	4.8	17.1	0
	July	744	100.0%	5.3	12.7	0
	August	688	92.5%	6.0	13.3	0
	September	720	100.0%	7.6	37.5	33
	October	744	100.0%	4.5	11.3	0
	November	679	94.3%	4.5	8.4	0
	December	741	99.6%	4.9	13.0	0
Annual		8304	94.8%	5.1	37.5	33
2024	January	725	97.4%	4.5	9.5	0
	February	696	100.0%	4.4	8.5	0
	March	744	100.0%	5.8	11.2	0
	April	612	85.0%	4.8	10.0	0
	May	744	100.0%	4.2	8.5	0
	June	720	100.0%	5.7	18.5	0
	July	744	100.0%	5.2	11.6	0
	August	744	100.0%	5.5	11.0	0
	September	720	100.0%	4.6	10.4	0
	October	744	100.0%	4.6	9.8	0
	November	720	100.0%	1.5	4.2	0
	December	394	53.0%	2.1	6.3	0
Annual		8307	94.6%	4.5	18.5	0

Observations in µg/m<sup>3</sup>

**FIGURE 4.2.4.2 - BRAYA BOUNDARY ANNUAL PM<sub>2.5</sub> CONCENTRATIONS**



Rolling annual average of hourly concentrations

### 4.3 Iron Ore Company of Canada

The Iron Ore Company of Canada (IOC) operated three air quality monitoring stations in Labrador City in 2024, and they are located near the Dog Park, on Hudson Drive near the Firehall and on Smokey Mountain Road near the ski hill. The locations of these air quality monitoring stations are identified in Figure 4.3.1. The Dog Park station was formerly known as the Indian Point station.

In 2013, IOC, in conjunction with the then Environment Canada and the then Department of Environment and Conservation, became the first industrial operation in the province to operate an ozone monitor. The installation of the ozone monitor at the Hudson Drive (Firehall) location designated the station as a NAPS equivalent for the purpose of generating an hourly AQHI reading.

**FIGURE 4.3.1 - IOC AIR QUALITY MONITORING STATIONS**



### 4.3.1 Dog Park

The Dog Park station, previously called the Indian Point station, monitors the levels of SO<sub>2</sub>, NO<sub>x</sub> / NO<sub>2</sub>, PM<sub>2.5</sub> and TPM on a continuous basis. For SO<sub>2</sub> and NO<sub>x</sub> / NO<sub>2</sub>, the air quality standards were not exceeded on any occasion in 2024. For PM<sub>2.5</sub> there were one hundred hourly exceedances of the 24-hour air quality standard, while for TPM there were seventy-five hourly exceedances of the 24-hour air quality standard. In all cases the exceedances were related to either wildfire smoke or localized fugitive emissions. Table 4.3.1 highlights the temporal occurrence of the exceedances.

Tables 4.3.1.1 through 4.3.1.4 provide summary information on the level of air contaminants measured at the Dog Park while Figures 4.3.1.1 through 4.3.1.4 present the graphical representation of the annual trends.

**TABLE 4.3.1 - DOG PARK PARTICULATE EXCEEDANCES 2024**

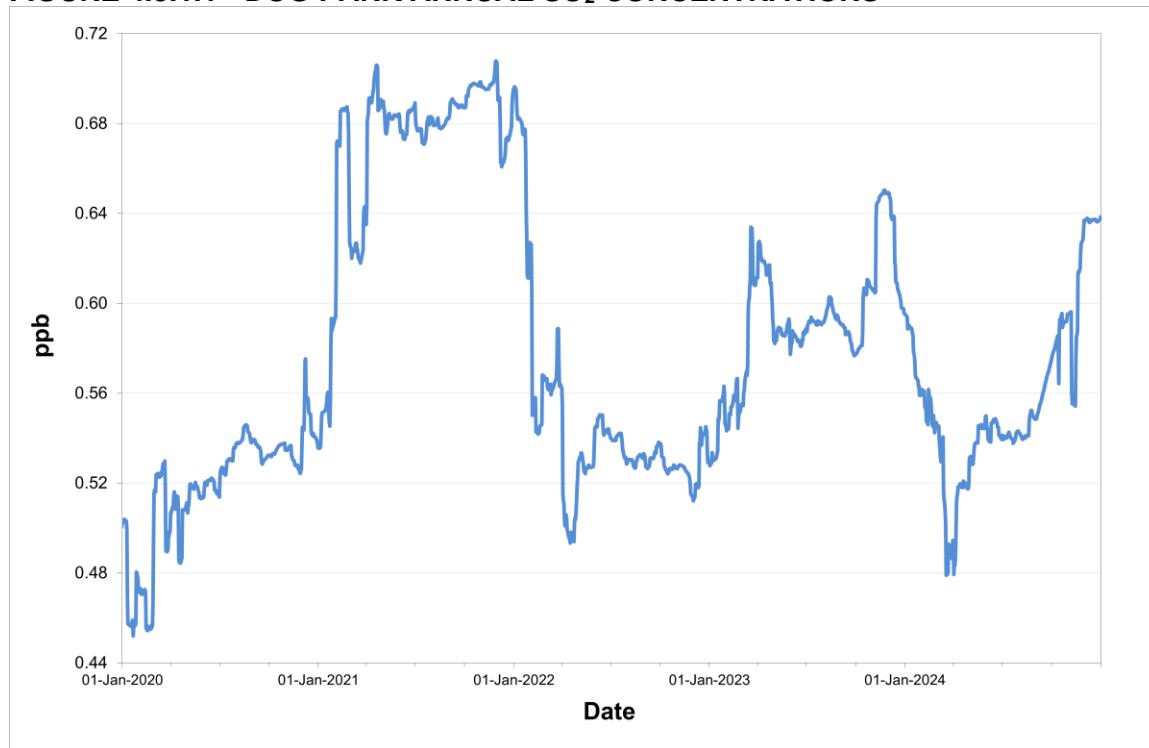
<b>Pollutant</b>	<b>Start Time</b>	<b>End Time</b>	<b>Number of Hours</b>
PM <sub>2.5</sub>	July 13, 01:00	July 14, 00:00	24
	August 14, 23:00	August 18, 02:00	76
TPM	April 30, 02:00	May 01, 01:00	24
	June 10, 17:00	June 11, 16:00	24
	November 15, 17:00	November 16, 19:00	27

**TABLE 4.3.1.1 - DOG PARK SO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average	Maximum			Regulatory Exceedances		
					1-Hour	3-Hour	24-Hour	1-Hour (>344)	3-Hour (>229)	24-Hour (>115)
2023	January	744	100.0%	0.8	15.7	11.1	6.0	0	0	0
	February	666	99.1%	0.9	22.2	15.0	3.1	0	0	0
	March	744	100.0%	1.4	47.0	34.6	9.3	0	0	0
	April	383	53.2%	0.7	14.9	12.6	5.6	0	0	0
	May	724	97.3%	0.4	11.1	4.3	1.0	0	0	0
	June	685	95.1%	0.5	10.0	7.0	1.9	0	0	0
	July	744	100.0%	0.3	5.6	4.0	1.1	0	0	0
	August	744	100.0%	0.4	3.6	2.1	1.1	0	0	0
	September	702	97.5%	0.2	4.1	2.2	0.5	0	0	0
	October	744	100.0%	0.6	14.6	12.6	5.8	0	0	0
	November	716	99.4%	0.7	33.1	27.6	11.7	0	0	0
	December	744	100.0%	0.2	2.2	1.7	0.6	0	0	0
Annual		8340	95.2%	0.6	47.0	34.6	11.7	0	0	0
2024	January	742	99.7%	0.4	23.0	16.2	3.4	0	0	0
	February	696	100.0%	0.7	24.1	17.1	6.0	0	0	0
	March	744	100.0%	0.8	22.8	13.5	4.7	0	0	0
	April	717	99.6%	1.0	31.0	14.7	5.2	0	0	0
	May	744	100.0%	0.7	15.2	11.9	3.0	0	0	0
	June	703	97.6%	0.4	10.7	8.1	3.3	0	0	0
	July	744	100.0%	0.4	3.7	2.4	0.9	0	0	0
	August	744	100.0%	0.4	8.3	4.0	2.3	0	0	0
	September	43	6.0%	0.1	0.3	0.2	0.1	0	0	0
	October	408	54.8%	1.0	22.4	18.8	9.7	0	0	0
	November	720	100.0%	1.2	26.8	25.1	8.3	0	0	0
	December	744	100.0%	0.3	3.5	1.3	0.5	0	0	0
Annual		7749	88.2%	0.6	31.0	25.1	9.7	0	0	0

Observations in ppb

**FIGURE 4.3.1.1 - DOG PARK ANNUAL SO<sub>2</sub> CONCENTRATIONS**

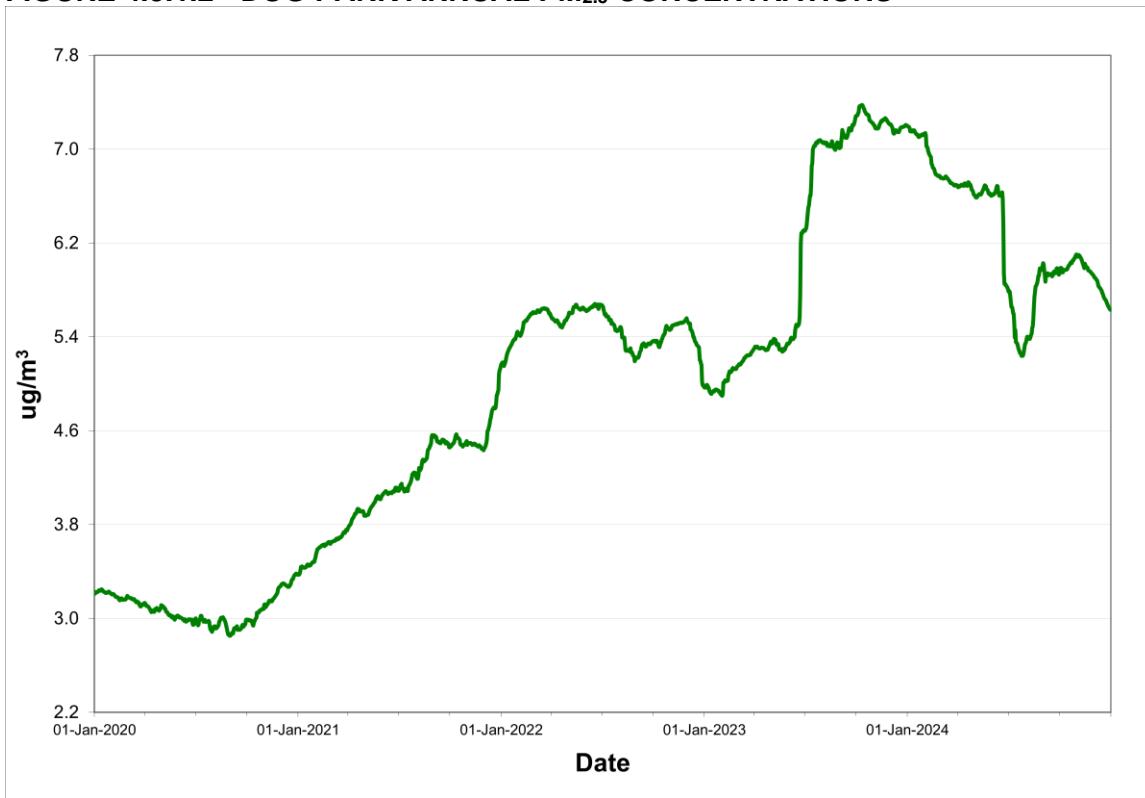


**TABLE 4.3.1.2 - DOG PARK PM<sub>2.5</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid 24-Hour	% Valid 24-Hour	Average	Maximum 24-Hour	Regulatory Exceedances (>25 µg/m <sup>3</sup> )
2023	January	744	100.0%	6.0	12.1	0
	February	622	92.6%	9.3	39.7	28
	March	744	100.0%	5.8	9.5	0
	April	720	100.0%	5.3	11.9	0
	May	714	96.0%	5.5	11.5	0
	June	592	82.2%	17.7	156.2	86
	July	700	94.1%	13.1	81.8	49
	August	744	100.0%	5.1	21.2	0
	September	692	96.1%	7.8	29.0	20
	October	706	94.9%	4.0	19.7	0
	November	590	81.9%	3.4	8.4	0
	December	703	94.5%	4.7	13.1	0
Annual		8271	94.4%	7.2	156.2	183
2024	January	744	100.0%	5.3	8.8	0
	February	696	100.0%	4.6	9.5	0
	March	700	94.1%	4.7	9.5	0
	April	720	100.0%	4.6	12.7	0
	May	630	84.7%	5.2	11.8	0
	June	701	97.4%	7.0	19.1	0
	July	744	100.0%	7.4	41.9	24
	August	744	100.0%	12.6	49.1	76
	September	664	92.2%	7.0	20.6	0
	October	744	100.0%	5.9	19.0	0
	November	682	94.7%	1.4	16.9	0
	December	676	90.9%	1.0	5.6	0
Annual		8445	96.1%	5.6	49.1	100

Observations in µg/m<sup>3</sup>

**FIGURE 4.3.1.2 - DOG PARK ANNUAL PM<sub>2.5</sub> CONCENTRATIONS**

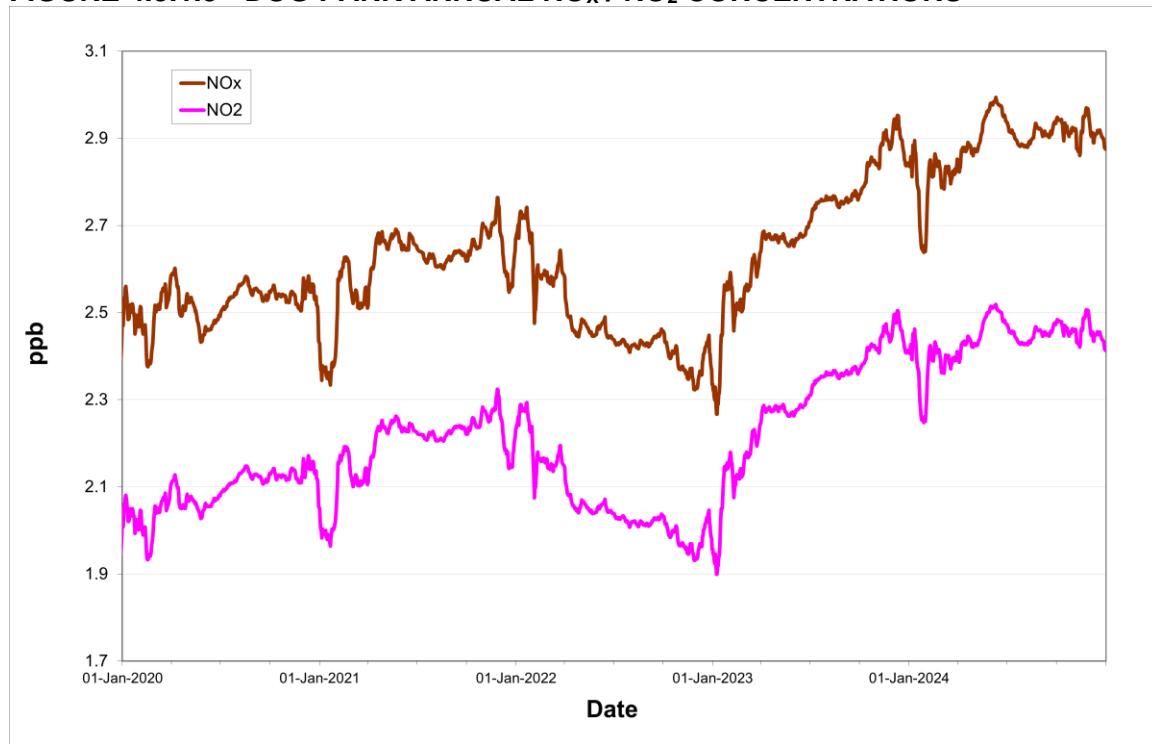


**TABLE 4.3.1.3 - DOG PARK NO<sub>x</sub> / NO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average		Maximums				Exceedances	
				NO <sub>x</sub>	NO <sub>2</sub>	1-Hour NO <sub>x</sub>	1-Hour NO <sub>2</sub>	24-Hour NO <sub>x</sub>	24-Hour NO <sub>2</sub>	1-Hour (>213)	24-Hour (>106)
2023	January	744	100.0%	6.6	5.5	59.0	33.5	21.0	15.7	0	0
	February	667	99.3%	4.0	3.4	39.6	22.8	11.7	8.8	0	0
	March	744	100.0%	4.4	3.6	47.7	31.2	9.6	7.7	0	0
	April	720	100.0%	2.9	2.5	29.6	20.9	6.9	6.0	0	0
	May	742	99.7%	1.4	1.2	15.8	11.2	3.3	2.9	0	0
	June	683	94.9%	2.2	1.9	14.5	11.8	4.9	4.6	0	0
	July	741	99.6%	1.8	1.6	65.2	19.5	4.3	2.8	0	0
	August	744	100.0%	1.4	1.2	11.9	10.6	3.5	3.0	0	0
	September	702	97.5%	1.8	1.5	56.0	21.0	5.0	3.0	0	0
	October	744	100.0%	2.3	1.8	23.7	15.1	9.6	5.9	0	0
	November	717	99.6%	2.6	2.2	41.6	23.9	14.7	9.5	0	0
	December	744	100.0%	2.6	2.4	33.7	29.6	10.9	9.5	0	0
Annual		8692	99.2%	2.8	2.4	65.2	33.5	21.0	15.7	0	0
2024	January	739	99.3%	4.3	3.7	33.3	27.0	19.2	16.5	0	0
	February	696	100.0%	6.1	5.1	62.6	34.7	18.1	14.4	0	0
	March	744	100.0%	4.7	3.8	75.6	29.7	12.4	9.1	0	0
	April	717	99.6%	3.2	2.8	31.1	28.7	8.3	6.9	0	0
	May	744	100.0%	2.7	2.2	28.1	11.1	6.3	4.2	0	0
	June	701	97.4%	1.7	1.4	23.7	13.8	5.1	3.4	0	0
	July	744	100.0%	1.2	1.0	13.9	13.6	2.7	2.4	0	0
	August	744	100.0%	1.9	1.6	15.7	10.2	4.5	3.6	0	0
	September	674	93.6%	2.0	1.6	18.6	9.7	4.2	3.4	0	0
	October	731	98.3%	2.1	1.6	44.4	25.6	18.0	11.1	0	0
	November	720	100.0%	3.1	2.8	27.7	19.8	16.7	12.8	0	0
	December	692	93.0%	1.4	1.2	40.1	26.9	6.1	5.0	0	0
Annual		8646	98.4%	2.9	2.4	75.6	34.7	19.2	16.5	0	0

Observations in ppb

**FIGURE 4.3.1.3 - DOG PARK ANNUAL NO<sub>x</sub> / NO<sub>2</sub> CONCENTRATIONS**



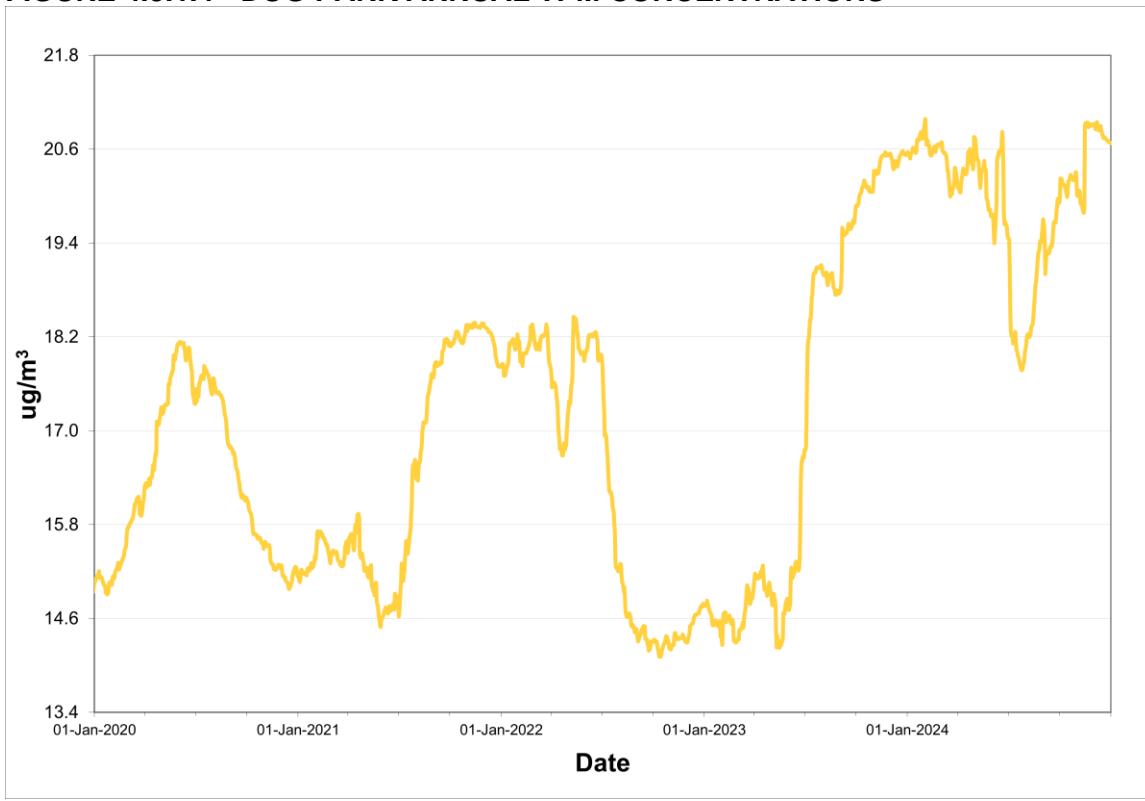
Rolling annual average of hourly concentrations

**TABLE 4.3.1.4 - DOG PARK TPM SUMMARY 2023 & 2024**

Year	Month	# Valid 24-Hour	% Valid 24-Hour	Average	Maximum 24-Hour	Regulatory Exceedances (>120 µg/m <sup>3</sup> )
2023	January	744	100.0%	12.2	36.8	0
	February	672	100.0%	16.7	137.4	10
	March	744	100.0%	21.4	73.5	0
	April	720	100.0%	19.2	53.5	0
	May	667	89.7%	29.0	158.4	9
	June	591	82.1%	45.5	228.0	57
	July	744	100.0%	36.2	198.5	51
	August	722	97.0%	11.2	39.3	0
	September	671	93.2%	23.1	198.0	25
	October	711	95.6%	10.6	37.4	0
	November	593	82.4%	14.1	77.8	0
	December	744	100.0%	10.4	31.6	0
Annual		8323	95.0%	20.5	228.0	152
2024	January	709	95.3%	16.2	68.8	0
	February	696	100.0%	14.0	32.7	0
	March	744	100.0%	15.8	91.1	0
	April	720	100.0%	27.0	209.9	22
	May	648	87.1%	15.0	141.6	2
	June	701	97.4%	39.0	207.3	24
	July	744	100.0%	19.5	119.8	0
	August	744	100.0%	29.3	78.1	0
	September	663	92.1%	27.2	71.8	0
	October	744	100.0%	15.0	96.5	0
	November	696	96.7%	22.3	382.9	27
	December	695	93.4%	7.1	38.7	0
Annual		8504	96.8%	20.6	382.9	75

Observations in µg/m<sup>3</sup>

**FIGURE 4.3.1.4 - DOG PARK ANNUAL TPM CONCENTRATIONS**



### 4.3.2 Hudson Drive (Firehall)

The Hudson Drive (Firehall) station monitors the levels of SO<sub>2</sub>, NO<sub>x</sub> / NO<sub>2</sub>, PM<sub>2.5</sub>, PM<sub>10</sub>, TPM and O<sub>3</sub> on a continuous basis. In September 2021, the PM<sub>2.5</sub> BAM was replaced with a Teledyne API T640 capable of measuring both PM<sub>2.5</sub> and PM<sub>10</sub>. This replacement was made for consistency with other NAPS stations. For SO<sub>2</sub> and NO<sub>x</sub> / NO<sub>2</sub>, the air quality standards were not exceeded on any occasion in 2024. For PM<sub>2.5</sub> there were one hundred and twenty-one hourly exceedances of the 24-hour air quality standard, and for PM<sub>10</sub> there were five hundred and eight hourly exceedances of the 24-hour air quality standard. For TPM there were four hundred and sixty-two hourly exceedances of the 24-hour air quality standard, while for O<sub>3</sub> there were thirty two exceedances of the 8-hour air quality standard. The PM<sub>2.5</sub>, PM<sub>10</sub> and TPM exceedances were all related to either wildfire smoke or localized fugitive emissions. In the case of fugitive emissions, there were numerous days where the atmospheric conditions were conducive to surface dust lift-off from sources in the general area. Table 4.3.2 highlights the temporal occurrence of the particulate exceedances. The O<sub>3</sub> exceedances are due to long-range transport.

Tables 4.3.2.1 through 4.3.2.5 provide summary information on the level of air contaminants measured at Hudson Drive (Firehall) while Table 4.3.2.6 provides the AQHI levels for 2024. Figures 4.3.2.1 through 4.3.2.5 provide the graphical representation of the annual trends for each pollutant and Figure 4.3.2.6 provides the AQHI frequency distribution for 2024.

**TABLE 4.3.2 – HUDSON DRIVE (FIREHALL) PARTICULATE EXCEEDANCES 2024**

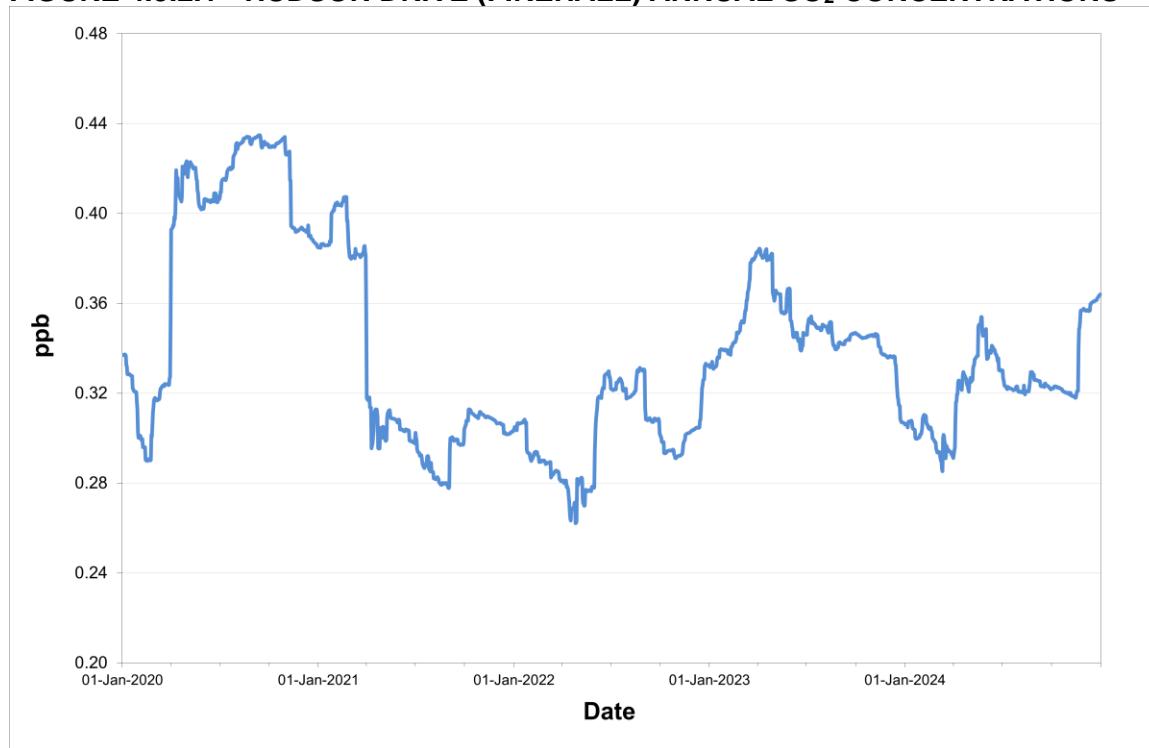
<b>Pollutant</b>	<b>Start Time</b>	<b>End Time</b>	<b>Number of Hours</b>
PM <sub>2.5</sub>	June 26, 03:00	June 26, 07:00	5
	July 13, 01:00	July 13, 19:00	19
	August 12, 22:00	August 13, 12:00	15
	August 14, 18:00	August 18, 03:00	82
PM <sub>10</sub>	March 26, 04:00	March 27, 07:00	28
	April 07, 06:00	April 08, 05:00	24
	April 10, 07:00	April 11, 18:00	36
	April 18, 18:00	April 20, 11:00	42
	April 27, 06:00	April 28, 06:00	25
	April 30, 04:00	April 30, 23:00	20
	May 05, 05:00	May 06, 08:00	28
	May 10, 14:00	May 12, 21:00	56
	May 13, 08:00	May 14, 17:00	34
	May 27, 09:00	May 28, 07:00	23
	June 01, 20:00	June 02, 20:00	25
	June 05, 19:00	June 06, 02:00	8
	June 06, 12:00	June 07, 11:00	24
	June 10, 18:00	June 11, 17:00	24
	July 13, 01:00	July 13, 18:00	18
	August 15, 02:00	August 17, 21:00	68
	November 15, 16:00	November 16, 16:00	25
TPM	March 26, 04:00	March 27, 08:00	29
	April 07, 12:00	April 08, 01:00	14
	April 10, 09:00	April 11, 17:00	33
	April 19, 02:00	April 20, 13:00	36
	April 27, 07:00	April 28, 05:00	23
	April 30, 03:00	May 01, 03:00	25
	May 05, 14:00	May 06, 10:00	21
	May 10, 19:00	May 12, 18:00	48
	May 13, 15:00	May 14, 16:00	26
	May 27, 08:00	May 28, 11:00	28
	June 01, 19:00	June 02, 20:00	26
	June 05, 07:00	June 06, 05:00	23
	June 06, 11:00	June 07, 12:00	26
	June 09, 00:00	June 09, 20:00	21
	June 10, 11:00	June 11, 17:00	31
	June 13, 11:00	June 14, 09:00	23
	November 15, 15:00	November 16, 19:00	29

**TABLE 4.3.2.1 - HUDSON DRIVE (FIREHALL) SO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average	Maximum			Regulatory Exceedances		
					1-Hour	3-Hour	24-Hour	1-Hour (>344)	3-Hour (>229)	24-Hour (>115)
2023	January	744	100.0%	0.3	8.4	6.4	1.5	0	0	0
	February	656	97.6%	0.4	14.9	6.5	1.3	0	0	0
	March	744	100.0%	0.6	11.2	8.8	2.9	0	0	0
	April	720	100.0%	0.3	7.5	2.9	1.1	0	0	0
	May	738	99.2%	0.3	16.6	10.1	2.5	0	0	0
	June	655	91.0%	0.6	21.9	14.5	4.0	0	0	0
	July	742	99.7%	0.3	9.3	4.9	1.5	0	0	0
	August	744	100.0%	0.2	8.7	4.8	1.5	0	0	0
	September	702	97.5%	0.2	7.9	4.7	1.2	0	0	0
	October	744	100.0%	0.2	2.5	1.1	0.3	0	0	0
	November	717	99.6%	0.2	3.7	2.2	0.6	0	0	0
	December	744	100.0%	0.1	2.7	1.2	0.3	0	0	0
Annual		8650	98.7%	0.3	21.9	14.5	4.0	0	0	0
2024	January	742	99.7%	0.2	5.4	3.9	1.0	0	0	0
	February	696	100.0%	0.3	29.1	11.1	1.6	0	0	0
	March	743	99.9%	0.6	21.5	17.2	6.7	0	0	0
	April	714	99.2%	0.7	19.2	10.1	4.7	0	0	0
	May	728	97.8%	0.7	19.9	16.2	4.8	0	0	0
	June	707	98.2%	0.3	12.8	7.2	1.3	0	0	0
	July	744	100.0%	0.2	7.7	3.0	0.6	0	0	0
	August	744	100.0%	0.3	6.0	5.4	1.3	0	0	0
	September	719	99.9%	0.2	9.8	6.7	1.2	0	0	0
	October	727	97.7%	0.1	2.8	1.5	0.4	0	0	0
	November	720	100.0%	0.6	13.4	11.7	7.2	0	0	0
	December	744	100.0%	0.2	5.1	4.0	1.2	0	0	0
Annual		8728	99.4%	0.4	29.1	17.2	7.2	0	0	0

Observations in ppb

**FIGURE 4.3.2.1 - HUDSON DRIVE (FIREHALL) ANNUAL SO<sub>2</sub> CONCENTRATIONS**

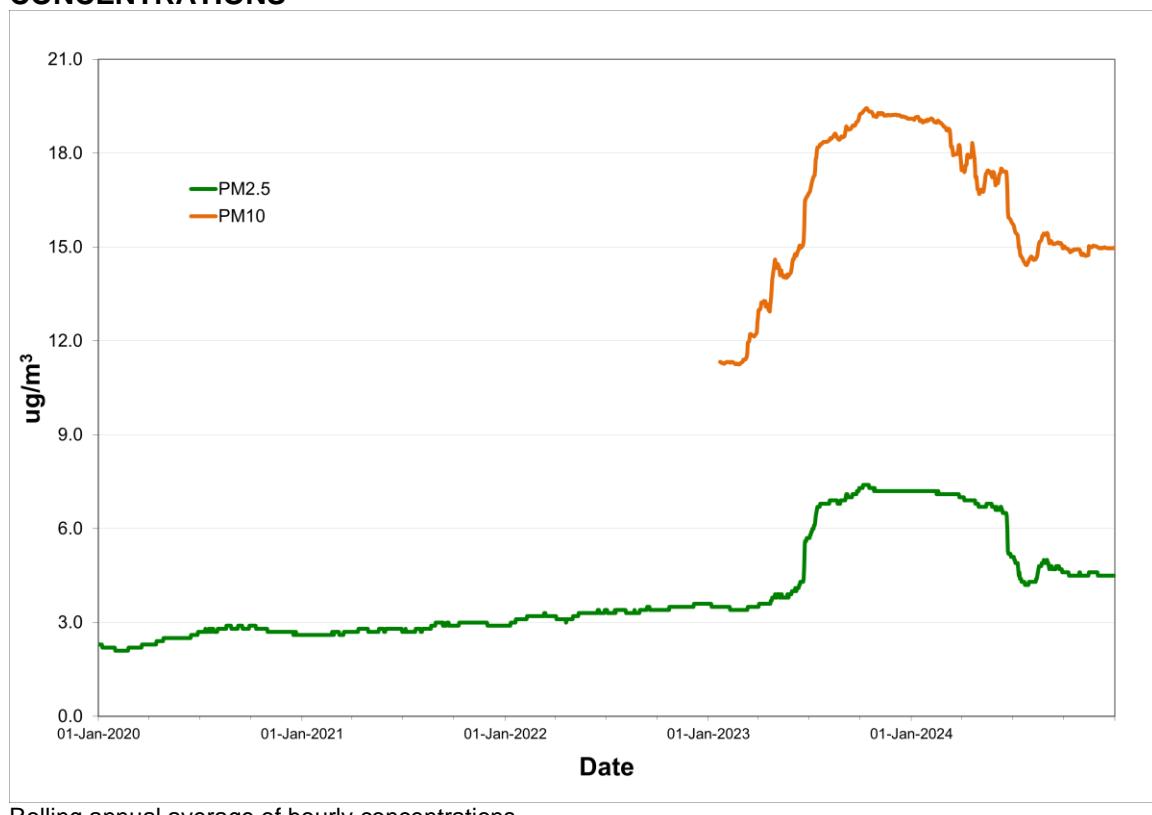


**TABLE 4.3.2.2 - HUDSON DRIVE (FIREHALL) PM<sub>2.5</sub> / PM<sub>10</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid	% Valid	Average		24-Hour Maximum		Regulatory Exceedances	
		24-Hour	24-Hour	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub> (>25)	PM <sub>10</sub> (>50)
2023	January	744	100.0%	3.6	9.9	11.5	35.7	0	0
	February	642	95.5%	3.8	11.3	6.0	22.4	0	0
	March	617	82.9%	3.9	27.8	11.7	136.3	0	101
	April	700	97.2%	6.6	40.7	16.2	135.5	0	241
	May	744	100.0%	5.4	23.0	18.4	87.6	0	62
	June	698	96.9%	24.3	42.3	252.7	295.9	121	160
	July	744	100.0%	16.9	27.8	121.4	176.2	95	65
	August	744	100.0%	5.1	12.9	21.2	34.4	0	0
	September	695	96.5%	8.4	16.1	35.3	56.0	50	19
	October	744	100.0%	2.9	7.7	15.0	30.6	0	0
	November	720	100.0%	2.1	6.9	6.1	34.7	0	0
	December	744	100.0%	2.0	5.0	4.4	8.9	0	0
Annual		8536	97.4%	7.1	19.1	252.7	295.9	266	648
2024	January	744	100.0%	3.7	9.2	8.5	27.4	0	0
	February	696	100.0%	3.2	9.2	7.1	25.7	0	0
	March	744	100.0%	2.8	12.7	9.0	94.7	0	28
	April	720	100.0%	4.2	32.1	11.1	127.0	0	147
	May	719	96.6%	4.0	25.6	11.8	108.7	0	141
	June	720	100.0%	6.0	24.8	26.7	71.6	5	81
	July	744	100.0%	7.0	13.8	38.2	68.0	19	18
	August	744	100.0%	13.0	22.6	56.5	79.1	97	68
	September	720	100.0%	4.1	10.3	12.1	21.5	0	0
	October	744	100.0%	2.2	6.8	7.5	21.7	0	0
	November	720	100.0%	2.2	8.2	21.4	104.9	0	25
	December	744	100.0%	1.8	4.4	4.8	10.1	0	0
Annual		8759	99.7%	4.5	14.9	56.5	127.0	121	508

Observations in  $\mu\text{g}/\text{m}^3$

**FIGURE 4.3.2.2 - HUDSON DRIVE (FIREHALL) ANNUAL PM<sub>2.5</sub> / PM<sub>10</sub> CONCENTRATIONS**

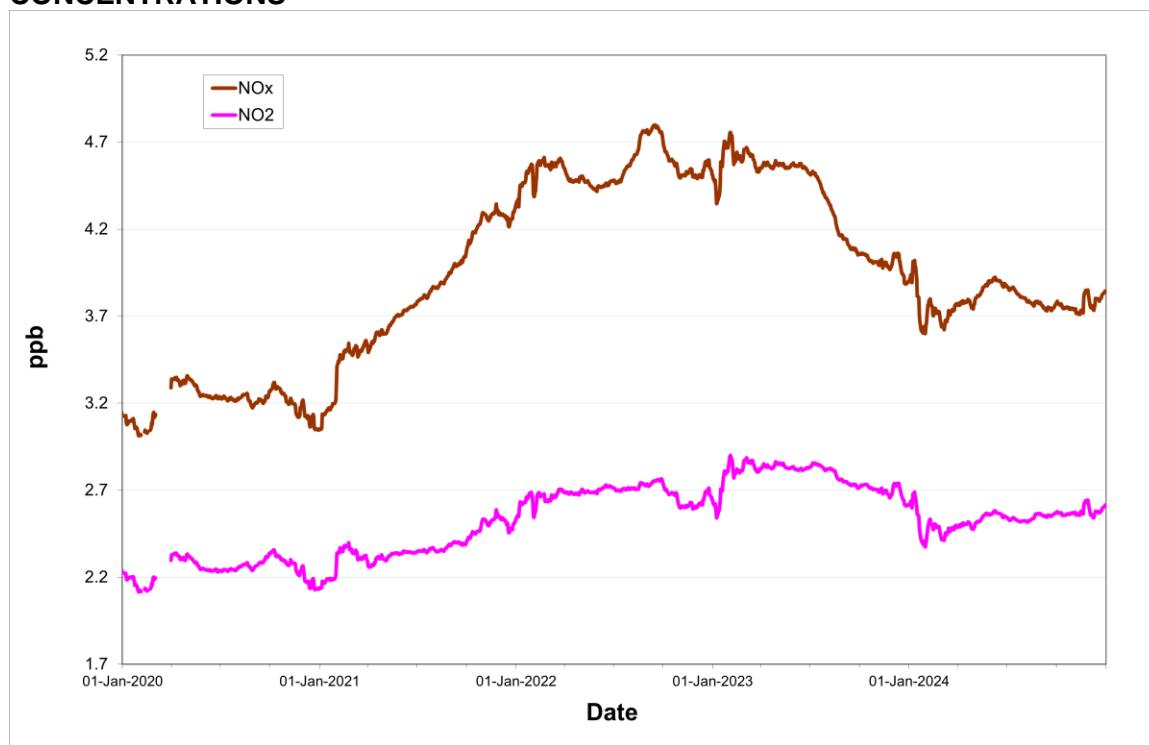


**TABLE 4.3.2.3 - HUDSON DRIVE (FIREHALL) NO<sub>x</sub> / NO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average		Maximums				Exceedances	
				NO <sub>x</sub>	NO <sub>2</sub>	1-Hour NO <sub>x</sub>	1-Hour NO <sub>2</sub>	24-Hour NO <sub>x</sub>	24-Hour NO <sub>2</sub>	1-Hour (>213)	24-Hour (>106)
2023	January	742	99.7%	9.9	7.0	129.5	45.2	50.0	25.6	0	0
	February	652	97.0%	6.9	4.7	222.3	31.8	20.2	11.7	0	0
	March	744	100.0%	4.0	2.8	41.1	24.9	10.0	6.7	0	0
	April	720	100.0%	3.5	2.6	34.9	26.8	10.2	7.6	0	0
	May	738	99.2%	2.1	1.3	36.5	11.9	5.2	4.2	0	0
	June	703	97.6%	2.9	1.9	52.8	14.0	6.0	4.4	0	0
	July	742	99.7%	2.5	1.5	80.0	11.9	5.9	3.0	0	0
	August	744	100.0%	2.8	1.3	48.3	15.6	5.0	2.2	0	0
	September	702	97.5%	2.6	1.6	93.1	30.9	8.0	3.5	0	0
	October	744	100.0%	2.4	1.5	59.9	10.8	5.8	4.0	0	0
	November	716	99.4%	3.6	2.4	90.8	26.7	11.9	7.9	0	0
	December	737	99.1%	4.0	2.9	110.0	24.2	10.5	9.8	0	0
Annual		8684	99.1%	3.9	2.6	222.3	45.2	50.0	25.6	0	0
2024	January	741	99.6%	6.5	4.2	68.0	31.8	24.7	17.9	0	0
	February	696	100.0%	7.5	5.3	67.9	38.3	30.8	20.4	0	0
	March	743	99.9%	5.1	3.5	64.5	31.1	15.4	10.0	0	0
	April	714	99.2%	3.4	2.5	58.5	20.9	8.6	5.8	0	0
	May	722	97.0%	3.8	2.2	25.8	18.9	10.2	7.1	0	0
	June	707	98.2%	2.5	1.7	67.6	26.0	8.6	4.2	0	0
	July	744	100.0%	1.8	1.3	60.7	20.1	3.9	3.0	0	0
	August	743	99.9%	2.4	1.8	52.1	22.9	7.3	4.7	0	0
	September	719	99.9%	2.5	1.7	45.5	11.5	6.6	3.6	0	0
	October	727	97.7%	2.0	1.5	27.1	14.5	4.6	3.5	0	0
	November	720	100.0%	4.6	3.1	77.3	29.2	32.0	16.8	0	0
	December	744	100.0%	4.2	2.8	139.2	29.4	16.8	7.9	0	0
Annual		8720	99.3%	3.8	2.6	139.2	38.3	32.0	20.4	0	0

Observations in ppb

**FIGURE 4.3.2.3 - HUDSON DRIVE (FIREHALL) ANNUAL NO<sub>x</sub> / NO<sub>2</sub> CONCENTRATIONS**



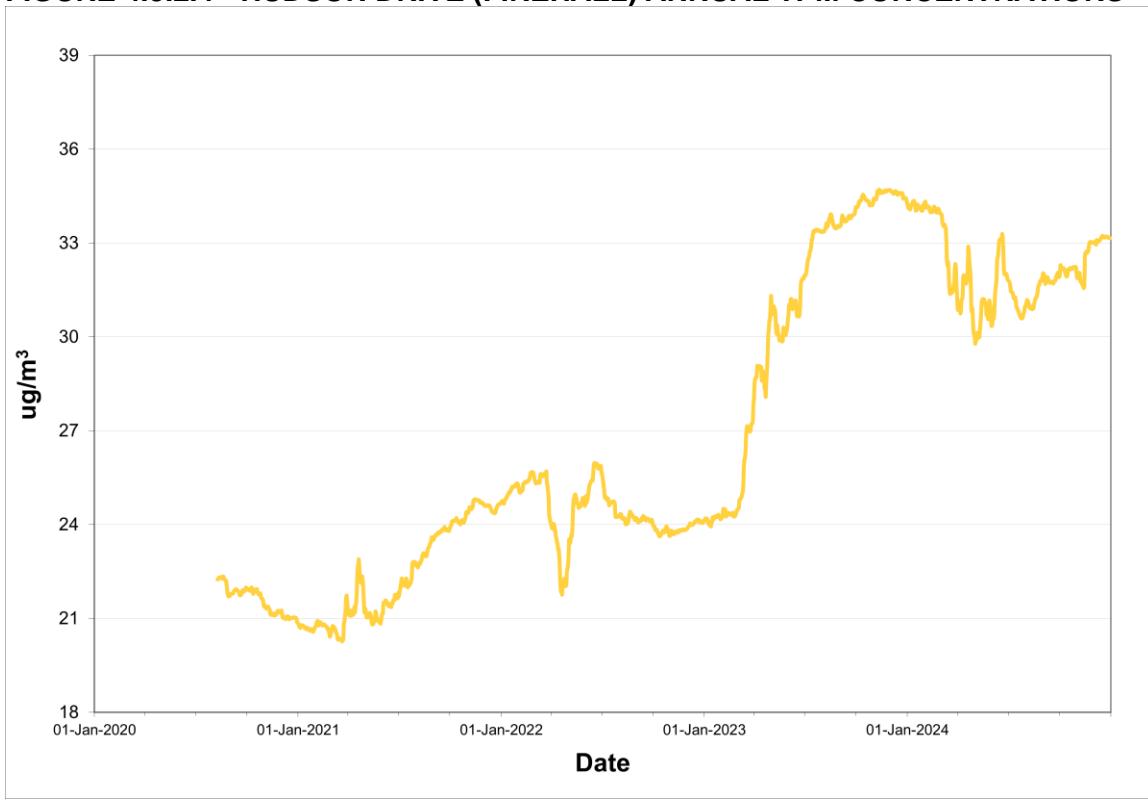
Rolling annual average of hourly concentrations

**TABLE 4.3.2.4 - HUDSON DRIVE (FIREHALL) TPM SUMMARY 2023 & 2024**

Year	Month	# Valid 24-Hour	% Valid 24-Hour	Average	Maximum 24-Hour	Regulatory Exceedances (>120 µg/m <sup>3</sup> )
2023	January	664	89.2%	18.6	72.9	0
	February	654	97.3%	21.8	114.1	0
	March	718	96.5%	59.1	262.9	104
	April	720	100.0%	81.4	245.0	204
	May	594	79.8%	57.3	207.3	58
	June	697	96.8%	58.4	241.9	94
	July	744	100.0%	31.0	106.3	0
	August	705	94.8%	20.9	59.0	0
	September	693	96.3%	20.5	81.3	0
	October	701	94.2%	14.0	45.7	0
	November	615	85.4%	17.9	91.0	0
	December	744	100.0%	10.1	29.7	0
Annual		8249	94.2%	34.3	262.9	460
2024	January	744	100.0%	18.5	82.0	0
	February	625	89.8%	17.1	53.8	0
	March	744	100.0%	29.3	205.3	29
	April	720	100.0%	73.5	287.5	127
	May	608	81.7%	58.8	215.9	127
	June	720	100.0%	70.1	245.4	150
	July	744	100.0%	21.4	105.8	0
	August	744	100.0%	31.8	77.6	0
	September	720	100.0%	20.6	60.1	0
	October	744	100.0%	18.0	105.5	0
	November	720	100.0%	29.7	360.9	29
	December	665	89.4%	9.8	59.4	0
Annual		8498	96.7%	33.1	360.9	462

Observations in µg/m<sup>3</sup>

**FIGURE 4.3.2.4 - HUDSON DRIVE (FIREHALL) ANNUAL TPM CONCENTRATIONS**

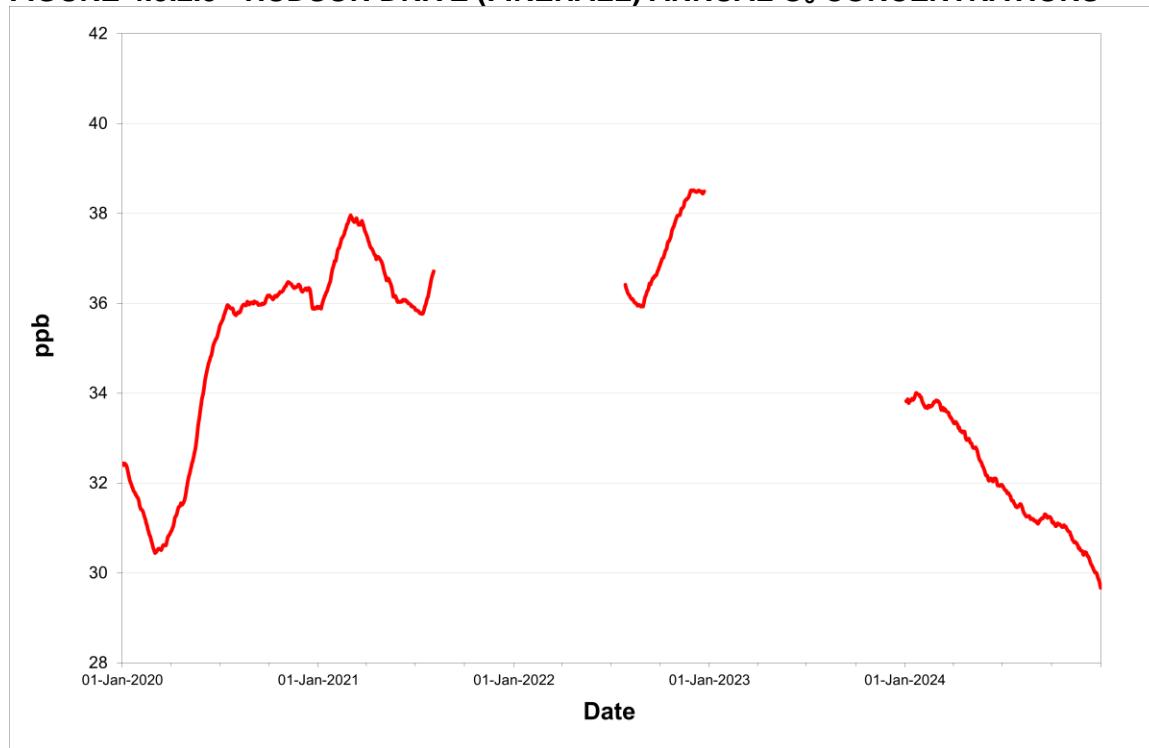


**TABLE 4.3.2.5 - HUDSON DRIVE (FIREHALL) O<sub>3</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average	Maximum		Regulatory Exceedances	
					1-Hour	8-Hour	1-Hour (>82)	8-Hour (>44)
2023	January	0	0.0%					
	February	492	73.2%	33.2	48.7	44.0	0	0
	March	744	100.0%	40.8	52.9	49.3	0	35
	April	720	100.0%	41.8	63.3	61.9	0	50
	May	742	99.7%	38.8	68.8	59.8	0	21
	June	704	97.8%	32.1	80.3	62.2	0	10
	July	744	100.0%	32.3	59.5	50.0	0	8
	August	744	100.0%	29.3	51.6	42.9	0	0
	September	702	97.5%	23.4	47.9	40.3	0	0
	October	632	84.9%	27.9	44.1	39.8	0	0
	November	719	99.9%	33.4	47.0	46.2	0	1
	December	744	100.0%	37.0	50.4	49.7	0	15
Annual		7687	87.8%	33.8	80.3	62.2	0	140
2024	January	742	99.7%	35.5	52.5	50.1	0	14
	February	696	100.0%	32.5	44.0	42.1	0	0
	March	743	99.9%	35.6	47.3	46.8	0	2
	April	718	99.7%	37.0	53.0	50.4	0	13
	May	728	97.8%	29.3	50.4	46.7	0	2
	June	711	98.8%	29.2	59.8	42.7	0	0
	July	744	100.0%	26.8	50.0	43.2	0	0
	August	744	100.0%	25.6	53.0	45.0	0	1
	September	718	99.7%	24.1	46.6	37.3	0	0
	October	736	98.9%	25.2	40.3	33.4	0	0
	November	720	100.0%	26.8	37.2	35.3	0	0
	December	744	100.0%	28.9	40.3	39.2	0	0
Annual		8744	99.5%	29.7	59.8	50.4	0	32

Observations in ppb

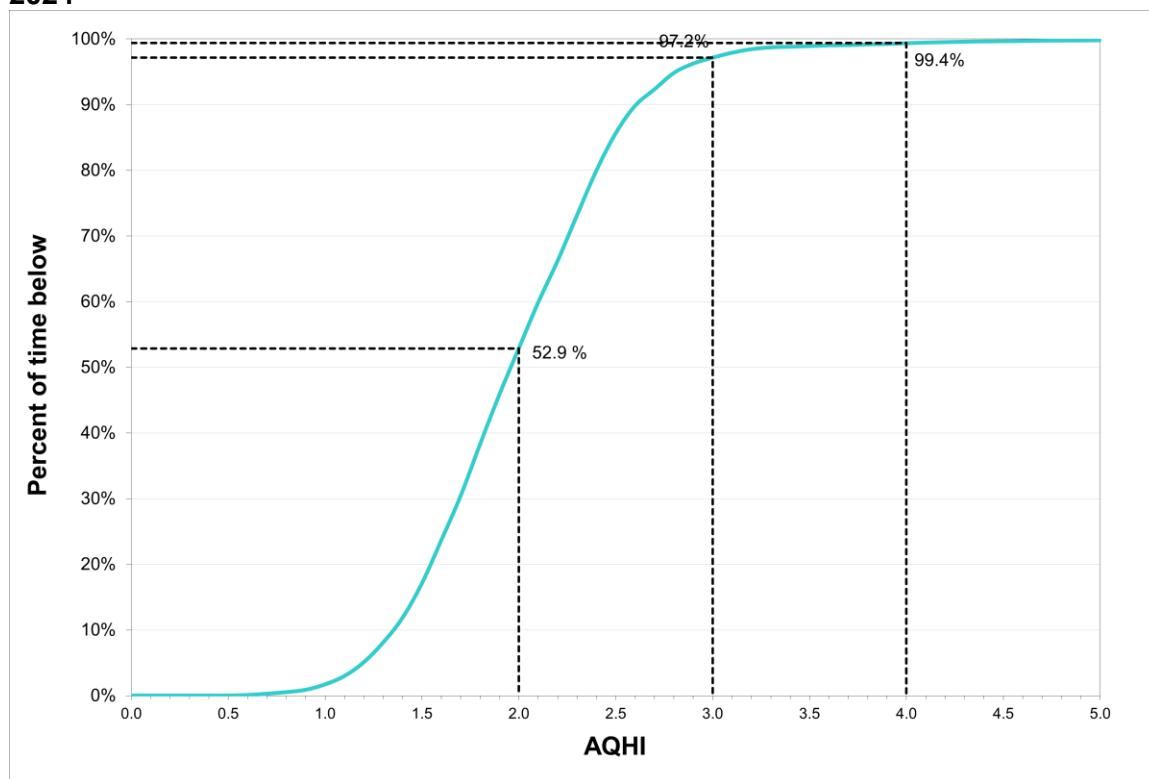
**FIGURE 4.3.2.5 - HUDSON DRIVE (FIREHALL) ANNUAL O<sub>3</sub> CONCENTRATIONS**



**TABLE 4.3.2.6 - HUDSON DRIVE (FIREHALL) AQHI SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average	<u>Maximum</u> 3-Hour
2023	January	0	0.0%		
	February	491	73.1%	2.2	3.2
	March	628	84.4%	2.5	3.7
	April	711	98.8%	2.7	4.9
	May	738	99.2%	2.4	4.9
	June	702	97.5%	3.0	20.5
	July	742	99.7%	2.6	11.9
	August	744	100.0%	1.9	3.6
	September	702	97.5%	1.7	5.3
	October	632	84.9%	1.7	2.6
	November	716	99.4%	2.0	2.9
	December	739	99.3%	2.3	2.9
Annual		7545	86.1%	2.3	20.5
2024	January	740	99.5%	2.3	3.2
	February	696	100.0%	2.3	3.5
	March	744	100.0%	2.3	3.9
	April	715	99.3%	2.4	3.6
	May	726	97.6%	2.0	3.3
	June	705	97.9%	1.9	7.1
	July	744	100.0%	1.8	8.3
	August	744	100.0%	2.1	5.4
	September	720	100.0%	1.6	2.9
	October	725	97.4%	1.5	2.7
	November	720	100.0%	1.8	5.2
	December	744	100.0%	1.8	2.6
Annual		8723	99.3%	2.0	8.3

**FIGURE 4.3.2.6 - HUDSON DRIVE (FIREHALL) AQHI FREQUENCY DISTRIBUTION 2024**



e.g. 97.2% of the time the AQHI recorded was below 3.0

### 4.3.3 Smokey Mountain II

The Smokey Mountain II station monitors the levels of SO<sub>2</sub>, NO<sub>x</sub> / NO<sub>2</sub>, PM<sub>2.5</sub> and TPM on a continuous basis. For SO<sub>2</sub> and NO<sub>x</sub> / NO<sub>2</sub>, the air quality standards were not exceeded on any occasion in 2024. For PM<sub>2.5</sub> there were eighty hourly exceedances of the 24-hour air quality standard, while for TPM there were seventy-three hourly exceedances of the 24-hour air quality standard. In all cases the exceedances were related to either wildfire smoke or localized fugitive emissions including activities related to mining from Moss Pit. Table 4.3.3 highlights the temporal occurrence of the exceedances.

Tables 4.3.3.1 through 4.3.3.4 provide summary information on the level of air contaminants measured at Smokey Mountain II. Figures 4.3.3.1 through 4.3.3.4 provide the graphical representation of the annual trends for each pollutant.

**TABLE 4.3.3 – SMOKEY MOUNTAIN II PARTICULATE EXCEEDANCES 2024**

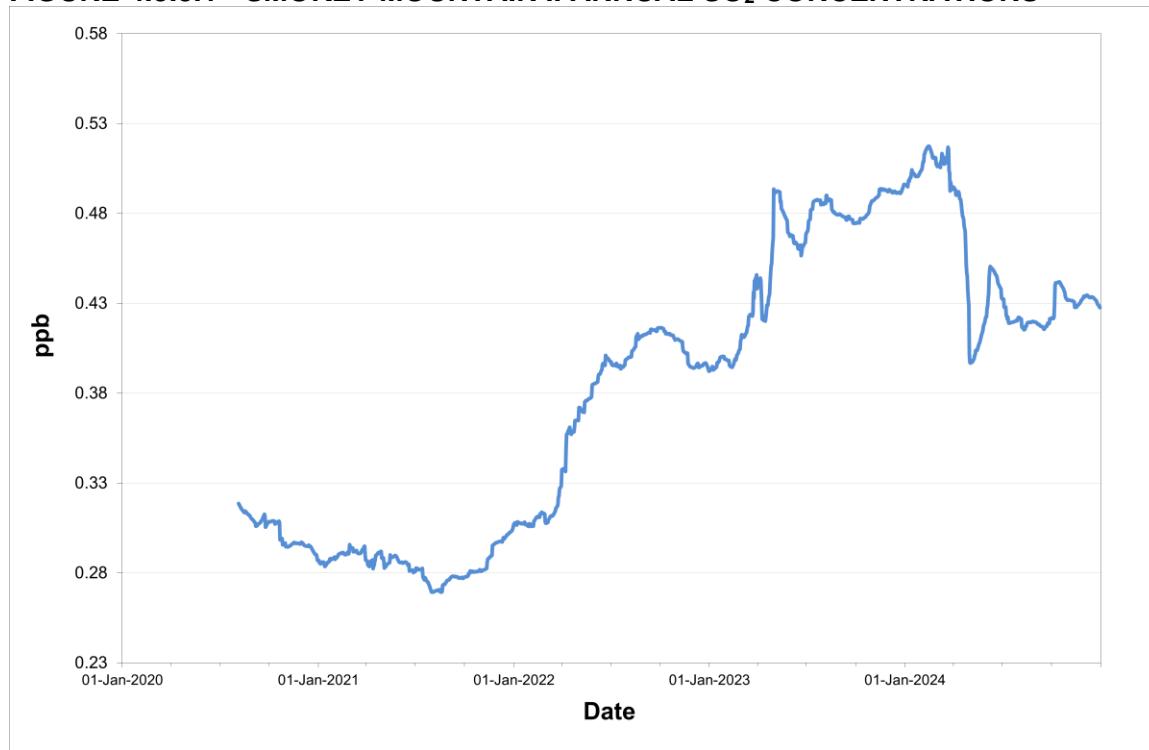
Pollutant	Start Time	End Time	Number of Hours
PM <sub>2.5</sub>	August 14, 17:00	August 18, 00:00	80
TPM	April 22, 14:00	April 23, 11:00	22
	June 10, 16:00	June 11, 14:00	23
	August 28, 14:00	August 28, 20:00	7
	November 02, 03:00	November 02, 23:00	21

**TABLE 4.3.3.1 - SMOKEY MOUNTAIN II SO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average	Maximum			Regulatory Exceedances		
		1-Hour	3-Hour		1-Hour	3-Hour	24-Hour	1-Hour (>344)	3-Hour (>229)	24-Hour (>115)
2023	January	744	100.0%	0.4	7.8	4.3	1.1	0	0	0
	February	664	98.8%	0.5	7.6	5.9	1.9	0	0	0
	March	744	100.0%	1.0	22.3	13.0	4.9	0	0	0
	April	720	100.0%	1.1	35.2	21.8	3.7	0	0	0
	May	666	89.5%	0.6	39.1	30.2	9.9	0	0	0
	June	703	97.6%	0.4	8.8	6.5	1.8	0	0	0
	July	716	96.2%	0.5	12.0	5.8	2.0	0	0	0
	August	744	100.0%	0.4	11.7	7.5	1.8	0	0	0
	September	634	88.1%	0.3	0.5	0.5	0.4	0	0	0
	October	744	100.0%	0.3	9.9	5.9	1.0	0	0	0
	November	717	99.6%	0.3	7.5	5.2	1.4	0	0	0
	December	744	100.0%	0.3	4.6	2.1	0.5	0	0	0
Annual		8540	97.5%	0.5	39.1	30.2	9.9	0	0	0
2024	January	742	99.7%	0.5	10.9	5.0	1.1	0	0	0
	February	696	100.0%	0.5	16.7	6.1	1.7	0	0	0
	March	743	99.9%	0.8	23.6	17.1	3.8	0	0	0
	April	717	99.6%	0.3	11.6	4.6	0.7	0	0	0
	May	740	99.5%	0.5	7.1	4.0	1.2	0	0	0
	June	707	98.2%	0.6	22.5	8.7	3.4	0	0	0
	July	721	96.9%	0.3	6.1	2.9	0.7	0	0	0
	August	744	100.0%	0.3	6.8	4.4	0.9	0	0	0
	September	719	99.9%	0.3	9.6	7.6	1.3	0	0	0
	October	734	98.7%	0.5	17.0	10.5	4.1	0	0	0
	November	720	100.0%	0.3	0.7	0.7	0.4	0	0	0
	December	744	100.0%	0.2	2.6	1.1	0.4	0	0	0
Annual		8727	99.4%	0.4	23.6	17.1	4.1	0	0	0

Observations in ppb

**FIGURE 4.3.3.1 - SMOKEY MOUNTAIN II ANNUAL SO<sub>2</sub> CONCENTRATIONS**

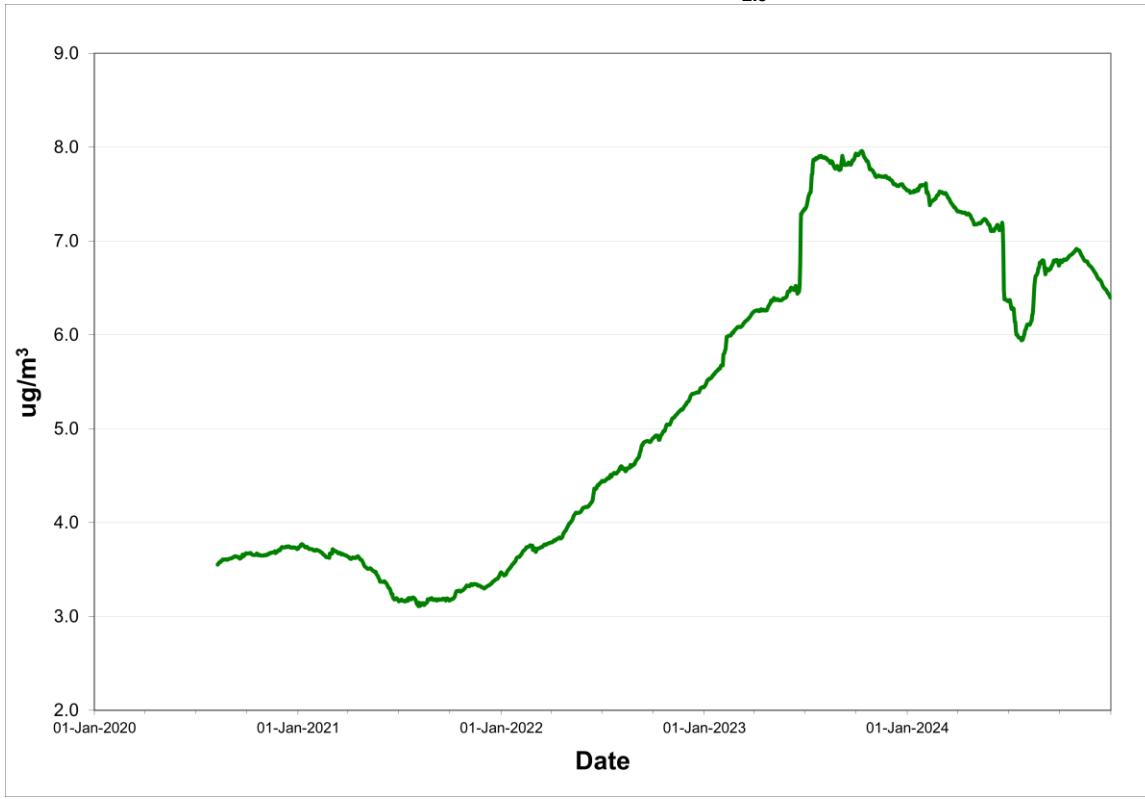


**TABLE 4.3.3.2 - SMOKEY MOUNTAIN II PM<sub>2.5</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid 24-Hour	% Valid 24-Hour	Average	Maximum 24-Hour	Regulatory Exceedances (>25 µg/m <sup>3</sup> )
2023	January	664	89.2%	7.0	11.1	0
	February	672	100.0%	9.1	48.4	63
	March	744	100.0%	6.7	10.1	0
	April	720	100.0%	6.2	11.6	0
	May	635	85.3%	6.6	17.1	0
	June	696	96.7%	16.8	159.6	81
	July	701	94.2%	11.6	63.5	63
	August	744	100.0%	4.5	15.4	0
	September	623	86.5%	8.8	29.3	24
	October	744	100.0%	4.6	13.1	0
	November	629	87.4%	3.9	6.8	0
	December	744	100.0%	4.9	8.2	0
Annual		8316	94.9%	7.5	159.6	231
2024	January	744	100.0%	7.7	14.5	0
	February	696	100.0%	8.2	12.1	0
	March	744	100.0%	4.2	8.7	0
	April	720	100.0%	4.8	7.4	0
	May	640	86.0%	5.5	10.8	0
	June	712	98.9%	7.8	23.2	0
	July	653	87.8%	8.0	19.8	0
	August	744	100.0%	12.9	50.0	80
	September	720	100.0%	8.0	15.6	0
	October	741	99.6%	6.4	12.9	0
	November	610	84.7%	0.8	4.7	0
	December	538	72.3%	0.5	2.0	0
Annual		8262	94.1%	6.4	50.0	80

Observations in µg/m<sup>3</sup>

**FIGURE 4.3.3.2 - SMOKEY MOUNTAIN II ANNUAL PM<sub>2.5</sub> CONCENTRATIONS**

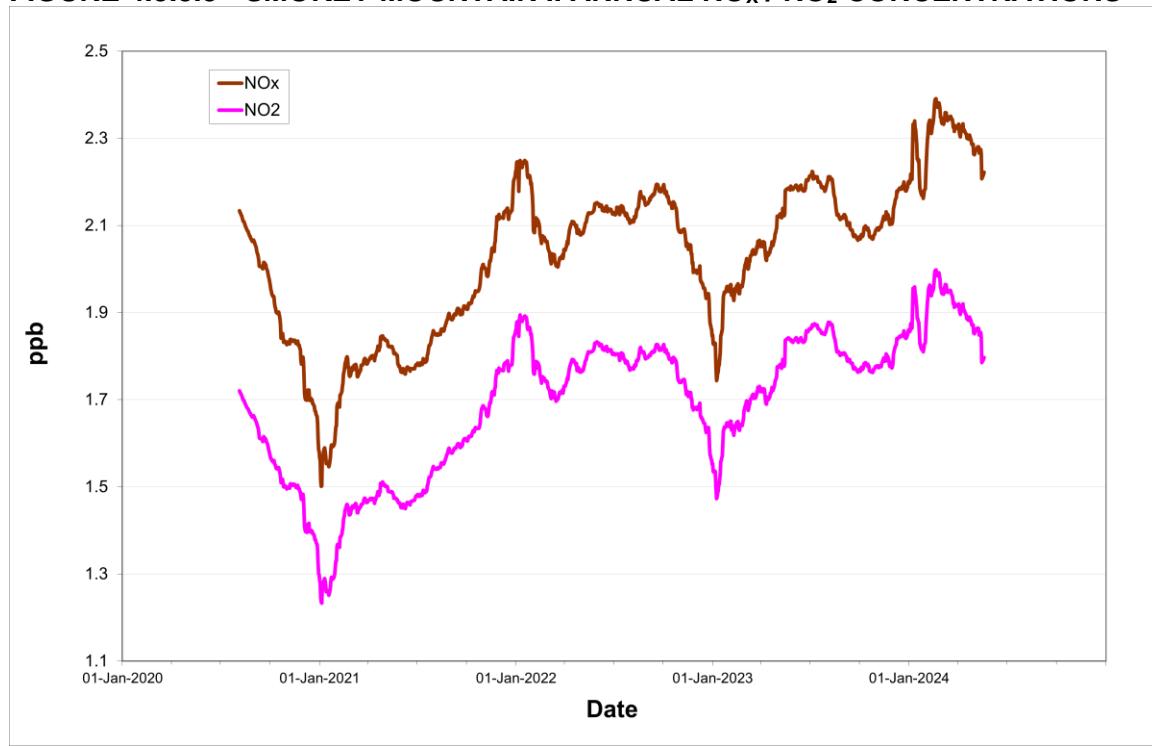


**TABLE 4.3.3.3 - SMOKEY MOUNTAIN II NO<sub>x</sub> / NO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average		Maximums				Exceedances	
				NO <sub>x</sub>	NO <sub>2</sub>	1-Hour NO <sub>x</sub>	1-Hour NO <sub>2</sub>	24-Hour NO <sub>x</sub>	24-Hour NO <sub>2</sub>	1-Hour (>213)	24-Hour (>106)
2023	January	744	100.0%	4.2	3.5	54.5	33.0	20.1	14.3	0	0
	February	662	98.5%	2.8	2.3	25.2	22.1	8.2	7.6	0	0
	March	744	100.0%	2.7	2.2	35.4	20.6	6.3	5.3	0	0
	April	720	100.0%	2.8	2.4	37.4	27.7	7.4	6.6	0	0
	May	738	99.2%	2.7	2.4	63.3	45.2	21.0	20.8	0	0
	June	702	97.5%	1.4	1.3	20.6	16.4	6.0	5.9	0	0
	July	716	96.2%	1.3	1.1	22.7	15.6	3.9	2.9	0	0
	August	744	100.0%	1.3	1.0	19.3	11.8	4.1	2.9	0	0
	September	636	88.3%	1.2	0.9	24.4	9.6	3.1	2.5	0	0
	October	744	100.0%	1.5	1.2	27.5	20.1	5.3	3.9	0	0
	November	716	99.4%	2.0	1.7	27.1	21.8	6.4	5.9	0	0
	December	744	100.0%	2.5	2.2	20.7	16.5	8.3	7.9	0	0
Annual		8610	98.3%	2.2	1.9	63.3	45.2	21.0	20.8	0	0
2024	January	742	99.7%	4.0	3.1	95.9	39.4	25.2	17.7	0	0
	February	696	100.0%	4.8	3.9	44.7	24.4	14.2	11.7	0	0
	March	743	99.9%	2.4	1.7	41.4	20.5	7.8	5.2	0	0
	April	372	51.7%	2.4	1.9	24.2	24.0	5.6	4.4	0	0
	May	6	0.8%	0.2	0.2	0.7	0.7			0	0
	June	709	98.5%	1.7	1.2	128.4	18.4	7.4	3.7	0	0
	July	721	96.9%	1.2	0.9	13.4	10.8	3.8	2.7	0	0
	August	744	100.0%	2.2	1.5	51.1	19.5	6.4	3.6	0	0
	September	719	99.9%	1.9	1.3	17.2	13.8	4.1	3.4	0	0
	October	731	98.3%	1.9	1.5	30.2	22.4	7.1	5.8	0	0
	November	720	100.0%	2.2	1.6	28.1	26.4	7.7	7.1	0	0
	December	744	100.0%	2.8	2.0	21.5	18.0	7.0	5.4	0	0
Annual		7647	87.1%	2.5	1.9	128.4	39.4	25.2	17.7	0	0

Observations in ppb

**FIGURE 4.3.3.3 - SMOKEY MOUNTAIN II ANNUAL NO<sub>x</sub> / NO<sub>2</sub> CONCENTRATIONS**



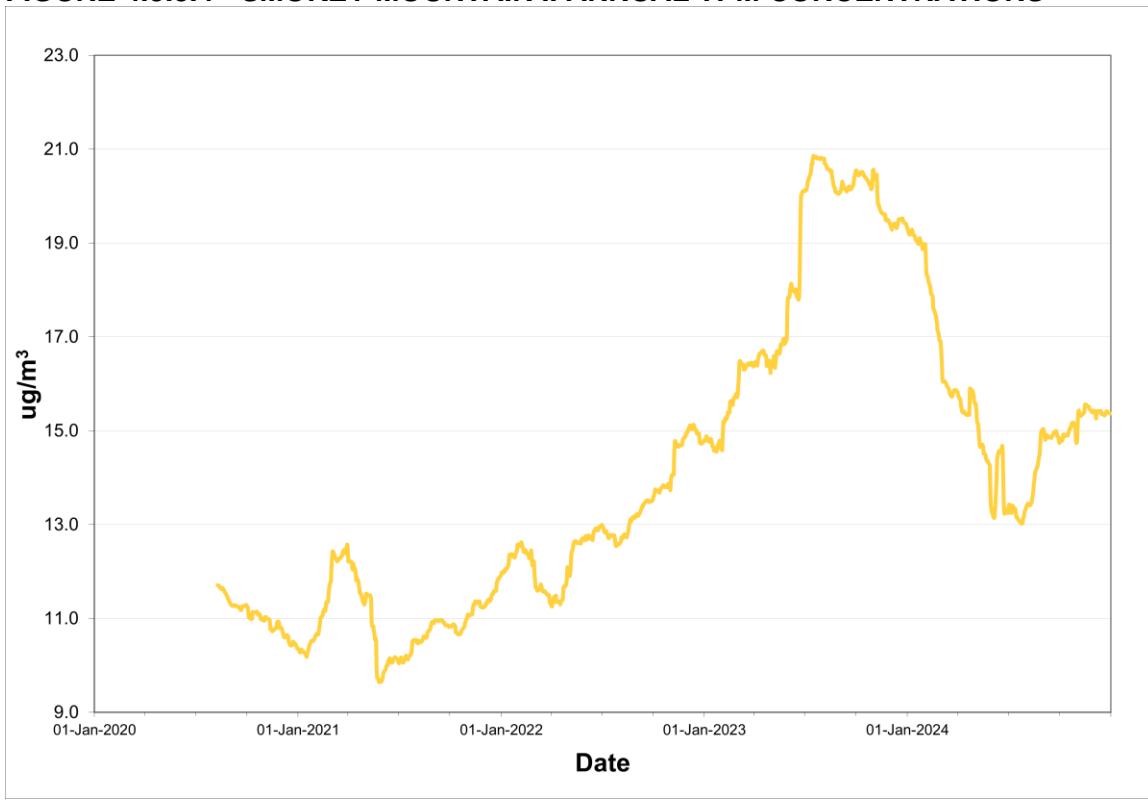
Rolling annual average of hourly concentrations

**TABLE 4.3.3.4 - SMOKEY MOUNTAIN II TPM SUMMARY 2023 & 2024**

Year	Month	# Valid 24-Hour	% Valid 24-Hour	Average	Maximum 24-Hour	Regulatory Exceedances (>120 µg/m <sup>3</sup> )
2023	January	666	89.5%	14.5	56.5	0
	February	672	100.0%	29.3	199.1	24
	March	744	100.0%	19.6	131.8	14
	April	677	94.0%	15.3	57.5	0
	May	635	85.3%	36.5	275.6	13
	June	697	96.8%	45.8	386.1	77
	July	704	94.6%	17.6	75.9	0
	August	744	100.0%	9.4	42.9	0
	September	623	86.5%	14.5	46.5	0
	October	744	100.0%	12.0	129.3	8
	November	631	87.6%	9.9	121.3	2
	December	653	87.8%	9.1	48.6	0
Annual		8190	93.5%	19.4	386.1	138
2024	January	744	100.0%	10.4	45.2	0
	February	696	100.0%	4.1	18.9	0
	March	744	100.0%	7.5	35.3	0
	April	720	100.0%	14.9	209.5	22
	May	640	86.0%	5.2	16.2	0
	June	720	100.0%	43.4	175.6	23
	July	700	94.1%	18.2	76.6	0
	August	744	100.0%	28.9	159.8	7
	September	720	100.0%	11.7	26.0	0
	October	744	100.0%	11.7	55.0	0
	November	720	100.0%	18.1	156.9	21
	December	744	100.0%	9.1	76.7	0
Annual		8636	98.3%	15.4	209.5	73

Observations in µg/m<sup>3</sup>

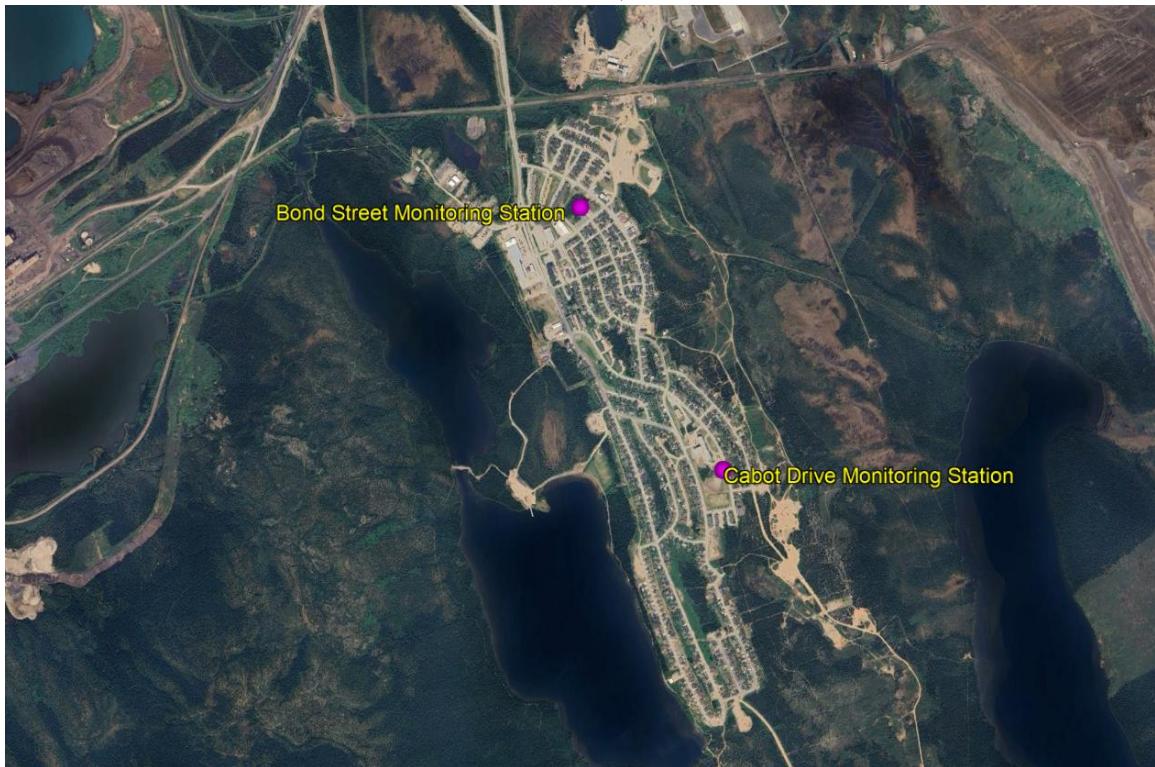
**FIGURE 4.3.3.4 - SMOKEY MOUNTAIN II ANNUAL TPM CONCENTRATIONS**



## 4.4 Tacora Resources

In 2024 there were two air quality monitoring stations in operation in Wabush, namely on Bond Street near the Provincial Building and on Cabot Drive near the J. R. Smallwood School. These stations were installed to monitor the air quality near the Tacora iron ore mine, concentrator / processing facility and the tailings near Wabush. The location of these air quality monitoring stations are identified in Figure 4.4.1.

**FIGURE 4.4.1 - TACORA RESOURCES AIR QUALITY MONITORING STATIONS**



#### 4.4.1 Bond Street

The Bond Street air quality monitoring station is located near the Provincial Building and measured SO<sub>2</sub>, PM<sub>2.5</sub> and TPM on a continuous basis in 2024. For SO<sub>2</sub> there were no exceedances of the associated air quality standards were recorded on any occasion during the year. For PM<sub>2.5</sub> there were ninety-nine hourly exceedances of the 24-hour air quality standard, while for TPM there were twenty-one hourly exceedances of the 24-hour air quality standard in November. All PM<sub>2.5</sub> and TPM exceedances were attributable to several fugitive dust episode stemming from mining operations in the vicinity, enhanced by high winds and low humidity, as well as smoke from wildfires in other jurisdictions. Of the PM<sub>2.5</sub> exceedances, twenty-three occurred in July and seventy-six in August.

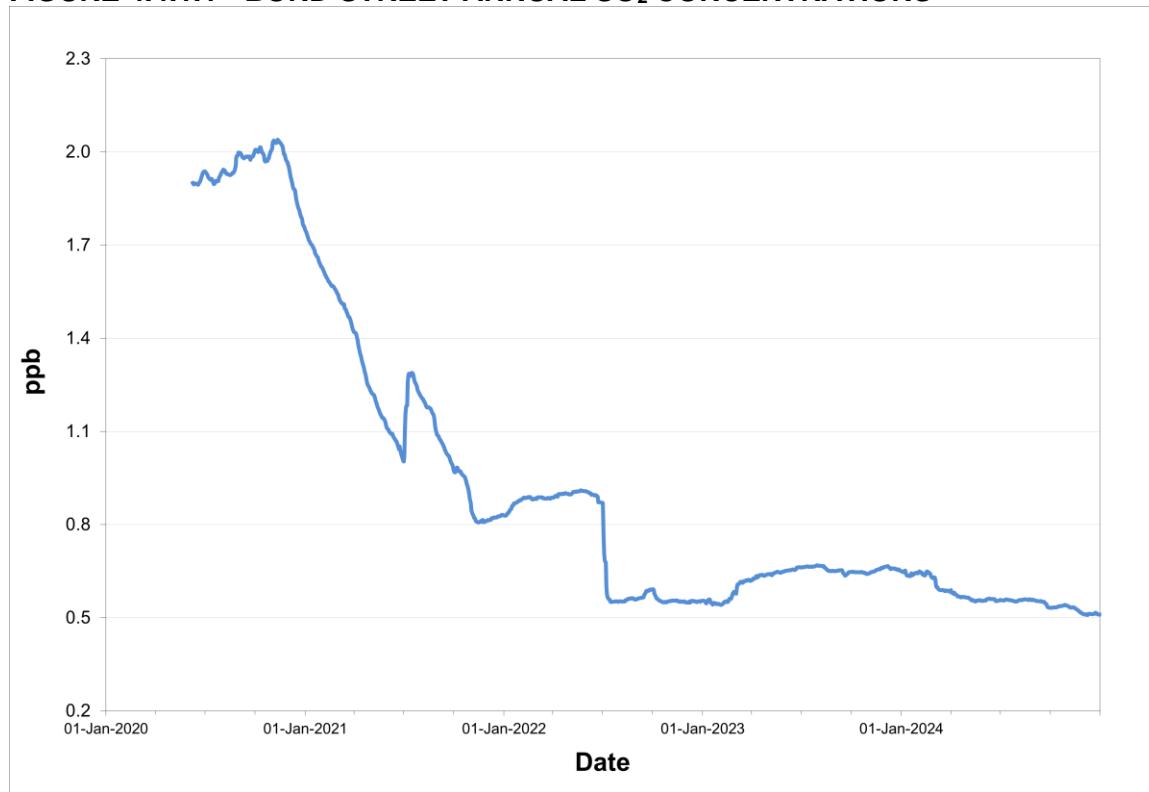
Tables 4.4.1.1 to 4.4.1.3 provide summary information of air contaminants measured at Bond Street, while Figures 4.4.1.1 to 4.4.1.3 provide a graphical representation of the annual trend of SO<sub>2</sub>, PM<sub>2.5</sub> and TPM respectively.

**TABLE 4.4.1.1 - BOND STREET SO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average	Maximum			Regulatory Exceedances		
					1-Hour	3-Hour	24-Hour	1-Hour (>344)	3-Hour (>229)	24-Hour (>115)
2023	January	643	86.4%	0.8	13.5	12.0	2.8	0	0	0
	February	635	94.5%	1.1	29.4	13.9	3.5	0	0	0
	March	742	99.7%	1.0	23.7	21.8	6.6	0	0	0
	April	700	97.2%	0.7	8.7	6.5	2.2	0	0	0
	May	710	95.4%	0.6	9.2	4.8	1.6	0	0	0
	June	694	96.4%	0.5	4.9	3.7	1.7	0	0	0
	July	711	95.6%	0.5	2.6	1.5	0.8	0	0	0
	August	671	90.2%	0.4	5.4	4.1	1.0	0	0	0
	September	706	98.1%	0.7	8.2	5.8	1.9	0	0	0
	October	734	98.7%	0.3	5.0	3.4	0.8	0	0	0
	November	711	98.8%	0.7	4.7	3.1	1.3	0	0	0
	December	720	96.8%	0.4	11.5	4.6	1.3	0	0	0
Annual		8377	95.6%	0.7	29.4	21.8	6.6	0	0	0
2024	January	666	89.5%	0.7	10.0	7.9	2.5	0	0	0
	February	665	95.5%	0.9	20.6	11.3	3.2	0	0	0
	March	742	99.7%	0.5	7.1	3.9	1.8	0	0	0
	April	717	99.6%	0.4	15.0	8.4	1.8	0	0	0
	May	743	99.9%	0.5	6.3	4.3	1.4	0	0	0
	June	685	95.1%	0.6	19.1	6.7	1.5	0	0	0
	July	742	99.7%	0.5	4.6	2.2	1.1	0	0	0
	August	739	99.3%	0.5	12.1	6.7	1.4	0	0	0
	September	706	98.1%	0.4	3.6	2.4	0.9	0	0	0
	October	740	99.5%	0.4	2.7	1.4	0.6	0	0	0
	November	720	100.0%	0.4	3.9	2.9	0.9	0	0	0
	December	739	99.3%	0.4	11.6	8.8	1.6	0	0	0
Annual		8604	98.0%	0.5	20.6	11.3	3.2	0	0	0

Observations in ppb

**FIGURE 4.4.1.1 - BOND STREET ANNUAL SO<sub>2</sub> CONCENTRATIONS**

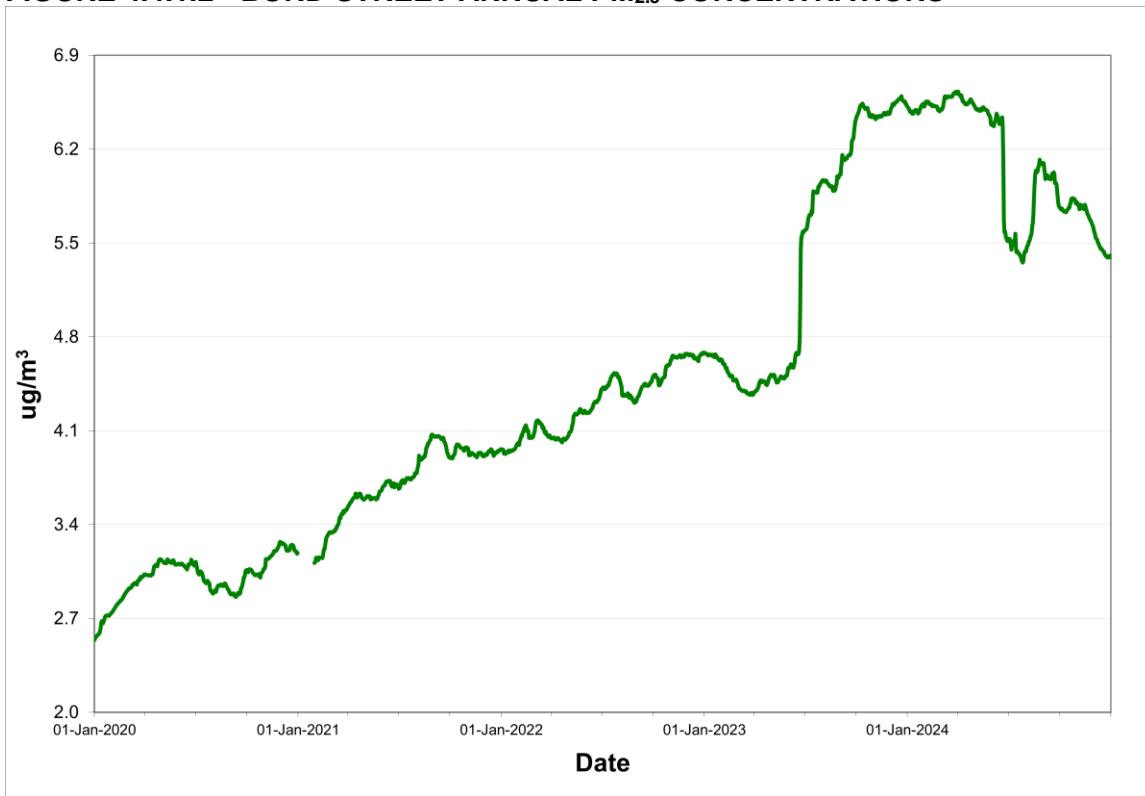


**TABLE 4.4.1.2 - BOND STREET PM<sub>2.5</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid 24-Hour	% Valid 24-Hour	Average	Maximum 24-Hour	Regulatory Exceedances (>25 µg/m <sup>3</sup> )
2023	January	661	88.8%	4.0	12.6	0
	February	672	100.0%	4.6	12.6	0
	March	744	100.0%	3.4	8.8	0
	April	690	95.8%	4.6	12.5	0
	May	715	96.1%	5.1	18.8	0
	June	697	96.8%	16.9	163.7	87
	July	603	81.0%	10.2	61.8	29
	August	660	88.7%	5.9	25.1	2
	September	583	81.0%	9.7	31.5	20
	October	744	100.0%	5.2	11.5	0
	November	718	99.7%	4.5	11.1	0
	December	698	93.8%	5.0	13.4	0
Annual		8185	93.4%	6.5	163.7	138
2024	January	550	73.9%	3.5	10.9	0
	February	696	100.0%	4.3	11.5	0
	March	744	100.0%	4.9	15.8	0
	April	720	100.0%	3.5	10.1	0
	May	744	100.0%	3.6	13.5	0
	June	682	94.7%	6.7	13.9	0
	July	744	100.0%	8.6	32.3	23
	August	744	100.0%	13.3	49.8	76
	September	669	92.9%	5.5	13.4	0
	October	696	93.5%	5.5	14.7	0
	November	720	100.0%	2.1	18.5	0
	December	720	96.8%	2.3	8.1	0
Annual		8429	96.0%	5.4	49.8	99

Observations in µg/m<sup>3</sup>

**FIGURE 4.4.1.2 - BOND STREET ANNUAL PM<sub>2.5</sub> CONCENTRATIONS**

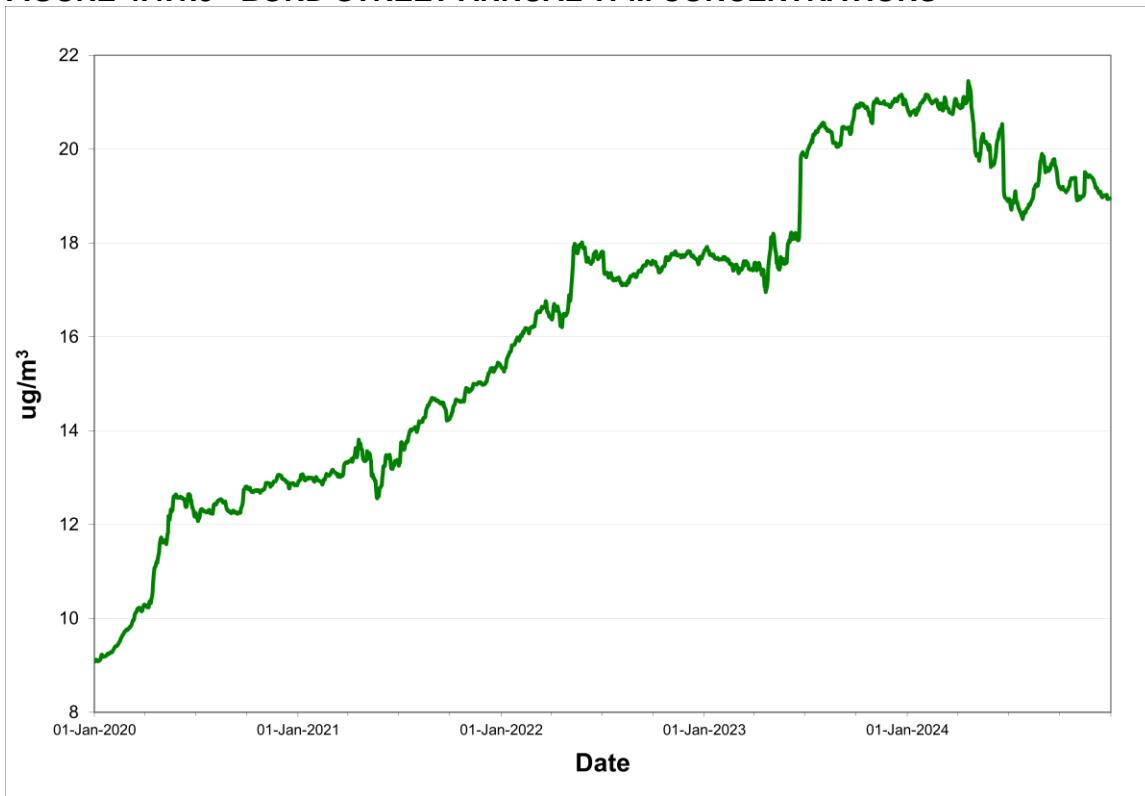


**TABLE 4.4.1.3 - BOND STREET TPM SUMMARY 2023 & 2024**

Year	Month	# Valid 24-Hour	% Valid 24-Hour	Average	Maximum 24-Hour	Regulatory Exceedances (>120 µg/m <sup>3</sup> )
2023	January	637	85.6%	12.9	29.6	0
	February	672	100.0%	15.9	40.2	0
	March	744	100.0%	15.3	70.5	0
	April	690	95.8%	29.4	104.8	0
	May	691	92.9%	37.2	126.8	9
	June	697	96.8%	40.8	286.3	72
	July	702	94.4%	22.9	77.8	0
	August	616	82.8%	12.1	38.5	0
	September	637	88.5%	23.7	77.0	0
	October	717	96.4%	14.8	92.1	0
	November	720	100.0%	13.2	109.0	0
	December	744	100.0%	12.1	37.4	0
Annual		8267	94.4%	20.9	286.3	81
2024	January	613	82.4%	14.5	38.6	0
	February	696	100.0%	14.2	44.6	0
	March	744	100.0%	16.0	60.5	0
	April	643	89.3%	24.9	111.5	0
	May	726	97.6%	27.0	105.3	0
	June	682	94.7%	31.5	89.3	0
	July	744	100.0%	20.2	104.9	0
	August	665	89.4%	27.8	76.3	0
	September	566	78.6%	14.8	50.4	0
	October	704	94.6%	14.0	42.8	0
	November	668	92.8%	14.9	171.4	21
	December	645	86.7%	6.1	16.9	0
Annual		8096	92.2%	18.9	171.4	21

Observations in µg/m<sup>3</sup>

**FIGURE 4.4.1.3 - BOND STREET ANNUAL TPM CONCENTRATIONS**



#### 4.4.2 Cabot Drive

The Cabot Drive air quality monitoring station is located near the J.R. Smallwood School. The station measures PM<sub>2.5</sub> and TPM on a continuous basis. The PM<sub>2.5</sub> monitors recorded one hundred and four hourly exceedances of the 24-hour air quality standard during the year while the TPM monitor recorded no hourly exceedances of the 24-hour air quality standard. As with the monitoring results recorded at Bond Street, and western Labrador in general, the area experienced the effects of wildfire smoke as well as dry and windy conditions which suspended fugitive dust from local mining operations. Of the PM<sub>2.5</sub> exceedances, twenty-three occurred in July, seventy-seven in August and four in November.

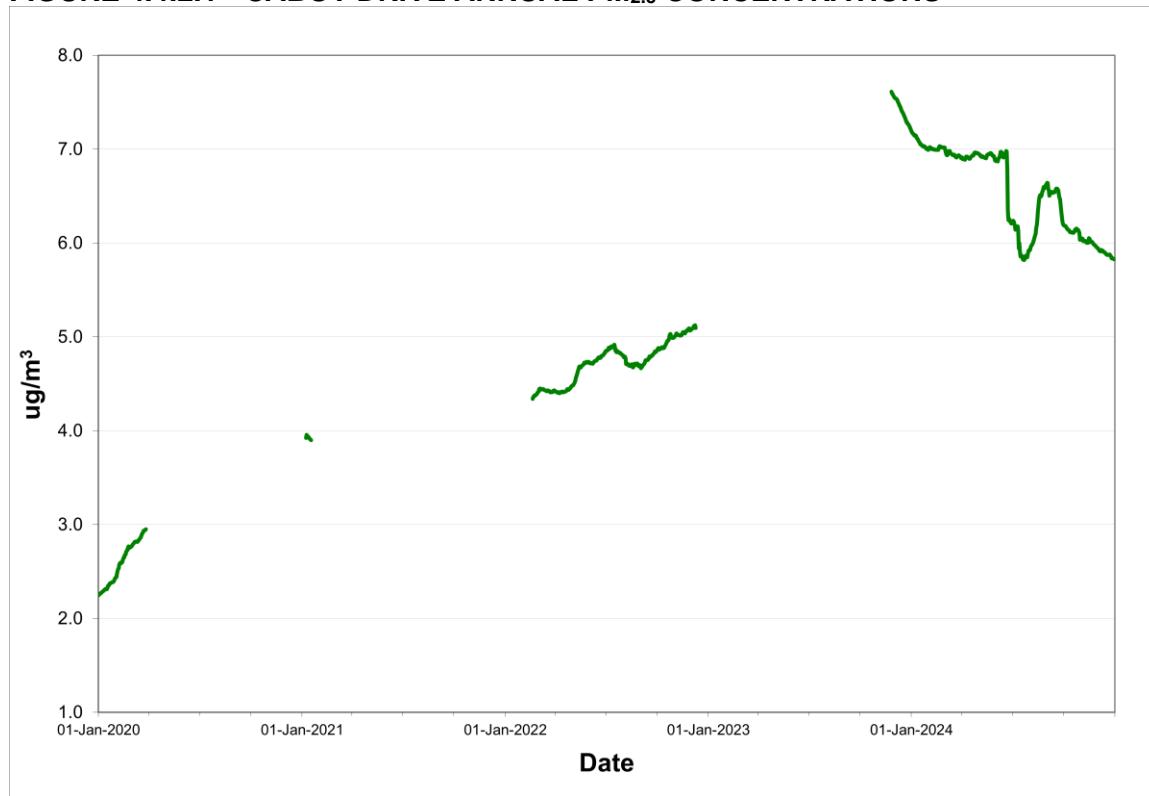
Tables 4.4.2.1 and 4.4.2.2 provide summary information of air contaminants measured at Cabot Drive while figures 4.4.2.1 and 4.4.2.2 present the annual trend of PM<sub>2.5</sub> and TPM respectively.

**TABLE 4.4.2.1 - CABOT DRIVE PM<sub>2.5</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid 24-Hour	% Valid 24-Hour	Average	Maximum 24-Hour	Regulatory Exceedances (>25 µg/m <sup>3</sup> )
2023	January	0	0.0%			
	February	591	87.9%	4.3	10.8	0
	March	721	96.9%	5.3	20.0	0
	April	720	100.0%	4.4	13.9	0
	May	682	91.7%	4.4	12.7	0
	June	642	89.2%	16.3	158.8	73
	July	655	88.0%	14.0	89.9	65
	August	744	100.0%	5.6	20.0	0
	September	660	91.7%	11.1	34.9	43
	October	725	97.4%	6.6	28.2	7
	November	718	99.7%	4.5	26.3	3
	December	725	97.4%	3.9	9.1	0
Annual		7583	86.6%	7.2	158.8	191
2024	January	720	96.8%	4.6	9.8	0
	February	696	100.0%	4.9	14.8	0
	March	684	91.9%	3.9	13.9	0
	April	720	100.0%	5.0	16.0	0
	May	705	94.8%	3.7	12.5	0
	June	544	75.6%	8.0	16.7	0
	July	717	96.4%	10.1	33.2	23
	August	725	97.4%	13.5	38.6	77
	September	683	94.9%	5.8	15.1	0
	October	744	100.0%	4.7	12.9	0
	November	309	42.9%	2.4	27.1	4
	December	735	98.8%	2.4	10.7	0
Annual		7982	90.9%	5.9	38.6	104

Observations in µg/m<sup>3</sup>

**FIGURE 4.4.2.1 - CABOT DRIVE ANNUAL PM<sub>2.5</sub> CONCENTRATIONS**



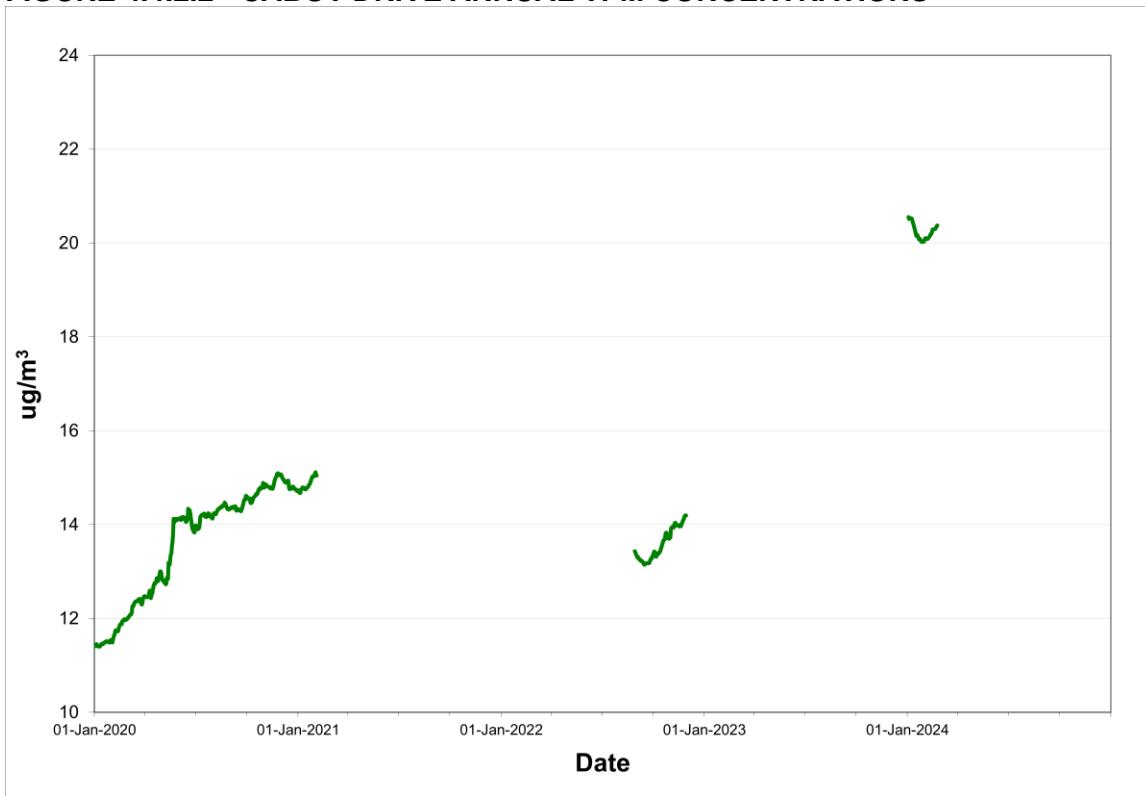
Rolling annual average of daily concentrations

**TABLE 4.4.2.2 - CABOT DRIVE TPM SUMMARY 2023 & 2024**

Year	Month	# Valid 24-Hour	% Valid 24-Hour	Average	Maximum 24-Hour	Regulatory Exceedances (>120 µg/m <sup>3</sup> )
2023	January	0				
	February	485	72.2%	13.6	31.6	0
	March	721	96.9%	16.5	78.1	0
	April	720	100.0%	25.9	66.1	0
	May	645	86.7%	37.2	120.9	1
	June	643	89.3%	36.8	303.2	51
	July	661	88.8%	24.2	98.2	0
	August	667	89.7%	13.7	30.8	0
	September	608	84.4%	22.3	67.2	0
	October	682	91.7%	15.4	125.2	5
	November	720	100.0%	13.2	122.9	1
	December	720	96.8%	9.7	43.8	0
Annual		7272	83.0%	20.7	303.2	58
2024	January	507	68.1%	10.5	34.0	0
	February	0	0.0%			
	March	208	28.0%		40.4	0
	April	720	100.0%	23.5	120.0	0
	May	655	88.0%	17.4	54.0	0
	June	587	81.5%	32.2	111.2	0
	July	526	70.7%	21.2	67.8	0
	August	701	94.2%	30.4	76.4	0
	September	683	94.9%	11.5	33.7	0
	October	714	96.0%	8.2	26.5	0
	November	631	87.6%	12.9	117.2	0
	December	744	100.0%	5.5	21.4	0
Annual		6676	76.0%	16.6	120.0	0

Observations in µg/m<sup>3</sup>

**FIGURE 4.4.2.2 - CABOT DRIVE ANNUAL TPM CONCENTRATIONS**



## 4.5 Corner Brook Pulp and Paper

In 2024, Corner Brook Pulp and Paper (CBPP) operated one air quality monitoring station near CBPP's paper mill operation on Main Street. The location of this air quality monitoring station is identified in Figure 4.5.1.

**FIGURE 4.5.1 - CBPP AIR QUALITY MONITORING STATION**



#### 4.5.1 Main Street

The Main Street air quality monitoring station is located at Hotel Corner Brook. The station monitors levels of SO<sub>2</sub>, PM<sub>2.5</sub>, PM<sub>10</sub> and TPM on a continuous basis. In December 2023, the station was reconfigured such that the TPM and PM<sub>2.5</sub> Met One BAMs were replaced with an API T640 capable of measuring PM<sub>2.5</sub>, PM<sub>10</sub> and TPM simultaneously. During the transition, the station was down for an extended period of time. Additionally the BAM TPM monitor was taken off-line in early February 2022 due to mechanical issues and not repaired / replaced until the new configuration was completed.

For SO<sub>2</sub>, there were no recorded exceedances of the associated air quality standards in 2024. However, in March there were sixteen hourly exceedances of the 24-hour air quality standard for PM<sub>2.5</sub>, thirty-three hourly exceedances of the 24-hour air quality standard for PM<sub>10</sub> and thirty-two hourly exceedances of the 24-hour air quality standard for TPM.

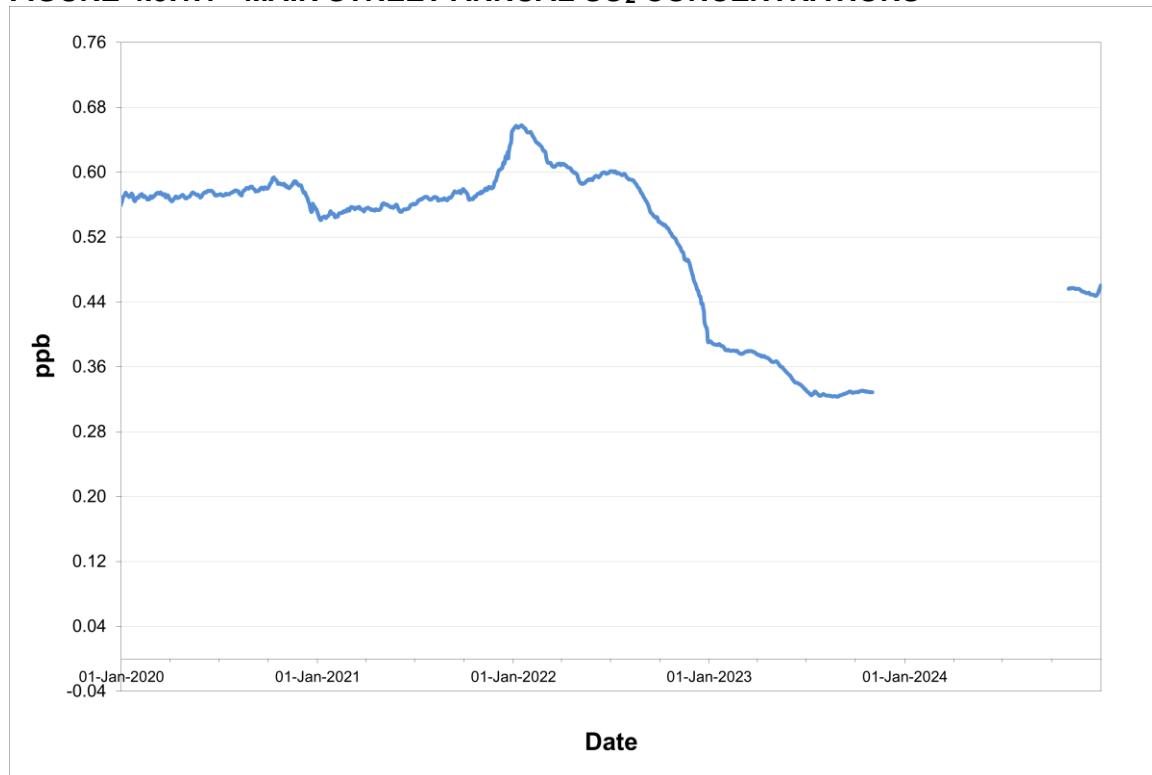
Tables 4.5.1.1 and 4.5.1.2 provide summary information on the level of air contaminants measured at the Main Street Station, while Figures 4.5.1.1 and 4.5.1.2 provide a graphical representation of the annual trend of each pollutant. It is noted that historical versions of this annual report included separate Tables and Figures for PM<sub>2.5</sub> and TPM. However, since PM<sub>2.5</sub>, PM<sub>10</sub> and TPM are now all measured using the same instrument, the Tables and Figures have been merged accordingly.

**TABLE 4.5.1.1 - MAIN STREET SO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid	% Valid	Average	Maximum			Regulatory Exceedances		
		Hours	Hours		1-Hour	3-Hour	24-Hour	1-Hour (>344)	3-Hour (>229)	24-Hour (>115)
2023	January	710	95.4%	0.3	0.9	0.8	0.6	0	0	0
	February	665	99.0%	0.3	0.6	0.6	0.5	0	0	0
	March	737	99.1%	0.4	0.7	0.6	0.5	0	0	0
	April	694	96.4%	0.2	1.3	0.6	0.5	0	0	0
	May	696	93.5%	0.3	1.4	0.7	0.4	0	0	0
	June	717	99.6%	0.2	0.8	0.6	0.4	0	0	0
	July	719	96.6%	0.3	3.2	2.6	1.0	0	0	0
	August	724	97.3%	0.2	2.7	1.8	0.5	0	0	0
	September	166	23.1%		0.4	0.4	0.3	0	0	0
	October	0	0.0%							
	November	0	0.0%							
	December	584	78.5%	0.4	0.7	0.7	0.6	0	0	0
Annual		6412	73.2%		3.2	2.6	1.0	0	0	0
2024	January	744	100.0%	0.4	0.7	0.7	0.5	0	0	0
	February	696	100.0%	0.4	0.7	0.7	0.6	0	0	0
	March	700	94.1%	0.4	1.3	1.1	0.7	0	0	0
	April	720	100.0%	0.9	6.2	6.0	2.2	0	0	0
	May	740	99.5%	0.6	5.7	3.8	1.7	0	0	0
	June	716	99.4%	0.6	1.8	1.3	1.2	0	0	0
	July	744	100.0%	0.3	14.4	11.2	2.1	0	0	0
	August	742	99.7%	0.3	0.9	0.5	0.5	0	0	0
	September	713	99.0%	0.3	1.4	1.1	0.4	0	0	0
	October	740	99.5%	0.5	4.2	2.6	0.9	0	0	0
	November	718	99.7%	0.4	1.1	1.0	0.8	0	0	0
	December	743	99.9%	0.5	1.3	1.2	1.2	0	0	0
Annual		8716	99.2%	0.5	14.4	11.2	2.2	0	0	0

Observations in ppb

**FIGURE 4.5.1.1 - MAIN STREET ANNUAL SO<sub>2</sub> CONCENTRATIONS**



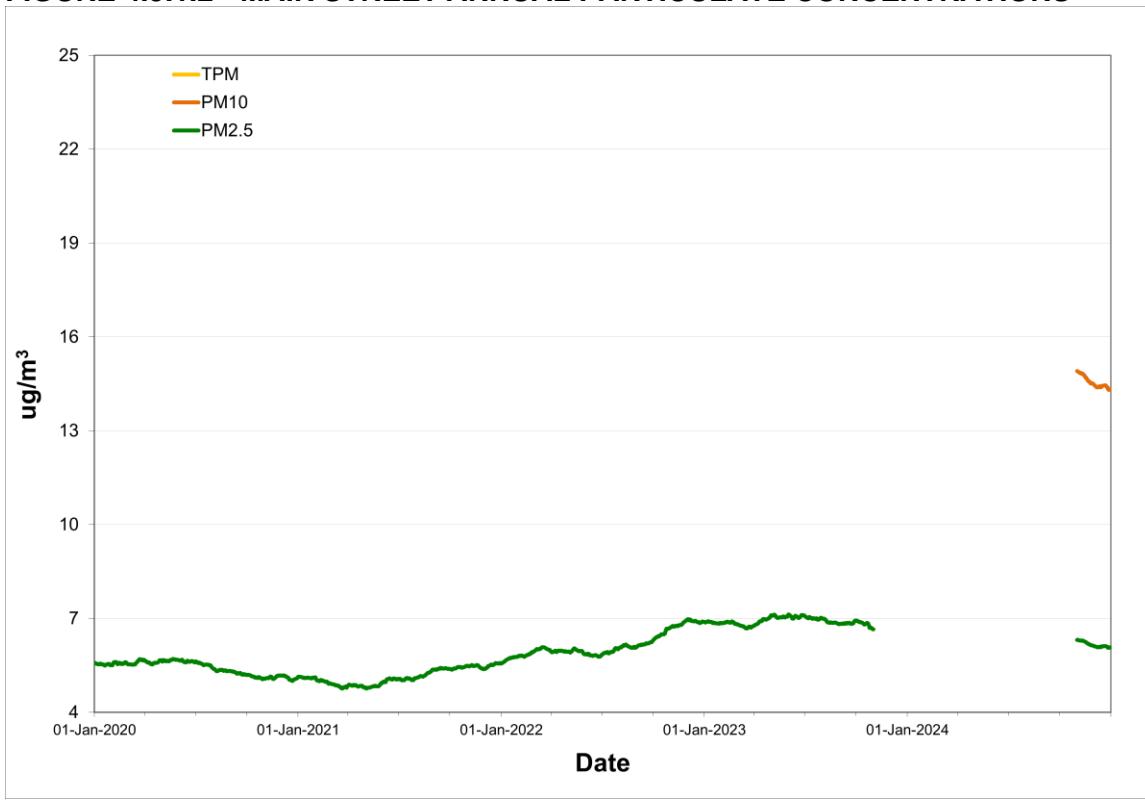
Rolling annual average of hourly concentrations

**TABLE 4.5.1.2 - MAIN STREET PARTICULATE SUMMARY 2023 & 2024**

Year	Month	# Valid	% Valid	Average			24-Hour Maximum			Regulatory Exceedances		
		24 Hour	24 Hour	PM <sub>2.5</sub>	PM <sub>10</sub>	TPM	PM <sub>2.5</sub>	PM <sub>10</sub>	TPM	PM <sub>2.5</sub> (>25)	PM <sub>10</sub> (>50)	TPM (>120)
2023	January	573	77.0%	6.3			14.0			0		
	February	653	97.2%	7.2			16.8			0		
	March	744	100.0%	6.3			17.0			0		
	April	720	100.0%	8.3			17.5			0		
	May	686	92.2%	6.9			17.0			0		
	June	720	100.0%	6.6			24.9			0		
	July	744	100.0%	7.0			19.1			0		
	August	731	98.3%	5.0			10.1			0		
	September	246	34.2%	0.0			17.8			0		
	October	0	0.0%									
	November	0	0.0%									
	December	567	76.2%	6.0	12.2	15.8	13.9	26.2	37.0	0	0	0
Annual		6384	72.9%				24.9	26.2	37.0	0	0	0
2024	January	744	100.0%	6.3	11.9	15.1	10.2	19.5	39.7	0	0	0
	February	696	100.0%	7.6	13.7	17.5	19.7	35.0	68.7	0	0	0
	March	702	94.4%	6.6	19.5	37.9	30.9	83.8	221.4	16	33	32
	April	720	100.0%	5.9	18.1	33.1	16.7	36.2	63.0	0	0	0
	May	744	100.0%	5.3	16.6	31.3	12.7	48.5	100.0	0	0	0
	June	720	100.0%	5.7	13.9	24.1	15.6	33.3	63.1	0	0	0
	July	744	100.0%	8.1	17.6	28.9	19.4	34.3	70.4	0	0	0
	August	680	91.4%	7.7	16.0	24.4	20.8	31.0	51.1	0	0	0
	September	720	100.0%	5.3	12.7	20.1	12.8	22.1	40.9	0	0	0
	October	744	100.0%	5.1	11.8	17.0	12.7	23.8	48.3	0	0	0
	November	720	100.0%	4.0	9.7	14.8	12.3	22.9	45.9	0	0	0
	December	664	89.2%	5.3	10.1	12.2	14.8	26.2	29.6	0	0	0
Annual		8598	97.9%	6.1	14.3	23.1	30.9	83.8	221.4	16	33	32

Observations in  $\mu\text{g}/\text{m}^3$

**FIGURE 4.5.1.2 - MAIN STREET ANNUAL PARTICULATE CONCENTRATIONS**



Rolling annual average of hourly concentrations

## 4.6 Vale Newfoundland and Labrador Limited - Voisey's Bay

In 2024, Vale Newfoundland and Labrador Limited operated air quality monitoring stations at three locations at its Voisey's Bay mine site. These stations are installed to monitor the air quality near Vale's mining / processing operation and port activities, and are located at the Accommodation Unit, near the Crusher and at the Port Site near the concentrate storage facility. The location of these air quality monitoring stations are identified in Figure 4.6.1.

**FIGURE 4.6.1 - VALE / VOISEY'S BAY AIR QUALITY MONITORING STATIONS**



#### 4.6.1 Accommodation Unit

The Accommodation Unit station monitors the levels of PM<sub>2.5</sub> and NO<sub>x</sub> / NO<sub>2</sub> on a continuous basis. For NO<sub>x</sub> / NO<sub>2</sub>, the air quality standards were not exceeded on any occasion in 2024, however for PM<sub>2.5</sub>, the 24-hour air quality standard was exceeded on one hundred and fifty-one reporting hours: nineteen times in March, sixty times in August, thirty-six times in October, eight times in November and twenty-eight times in December. The exceedances were likely attributable to interferences from long-range transport of smoke from wildfires and to fugitive emissions from dry and windy conditions at the site.

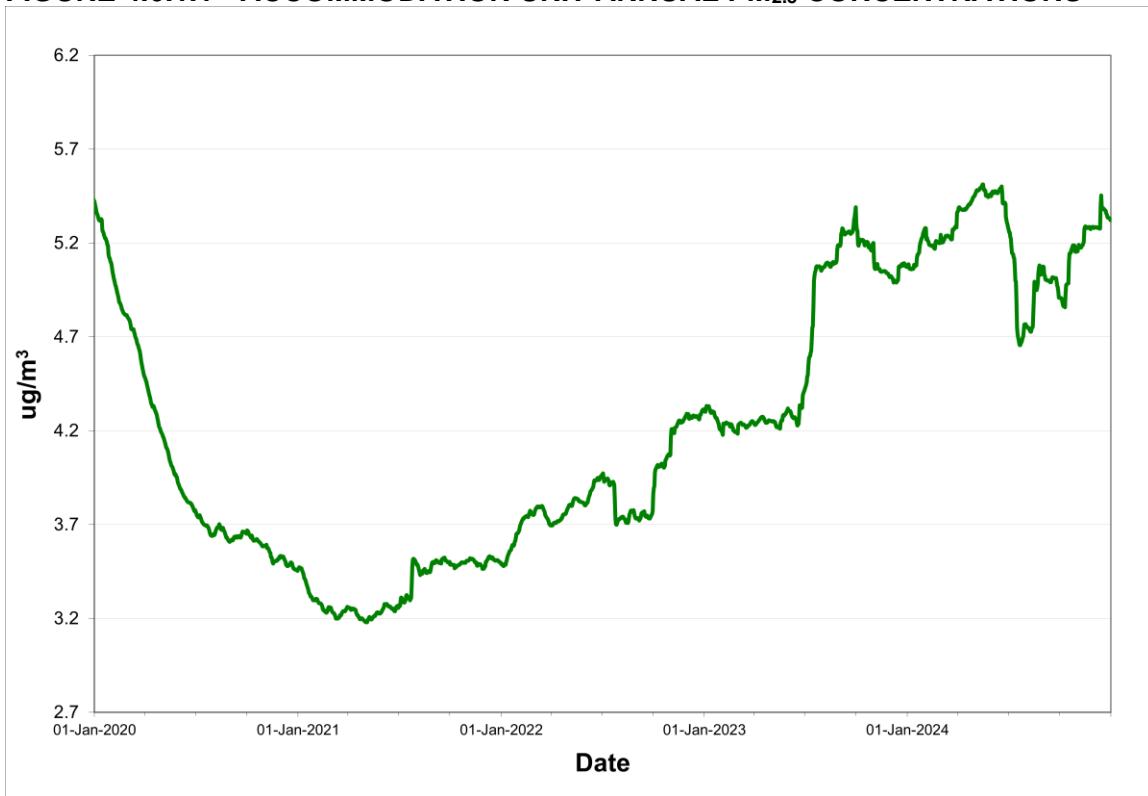
Tables 4.6.1.1 through 4.6.1.2 provide summary information on the level of air contaminants measured at the Accommodation Unit, while Figures 4.6.1.1 through 4.6.1.2 provide a graphical representation of the annual trend of each pollutant.

**TABLE 4.6.1.1 - ACCOMMODATION UNIT PM<sub>2.5</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid 24-Hour	% Valid 24-Hour	Average	Maximum 24-Hour	Regulatory Exceedances (>25 µg/m <sup>3</sup> )
2023	January	744	100.0%	3.7	9.2	0
	February	672	100.0%	5.0	29.0	16
	March	744	100.0%	4.1	22.6	0
	April	685	95.1%	3.3	5.6	0
	May	728	97.8%	4.0	13.6	0
	June	720	100.0%	5.9	29.6	23
	July	709	95.3%	11.0	65.6	64
	August	595	80.0%	5.7	23.6	0
	September	720	100.0%	6.0	23.8	0
	October	744	100.0%	4.3	16.5	0
	November	720	100.0%	3.3	6.9	0
	December	737	99.1%	4.7	28.9	18
Annual		8518	97.2%	5.1	65.6	121
2024	January	717	96.4%	6.0	22.9	0
	February	696	100.0%	4.2	14.8	0
	March	744	100.0%	5.9	31.3	19
	April	720	100.0%	4.4	9.0	0
	May	744	100.0%	4.1	7.1	0
	June	720	100.0%	4.0	8.4	0
	July	744	100.0%	4.8	15.0	0
	August	744	100.0%	9.0	46.0	60
	September	720	100.0%	4.1	9.1	0
	October	744	100.0%	7.3	63.7	36
	November	720	100.0%	4.8	28.3	8
	December	744	100.0%	5.1	50.8	28
Annual		8757	99.7%	5.3	63.7	151

Observations in µg/m<sup>3</sup>

**FIGURE 4.6.1.1 - ACCOMMODATION UNIT ANNUAL PM<sub>2.5</sub> CONCENTRATIONS**

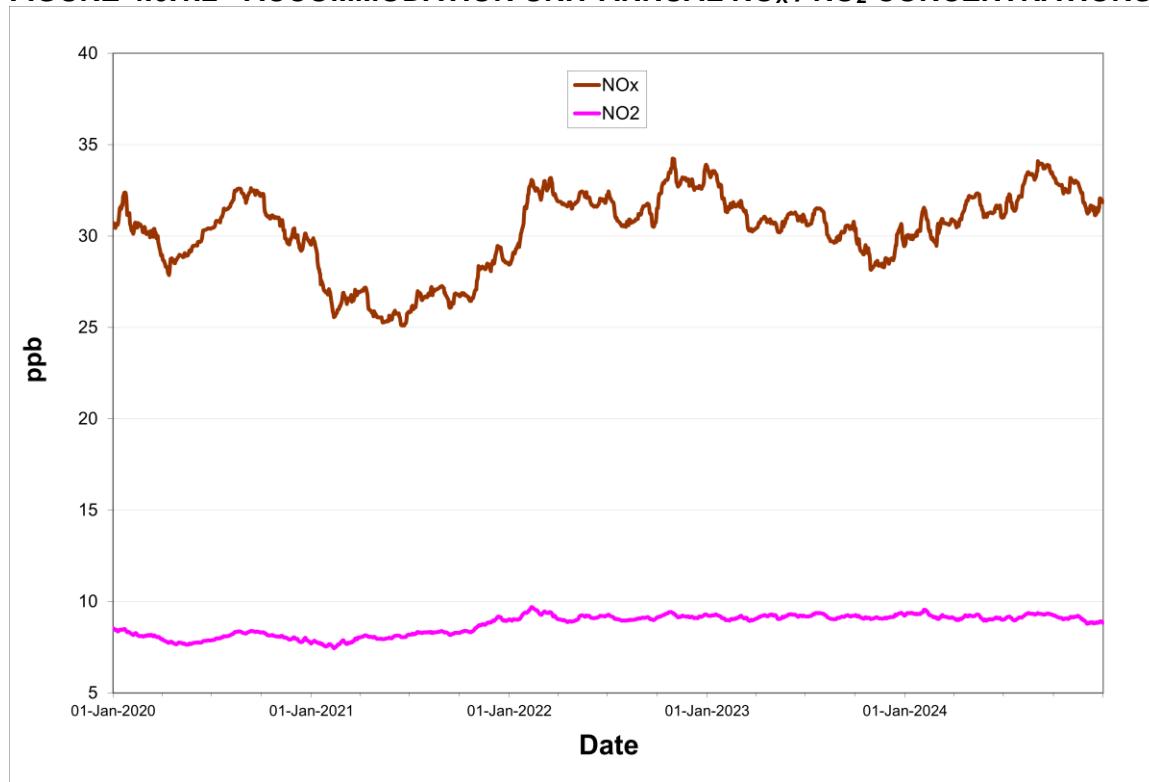


**TABLE 4.6.1.2 - ACCOMMODATION UNIT NO<sub>x</sub> / NO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average		Maximums				Exceedances	
				NO <sub>x</sub>	NO <sub>2</sub>	1-Hour NO <sub>x</sub>	1-Hour NO <sub>2</sub>	24-Hour NO <sub>x</sub>	24-Hour NO <sub>2</sub>	1-Hour (>213)	24-Hour (>106)
2023	January	729	98.0%	51.5	15.3	372.9	46.1	107.9	28.8	0	0
	February	667	99.3%	54.7	15.9	437.9	53.5	123.0	26.7	0	0
	March	744	100.0%	21.7	9.3	474.6	41.3	194.3	29.2	0	0
	April	720	100.0%	15.4	7.2	243.7	41.3	45.6	15.1	0	0
	May	724	97.3%	21.1	7.1	432.1	41.5	115.2	21.8	0	0
	June	720	100.0%	16.9	5.2	420.7	41.5	137.3	20.0	0	0
	July	744	100.0%	17.7	5.5	342.1	44.3	121.4	20.8	0	0
	August	742	99.7%	13.9	4.5	388.1	45.3	96.1	19.4	0	0
	September	720	100.0%	30.9	8.1	470.2	39.2	154.0	23.0	0	0
	October	679	91.3%	26.6	8.1	406.8	34.4	87.8	19.3	0	0
	November	223	31.0%	43.3	13.9	393.9	41.8	152.8	26.1	0	0
	December	728	97.8%	51.4	14.3	534.6	46.5	249.2	33.9	0	0
Annual		8140	92.9%	29.4	9.2	534.6	53.5	249.2	33.9	0	0
2024	January	740	99.5%	67.6	16.9	593.9	45.6	171.4	31.1	0	0
	February	687	98.7%	41.0	12.5	613.1	53.4	160.5	33.0	0	0
	March	743	99.9%	31.9	8.9	539.0	46.3	308.2	30.2	0	0
	April	720	100.0%	30.3	8.8	528.6	53.6	117.7	23.0	0	0
	May	736	98.9%	9.1	4.2	254.8	35.9	48.9	19.0	0	0
	June	719	99.9%	16.8	5.8	297.3	33.0	70.9	16.5	0	0
	July	700	94.1%	30.1	6.6	445.4	38.8	195.1	18.5	0	0
	August	742	99.7%	29.3	7.0	383.2	33.5	107.9	16.3	0	0
	September	720	100.0%	29.0	7.1	504.1	36.9	233.4	20.5	0	0
	October	744	100.0%	20.6	6.6	381.8	36.4	151.3	23.4	0	0
	November	716	99.4%	21.0	7.7	489.1	36.0	183.8	24.9	0	0
	December	741	99.6%	55.2	14.1	648.3	39.3	203.2	28.0	0	0
Annual		8708	99.1%	31.9	8.9	648.3	53.6	308.2	33.0	0	0

Observations in ppb

**FIGURE 4.6.1.2 - ACCOMMODATION UNIT ANNUAL NO<sub>x</sub> / NO<sub>2</sub> CONCENTRATIONS**



## 4.6.2 Crusher Site

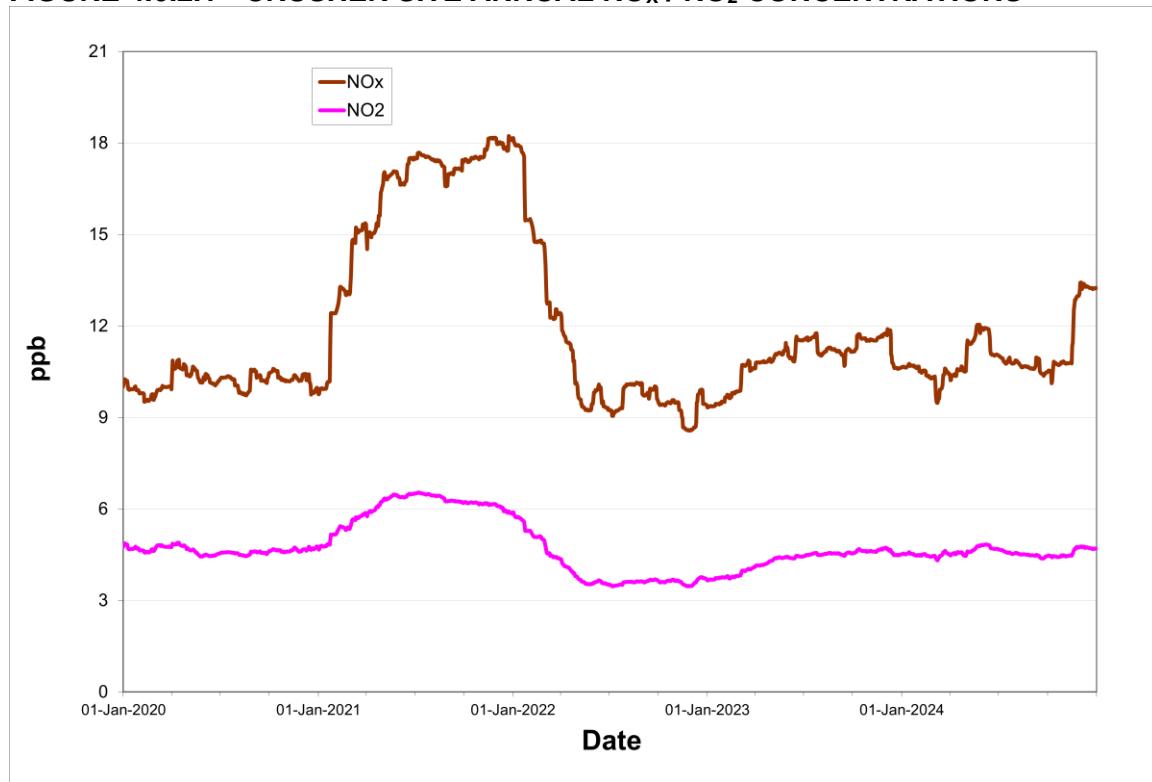
The Crusher Site station monitors the levels of NO<sub>x</sub> / NO<sub>2</sub> on a continuous basis. The air quality standards were not exceeded on any occasion in 2024. Table 4.6.2.1 provides summary information on the level of air contaminants measured at the Crusher Site, while Figure 4.6.2.1 provides a graphical representation of the annual trend.

**TABLE 4.6.2.1 - CRUSHER SITE NO<sub>x</sub> / NO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average		Maximums				Exceedances	
				NO <sub>x</sub>	NO <sub>2</sub>	1-Hour NO <sub>x</sub>	1-Hour NO <sub>2</sub>	24-Hour NO <sub>x</sub>	24-Hour NO <sub>2</sub>	1-Hour (>213)	24-Hour (>106)
2023	January	703	94.5%	5.4	3.6	160.5	30.9	27.7	15.2	0	0
	February	515	76.6%	9.9	4.1	390.2	41.2	50.4	15.1	0	0
	March	738	99.2%	18.1	7.1	513.1	61.6	165.0	31.0	0	0
	April	652	90.6%	10.5	5.9	514.4	68.3	77.3	16.6	0	0
	May	693	93.1%	12.3	4.6	472.5	37.1	109.9	11.4	0	0
	June	716	99.4%	17.8	5.3	365.3	33.8	152.1	19.8	0	0
	July	739	99.3%	9.9	4.5	237.8	27.5	48.0	8.1	0	0
	August	737	99.1%	7.7	3.4	258.4	35.0	28.9	6.0	0	0
	September	720	100.0%	11.4	4.1	368.8	29.7	137.0	18.0	0	0
	October	693	93.1%	10.6	4.0	354.3	29.1	131.0	16.2	0	0
	November	718	99.7%	5.8	3.8	56.7	26.7	24.8	15.2	0	0
	December	726	97.6%	7.8	3.8	534.4	46.6	77.3	14.4	0	0
Annual		8350	95.3%	10.6	4.5	534.4	68.3	165.0	31.0	0	0
2024	January	608	81.7%	5.0	3.2	161.4	28.8	20.7	8.9	0	0
	February	616	88.5%	5.4	3.8	106.7	37.8	13.4	9.0	0	0
	March	671	90.2%	20.0	7.8	363.4	53.9	130.2	27.0	0	0
	April	720	100.0%	11.7	5.2	229.4	40.1	54.0	17.0	0	0
	May	738	99.2%	28.4	8.7	412.8	46.0	150.6	28.8	0	0
	June	720	100.0%	7.4	3.8	121.3	25.5	27.1	11.0	0	0
	July	744	100.0%	7.2	2.8	193.7	23.1	42.5	7.4	0	0
	August	742	99.7%	5.2	2.6	121.5	20.9	22.0	8.3	0	0
	September	720	100.0%	10.0	3.7	416.8	33.5	104.8	12.7	0	0
	October	744	100.0%	14.7	4.4	547.8	42.6	108.2	13.2	0	0
	November	715	99.3%	34.5	7.3	574.0	49.1	220.5	25.9	0	0
	December	742	99.7%	7.8	3.1	417.6	42.6	69.5	11.0	0	0
Annual		8480	96.5%	13.2	4.7	574.0	53.9	220.5	28.8	0	0

Observations in ppb

**FIGURE 4.6.2.1 - CRUSHER SITE ANNUAL NO<sub>x</sub> / NO<sub>2</sub> CONCENTRATIONS**



Rolling annual average of hourly concentrations

### 4.6.3 Port Site

The Port Site station monitors the levels of TPM on a continuous basis. The 24-hour air quality standard was exceeded on one hundred and thirty-two reporting hours in 2024. In January the 24-hour air quality standard was exceed six times, thirty-six times in February, sixteen times in May, thirty-five times in July, seventeen times in November and twenty-two times in December. These exceedances were most likely due to long range transport from wildfires and general wharf activities, including ship-loading.

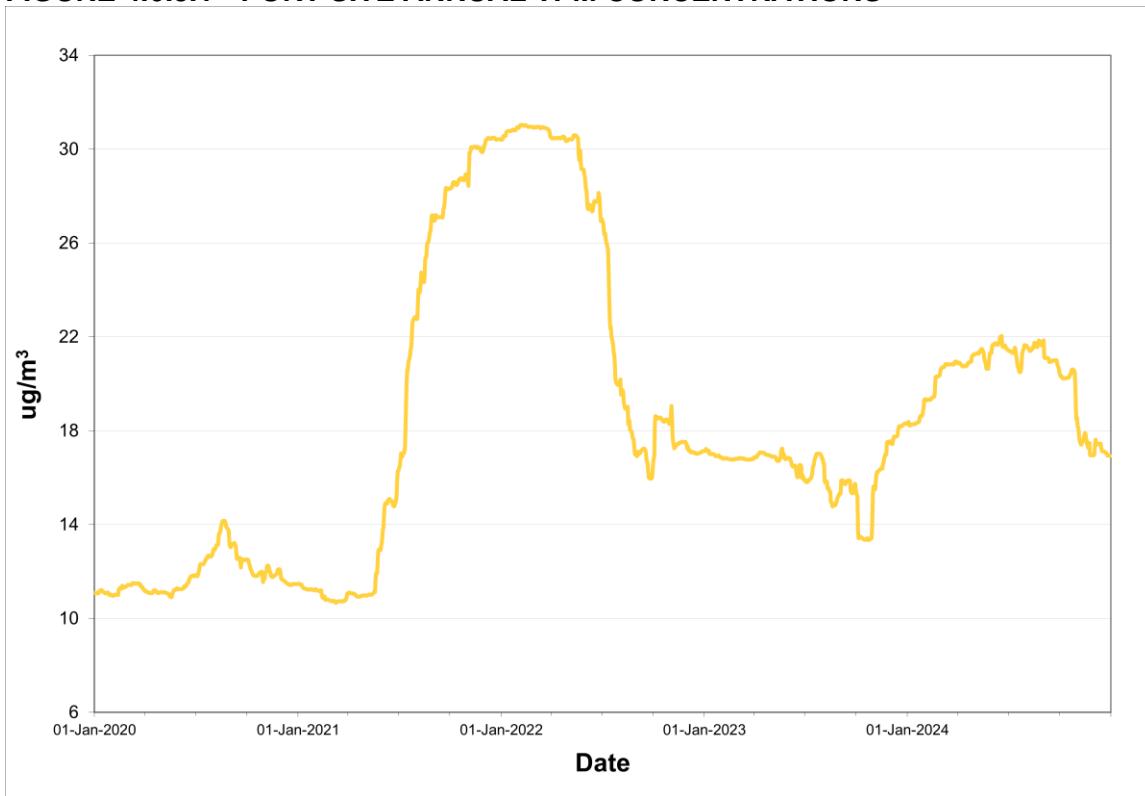
Table 4.6.3.1 provides summary information on the level of air contaminants measured at the Port Site, while Figure 4.6.3.1 provides a graphical representation of the annual trend.

**TABLE 4.6.3.1 - PORT SITE TPM SUMMARY 2023 & 2024**

Year	Month	# Valid 24-Hour	% Valid 24-Hour	Average	Maximum 24-Hour	Regulatory Exceedances (>120 µg/m <sup>3</sup> )
2023	January	744	100.0%	6.9	54.1	0
	February	647	96.3%	4.9	21.4	0
	March	744	100.0%	6.2	23.8	0
	April	720	100.0%	6.1	27.6	0
	May	744	100.0%	14.6	116.6	0
	June	720	100.0%	14.8	159.6	21
	July	744	100.0%	22.2	118.0	0
	August	591	79.4%	18.2	52.5	0
	September	720	100.0%	26.7	293.3	25
	October	744	100.0%	35.3	393.1	44
	November	702	97.5%	47.5	420.5	96
	December	744	100.0%	15.8	113.3	0
Annual		8564	97.8%	18.3	420.5	186
2024	January	744	100.0%	18.3	122.7	6
	February	696	100.0%	19.6	259.3	36
	March	705	94.8%	10.6	83.5	0
	April	720	100.0%	10.3	74.7	0
	May	744	100.0%	15.4	167.1	16
	June	659	91.5%	16.3	106.7	0
	July	744	100.0%	24.4	214.4	35
	August	744	100.0%	21.4	76.5	0
	September	700	97.2%	12.2	47.6	0
	October	720	96.8%	14.2	70.8	0
	November	720	100.0%	24.1	153.6	17
	December	744	100.0%	15.5	177.3	22
Annual		8640	98.4%	16.9	259.3	132

Observations in µg/m<sup>3</sup>

**FIGURE 4.6.3.1 - PORT SITE ANNUAL TPM CONCENTRATIONS**



## 4.7 Vale Newfoundland and Labrador Limited - Long Harbour

Vale Newfoundland and Labrador Limited operates an air quality monitoring network in the Long Harbour / Mt. Arlington Heights area to monitor the air quality near its Hydromet Nickel Processing facility. The network monitors levels of  $\text{NO}_x / \text{NO}_2$  as well as  $\text{PM}_{2.5}$  and  $\text{PM}_{10}$ . In 2024, Vale operated two stations; near the Community Centre in Long Harbour, and near the Access Road to the Hydromet facility. Vale had previously operated a third station along the main road in Long Harbour, however that station was decommissioned in August 2021. The location of the air quality monitoring stations is shown in Figure 4.7.1.

**FIGURE 4.7.1 - VALE / LONG HARBOUR AIR QUALITY MONITORING STATIONS**



#### 4.7.1 Community Centre (AM1)

The Community Centre (AM1) station monitors the levels of PM<sub>2.5</sub>, PM<sub>10</sub> and NO<sub>x</sub> / NO<sub>2</sub> on a continuous basis. The air quality standards for NO<sub>2</sub>, PM<sub>2.5</sub> and PM<sub>10</sub> were not exceeded in 2024.

Tables 4.7.1.1 and 4.7.1.2 provide summary information on the level of air contaminants measured at the Community Centre (AM1) site, while Figures 4.7.1.1 and 4.7.1.2 provide a graphical representation of the annual trend of PM<sub>2.5</sub> / PM<sub>10</sub> and NO<sub>x</sub> / NO<sub>2</sub>.

**TABLE 4.7.1.1 - COMMUNITY CENTRE (AM1) PM<sub>2.5</sub> / PM<sub>10</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid	% Valid	Average		24-Hour Maximum		Regulatory Exceedances	
		24-Hour	24-Hour	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub> (>25)	PM <sub>10</sub> (>50)
2023	January	744	100.0%	4.1	9.1	10.9	20.4	0	0
	February	672	100.0%	3.9	8.9	8.9	20.3	0	0
	March	529	71.1%	4.8	10.7	11.3	26.0	0	0
	April	452	62.8%	4.6	9.4	9.9	19.2	0	0
	May	744	100.0%	5.2	11.0	15.0	28.8	0	0
	June	577	80.1%	3.9	7.0	16.5	27.2	0	0
	July	744	100.0%	4.8	8.5	12.2	18.8	0	0
	August	744	100.0%	4.5	8.7	12.6	23.4	0	0
	September	720	100.0%	6.6	12.2	43.7	70.7	35	24
	October	744	100.0%	4.6	9.2	12.6	20.9	0	0
	November	720	100.0%	2.9	6.6	9.6	20.3	0	0
	December	679	91.3%	4.3	9.8	12.1	26.8	0	0
Annual		8069	92.1%	4.5	9.3	43.7	70.7	35	24
2024	January	744	100.0%	3.7	8.8	8.4	21.2	0	0
	February	696	100.0%	3.7	8.5	8.0	16.7	0	0
	March	744	100.0%	4.7	10.8	10.4	22.8	0	0
	April	720	100.0%	5.0	11.0	11.9	26.4	0	0
	May	744	100.0%	4.1	8.7	13.2	29.2	0	0
	June	720	100.0%	4.4	8.2	20.1	30.6	0	0
	July	744	100.0%	5.2	9.1	14.0	25.4	0	0
	August	744	100.0%	6.0	10.9	13.8	20.8	0	0
	September	720	100.0%	4.4	9.1	14.9	21.5	0	0
	October	744	100.0%	4.1	9.3	10.2	21.1	0	0
	November	720	100.0%	2.6	5.9	5.9	13.7	0	0
	December	744	100.0%	3.6	7.9	9.7	21.6	0	0
Annual		8784	100.0%	4.3	9.0	20.1	30.6	0	0

Observations in  $\mu\text{g}/\text{m}^3$

**FIGURE 4.7.1.1 - COMMUNITY CENTRE (AM1) ANNUAL PM<sub>2.5</sub> CONCENTRATIONS**



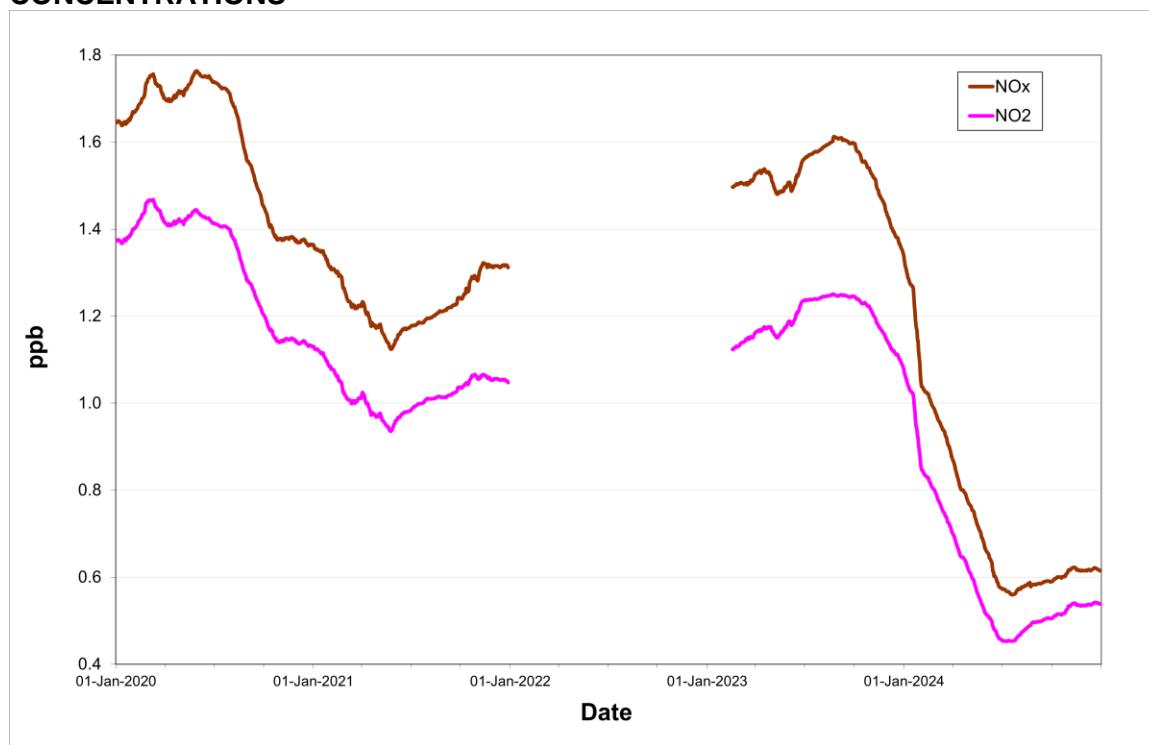
Rolling annual average of daily concentrations

**TABLE 4.7.1.2 - COMMUNITY CENTRE (AM1) NO<sub>x</sub> / NO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average		Maximums				Exceedances	
				NO <sub>x</sub>	NO <sub>2</sub>	1-Hour NO <sub>x</sub>	1-Hour NO <sub>2</sub>	24-Hour NO <sub>x</sub>	24-Hour NO <sub>2</sub>	1-Hour (>213)	24-Hour (>106)
2023	January	740	99.5%	3.7	2.9	15.7	9.7	10.3	6.6	0	0
	February	669	99.6%	1.7	1.4	8.6	7.5	5.7	4.7	0	0
	March	741	99.6%	1.8	1.5	4.9	4.2	3.1	2.5	0	0
	April	710	98.6%	1.7	1.5	6.3	5.5	2.7	2.3	0	0
	May	740	99.5%	1.7	1.6	6.8	6.5	3.2	2.8	0	0
	June	718	99.7%	1.9	1.3	13.3	7.1	5.2	3.1	0	0
	July	742	99.7%	0.7	0.4	5.0	4.6	1.1	0.9	0	0
	August	736	98.9%	0.7	0.3	15.0	2.6	4.9	0.7	0	0
	September	718	99.7%	0.5	0.3	4.3	3.4	0.9	0.8	0	0
	October	742	99.7%	0.4	0.4	3.0	1.8	0.7	0.6	0	0
	November	718	99.7%	0.6	0.5	7.7	6.9	1.5	1.3	0	0
	December	688	92.5%	0.7	0.7	7.7	7.0	1.0	1.0	0	0
Annual		8662	98.9%	1.3	1.1	15.7	9.7	10.3	6.6	0	0
2024	January	742	99.7%	0.4	0.4	2.1	2.1	0.9	0.8	0	0
	February	693	99.6%	0.6	0.5	8.6	7.4	1.3	1.1	0	0
	March	741	99.6%	0.6	0.5	5.1	3.7	1.0	0.9	0	0
	April	718	99.7%	0.5	0.4	9.2	8.7	1.7	1.6	0	0
	May	742	99.7%	0.5	0.5	3.7	3.6	1.0	0.9	0	0
	June	718	99.7%	0.7	0.6	10.7	6.6	1.7	1.4	0	0
	July	740	99.5%	0.7	0.5	4.0	3.6	1.5	1.3	0	0
	August	740	99.5%	0.8	0.7	6.8	5.8	1.6	1.3	0	0
	September	720	100.0%	0.5	0.4	3.3	1.9	0.8	0.7	0	0
	October	738	99.2%	0.7	0.7	9.4	5.7	1.9	1.8	0	0
	November	718	99.7%	0.6	0.6	3.8	3.7	1.5	1.5	0	0
	December	742	99.7%	0.7	0.7	3.8	3.9	1.2	1.2	0	0
Annual		8752	99.6%	0.6	0.5	10.7	8.7	1.9	1.8	0	0

Observations in ppb

**FIGURE 4.7.1.2 - COMMUNITY CENTRE (AM1) ANNUAL NO<sub>x</sub> / NO<sub>2</sub> CONCENTRATIONS**



Rolling annual average of hourly concentrations

## 4.7.2 Access Road (AM3)

The Access Road (AM3) station is installed near the Vale security gate and monitors the levels of PM<sub>2.5</sub>, PM<sub>10</sub> and NO<sub>x</sub> / NO<sub>2</sub> on a continuous basis. The air quality standards for NO<sub>2</sub>, PM<sub>2.5</sub> and PM<sub>10</sub> were not exceeded in 2024.

Tables 4.7.2.1 and 4.7.2.2 provide summary information on the level of air contaminants measured at the Access Road (AM3) site while Figures 4.7.2.1 and 4.7.2.2 provide a graphical representation of the annual trend in the data.

**TABLE 4.7.2.1 - ACCESS ROAD (AM3) PM<sub>2.5</sub> / PM<sub>10</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid	% Valid	Average		24-Hour Maximum		Regulatory Exceedances	
		24-Hour	24-Hour	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	PM <sub>10</sub>	PM <sub>2.5</sub> (>25)	PM <sub>10</sub> (>50)
2023	January	663	89.1%	3.8	9.2	8.3	19.5	0	0
	February	672	100.0%	3.5	8.7	8.1	18.2	0	0
	March	552	74.2%	4.6	10.9	10.7	24.5	0	0
	April	720	100.0%	4.9	10.8	10.3	22.8	0	0
	May	716	96.2%	4.9	10.7	13.8	26.5	0	0
	June	720	100.0%	3.5	6.9	14.9	25.8	0	0
	July	744	100.0%	4.6	8.5	11.6	18.1	0	0
	August	744	100.0%	4.3	8.3	11.7	19.3	0	0
	September	720	100.0%	6.5	12.8	43.4	72.0	34	25
	October	744	100.0%	4.4	9.7	12.9	22.3	0	0
	November	720	100.0%	2.9	7.4	8.6	17.8	0	0
	December	744	100.0%	4.3	9.6	12.7	28.4	0	0
Annual		8459	96.6%	4.3	9.4	43.4	72.0	34	25
2024	January	678	91.1%	3.7	9.0	7.4	19.7	0	0
	February	696	100.0%	3.6	8.5	7.3	15.9	0	0
	March	744	100.0%	4.5	10.9	10.2	22.4	0	0
	April	720	100.0%	4.8	10.9	12.4	27.9	0	0
	May	744	100.0%	3.8	8.5	12.6	28.3	0	0
	June	720	100.0%	4.1	8.1	18.6	29.0	0	0
	July	744	100.0%	4.7	8.9	13.2	23.5	0	0
	August	744	100.0%	5.7	10.6	12.7	20.0	0	0
	September	720	100.0%	4.1	9.3	13.1	20.2	0	0
	October	744	100.0%	3.9	9.6	9.8	19.6	0	0
	November	720	100.0%	2.5	5.8	5.6	13.3	0	0
	December	744	100.0%	3.3	7.7	9.4	21.9	0	0
Annual		8718	99.2%	4.1	9.0	18.6	29.0	0	0

Observations in  $\mu\text{g}/\text{m}^3$

**FIGURE 4.7.2.1 - ACCESS ROAD (AM3) ANNUAL PM<sub>2.5</sub> CONCENTRATIONS**

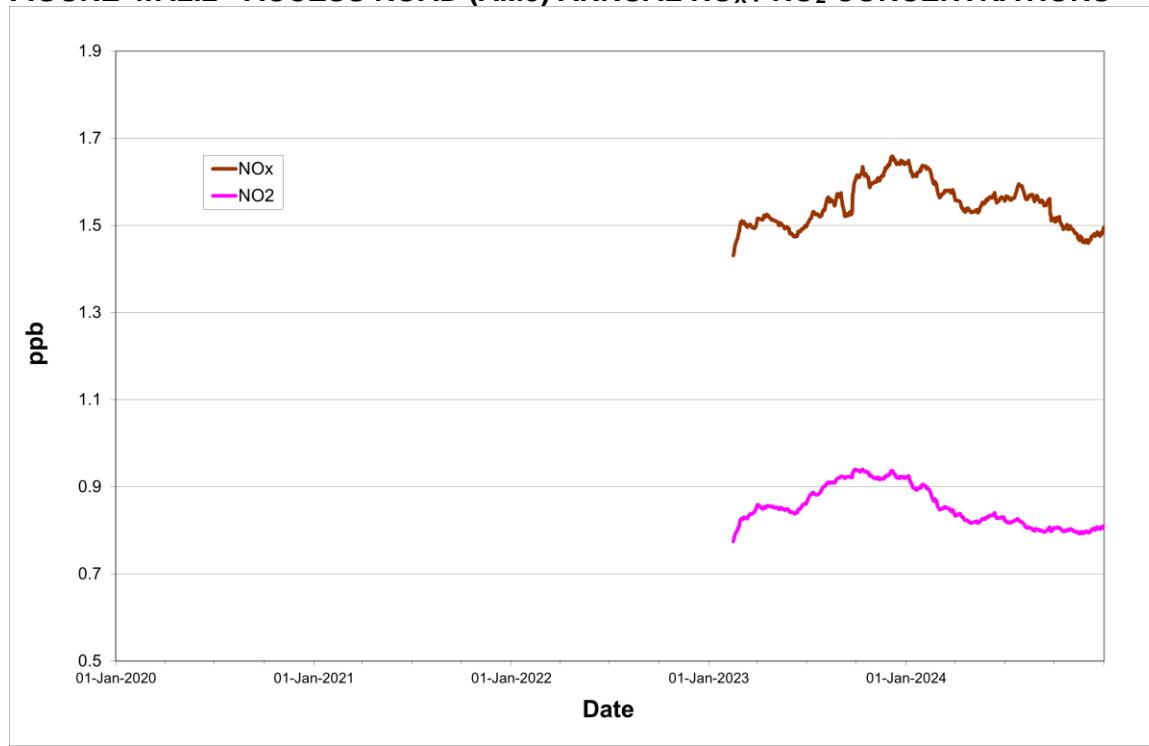


**TABLE 4.7.2.2 - ACCESS ROAD (AM3) NO<sub>x</sub> / NO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average		Maximums				Exceedances	
						1-Hour		24-Hour		1-Hour	24-Hour
				NO <sub>x</sub>	NO <sub>2</sub>	NO <sub>x</sub>	NO <sub>2</sub>	NO <sub>x</sub>	NO <sub>2</sub>	(>213)	(>106)
2023	January	677	91.0%	1.6	1.1	52.0	11.6	4.4	2.8	0	0
	February	670	99.7%	2.0	1.4	34.3	23.0	4.3	3.0	0	0
	March	739	99.3%	1.6	1.2	13.4	7.0	3.4	2.0	0	0
	April	716	99.4%	1.6	0.9	10.5	6.4	3.2	1.8	0	0
	May	725	97.4%	1.1	0.6	10.4	4.4	3.2	2.0	0	0
	June	717	99.6%	1.5	0.9	11.0	6.9	3.9	2.2	0	0
	July	741	99.6%	1.4	0.9	8.1	5.6	2.4	1.8	0	0
	August	739	99.3%	1.6	0.9	17.1	3.2	4.0	1.5	0	0
	September	718	99.7%	2.4	0.8	128.4	32.4	15.3	3.8	0	0
	October	741	99.6%	1.7	0.7	13.9	4.2	5.1	1.1	0	0
	November	716	99.4%	1.8	0.9	15.5	6.4	4.4	2.2	0	0
	December	741	99.6%	1.5	0.9	17.5	8.1	3.8	2.1	0	0
Annual		8640	98.6%	1.6	0.9	128.4	32.4	15.3	3.8	0	0
2024	January	686	92.2%	1.5	0.9	19.9	9.5	3.7	2.1	0	0
	February	694	99.7%	1.2	0.8	8.9	5.9	2.7	2.0	0	0
	March	741	99.6%	1.4	0.9	10.9	8.4	3.9	2.5	0	0
	April	717	99.6%	1.2	0.6	17.4	5.1	2.9	1.0	0	0
	May	742	99.7%	1.5	0.8	13.0	7.6	3.6	1.8	0	0
	June	718	99.7%	1.4	0.8	22.8	10.5	3.3	1.9	0	0
	July	736	98.9%	1.7	0.8	14.1	5.9	3.5	1.7	0	0
	August	741	99.6%	1.4	0.7	30.2	17.0	3.3	1.8	0	0
	September	720	100.0%	1.8	0.8	15.4	5.6	3.9	1.9	0	0
	October	739	99.3%	1.4	0.6	15.1	3.7	3.5	1.3	0	0
	November	718	99.7%	1.5	0.8	8.6	5.1	3.4	1.9	0	0
	December	742	99.7%	1.9	1.0	47.0	21.7	4.9	2.1	0	0
Annual		8694	99.0%	1.5	0.8	47.0	21.7	4.9	2.5	0	0

Observations in ppb

**FIGURE 4.7.2.2 - ACCESS ROAD (AM3) ANNUAL NO<sub>x</sub> / NO<sub>2</sub> CONCENTRATIONS**

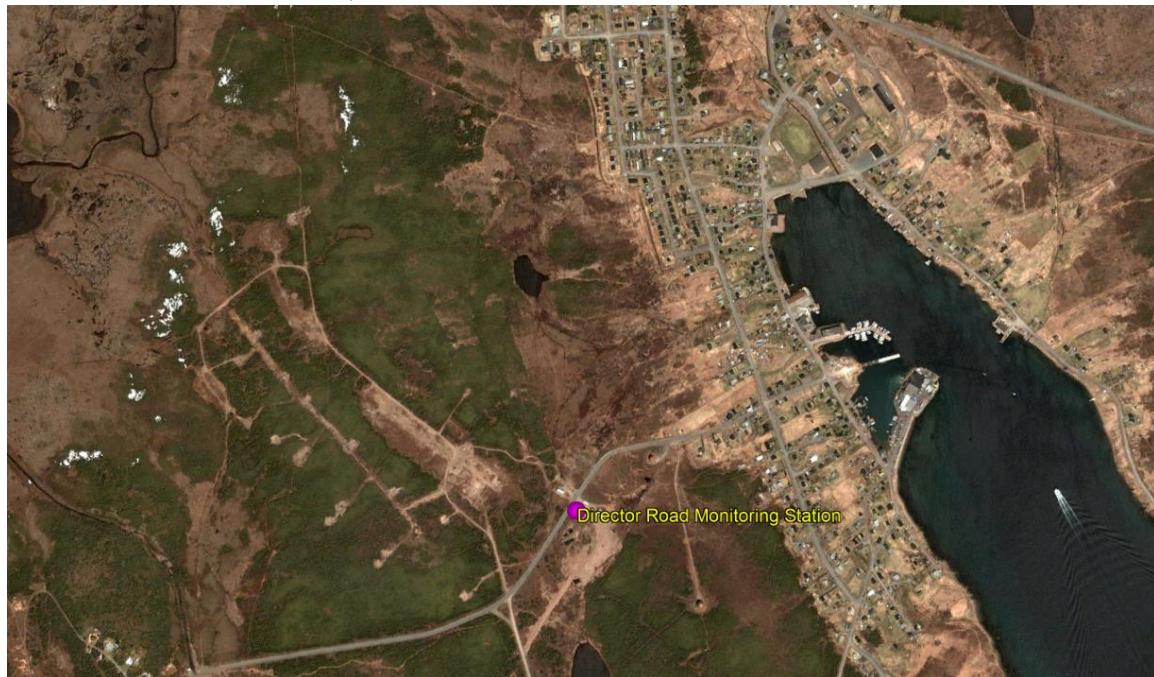


## 4.8 Canada Fluorspar (NL) Inc.

In 2018, Canada Fluorspar (NL) Inc. began operation of its fluorspar mine west of the town of St. Lawrence. The company installed continuous PM<sub>2.5</sub>, NO<sub>x</sub> / NO<sub>2</sub> and TPM monitors on Director Drive, between the mine site and the town of St. Lawrence. The location of the air quality monitoring station is shown in Figure 4.8.1.

In February 2022, the facility was placed into receivership, however in June 2023 a new buyer was approved. Activities commenced shortly thereafter to bring production back on-line, but by the end of 2023, the facility was not in full production. In June 2023, the mine was purchased by AMED Funds who plan to restart production in 2025. The air quality monitoring station remained in operation throughout, however due to receivership process and throughout, minimal on-going maintenance was completed at the station, resulting in extended periods of data loss.

**FIGURE 4.8.1 - CFI AIR QUALITY MONITORING STATION**



#### 4.8.1 Director Drive

The Director Drive station was installed in early 2017 with various monitors being commissioned throughout the year. Table 4.8.1.1 presents the results for PM<sub>2.5</sub>, Table 4.8.1.2 the results for NO<sub>x</sub> / NO<sub>2</sub>, and Table 4.8.1.3 the results for TPM while Figures 4.8.1.1 through 4.8.1.3 provide a graphical representation of the annual trend of PM<sub>2.5</sub>, NO<sub>x</sub> / NO<sub>2</sub>, and TPM respectively. There were no exceedances of the associated air quality standards for NO<sub>2</sub>, PM<sub>2.5</sub> and TPM during the year.

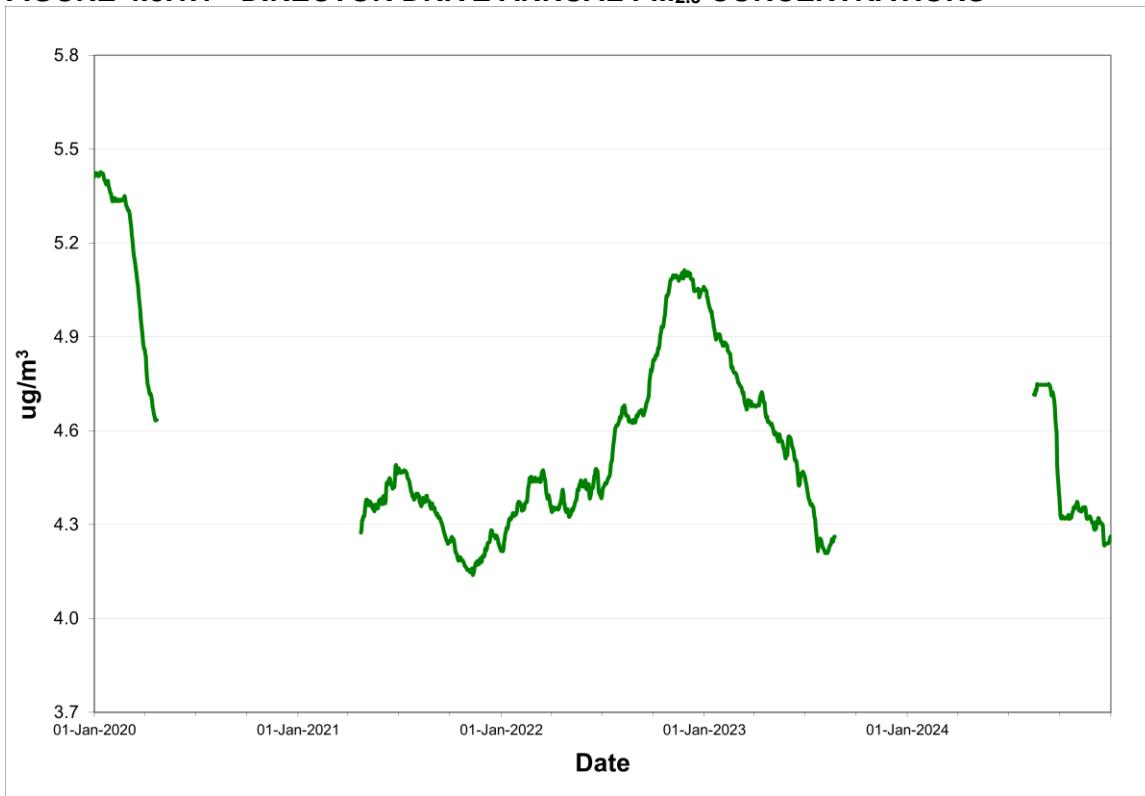
The PM<sub>2.5</sub> and TPM monitors experienced continued operational issues during the year, resulting in sparse valid data collection in 2024.

**TABLE 4.8.1.1 - DIRECTOR DRIVE PM<sub>2.5</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid 24-Hour	% Valid 24-Hour	Average	Maximum 24-Hour	Regulatory Exceedances (>25 µg/m <sup>3</sup> )
2023	January	580	78.0%	3.1	9.5	0
	February	668	99.4%	3.6	7.9	0
	March	744	100.0%	4.0	8.9	0
	April	691	96.0%	3.9	7.8	0
	May	744	100.0%	5.1	20.4	0
	June	720	100.0%	4.1	23.3	0
	July	451	60.6%	3.0	13.9	0
	August	0	0.0%			
	September	373	51.8%	10.7	34.2	21
	October	377	50.7%	5.0	13.0	0
	November	720	100.0%	3.9	10.2	0
	December	593	79.7%	4.9	15.8	0
Annual		6661	76.0%	4.4	34.2	21
2024	January	705	94.8%	3.0	7.7	0
	February	563	80.9%	4.1	9.7	0
	March	580	78.0%	4.5	11.4	0
	April	720	100.0%	4.8	11.2	0
	May	744	100.0%	4.1	9.1	0
	June	720	100.0%	4.8	17.5	0
	July	612	82.3%	4.8	10.8	0
	August	523	70.3%	5.2	11.1	0
	September	453	62.9%	4.4	12.5	0
	October	684	91.9%	4.2	8.3	0
	November	680	94.4%	3.3	6.3	0
	December	285	38.3%	nd	9.2	0
Annual		7269	82.8%	4.1	17.5	0

Observations in µg/m<sup>3</sup>

**FIGURE 4.8.1.1 - DIRECTOR DRIVE ANNUAL PM<sub>2.5</sub> CONCENTRATIONS**



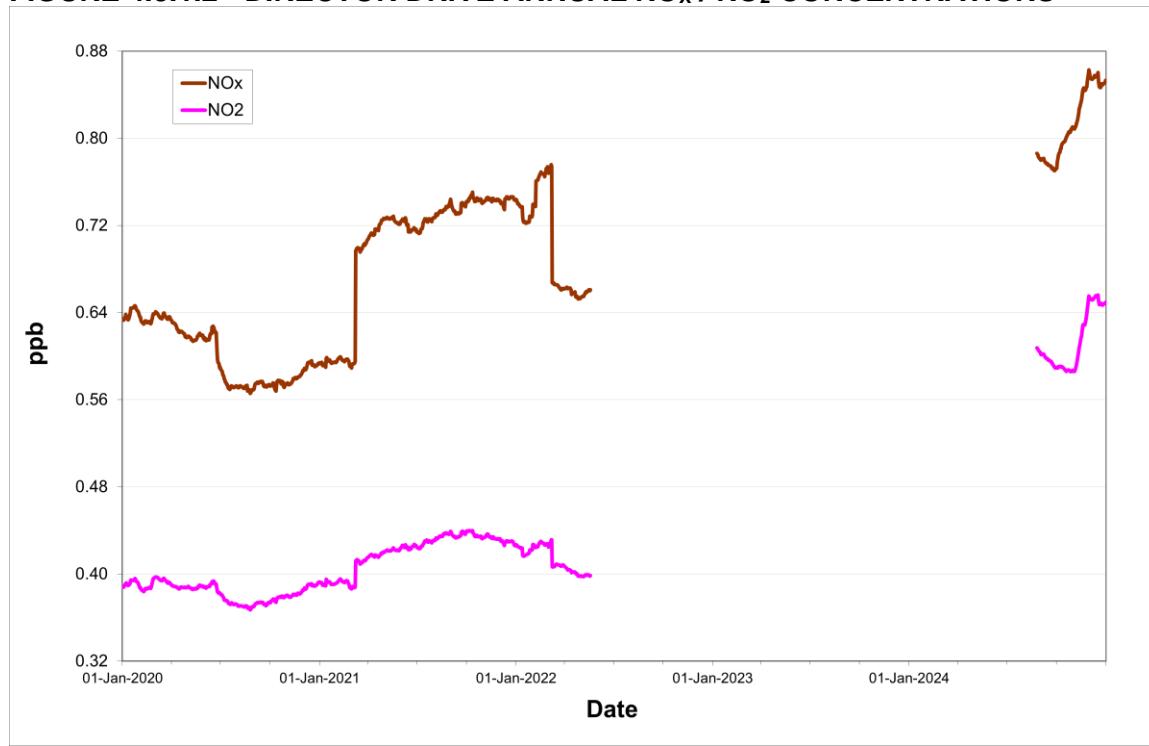
Rolling annual average of hourly concentrations

**TABLE 4.8.1.2 - DIRECTOR DRIVE NO<sub>x</sub> / NO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average NO <sub>x</sub> NO <sub>2</sub>		Maximums				Exceedances	
						1-Hour NO <sub>x</sub>	1-Hour NO <sub>2</sub>	24-Hour NO <sub>x</sub>	24-Hour NO <sub>2</sub>	1-Hour (>213)	24-Hour (>106)
2023	January	0	0.0%	0.9	0.6	0.8	0.6	1.4	0.9	0	0
	February	0	0.0%								
	March	0	0.0%								
	April	0	0.0%								
	May	0	0.0%								
	June	0	0.0%								
	July	0	0.0%								
	August	0	0.0%								
	September	0	0.0%								
	October	11	1.5%								
	November	720	100.0%								
	December	741	99.6%								
Annual		1472	16.8%			17.6	12.1	4.4	2.5	0	0
2024	January	744	100.0%	0.9	0.7	48.7	14.6	4.8	2.0	0	0
	February	695	99.9%	0.7	0.5	21.3	5.3	2.2	0.8	0	0
	March	677	91.0%	1.0	0.9	15.5	7.1	1.6	1.3	0	0
	April	608	84.4%	0.8	0.7	5.4	2.4	1.3	1.1	0	0
	May	731	98.3%	0.7	0.6	4.4	3.3	1.2	1.1	0	0
	June	717	99.6%	0.6	0.4	2.5	1.5	0.8	0.7	0	0
	July	744	100.0%	0.7	0.5	9.2	4.3	1.3	0.9	0	0
	August	729	98.0%	0.6	0.5	5.5	2.5	1.0	0.8	0	0
	September	720	100.0%	0.7	0.4	3.9	3.5	1.1	0.7	0	0
	October	713	95.8%	1.2	0.6	25.9	7.5	2.7	0.9	0	0
	November	600	83.3%	1.7	1.5	21.4	5.1	2.5	2.1	0	0
	December	598	80.4%	0.8	0.6	22.8	6.5	1.8	0.9	0	0
Annual		8276	94.2%	0.9	0.6	48.7	14.6	4.8	2.1	0	0

Observations in ppb

**FIGURE 4.8.1.2 - DIRECTOR DRIVE ANNUAL NO<sub>x</sub> / NO<sub>2</sub> CONCENTRATIONS**



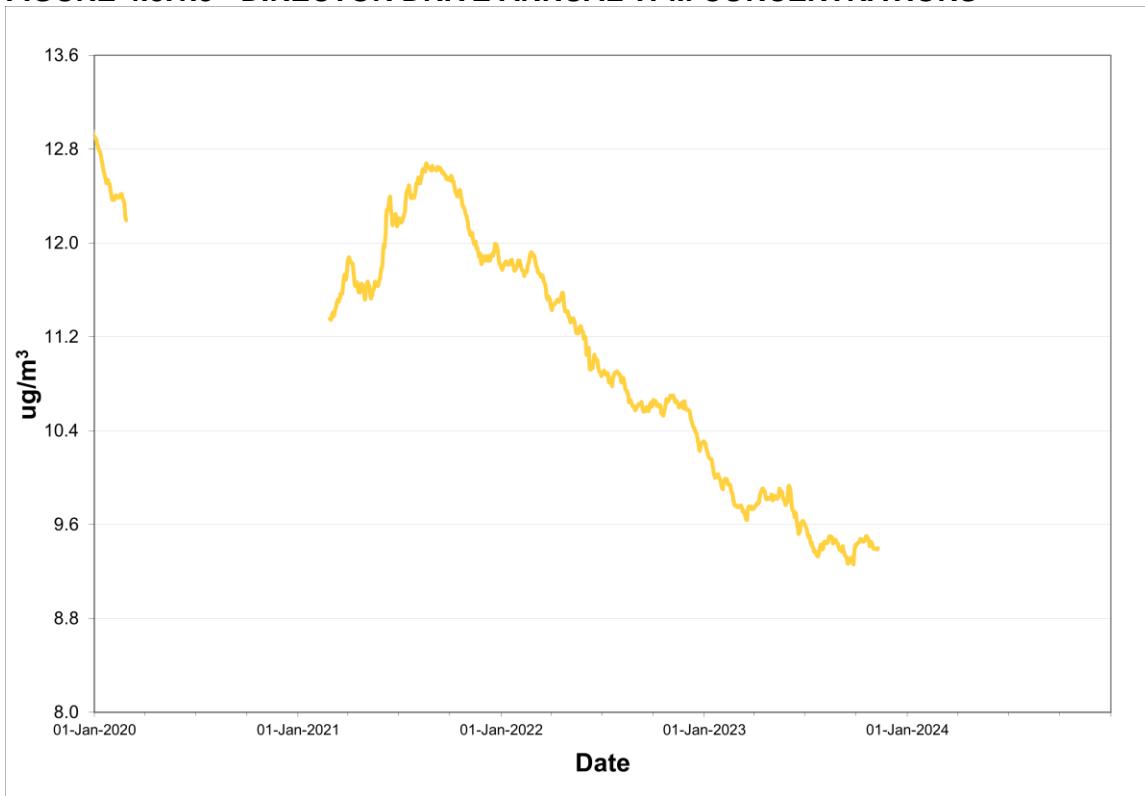
Rolling annual average of hourly concentrations

**TABLE 4.8.1.3 - DIRECTOR DRIVE TPM SUMMARY 2023 & 2024**

Year	Month	# Valid 24-Hour	% Valid 24-Hour	Average	Maximum 24-Hour	Regulatory Exceedances (>120 µg/m <sup>3</sup> )
2023	January	558	75.0%	7.7	17.1	0
	February	614	91.4%	9.5	19.0	0
	March	740	99.5%	10.4	38.0	0
	April	558	77.5%	11.1	21.0	0
	May	744	100.0%	12.2	34.3	0
	June	720	100.0%	8.5	36.5	0
	July	444	59.7%	7.5	18.9	0
	August	744	100.0%	7.3	20.7	0
	September	720	100.0%	10.0	39.3	0
	October	101	13.6%		13.9	0
	November	0	0.0%			
	December	0	0.0%			
Annual		5943	67.8%		39.3	0
2024	January	543	73.0%	7.5	21.5	0
	February	514	73.9%	8.3	16.8	0
	March	607	81.6%	8.4	19.8	0
	April	704	97.8%	7.9	18.2	0
	May	543	73.0%	7.2	17.0	0
	June	0	0.0%			
	July	0	0.0%			
	August	0	0.0%			
	September	0	0.0%			
	October	0	0.0%	nd	0.0	0
	November	0	0.0%	nd	0.0	0
	December	455	61.2%	2.2	9.9	0
Annual		3366	38.3%	7.1	21.5	0

Observations in µg/m<sup>3</sup>

**FIGURE 4.8.1.3 - DIRECTOR DRIVE ANNUAL TPM CONCENTRATIONS**



## 4.9 CEMEX

CEMEX, formerly known as Atlantic Minerals Limited, in late 2016 / early 2017, installed continuous PM<sub>2.5</sub> and TPM air quality monitors to the west of their Port-au-Port mining operation to measure the potential impacts from of their mining operation. The location of the air quality monitoring station is shown in Figure 4.9.1.

**FIGURE 4.9.1 - CEMEX AIR QUALITY MONITORING STATION**



#### 4.9.1 CEMEX Property Boundary

The CEMEX Property Boundary station measured PM<sub>2.5</sub> and TPM. Due to issues with the station itself and monitor operational issues, the TSP BAM monitor was taken offline in July of 2023 and then the PM<sub>2.5</sub> BAM monitor was taken offline in January of 2024. A new station was constructed and then a new Teledyne API T640 PM Mass Monitor was installed in November of 2024 measuring both PM<sub>2.5</sub> and PM<sub>10</sub>. TPM monitoring was then discontinued.

Table 4.9.1.1 presents the results for PM<sub>2.5</sub>, while Table 4.9.1.2 the results for TPM. Table 4.9.1.3 presents the results for PM<sub>2.5</sub> and PM<sub>10</sub> as measured by the newly installed Teledyne API T640 PM Mass Monitor. Annual graphics for PM<sub>2.5</sub> and TPM are presented in Figures 4.9.1.1 and 4.9.1.2 respectively. There is not enough data present yet to display graphics for the newly installed monitor.

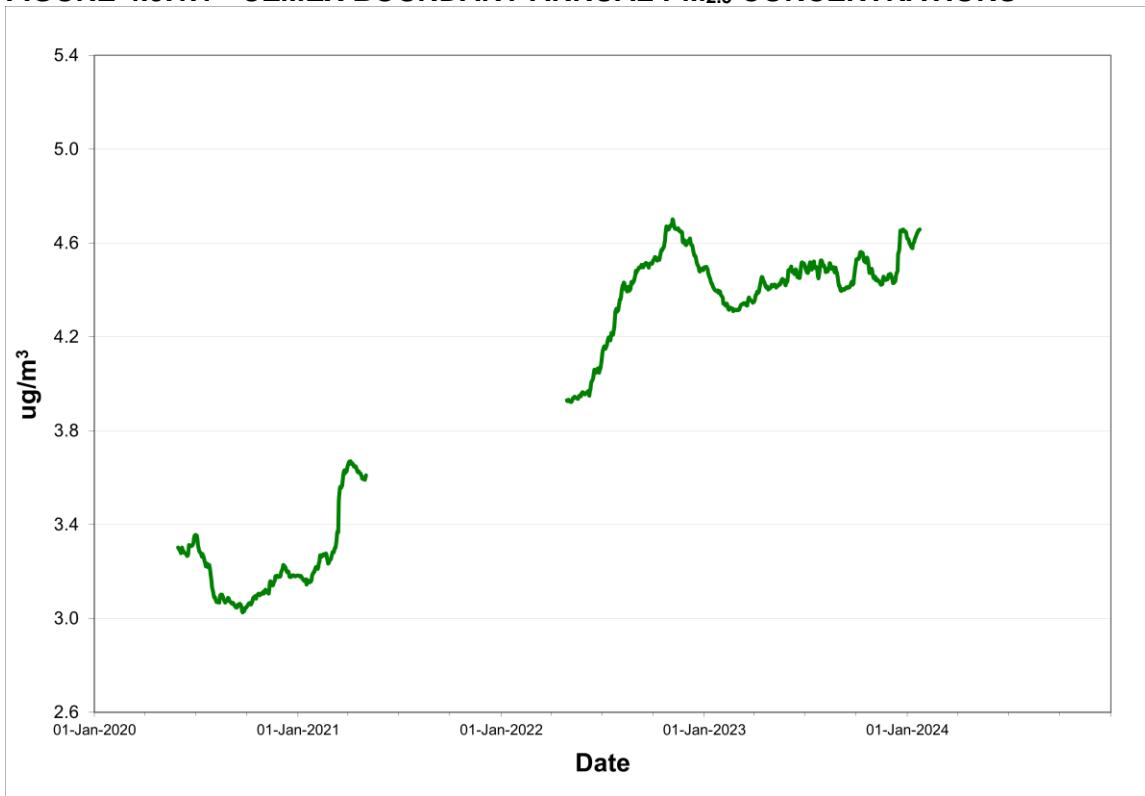
There were no PM<sub>2.5</sub> or PM<sub>10</sub> exceedances in 2024.

**TABLE 4.9.1.1 - CEMEX BOUNDARY PM<sub>2.5</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid 24-Hour	% Valid 24-Hour	Average	Maximum 24-Hour	Regulatory Exceedances (>25 µg/m <sup>3</sup> )
2023	January	744	100.0%	3.8	8.8	0
	February	454	67.6%	3.1	6.0	0
	March	329	44.2%		8.0	0
	April	720	100.0%	4.6	10.4	0
	May	744	100.0%	4.8	10.7	0
	June	720	100.0%	5.7	14.4	0
	July	744	100.0%	5.9	14.0	0
	August	517	69.5%	5.2	9.9	0
	September	162	22.5%		15.1	0
	October	744	100.0%	4.4	11.6	0
	November	720	100.0%	3.5	9.6	0
	December	601	80.8%	5.2	23.6	0
Annual		7199	82.2%	4.3	23.6	0
2024	January	350	47.0%		8.9	0
	February	0	0.0%			
	March	0	0.0%			
	April	0	0.0%	nd	0.0	0
	May	0	0.0%	nd	0.0	0
	June	0	0.0%	0.0	0.0	0
	July	0	0.0%	0.0	0.0	0
	August	0	0.0%	0.0	0.0	0
	September	0	0.0%	0.0	0.0	0
	October	0	0.0%	0.0	0.0	0
	November	0	0.0%	0.0	0.0	0
	December	0	0.0%	0.0	0.0	0
Annual		350	4.00%	0.0	8.9	0

Observations in µg/m<sup>3</sup>

**FIGURE 4.9.1.1 - CEMEX BOUNDARY ANNUAL PM<sub>2.5</sub> CONCENTRATIONS**

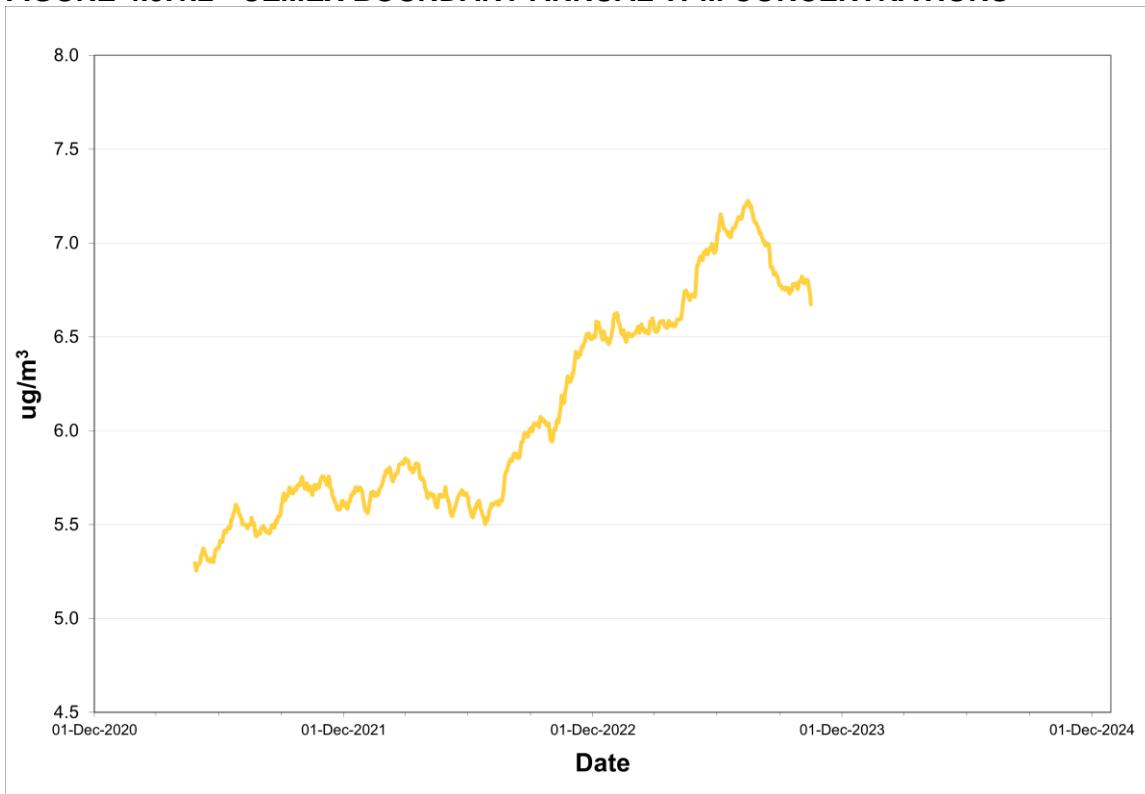


**TABLE 4.9.1.2 - CEMEX BOUNDARY TPM SUMMARY 2023 & 2024**

Year	Month	# Valid 24-Hour	% Valid 24-Hour	Average	Maximum 24-Hour	Regulatory Exceedances (>120 µg/m <sup>3</sup> )
2023	January	744	100.0%	5.1	85.0	0
	February	672	100.0%	6.0	88.5	0
	March	744	100.0%	4.6	11.3	0
	April	720	100.0%	6.4	13.8	0
	May	744	100.0%	9.3	146.7	18
	June	720	100.0%	8.7	36.0	0
	July	386	51.9%	11.3	29.9	0
	August	0	0.0%			
	September	0	0.0%			
	October	0	0.0%			
	November	0	0.0%			
	December	0	0.0%			
Annual		4730	54.0%		146.7	18
2024	January	0	0.0%			
	February	0	0.0%			
	March	0	0.0%			
	April	0	0.0%	#DIV/0!	0.0	0
	May	0	0.0%	#DIV/0!	0.0	0
	June	0	0.0%	#DIV/0!	0.0	0
	July	0	0.0%	#DIV/0!	0.0	0
	August	0	0.0%	#DIV/0!	0.0	0
	September	0	0.0%	#DIV/0!	0.0	0
	October	0	0.0%	#DIV/0!	0.0	0
	November	0	0.0%	#DIV/0!	0.0	0
	December	0	0.0%	#DIV/0!	0.0	0
Annual		0	0.0%		0.0	0

Observations in µg/m<sup>3</sup>

**FIGURE 4.9.1.2 - CEMEX BOUNDARY ANNUAL TPM CONCENTRATIONS**



Rolling annual average of hourly concentrations

**TABLE 4.9.1.3 - CEMEX BOUNDARY PM<sub>2.5</sub> / PM<sub>10</sub> DATA SUMMARY 2024**

Year	Month	# Valid 24-Hour	% Valid 24-Hour	Average PM <sub>2.5</sub>	Average PM <sub>10</sub>	24-Hour Maximum PM <sub>2.5</sub>	24-Hour Maximum PM <sub>10</sub>	Regulatory Exceedances PM <sub>2.5</sub> (>25)	Regulatory Exceedances PM <sub>10</sub> (>50)
2024	January								
	February								
	March								
	April								
	May								
	June								
	July								
	August								
	September								
	October								
	November	547	76.0%	3.3	7.3	8.1	17.1	0	0
	December	744	100.0%	3.8	8.4	8.8	21.6	0	0
Annual		1291	#REF!	3.6	8.0	8.8	21.6	0	0

## 4.10 Tata Steel Minerals Canada

In 2018, TSMC began their mining operation in western Labrador, northwest of Schefferville, QC. Concurrently, an air quality monitoring station was installed near the TSMC camp site. Figure 4.10.1 indicates the location of this air quality monitoring station.

**FIGURE 4.10.1 - TSMC AIR QUALITY MONITORING STATION**



#### 4.10.1 TSMC Camp Site

The TSMC Camp Site air quality monitoring station measures  $PM_{2.5}$  and  $NO_x / NO_2$ . Table 4.10.1.1 presents the results for  $PM_{2.5}$  while Table 4.10.1.2 the results for  $NO_x / NO_2$ . The  $PM_{2.5}$  monitor recorded one-hundred-and-eight hourly exceedances of the 24-hour air quality standard in 2024. Of these exceedances, eighty-five occurred in August and twenty-three in December. The exceedances in August all appear to be primarily related to smoke from wildfires in other jurisdictions or mining activities. The December exceedances were due to localized effects and may have been weather related.

There were no exceedances of the  $NO_2$  air quality standards.

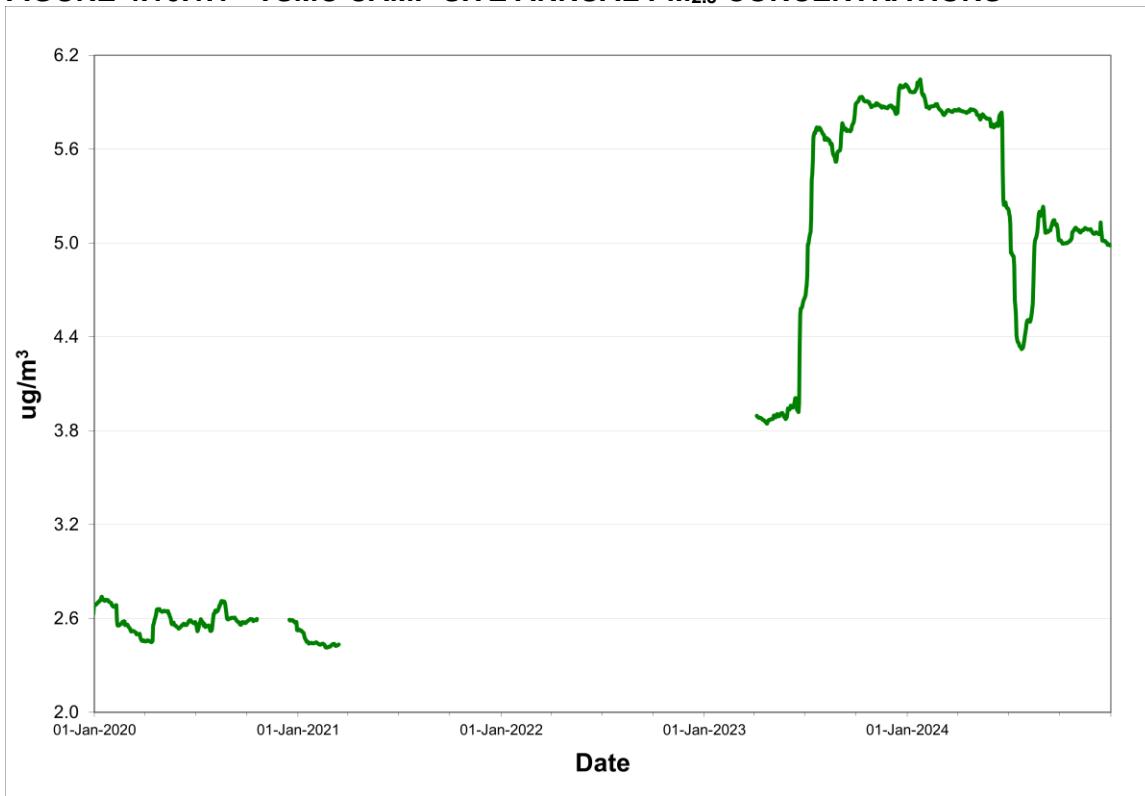
Figures 4.10.1.1 and 4.10.1.2 present the annualized trend for  $PM_{2.5}$  and  $NO_x / NO_2$  respectively.

**TABLE 4.10.1.1 - TSMC CAMP SITE PM<sub>2.5</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid 24-Hour	% Valid 24-Hour	Average	Maximum 24-Hour	Regulatory Exceedances (>25 µg/m <sup>3</sup> )
2023	January	594	79.8%	4.4	24.8	0
	February	533	79.3%	3.7	12.8	0
	March	545	73.3%	2.4	4.2	0
	April	697	96.8%	3.5	8.3	0
	May	744	100.0%	4.7	15.9	0
	June	720	100.0%	12.1	127.0	64
	July	725	97.4%	15.4	85.3	132
	August	744	100.0%	4.6	20.8	0
	September	687	95.4%	6.9	31.0	27
	October	717	96.4%	3.1	13.5	0
	November	702	97.5%	3.9	6.5	0
	December	723	97.2%	5.8	36.5	21
Annual		8131	92.8%	6.0	127.0	244
2024	January	714	96.0%	3.8	17.9	0
	February	696	100.0%	3.1	5.4	0
	March	725	97.4%	3.1	6.5	0
	April	720	100.0%	3.6	8.2	0
	May	744	100.0%	3.4	7.5	0
	June	463	64.3%	6.3	21.5	0
	July	744	100.0%	6.1	14.8	0
	August	744	100.0%	13.5	64.8	85
	September	720	100.0%	4.6	11.2	0
	October	715	96.1%	4.0	14.7	0
	November	720	100.0%	3.5	6.1	0
	December	714	96.0%	4.8	36.9	23
Annual		8419	95.8%	5.0	64.8	108

Observations in µg/m<sup>3</sup>

**FIGURE 4.10.1.1 - TSMC CAMP SITE ANNUAL PM<sub>2.5</sub> CONCENTRATIONS**

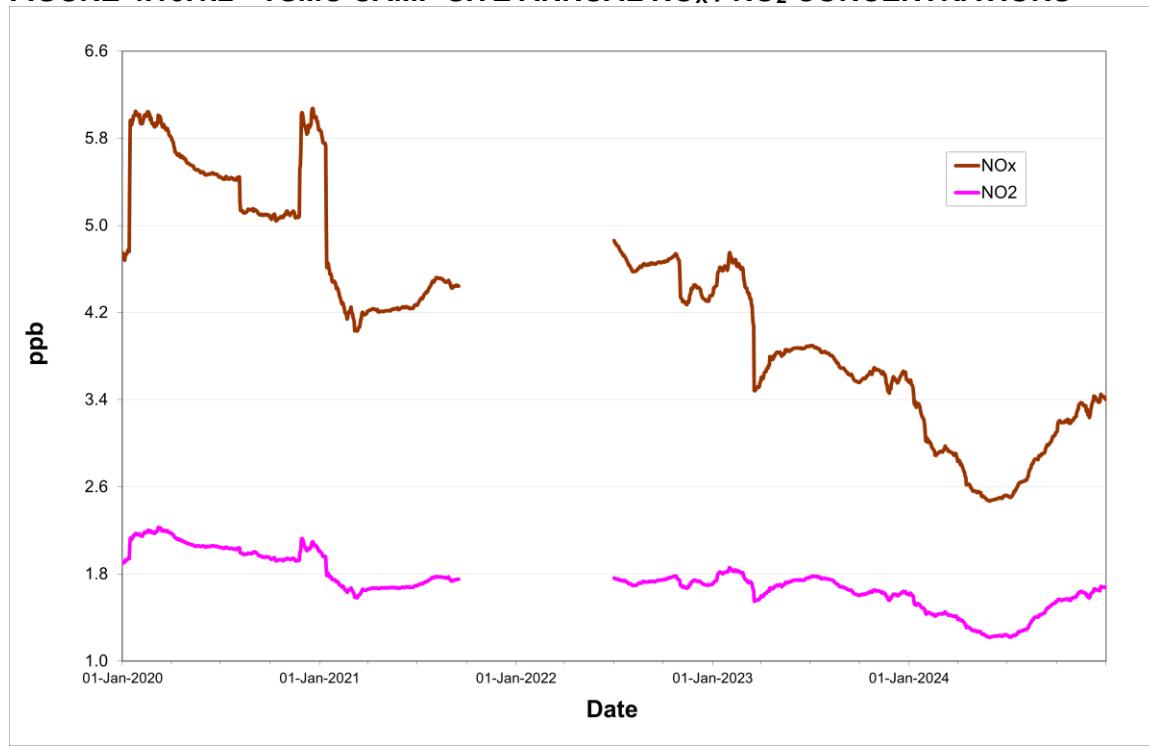


**TABLE 4.10.1.2 - TSMC CAMP SITE NO<sub>x</sub> / NO<sub>2</sub> SUMMARY 2023 & 2024**

Year	Month	# Valid Hours	% Valid Hours	Average		Maximums				Exceedances	
				NO <sub>x</sub>	NO <sub>2</sub>	1-Hour		24-Hour		1-Hour	24-Hour
				NO <sub>x</sub>	NO <sub>2</sub>	NO <sub>x</sub>	NO <sub>2</sub>	NO <sub>x</sub>	NO <sub>2</sub>	(>213)	(>106)
2023	January	744	100.0%	10.2	3.8	145.3	47.7	35.3	12.8	0	0
	February	537	79.9%	6.4	2.4	74.2	26.8	18.8	6.7	0	0
	March	508	68.3%	3.6	1.9	122.6	29.0	11.4	5.3	0	0
	April	720	100.0%	5.8	2.6	105.0	32.9	28.5	10.6	0	0
	May	741	99.6%	2.4	1.5	35.8	16.9	7.5	4.2	0	0
	June	719	99.9%	1.1	0.8	14.4	11.0	3.2	3.0	0	0
	July	738	99.2%	1.3	1.0	24.3	22.7	3.1	2.8	0	0
	August	722	97.0%	0.8	0.4	10.0	4.7	2.0	1.2	0	0
	September	705	97.9%	0.7	0.2	74.0	14.5	4.7	1.0	0	0
	October	324	43.5%	3.6	1.5	188.3	64.1	13.3	4.7	0	0
	November	719	99.9%	3.5	1.5	134.0	61.6	20.5	7.8	0	0
	December	744	100.0%	4.0	1.8	50.9	18.1	11.9	3.8	0	0
Annual		7921	90.4%	3.6	1.6	188.3	64.1	35.3	12.8	0	0
2024	January	744	100.0%	5.0	2.1	111.5	37.0	24.1	9.5	0	0
	February	696	100.0%	4.0	2.0	104.3	52.0	12.0	5.7	0	0
	March	733	98.5%	2.7	1.3	78.8	28.0	10.2	4.6	0	0
	April	720	100.0%	2.2	1.2	44.5	20.5	5.8	3.4	0	0
	May	744	100.0%	1.4	0.8	18.2	13.4	3.6	2.5	0	0
	June	668	92.8%	1.6	1.1	30.6	25.8	2.8	1.8	0	0
	July	744	100.0%	2.7	1.4	180.2	24.7	8.3	4.9	0	0
	August	741	99.6%	3.5	2.1	117.5	62.5	12.7	6.8	0	0
	September	720	100.0%	3.3	1.7	107.3	28.4	9.6	5.3	0	0
	October	742	99.7%	4.5	1.8	296.2	50.1	25.1	5.9	0	0
	November	720	100.0%	4.4	1.7	149.2	33.1	15.4	5.0	0	0
	December	742	99.7%	5.6	2.8	183.4	68.4	20.4	9.8	0	0
Annual		8714	99.2%	3.4	1.7	296.2	68.4	25.1	9.8	0	0

Observations in ppb

**FIGURE 4.10.1.2 - TSMC CAMP SITE ANNUAL NO<sub>x</sub> / NO<sub>2</sub> CONCENTRATIONS**



Rolling annual average of hourly concentrations